Servicing & Stormwater Management

Final

Alexander Community Centre Expansion
960 Silver Street, Ottawa, ON K1Z 7X3

April 14, 2026

Jp2g Project # 25-1170A

City of Ottawa File No.

Jp2g Consultants Inc.
ENGINEERS · PLANNERS · PROJECT MANAGERS

Table of Contents

Appendices

List of Figures

List of Tables

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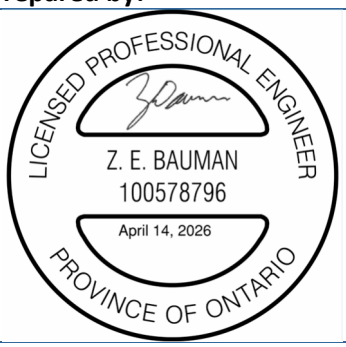

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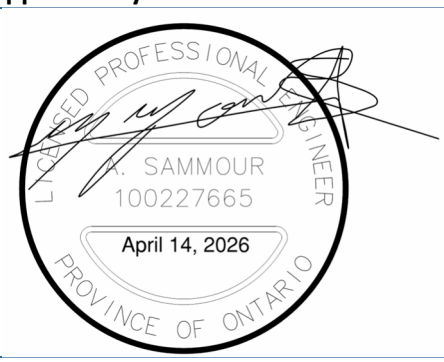

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1 Introduction

1.1 Site Description and Proposed Development

Jp2g Consultants Inc. (Jp2g) was retained by Hobin Architecture Inc. to complete a Servicing & Stormwater Management Report suitable for the City of Ottawa Site Plan Control Application, for the Alexander Community Centre Expansion located at 960 Silver Street, hereafter referred to as the 'site'.

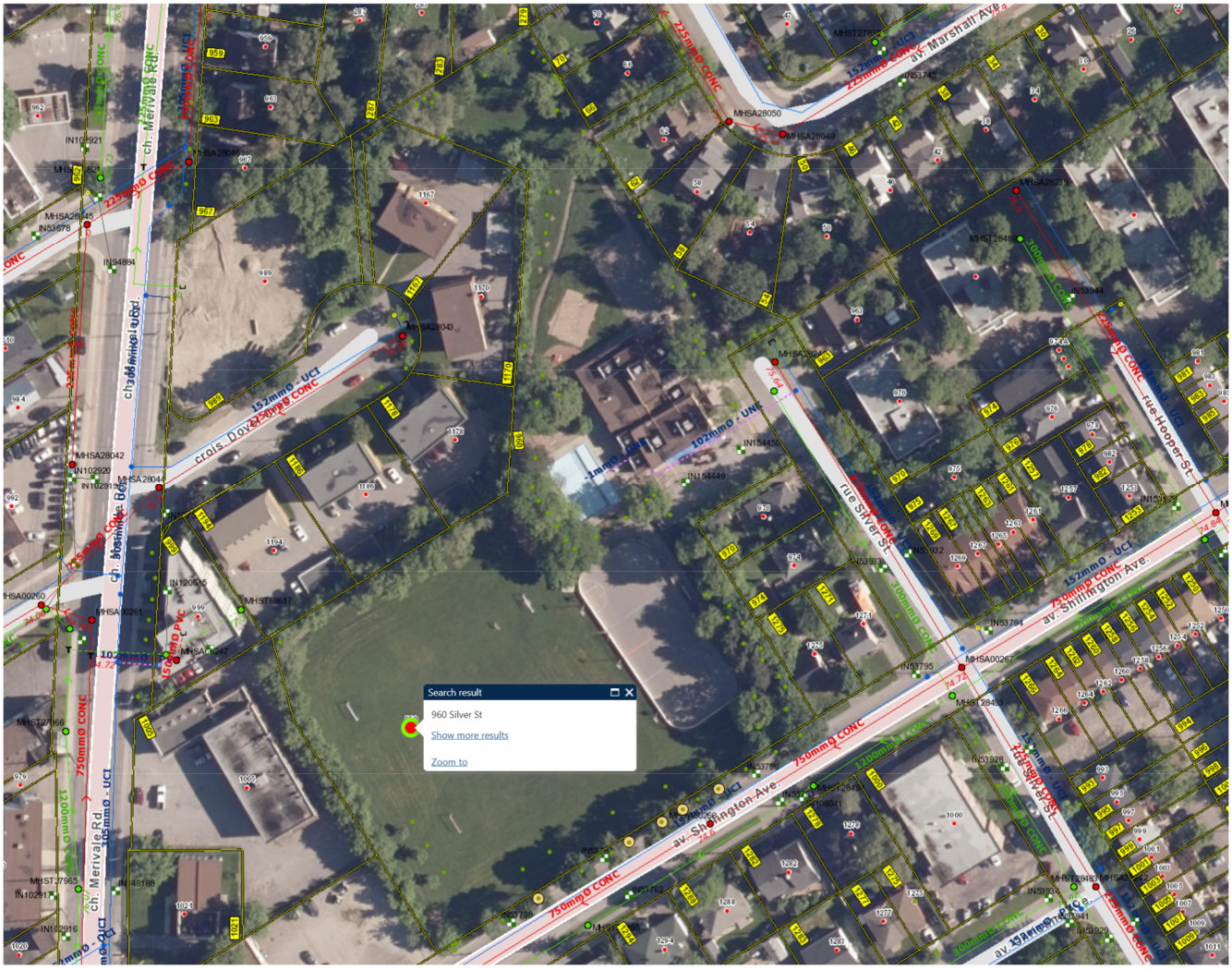


Figure 1: Site Location

The site is approximately 1.67 ha in size and is bound by existing residential developments to the north and east, commercial developments to the west, and Shillington Ave to the south. The existing site contains an existing community centre operated by the City of Ottawa with soccer fields, a hockey rink / basketball courts, a wading pool, playground equipment, and serves as a central hub for indoor and outdoor recreational programming. The existing facility does not meet the needs of the community.

The proposed development includes an expansion to the community centre, including a new gym, multipurpose recreational room, community kitchen, changerooms, etc. The existing building footprint is approximately 820m^2 and the proposed addition footprint is 1240m^2. Exterior modifications include rerouting existing walkways surrounding the addition, and relocation of playground equipment. No additional hardsurface parking area is proposed.

A pre-consultation meeting was held with City of Ottawa staff on February 20, 2025, to determine the project constraints and requirements. The following report details the site servicing and stormwater management calculations used for capacity and water quantity control in accordance with the City's requirements.

1.2 Existing City Infrastructure

Full municipal services are available for connection surrounding the subject site:

Water

A 152mm diameter UCI watermain is available on Silver Street. A 152mm diameter UCI watermain is available on Shillington Avenue, and a 152mm diameter UCI watermain is available on Marshall Ave. A City of Ottawa firehydrant is available at the corner of Silver Street and Shillington Ave connected to the Shillington Ave watermain. The existing community centre is serviced with a 100mm watermain connected to the 152mm Silver Street watermain.

Sanitary

A 225mm diameter concrete sanitary sewer is available on Silvert Street. A 750mm diameter concrete sanitary sewer is available on Shillington Ave, however, connection to the trunk collector sewer shall be avoided. The existing community centre is serviced with a 150mm sanitary sewer connected to the 225mm concrete sanitary sewer on Silver Street.

Storm

A 300mm diameter concrete storm sewer is available on Silver Street, and a 1200mm diameter concrete storm sewer is available on Shillington Ave. The existing site contains catch basins and on site storm sewers conveying drainage from the parking lot and grassed areas to the 300mm concrete storm sewer on Silver Street. The existing community centre building has a storm sewer service that is connected to the upstream manhole on Silver Street.

1.3 List of Relevant Guidelines and Studies

The following guidelines were used as reference related to the design of the proposed servicing, and grading considerations for the subject site:

- City of Ottawa Sewer Design Guidelines
- Chapter 8 of the City of Ottawa Sewer Design Guidelines (Stormwater guidelines)
- City of Ottawa Stormwater Management Policies
- City of Ottawa Water Design Guidelines
- City of Ottawa Design Specifications
- Ministry of Environment (MOE) Guidelines for the Design of Water Distribution Systems and Design of Sanitary Sewage Systems
- Stormwater Management Planning and Design Manual 2003
- Ontario Building Code (2012)
- Fernbank Community Ultimate Pond 8 – Stormwater Management Facility Design Report
- Blackstone Community Phase 4-8 – Functional Servicing Report

1.4 Design Drawings

The following reference civil design drawings are included in Appendix A:

- C0 – Site Removals Plan
- C1 – Site Servicing Plan
- C2 – Site Grading, Erosion and Sediment Control Plan
- C3 – Details, Notes and Schedules

- C4 – Stormwater Management, Erosion and Sediment Control Plan
- FIG.1 – Pre-Development Drainage Areas
- FIG.2 – Post-Development Drainage Areas
- FIG.3 – Fire Hydrant Coverage Areas

1.5 Environmental Compliance Assessment

Our understanding is an environmental compliance assessment for the site is not required. This site is exempt by O. Reg. 525/98, applicable as follows:

> *"Subsections 53 (1) and (3) of the Act do not apply to the use, operation, establishment, alteration, extension or replacement of or a change in the storm water management facility that,*
> *(a) is designed to service one lot or parcel of land;*
> *(b) discharges into a storm sewer that is not a combined sewer;*
> *(c) does not service industrial land or a structure located on industrial land; and*
> *(d) is not located on industrial land. O. Reg. 525/98, s. 3; O. Reg. 40/15, s. 4."*

2 Objective

The objective of this study is to outline the servicing requirements for the development of the site and identify the impact of the development on the existing municipal services, including water, storm, and sanitary.

3 Stormwater Management

3.1 Stormwater Management Criteria

3.1.1 Quantity Control

Per preconsultation with the City of Ottawa, the quantity control criteria for this site is to control the 100 year post development peak flow rate to a 2 year predevelopment peak flow rate. The predevelopment runoff shall be determined from the lower of the existing runoff coefficient, or a maximum equivalent of 'C' of 0.50. A predevelopment time of concentration shall be calculated but in no case less than 10 minutes. Flows to the storm sewer in excess of the predevelopment 2 year release rate, up to and including the 100 year storm must be detained on site.

3.1.2 Quality Control

Per preconsultation with the City of Ottawa, quality control is not required for this application.

3.2 Pre-Development Conditions

The existing site contains an existing community centre, private parking area and concrete walkways, an asphalt access path throughout the site, soccer fields, and a dual use hard surface hockey rink / basketball court area. The existing site contains private catch basins and a private storm sewer system understood to be connected to the storm sewer on Silver Street. A topographic survey was provided by Annis O'Sullivan land surveyors. Predevelopment drainage areas were analyzed using the PCSWMM watershed delineation tool to divide the existing site's drainage into several sub catchments. A predevelopment drainage plan is included in **Appendix A as Figure 1 Predevelopment Drainage Plan.** Weighted runoff coefficients were determined using the land use coverage coefficients for grass, gravel, and hard surface impervious areas from the City of Ottawa Sewer Design Guidelines section 5.3.5. The composite drainage area of the site's existing drainage, including areas capturing any known offsite drainage, were determined to be 1.93 ha with a weighted runoff coefficient of C=0.42, corresponding to preconsultation comments requiring the predevelopment conditions to be determined per the existing conditions or a maximum C of 0.5. Land use and runoff coefficient data, and detailed predevelopment drainage area parameter calculations are included in **Appendix B as Tables B-1 and B-2** respectively.

Area A1:

Predevelopment drainage area A1 was identified as the area north of the existing building. This area contains a portion of the play area north of the building, the existing asphalt pad / parking area, asphalt walkways, and the grassed area north of the building. As topographic survey is limited to the site's boundary, a direct surface outlet could not be identified. This area appears to surface drain to the low-lying grassed area north of the building, adjacent to the northern property line bounding the residential areas.

Area B1:

Predevelopment drainage area B1 consists of the existing community centre building. It is understood that the existing building's roof drainage is serviced with an existing storm service to the storm sewer manhole on Silver Street.

Area B2:

Predevelopment drainage area B2 consists of the area west of the existing building adjacent to the western property line. Predevelopment drainage area B2 is collected in an on site catch basin north west of the existing building which is understood to connect to Silver Street through the private on site storm sewer.

Area B3:

Area B3 consists of the grassed area adjacent to the northwest property line. Predevelopment drainage area B3 is collected in the on site catch basin near the north west property line and is understood to connect to Silver Street through the private on site storm sewer.

Area B4:

Area B4 consists of a portion of the soccer field and the hard surface walkway areas to the west of the existing community centre. Predevelopment drainage area B4 is collected in an on site catch basin between the existing play structure and the hockey rink/basketball area and is understood to connect to Silver Street through the private on site storm sewer.

Area B5:

Area B5 consists of a portion of the hockey/basketball area and the grassed area along the eastern property line between the existing residential area. Predevelopment drainage area B5 is collected in the on site catch basin near the eastern property line and is understood to connect to Silver Street through the private on site storm sewer.

Area B6:

Area B6 consists of the parking areas along the south of the existing building and the hard surface walkways to the existing building's main entrance. Predevelopment drainage area B6 is collected within the catch basins in the existing parking lot, or sheet drains directly to the Silver Street ROW.

Area C1:

Area C1 consists of the western portion of the soccer field, and appears to surface drain south westerly across the western and southern property line.

Area C2:

Area C2 consists of a portion of the southern soccer field and hockey rink and appears to surface drain to Shillington Avenue.

3.2.1 Predevelopment Allowable Flow Rates

Site development will occur within the predevelopment drainage areas A1 and B2. The existing building, and the remainder of the site will remain as the existing conditions. Per consultation with the City of Ottawa, the stormwater management criteria is to limit flows to the 2-year predevelopment release rate. As such, the predevelopment release rate was determined as the 2-year release rate from areas A1 and B2. The existing drainage from the existing building and the remainder of the site, areas B1, B3 through B6 and C1 and C2 will remain undeveloped and as such have been excluded from the predevelopment 2 year allowable release rates.

The time of concentration for the predevelopment drainage areas were determined using the Airport Formula or Bransby Wiliams Formula where appropriate. Each subcatchment watershed slope was approximated using the 85/10 method for use in the time of concentration calculations. Refer to **Appendix B Tables B-3 and B-4,** for detailed calculations regarding the 85/10 method, and calculated time of concentration. Predevelopment flow rates were calculated based on the calculated time of concentration for each predevelopment drainage area based on the City of Ottawa IDF curves in section 5.4.2 of the City of Ottawa Sewer Design Guidelines. Detailed predevelopment flow rate calculations are included in **Appendix B as Table B-5**. The 2 year predevelopment allowable release rate was determined to be **35.9** L/s from areas A1 and B2.

3.3 Post-Development Conditions

The proposed site development includes the construction of a new community centre expansion with an approximate footprint of 1,240m^2. Site development includes reworking of hard surface access pathways, rerouting the existing access pathways around the building addition footprint to connect to the existing pathway connection to Marshall Ave, Silver Street, and along the western side of the existing community centre. The playground equipment area will be relocated to the existing grassed area on the north side of the community centre. Under post development conditions, site drainage will be captured in a new on site storm sewer network connected to the Silver Street storm sewer manhole.

3.3.1 Post Development Drainage Areas

Subcatchment drainage areas were delineated based on the proposed grading design to provide a separate drainage area for each storm sewer inlet. Area-weighted runoff coefficients were determined using a value of 0.20 for pervious areas and a value of 0.90 for impervious areas. Runoff coefficients were increased by 25% for the 100 year event, to a maximum value of 1.00. A post development drainage plan is included in **Appendix A as Figure 2 – Post Development Drainage Plan**.

Area A1:
Post development area A1 is representative of the area developed overlapping predevelopment area A1. Post development area was subdivided into additional subcatchments, A1a representing the area captured on the building addition roof, A1b collected in catch basin CB-1, A1c collects in RYCB-2 in the landscaped area north of the addition, and A1e and A1d collect in rear yard catch basins along the eastern property line adjacent to the building addition. A small portion along the rear of the site, area A1f will continue to sheet drain uncontrolled towards the northwest property line due to the low-lying area and existing grading tie in constraints in the northwest corner of the site.

Area B2:
Post development area B2 is representative of the area developed overlapping predevelopment area B2. A swale running along the western property line will collect drainage from area B2 and runoff will be collected in RYCB-1.

The remainder of predevelopment drainage areas identified, areas B1, B3, B4, B5, B6, C1, and C2, will remain or be reinstated to existing conditions. As mentioned, these areas have been excluded from the storm water management analysis as these areas are not being developed.

Detailed calculations and information for each post development subcatchment area are shown in **Appendix B as Appendix B-6: Post Development Summary**.

3.3.2 Stormwater Management Controls

Stormwater management control is provided by a combination of roof drain controls and Inlet Control Devices (ICDs), which are orifice control plates out the outlet pipes of certain catchbasin and catchbasin-manhole structures, as follows:

- ICD-1 located in structure CB-1, which controls subcatchments A1b, A1c, and B2
- Roof drains which control roof drainage from subcatchment A1a.
- Subcatchments A1d, A1e, and A1f flow uncontrolled

For roof drainage, parabolic weirs (Watts Drainage Adjustable Flow Control Roof Drains, or equivalent approved product) will be used to control flow. 7 roof drains are proposed in the "1/4 Opening Exposed" position, which each deliver a flow rate of 15 gpm (0.94 L/s) at a maximum 6" / 152mm of head. To ensure the maximum release rate based on the head provided in the roof drain specifications, scuppers are to be provided on the building roof at 150mm above the roof drain elevation, to ensure each flow control roof drain will restrict flow to the 0.94 L/s maximum. Refer to the attached roof drain flow control product sheet in Appendix B. The modified rational method is used to determine peak storage requirements behind each control device. Based on the restricted flow rates, and the roof discharge curve, storage requirements for the roof area is calculated to be 48.92m^3 for the 100 year storm event whereas 49.6m^3 of storage is provided based on the roof area, 0.12m roof ponding depth and the total 100 year roof drain discharge at 0.12m of head. Detailed flow control and storage calculations for the roof area, subcatchment A1a, is included as **Appendix B-7: Roof Calculations**.

Civil 3D stage-storage analysis was used to determine the available surface storage upstream of the proposed inlet control device based on the proposed site grading. The modified rational method was used to determine peak storage requirements behind each control device. The orifice equation was used to size the proposed orifice plates based on the respective headwater levels and orifice invert. Detailed modified rational method calculations, including a stage-storage-discharge analysis for the control device at CB-1 is included in **Appendix B-8: ICD-1 Calculations**. Provided surface storage, as determined through civil 3D stage-storage analysis exceeds required storage for the restricted release rate.

The minimum orifice size proposed is 83mm, in in accordance with the City of Ottawa Sewer Design Guidelines. Surface storage is proposed in a landscaped area, with a maximum depth of storage of 0.19m for the 100 year storm event in accordance with the City of Ottawa Sewer Design Guidelines. The highest proposed ponding elevation during the 100 year storm is at an elevation of 78.04, meeting the minimum 300mm clearance to any building opening or ramp as the building FFE is at an elevation of 78.65m. Proposed stormwater management controls, and ponding limits are shown in **Appendix A - C4 Stormwater Management Plan**. Additionally, no surface ponding is required in any paved area during the 2 year storm event in accordance with the City of Ottawa Design Guidelines.

3.3.3 Post-Development Site Outflow

Resultant post development site outflow for all developing areas, accounting for summation of all 100 year flow controls and 100 year uncontrolled flow, is shown in Table 3-2 below. Evidently, the resultant post development site outflow is restricted to the allowable release rate of 35.9 L/s identified in section 3.2.1 above, for all storms up to and including the 100 year storm event.

Full details including inflows, outflows, and storage calculations for each stormwater management control are included in **Appendix B**.

Table 3-2: Post-Development 100 Year Outflow Summary

Source	100 Yr Release Rate *(L/s)*
ICD-1	11.40
Roof	5.90
100 Year Uncontrolled	18.53
Total	**35.83**
Allowable	**35.86**
Difference	**0.03**

3.4 Proposed Storm Sewer Servicing

The proposed on site storm sewer pipe design has been sized to convey the 5 year event, or the restricted flow control, in accordance with City requirements. Sewers were sized and sloped to ensure that a maximum of 85% of full flow capacity, while staying above the minimum slopes specified in the City of Ottawa *Sewer Design Guidelines*. A storm sewer design sheet is included in **Appendix B**.

Foundation drainage for the community centre addition will be pumped through a sump pit within the internal buildings plumbing. The sump pit will be pumped through the internal buildings storm plumbing, and will outlet to the 200mm diameter storm sewer provided for the building addition roof drainage.

The existing building's storm sewer service will remain, servicing the existing roof drain connections for the existing building. A CCTV inspection of the existing building's storm sewer service was conducted by cleanwater works, refer to CCTV report included in **Appendix E**.

3.5 Overland Flow Route

In the case of system blockages, an emergency overland flow route must be provided to the city ROW. Site grading has been designed to provide an overflow route such that surface runoff will be directed to the ROW before the touching any part of the building envelope.

Adjacent to the building addition, drainage will be directed overland through the grassed and landscaped area in the northwest corner triangle of the site to the existing low laying area in the northwest corner of the site. Areas B2 will flow to A1b, from A1b to A1c, and from A1fc to A1f. Existing elevations and survey are limited in this corner but it is understood that the overflow path will continue through the low laying area in the northwest corner of the site through the pathway to Merrivale Rd. Areas A1d and A1e will flow overland to the Silver Street ROW. An overland flow route is presented in **Appendix A – Drawing C4**.

4 Sanitary Servicing

4.1 Existing Sanitary Servicing

The existing building is serviced with a 150mm sanitary service connection on the south side of the existing building. The sanitary service from the west side of the building is connected toa 150mm sanitary sewer through the parking lot, connected to the 225mm concrete sanitary sewer on Silver Street. As part of the building addition, renovation, and mechanical plumbing design, it is understood that the total fixture count between the existing building, and the renovated current building plus the addition is roughly the same and thus the plumbing demands on the sanitary service are expected to be similar to the current conditions. From the preliminary

mechanical plumbing drawings, the existing 150mm sanitary service is proposed to be maintained, and no new sanitary service is required. A CCTV inspection of the existing sanitary service was conducted by clean water works, refer to CCYV report included in **Appendix E**.

5 Water Servicing

5.1 Design Criteria

The water servicing design for the site is to conform to the City of Ottawa Water Distribution, and the MOE Design Guidelines for Drinking Water Systems. The following criteria were used to estimate the peak water servicing demands, and to determine the required water servicing for the site:

- Normal operating pressure of 345 kPa – 552 kPa (50 – 80 psi) under max day flow
- Pressure not to be less than 276 kPa (40 psi) under max hour conditions
- Under max day plus fire flow the residual pressure at any point in the system is not to be less than 140 kPa (20 psi)
- Fire department connections to comply to OBC 3.2.5.16
- Consumption rate of 28,000 L/ha/d (Table 4.2 of City of Ottawa Design Guidelines Water Distribution)
- Minimum depth of cover = 2.4m or insulated as per City of Ottawa Detail W22

5.2 Existing Water Servicing

The existing community centre building is serviced with a 100mm/4" water service connected to the 152mm diameter watermain on Silver Street. The existing building is not equipped with a sprinkler system, and there are no on-site private fire hydrants. From review of street view, there is a City of Ottawa fire hydrant at the corner of Silver Street and Shillington Ave, painted with a light blue cap indicating a Class AA fire hydrant capable of providing 1500 GPM (~95 L/s) of fire flow at a residual 20 psi.

5.3 Domestic Water Demand

The domestic water demands for the proposed school development are calculated based on Table 4.2 of the City's 2010 *Ottawa Design Guidelines - Water Distribution*. A domestic consumption demand of 28,000 L/ha/d for a commercial use site was applied. The average daily domestic water demand rate, and the maximum daily and hourly peaking factors, are obtained from Table 4.2 of the *Ottawa Design Guidelines – Water Distribution*. Based on the 28,000 L/ha/d commercial use site average day demand, a maximum day factor of 1.5xaverage day demand, and peak hour factor of 1.8x maximum day demand, the domestic water demands are summarized in table 6-1 below, and detailed calculations are included in **Appendix D as Appendix D-1: Water Distribution Calculations.**

Table 5-1: Domestic Water Demand

Parameter	Value	Unit	Source
Demand Type	Other Commercial		Site plan
Average Daily Rate	28000	L/ha/d	*Ottawa Design Guidelines - Water Distribution* Table 4.2
Amount of ha	1.68	ha	Site plan
Average Daily Demand	47040 47.04 0.54	L/d m^3/d L/s	*Ottawa Design Guidelines 4.3.1:* Service Areas with a basic day demand greater than 50m3/d shall be connected with a minimum of two feedermains to avoid the creation of a vulnerable service
Maximum Daily Factor	1.5	x avg. day	*Ottawa Design Guidelines - Water Distribution* Table 4.2
Maximum Daily Demand	0.82	L/s	
Maximum Hourly Factor	1.8	x max day	*Ottawa Design Guidelines - Water Distribution* Table 4.2
Maximum Hourly Demand	1.47	L/s	

5.4 Fire Flow Demand

Fire flow demands accounting for the proposed community centre addition were calculated using the OBC method for fire flow demands. Based on the OBC 3.2.5.7 method calculations, the required fire flow demand is **60 L/s.** Refer to **Appendix D-2** for detailed calculations.

5.4.1 Fire Hydrant Coverage

An existing City of Ottawa fire hydrant is located at the corner of Shillington Ave and Silver Street.
From review of google street view, this hydrant is painted with a light blue cap, indicating a Class AA fire hydrant. Based on Table 1 of Appendix I of the City of Ottawa *Technical Bulletin ISTB-2018-02*, a class AA hydrant at a separation distance of greater than 75m provides maximum contributing fire flow of 3,800 L/min (63 L/s). Fire flow contribution from the existing fire hydrant has been reviewed and coordinated with the City of Ottawa water resources team. The building is proposed to be sprinklered, and as such a private fire hydrant is proposed near the main entrance of the building to provide hydrant coverage such that distance from the fire department connection to a hydrant is not more than 45m and is unobstructed in accordance with OBC 3.2.5.16. This private fire hydrant is not considered to add additional fire flow contribution and is added for the purposes of providing a satisfactory hydrant for the fire department connection. Refer to Table 6-2 below for summary of available fire hydrant coverage. The available fire hydrant contribution from the existing City of Ottawa fire hydrant exceeds the OBC required fire flow demand of 60 L/s.

Table 5-2: Fire Hydrant Coverage

Fire Hydrant	Distance to Building (m)	Contributing Fire Flow (L/s)
Shillington / Silver	90	63
Private Firehydrant	15	N/A
	Total Fire Flow	63

5.5 Proposed Water Servicing

The existing 100mm water service is proposed to remain, and a new 150mm water service is proposed connecting from the existing 150mm diameter watermain on Silver Street, to service the existing community centre and addition. A private fire hydrant is proposed to be connected to the new water service to provide a fire hydrant within 45m of the fire department connection. The proposed water servicing for the building and fire hydrants meet the City of Ottawa normal operating pressure requirements as mentioned in sections 5.6 below.

5.6 Boundary Conditions Pressure Check

The domestic demand and fire flow requirements were provided to the City of Ottawa for the hydraulic analysis of the boundary conditions at the proposed connection location. Boundary conditions provided by the City of Ottawa are included in **Appendix D-3**.

Using the provided boundary conditions for the proposed connection to the Silver Street watermain, pressure checks within the system were conducted for the max hour demand, and max day + fire demand. Frictional loss calculations for the max hour demand and max day + fire demand are included in **Appendix D-5 and D-6** respectively, calculating the friction loss through the system using the Hazen Williams Formula. Operating pressures of the water supply system were between the 345-552 kPa pressure range for the municipal connection at the maximum hourly demand, above the 276 kPa requirement at the building connection for the maximum hour demand, as well as above the minimum 140 kPa requirement for the maximum daily + fire flow demand scenario at the building connections. Detailed calculations are shown in **Appendix D**. Requirements for a pressure reducing valve at the building connection will be coordinated with the mechanical engineer.

6 Sediment and Erosion Control

Erosion and sediment control measures will be implemented during construction to protect downstream water quality and prevent sediment from entering the catch basins and storm sewer system. The following recommendations will be included in the contract documents, refer to **Appendix A Drawing C4 – Stormwater Management, Erosion and Sediment Control Plan**.

1. The contractor shall implement best management practices to provide for protection of the area drainage system and receiving water course during construction activities. This includes:
2. Limiting the amount of exposed soil
3. Revegetation on exposed areas as soon as possible
4. A silt barrier/fence will be installed around the perimeter of the site in order to prevent sedimentation from leaving the site.
5. Installing and maintaining mudmats at the construction entrance to prevent migration of sedimentation to the city ROW
6. Providing filter cloths / bags on downstream catch basins and storm structures, and the newly constructed catch basins until construction has been complete.
7. Construction works to be scheduled at times which avoid flooding during seasonal rains

The contractor will be required to inspect the erosion and sediment control measure after every rainfall. Inspection measures include:

1. Inspection of silt fence to ensure water and sediments are not flowing underneath the silt fence
2. Inspection of sedimentation traps on all catch basins and catch basin manholes

Upon completion of construction, erosion and sedimentation control will be provided through the on site storm system. All catch basins and catch basin manhole will be constructed with 600mm or 300mm sumps, collecting sediments and suspended solids from the finished surface. The catch basin and manhole sumps will be required to be cleaned and maintained by the owner after construction completion in accordance with the manufacturers instructions.

7 Conclusions

The proposed community centre expansion with new on-site storm sewers, and water mains connecting, and the existing sanitary service connected to existing City of Ottawa infrastructure in accordance with the City of Ottawa Design Sewer Design Guidelines, Water Design Guidelines and standards.

Storm servicing will be provided through a connection to the existing 300mm concrete storm sewer at the manhole on Silver Street. Quantity control will be provided in accordance with the City of Ottawa preconsultation requirements of controlling the post development release rate for all storms up to and including the 100 year event to the 2 year predevelopment release rate as determined by the existing conditions, but in no case a ‘C’ greater than 0.50.

Site grading will provide accessibility to the proposed addition in accordance with AODA standards, and City of Ottawa standard details. Site grading has been designed to provide an adequate overland flow route allowing for a minimum 15cm vertical clearance between the overland flow route and the lowest building elevation within the vicinity of the spill elevation.

The existing 150mm sanitary sewer service will remain. The total fixture count between the existing community centre, and the renovation of the existing building plus the expansion is similar. Sanitary demands of the expansion project are anticipated to be roughly the same as the current conditions.

Water servicing will be provided from the existing 100mm water service. A secondary 150mm water service is proposed to service the expansion and existing building, to provide servicing for the sprinklers and to provide a private fire hydrant satisfactory to OBC 3.2.5.16. Boundary conditions provided by the City of Ottawa were analyzed to confirm the operating pressures of the proposed water servicing are in accordance with the City of Ottawa Water Design Guidelines.

Erosion and sediment control will be provided during construction through the installation of a silt fence around the perimeter of construction and installing filter cloths in all catch basins / catch basin manholes. An erosion and sediment control plan will be included in the contract documents, requiring the contractor to follow best

management practices, and provide regular maintenance of the measures. Long term sediment control will be provided in catch basin sumps. The owner will be responsible for the regular maintenance of the sumps upon completion of construction.

It is recommended that this report be filed in support of the proposed development. No adverse impacts are anticipated on the existing services as a result of the approval and construction of this development.

End of report.

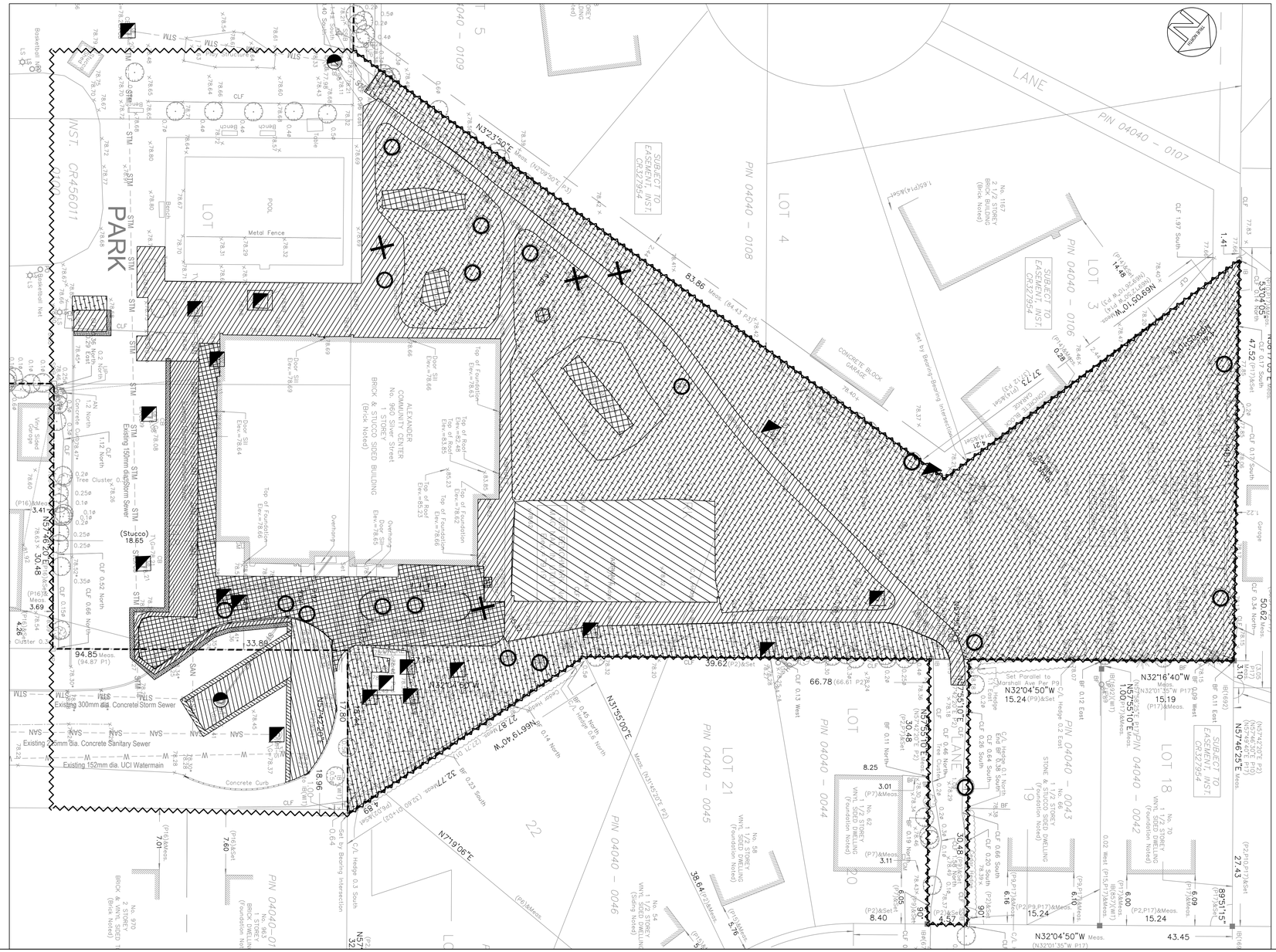
Appendix A
Design Drawings

REMOVALS

- FULL DEPTH ASPHALT REMOVAL (ROADWAY, DRIVEWAY, SIDEWALK)
- 50mm ASPHALT MILLING
- CONCRETE REMOVAL (SIDEWALK, ROADWAY, DRIVEWAY)
- CLEARING AND GRUBBING
- REMOVAL ITEM (PIPE, CURB, ETC.)
- REMOVAL ITEM (STRUCTURE, POST, ETC.)
- ADJUSTMENTS (MANHOLES, CATCHBASIN, MAINTENANCE HOLE, WATER VALVE, ETC.)
- ITEMS TO REMAIN
- ITEM RELOCATION

GENERAL NOTES

1. REFER TO LANDSCAPE PLAN FOR TREES TO BE REMOVED, TREES TO REMAIN, AND TREE PROTECTION DETAILS.
2. DESIGN AND CONSTRUCTION IS TO BE IN ACCORDANCE WITH MOST RECENT ONTARIO BUILDING CODE.
3. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS WITH RESPECT TO SITE CONDITIONS AND ALL MATERIALS TO THE PROJECT. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MATERIAL RELEVANT TO THE PROJECT.
5. ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE CONTRACT DOCUMENTS.
6. CONTRACTOR MUST COMPLY WITH LOCAL BY-LAWS, ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND ALL REGULATIONS SET BY AUTHORITIES HAVING JURISDICTION. IN CASE OF CONFLICT OR DISCREPANCY, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
7. CONTRACTOR RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY LOCATES, DAYLIGHTING, INSPECTIONS, PERMITS, AND APPROVALS, INCLUDING ALL ASSOCIATED COSTS. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE ONLY AND BASED ON BEST AVAILABLE INFORMATION.
8. REFER TO ARCHITECTURAL AND LANDSCAPE PLAN FOR ADDITIONAL SITE REMOVALS.



INFRASTRUCTURE SERVICES
DESIGN AND CONSTRUCTION

SERVICES D'INFRASTRUCTURE
DIRECTION DE CONCEPTION ET DE CONSTRUCTION

FOR / POUR

Client - Department

Infrastructure and Water Services Department
Design & Construction

6			
5			
4			
3			
2			
1	ISSUED FOR SITE PLAN CONTROL REV-1	26/04/14	R.I. / Z.B.
NUMBER/ NUMERO	MILESTONE / FAIT SAILLANT	DATE: (Y/M/D) (A/M/J)	INITIALS INITIALES

DESIGNED BY / CONCU PAR: ZACH BAUMAN	CHECKED BY / VERIFIÉ PAR: ALI SAMMOUR
DRAWN BY / DESSINÉ PAR: RAFAT ISMAIL	SCALE / ÉCHELLE: 1:250

DETAIL NUMBER 1 / A1.1 SHEET NUMBER — DRAWING TITLE — SCALE

ARCHITECT / ARCHITECTE

CONSULTANT / EXPERT-CONSEIL

CONSULTANT / EXPERT-CONSEIL

LICENSED PROFESSIONAL ENGINEER — Z. E. BAUMAN — 100578796 — April 14, 2026 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — A. SAMMOUR — 100227665 — April 14, 2026 — PROVINCE OF ONTARIO

PROJECT / LOCATION / PROJET / ENDROIT

ALEXANDER COMMUNITY CENTRE EXPANSION

950 Silver Street
OTTAWA, ONTARIO

DRAWING / DESSIN

SITE REMOVALS PLAN

BUSINESS ENTITY / NUMÉRO DE L'ENTITÉ BUILDING NUMBER / NUMÉRO DU BÂTIMENT	SHEET NO. / FEUILLE No.
CITY PROJECT NO. / NUMÉRO DE PROJET	CONS_PROJECT NO. / NUMÉRO DE PROJET: 25-1170A

C.00

LEGEND

- PROPERTY LINE
- NEW BUILDING
- DEPRESSED CURB
- BREAK OF SLOPE - NEW
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATERMAIN
- EXISTING FENCE
- NEW STORM SEWER
- NEW WATERMAIN
- NEW PROPOSED SWALE
- NEW PERIMETER FOUNDATION DRAINAGE
- NEW LIGHT DUTY ASPHALT AS PER DETAIL 1 / C3
- NEW HEAVY DUTY ASPHALT AS PER DETAIL 2 / C3
- NEW CONCRETE PATHWAY
- MILLING & OVERLAY 50mm THICK HEAVY DUTY ASPHALT AS PER DETAIL 3 / C3
- NEW PRECAST PAVERS (SEE LANDSCAPE)
- NEW ASPHALT PATHWAY AS PER DETAIL SC20
- 100mm TOPSOIL AND SOD
- HIGH LOAD RIGID INSULATION AS PER CITY DETAIL W22

LEGEND CONTINUED

- NEW CONCRETE CURB
- EXISTING CONCRETE CURB
- EXISTING CATCHBASIN
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING LIGHT STANDARD
- NEW CATCHBASIN
- NEW STORM MANHOLE / CATCHBASIN MANHOLE
- NEW REAR YARD CATCH BASIN
- NEW FIRE HYDRANT
- NEW WATER VALVE
- NEW INLET CONTROL DEVICE
- NEW ROOF DRAIN
- NEW SCUPPER AT 150mm ABOVE ROOF DRAIN LEVEL
- SEWER FLOW DIRECTION
- BUILDING ENTRANCE
- SEE SHEET NUMBER "C3"
- SEE SHEET NUMBER "C3"

LEGEND CONTINUED

- EXISTING TREES
- NEW TREES REFER TO LANDSCAPE
- NEW MULCH

GENERAL NOTES

1. DESIGN AND CONSTRUCTION IS TO BE IN ACCORDANCE WITH MOST RECENT ONTARIO BUILDING CODE.
2. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS WITH RESPECT TO SITE CONDITIONS AND ALL MATERIALS TO THE PROJECT. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
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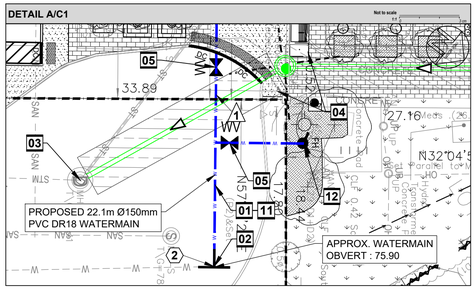
7. FOR EXACT LOCATIONS AND NUMBERS OF ROOF DRAINS AND SCUPPERS, REFER TO MECHANICAL, STRUCTURE AND ARCHITECTURAL DRAWINGS.

DETAIL A/C1



A / C1 **DETAIL**
Scale: **N.T.S.**

DRAWING NOTES

01 SUPPLY AND INSTALL NEW 150mm Ø PVC DR18 WATER MAIN SERVICE, MINIMUM 2.4m COVER, OTHERWISE PROVIDE HL40 THERMAL INSULATION IN ACCORDANCE WITH OPSD 1109.030. COORDINATE NEW WATER SERVICE CONNECTION WITH MECHANICAL PLANS.THRUST BLOCKS SHALL BE AS PER OPSD 1103.010 & 1103.020.

CONTRACTOR SHALL BE RESPONSIBLE FOR COMMUNICATING,COORDINATING, OBTAINING AND PAYING FOR ALL REQUIRED PERMITS NOT LIMITED TO THE FOLLOWING:

- WITH CITY OF OTTAWA FOR A WATER PERMIT,NEW WATER SERVICE CONNECTION, FIRE HYDRANT ON SITE,CONNECTION TO PROPOSED BUILDING, INSPECTION,DISINFECTION CHLORINATION, TESTING, WATER METERING AND ALL REQUIREMENTS FOR A COMPLETE SYSTEM COMMISSIONING AS PER MUNICIPAL REQUIREMENTS.
- WITH CITY OF OTTAWA FOR A ROAD CUT PERMIT.
- WITH CITY OF OTTAWA FOR UTILITY LOCATES, EXCAVATION, SUPPORTING UTILITIES DURING CONSTRUCTION IF REQUIRED, INSPECTION,AND BACKFILLING.

02 INSTALLATION OF NEW SERVICE CONNECTION TEE 150mmX150mm Ø PVC TO EXISTING MUNICIPAL WATERMAIN TO BE COMPLETED BY CITY OF OTTAWA FORCES. EXCAVATION, BACKFILL AND RE-INSTATEMENT BY CONTRACTOR.

03 EXISTING 1200mm DIAMETER STORM MANHOLE EXISTING 300mm INVERT SOUTH = 76.92, EXISTING 150mm INVERT WEST = 77.36. CONTRACTOR TO CONFIRM INVERTS PRIOR TO CONSTRUCTION AND ADVISE OF ANY DISCREPANCY. BREAK INTO EXISTING MANHOLE TO PROVIDE CONNECTION OF NEW 300mm STORM SEWER AT INVERT NORTH=76.95. PARGE AND PROVIDE WATER TIGHT CONNECTION.

04 INSTALL FOUR WAY 3.0m LONG 150mm Ø PERFORATED SUBDRAIN WRAPPED IN GEOTEXTILE SOCK EXTENDING FROM CB/CBMH AT PAVEMENT SUBGRADE LEVEL. PROVIDE WATERTIGHT CONNECTION (TYP).

05 SUPPLY AND INSTALL NEW 150mm WATER VALVE, VALVEBOX ASSEMBLY AS PER CITY OF OTTAWA STANDARD DETAIL DRAWING W24 AND W50.

06 SUPPLY AND INSTALL WATTS ROOF DRAIN CONTROLS TO BE INSTALLED ON ROOF DRAINS. SPECIFIC WIR SETTINGS IN "1/4 OPEN" POSITION. MAXIMUM DISCHARGE 5.90 l/s TOTAL. MAXIMUM ROOF PONDING DEPTH 120mm. 100 YEAR PONDING VOLUME = 49.6m³.

07 SUPPLY AND INSTALL NEW INLET CONTROL DEVICE FLOW REGULATOR AT MANHOLE, CB-1 OUTLET. MAXIMUM DISCHARGE 11.40 l/s AT 0.61m HEAD AND ORIFICE DIAMETER AT 83mm.

08 PROVIDE NEW 100mm PERIMETER FOUNDATION DRAINAGE WITH FILTER SOCK AROUND PERIMETER OF NEW ADDITION. INVERT AT 77.00 AT USF ELEVATION.

09 INSTALL NEW REAR YARD CATCH BASIN AS PER CITY OF OTTAWA DETAIL S30.

10 EXISTING SANITARY MANHOLE TO BE PROTECTED DURING CONSTRUCTION.

11 ALL WATERMAIN SHALL BE PROVIDED WITH TRACER WIRE AS PER CITY OF OTTAWA STANDARD DETAILS AND SPECIFICATIONS.

12 NEW FIRE HYDRANT AS PER CITY OF OTTAWA W19. CONTRACTOR IS RESPONSIBLE TO PROVIDE FIRE HYDRANT TESTING AND PAINTING OF CAP AS PER MUNICIPAL STANDARD. INSTALL VALVE ON HYDRANT LEAD PER CITY DETAIL W24 & W50.

13 CONNECT PERMITER FOUNDATION DRAINAGE TO SUMP PIT. REFER TO MECHANICAL DRAWINGS.

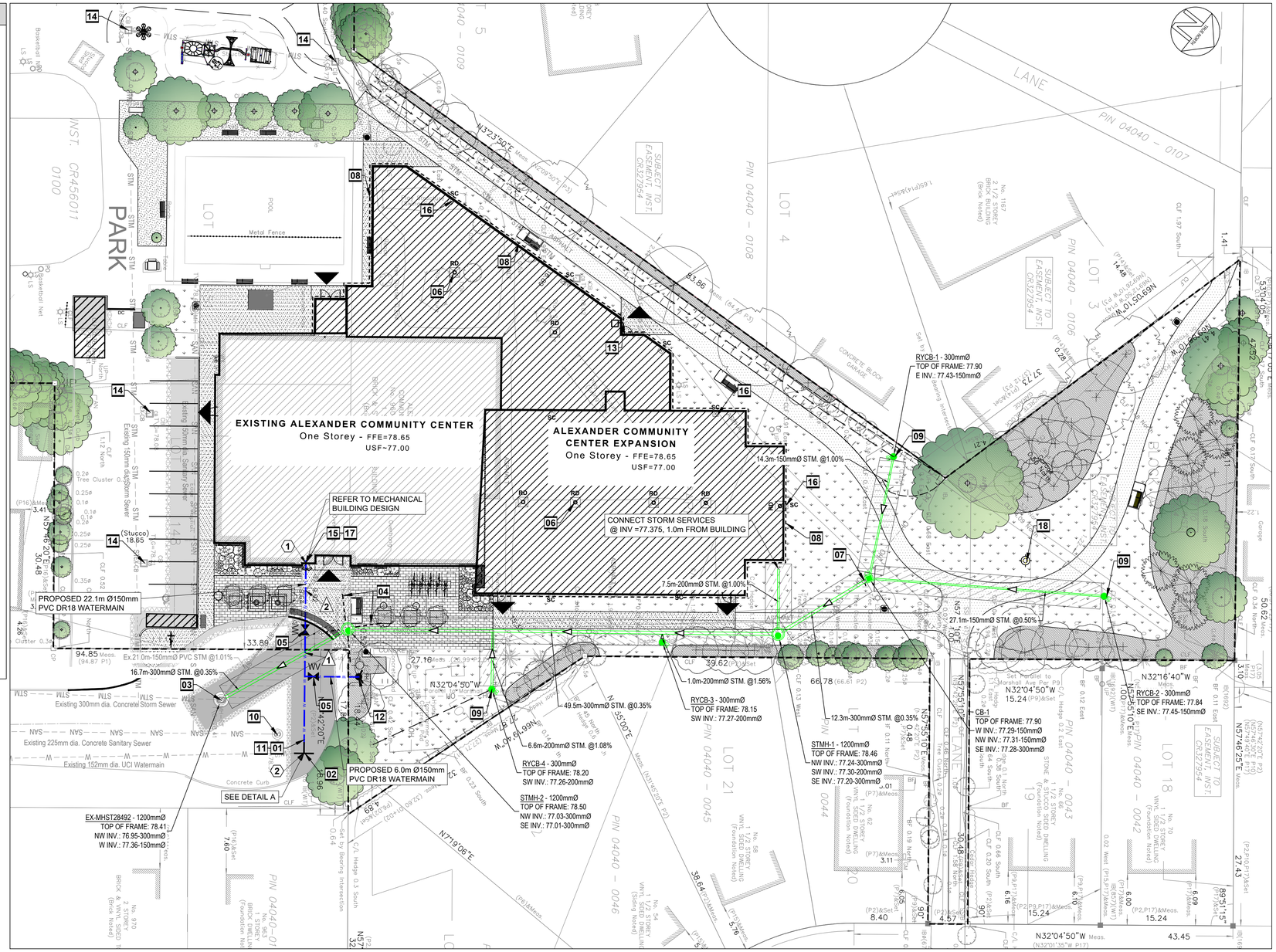
14 EXISTING CATCHBASIN TO BE PROTECTED DURING CONSTRUCTION.

15 WATER SERVICE ENTRY, TOP OF WATERMAIN AT 76.25 TO BE 0.75m UNDERNEATH USF ELEVATION. INVERT LEVELS TO BE COORDINATED AND MATCHING WITH STRUCTURAL AND MECHANICAL DRAWINGS. INSULATE PER CITY OF OTTAWA W22 WHERE LESS THAN 2.4m COVER IS PROVIDED.

16 ROOF TOP SCUPPERS TO BE PROVIDED AT 150mm ABOVE LEVEL OF ROOF DRAINS.

17 PRESSURE REDUCING VALVE TO BE INSTALLED AS PER ONTARIO PLUMBING CODE, COORDINATE WITH MECHANICAL CONTRACTOR.

18 LIGHT STANDARD, REFER TO ELECTRICAL DRAWINGS.


EXISTING ALEXANDER COMMUNITY CENTER
One Storey - FFE=78.65
USF=77.00
ALEXANDER COMMUNITY CENTER EXPANSION
One Storey - FFE=78.65
USF=77.00
REFER TO MECHANICAL BUILDING DESIGN
CONNECT STORM SERVICES @ INV =77.375, 1.0m FROM BUILDING
PROPOSED 22.1m Ø150mm PVC DR18 WATERMAIN
PROPOSED 6.0m Ø150mm PVC DR18 WATERMAIN
SEE DETAIL A
EX-MHST28492 - 1200mmØ
TOP OF FRAME: 78.41
NW INV.: 76.95-300mmØ
W INV.: 77.36-150mmØ
Ex.21.0m-150mmØ PVC STM @1.01%
or
16.7m-300mmØ STM. @0.35%
14.3m-150mmØ STM. @1.00%
7.5m-200mmØ STM. @1.00%
27.1m-150mmØ STM. @0.50%
1.0m-200mmØ STM. @1.56%
12.3m-300mmØ STM. @0.35%
49.5m-300mmØ STM. @0.35%
6.6m-200mmØ STM. @1.08%
RYCB-1 - 300mmØ
TOP OF FRAME: 77.90
E INV.: 77.43-150mmØ
RYCB-2 - 300mmØ
TOP OF FRAME: 77.84
SE INV.: 77.45-150mmØ
RYCB-3 - 300mmØ
TOP OF FRAME: 78.15
SW INV.: 77.27-200mmØ
RYCB-4 - 300mmØ
TOP OF FRAME: 78.20
SW INV.: 77.26-200mmØ
STMH-1 - 1200mmØ
TOP OF FRAME: 78.46
NW INV.: 77.24-300mmØ
SW INV.: 77.30-200mmØ
SE INV.: 77.20-300mmØ
STMH-2 - 1200mmØ
TOP OF FRAME: 78.50
NW INV.: 77.03-300mmØ
SE INV.: 77.01-300mmØ
CB-1
TOP OF FRAME: 77.90
W INV.: 77.29-150mmØ
NW INV.: 77.31-150mmØ
SE INV.: 77.28-300mmØ
Existing 300mm dia. Concrete Storm Sewer
Existing 225mm dia. Concrete Sanitary Sewer
Existing 152mm dia. UCI Watermain
Metal Fence
PARK
LANE
PIN 04040 – 0107
PIN 04040 – 0109
PIN 04040 – 0108
PIN 04040 – 0106
PIN 04040 – 0045
PIN 04040 – 0046
PIN 04040 – 0043
PIN 04040 – 0042
SUBJECT TO EASEMENT, INST. CR327954
INST. CR456011
0100
N323°50'E Meas. (N323°50'E P3)
N32°04'50"W
N57°55'10"E
N57°46'25"E Meas.
N71°19'06"E
N32°16'40"W Meas.
N32°04'50"W Meas. (N32°01'35"W P17)
43.45
15.24
94.85 Meas. (94.87 P1)
83.86 Meas. (84.44 P3)
39.62 (P3)&Set
66.78 (66.61 P2)
38.64 (P2)Meas.
No. 1167 2 STOREY BRICK BUILDING (Brick Noted)
No. 59 1 1/2 STOREY VINYL SIDED DWELLING (Foundation Noted)
No. 62 1 1/2 STOREY VINYL SIDED DWELLING (Foundation Noted)
No. 54 1 1/2 STOREY VINYL SIDED DWELLING (Siding Noted)
No. 70 1 1/2 STOREY VINYL SIDED DWELLING (Foundation Noted)
No. 970 2 STOREY BRICK & STUCCO SIDED DWELLING (Brick Noted)
No. 963 1 STOREY BRICK & STUCCO SIDED DWELLING (Foundation Noted)
STORE & STUCCO SIDED DWELLING (Foundation Noted)
Basketball Net
Tennis Court
Concrete Curb
C/L Hedge 0.3 South
C/L Hedge 0.2 East
Set by Bearing Intersection
Set Perpend to Monument Line P9
Tree Cluster 0.4m
Tree Cluster 0.3m
Tree Cluster 0.6m North
Tree Cluster 0.5m
Tree Cluster 0.4m
Tree Cluster 0.3m
Tree Cluster 0.2m
Tree Cluster 0.25m
Tree Cluster 0.1m
Tree Cluster 0.35m
Tree Cluster 0.5m
Tree Cluster 0.6m
Tree Cluster 0.7m
Tree Cluster 0.8m
Tree Cluster 0.9m
Tree Cluster 1.0m
Tree Cluster 1.1m
Tree Cluster 1.2m
Tree Cluster 1.3m
Tree Cluster 1.4m
Tree Cluster 1.5m
Tree Cluster 1.6m
Tree Cluster 1.7m
Tree Cluster

LEGEND

- PROPERTY LINE
- NEW BUILDING
- DEPRESSED CURB
- BREAK OF SLOPE - NEW
- NEW PROPOSED SWALE
- NEW PERIMETER FOUNDATION DRAINAGE
- LIMIT OF HIGH POINT
- NEW LIGHT DUTY ASPHALT AS PER DETAIL 1 / C3
- NEW HEAVY DUTY ASPHALT AS PER DETAIL 2 / C3
- NEW CONCRETE PATHWAY
- MILLING & OVERLAY 50mm THICK HEAVY DUTY ASPHALT AS PER DETAIL 3 / C3
- PRECAST PAVERS (SEE LANDSCAPE)
- NEW ASPHALT PATHWAY AS PER DETAIL SC20
- 100mm TOP SOIL AND SOD
- EXISTING CONCRETE CURB
- NEW CONCRETE CURB
- EXISTING CATCHBASIN
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT

LEGEND CONTINUED

- EXISTING WATER VALVE
- EXISTING UTILITY POLE
- EXISTING LIGHT STANDARD
- NEW CATCHBASIN
- NEW STORM MANHOLE / CATCHBASIN MANHOLE
- NEW REAR YARD CATCH BASIN
- NEW FIRE HYDRANT
- NEW WATER VALVE
- NEW INLET CONTROL DEVICE
- NEW ROOF DRAIN
- NEW SCUPPER AT 150mm ABOVE ROOF DRAIN LEVEL
- SEWER FLOW DIRECTION
- BUILDING ENTRANCE
- PROPOSED ELEVATION & EXISTING NATURAL GRADE
- PROPOSED ELEVATION
- PROPOSED BOTTOM OF CURB ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED SLOPE
- OVERLAND FLOW ROUTE

LEGEND CONTINUED

- EXISTING TREES REFER TO LANDSCAPE
- NEW TREES REFER TO LANDSCAPE
- NEW MULCH

GEOTECHNICAL NOTES

1. A GEOTECHNICAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO SHALL INSPECT ALL SUBGRADE SURFACES FOR FOOTING AND TRENCHES, PIPE BEDDING AND PAVEMENT STRUCTURES PRIOR TO CONSTRUCTION.
2. IT IS STRICTLY RECOMMENDED TO REFER GEOTECHNICAL INVESTIGATION REPORT : PROPOSED ADDITION TO ALEXANDER COMMUNITY CENTRE 960 SILVER STREET OTTAWA, ONTARIO BY EXP SERVICES INC..
3. IT IS ANTICIPATED THAT THE MAJORITY OF THE MATERIAL REQUIRED FOR BACKFILLING PURPOSES AND FOR TRENCH BACKFILL WOULD HAVE TO BE IMPORTED AND SHOULD CONFORM TO THE RECOMMENDATION STATED IN THE GEOTECHNICAL REPORT.
4. CONTRACTOR BIDDING ON THIS PROJECT MUST REVIEW AVAILABLE DATA AND DECIDE ON THEIR OWN THE BEST METHOD FOR THE EXCAVATION OF THE BEDROCK IF DEEMED REQUIRED.
5. IT IS RECOMMENDED THAT THE BEDDING FOR THE UNDERGROUND SERVICES INCLUDING MATERIAL SPECIFICATIONS, THICKNESS OF COVER MATERIAL AND COMPACTION REQUIREMENTS CONFORM TO MUNICIPAL REQUIREMENTS AND/OR ONTARIO PROVINCIAL STANDARD SPECIFICATION AND DRAWINGS (OPSS AND OPSD).
6. IT IS RECOMMENDED THAT THE PIPE BEDDING BE 300mm THICK AND CONSIST OF OPSS GRANULAR A. THE BEDDING MATERIAL SHOULD BE PLACED ALONG THE SIDES AND ON TOP OF THE PIPE TO PROVIDE A MINIMUM COVER OF 300mm. THE BEDDING SHOULD BE COMPACTED TO AT LEAST 98 PERCENT OF THE SPMDD.
7. THE BEDDING THICKNESS MAY BE FURTHER INCREASED IN AREAS WHERE THE SUBGRADE BECOMES DISTURBED.
8. SINCE PAVED SURFACES WILL BE LOCATED OVER SERVICE TRENCHES, IT IS RECOMMENDED THAT THE TRENCH BACKFILL MATERIAL WITHIN THE FROST ZONE (UP TO 1.8 M BELOW FINISHED GRADE), SHOULD MATCH THE EXISTING MATERIAL IN THE ROADWAY TO MINIMIZE DIFFERENTIAL FROST HEAVING OF THE SUBGRADE. THE TRENCH BACKFILL SHOULD BE PLACED IN 300mm THICK LIFTS AND EACH LIFT SHOULD BE COMPACTED TO 95 PERCENT SPMDD.
9. THE BEDROCK/AUGER REFUSAL DEPTHS ACROSS THE SITE WERE VARIABLE.SHALLOW BEDROCK AND LARGE BOULDERS SHOULD BE EXPECTED DURING THE INSTALLATION OF ANY SERVICES AT THE SITE AND CONTRACTORS BIDDING ON THIS WORK SHOULD ANTICIPATE THESE CONDITIONS.

GEOTECHNICAL NOTES CONTINUED

10. IT IS ANTICIPATED THAT THE MAJORITY OF THE MATERIAL REQUIRED FOR TRENCH BACKFILL AND SUBGRADE FILL IN PARKING AREA AND ACCESS ROADS WOULD HAVE TO BE IMPORTED AND SHOULD CONFORM TO OPSS 1010 SELECT SUBGRADE MATERIAL (SSM) - COMPACTED TO 95 PERCENT OF THE SPMDD AND THE UPPER 300 MM OF THE SUBGRADE FILL MUST BE COMPACTED TO 98% SPMDD.
11. AS PART OF THE SUBGRADE PREPARATION, THE PROPOSED PARKING AREA, PAVED AREA AND ACCESS ROADS SHOULD BE STRIPPED OF TOPSOIL AND OTHER OBVIOUSLY UNSUITABLE MATERIAL. THE SUBGRADE SHOULD BE PROPERLY SHAPED, CROWNED, THEN PROOF ROLLED WITH A HEAVY VIBRATORY ROLLER IN THE FULL-TIME PRESENCE OF A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER. ANY SOFT OR SPONGY SUBGRADE AREAS DETECTED SHOULD BE SUB EXCAVATED AND PROPERLY REPLACED WITH SUITABLE APPROVED BACKFILL COMPACTED TO 95 PERCENT SPMDD (ASTM D698-12E2).
12. THE SUBDRAINS ILLUSTRATED ON PLANS ARE SCHEMATIC. FULL SCHEME OF SUBDRAINS SHOULD BE INSTALLED ON BOTH SIDES OF THE ACCESS ROAD(S).SUBDRAINS SHOULD BE INSTALLED ON BOTH SIDES OF THE ACCESS ROAD(S). SUBDRAINS MUST BE INSTALLED IN THE PROPOSED PARKING AREA AT LOW POINTS AND SHOULD BE CONTINUOUS BETWEEN CATCHBASINS TO INTERCEPT EXCESS SURFACE AND SUBSURFACE MOISTURE AND TO PREVENT SUBGRADE SOFTENING. THIS WILL ENSURE NO WATER COLLECTS IN THE GRANULAR COURSE, WHICH COULD RESULT IN PAVEMENT FAILURE DURING THE SPRING THAW. THE LOCATION AND EXTENT OF SUBDRAINS REQUIRED WITHIN THE PAVED AREAS SHOULD BE REVIEWED BY THE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE PROPOSED SITE GRADING.
13. TO MINIMIZE THE PROBLEMS OF DIFFERENTIAL MOVEMENT BETWEEN THE PAVEMENT AND CATCHBASINS/MANHOLE DUE TO FROST ACTION, THE BACKFILL AROUND THE STRUCTURES SHOULD CONSIST OF FREE-DRAINING GRANULAR PREFERABLY CONFORMING TO OPSS GRANULAR B TYPE II MATERIAL. WEEP HOLES SHOULD BE PROVIDED IN THE CATCHBASINS/MANHOLES TO FACILITATE DRAINAGE OF ANY WATER THAT MAY ACCUMULATE IN THE GRANULAR FILL.
14. THE MOST SEVERE LOADING CONDITIONS ON LIGHT-DUTY PAVEMENT AREAS AND THE SUBGRADE MAY OCCUR DURING CONSTRUCTION. CONSEQUENTLY, SPECIAL PROVISIONS SUCH AS RESTRICTED LANES, HALF-LOADS DURING PAVING, TEMPORARY CONSTRUCTION ROADWAYS, ETC., MAY BE REQUIRED, ESPECIALLY IF CONSTRUCTION IS CARRIED OUT DURING UNFAVORABLE WEATHER.
15. THE FINISHED PAVEMENT SURFACE SHOULD BE FREE OF DEPRESSIONS AND SHOULD BE SLOPED (PREFERABLY AT A MINIMUM CROSS FALL OF 2 PERCENT) TO PROVIDE EFFECTIVE SURFACE DRAINAGE TOWARDS CATCH BASINS. SURFACE WATER SHOULD NOT BE ALLOWED TO POND ADJACENT TO THE OUTSIDE EDGES OF PAVED AREAS.

GEOTECHNICAL NOTES CONTINUED

16. RELATIVELY WEAKER SUBGRADE MAY DEVELOP OVER SERVICE TRENCHES AT SUBGRADE LEVEL. THESE AREAS MAY REQUIRE THE USE OF THICKER/COARSER SUB-BASE MATERIAL AND THE USE OF A GEOTEXTILE AT THE SUBGRADE LEVEL. IF THIS IS THE CASE, IT IS RECOMMENDED THAT ADDITIONAL 150 MM THICK GRANULAR SUB-BASE, OPSS GRANULAR B TYPE II, SHOULD BE PROVIDED IN THESE AREAS. IN ADDITION TO THE USE OF A GEOTEXTILE AT THE SUBGRADE LEVEL.
17. THE GRANULAR MATERIALS USED FOR PAVEMENT CONSTRUCTION SHOULD CONFORM TO ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS 1010) FOR GRANULAR A AND GRANULAR B TYPE II AND SHOULD BE COMPACTED TO 100 PERCENT OF THE SPMDD.
18. THE ASPHALTIC CONCRETE USED, AND ITS PLACEMENT SHOULD MEET OPSS 1150 OR 1151 REQUIREMENTS. IT SHOULD BE COMPACTED FROM 92 PERCENT TO 97 PERCENT OF THE MRD (ASTM D2041). ASPHALT PLACEMENT SHOULD BE IN ACCORDANCE WITH OPSS 310 AND OPSS 313.
19. ALL EARTHWORK ACTIVITIES FROM PLACEMENT AND COMPACTION OF FILL IN THE SERVICE TRENCHES TO SUBGRADE PREPARATION, PLACEMENT AND COMPACTION OF GRANULAR MATERIALS AND ASPHALTIC CONCRETE SHOULD BE INSPECTED BY QUALIFIED GEOTECHNICIANS TO ENSURE THAT CONSTRUCTION OF THE SEWERS AND PAVEMENT PROCEEDS ACCORDING TO THE SPECIFICATIONS.
20. STRINGENT CONSTRUCTION CONTROL PROCEDURES SHOULD BE MAINTAINED TO ENSURE THAT UNIFORM SUBGRADE MOISTURE AND DENSITY CONDITIONS ARE ACHIEVED.
21. SHOULD SURFACE AND SUBSURFACE WATER SEEPAGE OCCUR INTO THE EXCAVATIONS COLLECT ANY WATER ENTERING THE EXCAVATIONS AND REMOVE IT BY PUMPING FROM SUMP.
22. IF THE BACKFILL IN THE SERVICE TRENCHES WILL CONSIST OF GRANULAR FILL, CLAY SEALS SHOULD BE INSTALLED IN THE SERVICE TRENCHES AT SELECT INTERVALS (SPACING) AS PER CITY OF OTTAWA DRAWING NO. S8. THE SEALS SHOULD BE 1m WIDE, EXTEND OVER THE ENTIRE TRENCH WIDTH AND FROM THE BOTTOM OF THE TRENCH TO THE UNDERSIDE OF THE PAVEMENT STRUCTURE. THE CLAY SHOULD BE COMPACTED TO 95 PERCENT SPMDD. THE PURPOSE OF THE CLAY SEALS IS TO PREVENT THE PERMANENT LOWERING OF THE GROUNDWATER LEVEL. CLAY SEAL LOCATIONS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.
23. IT IS RECOMMENDED THAT A GEOTEXTILE BE PLACED ON THE SURFACE OF THE SUBGRADE PRIOR OF PLACEMENT OF ANY GRANULAR SUB-BASE. THIS MUST BE ALLOWED FOR BY THE CONTRACTOR AND INSTALLED WHEN DIRECTED BY THE GEOTECHNICAL ENGINEER.
24. THE MUNICIPAL SERVICES SHOULD BE INSTALLED IN SHORT OPEN TRENCH SECTIONS THAT ARE EXCAVATED AND BACKFILLED THE SAME DAY.

GENERAL NOTES

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5. CONTRACTOR MUST COMPLY WITH LOCAL BY-LAWS, ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND ALL REGULATIONS SET BY AUTHORITIES HAVING JURISDICTION. IN CASE OF CONFLICT OR DISCREPANCY, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
6. CONTRACTOR RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY LOCATES, DAYLIGHTING, INSPECTIONS, PERMITS, AND APPROVALS, INCLUDING ALL ASSOCIATED COSTS. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE ONLY AND BASED ON BEST AVAILABLE INFORMATION.
7. IN THE EVENT THAT EXCAVATION IS REQUIRED ON THE CITY OF OTTAWA ROW OR ADJACENT PROPERTY, CONTRACTOR IS RESPONSIBLE TO ENSURE ADDITIONAL PERMIT AND/OR PERMISSION

DRAWING NOTES

01 MATCH EXISTING GRADES AT PROPERTY LINE AND LIMITS OF WORK.

02 ANY DISTURBED AREA WITHIN THE RIGHT-OF-WAY SHALL BE REINSTATED TO EQUAL OR BETTER CONDITION TO THE SATISFACTION OF THE CITY OF OTTAWA.

03 TOP OF BANK. PROVIDE MAXIMUM 4:1 SLOPE TO TIE INTO EXISTING / PROPOSED GRADES.

04 EXISTING LIGHT STANDARD TO BE PROTECTED DURING CONSTRUCTION.

05 CONSTRUCT SIDEWALK AS PER CITY OF OTTAWA STANDARD DETAIL SC2 & SC5. PROVIDE MAXIMUM SLOPE OF 2.0% INSTALL REINFORCING MESH 150X150mm MW9.1XMW9.1 THROUGHOUT NEW SIDEWALK. STOP WIRE MESH AT EXPANSION JOINTS.

06 CONSTRUCT CONCRETE BARRIER / DEPRESSED CURB AS PER CITY OF OTTAWA STANDARD DETAIL SC1.1.

07 SAW CUT INTO EXISTING ASPHALT AS PER DETAIL 3/C3. MATCH EXISTING PAVEMENT AND GRANULAR STRUCTURE.

08 NEW ACCESSIBLE PARKING ACCESS RAMP. PROVIDE MAXIMUM 8% SLOPE.

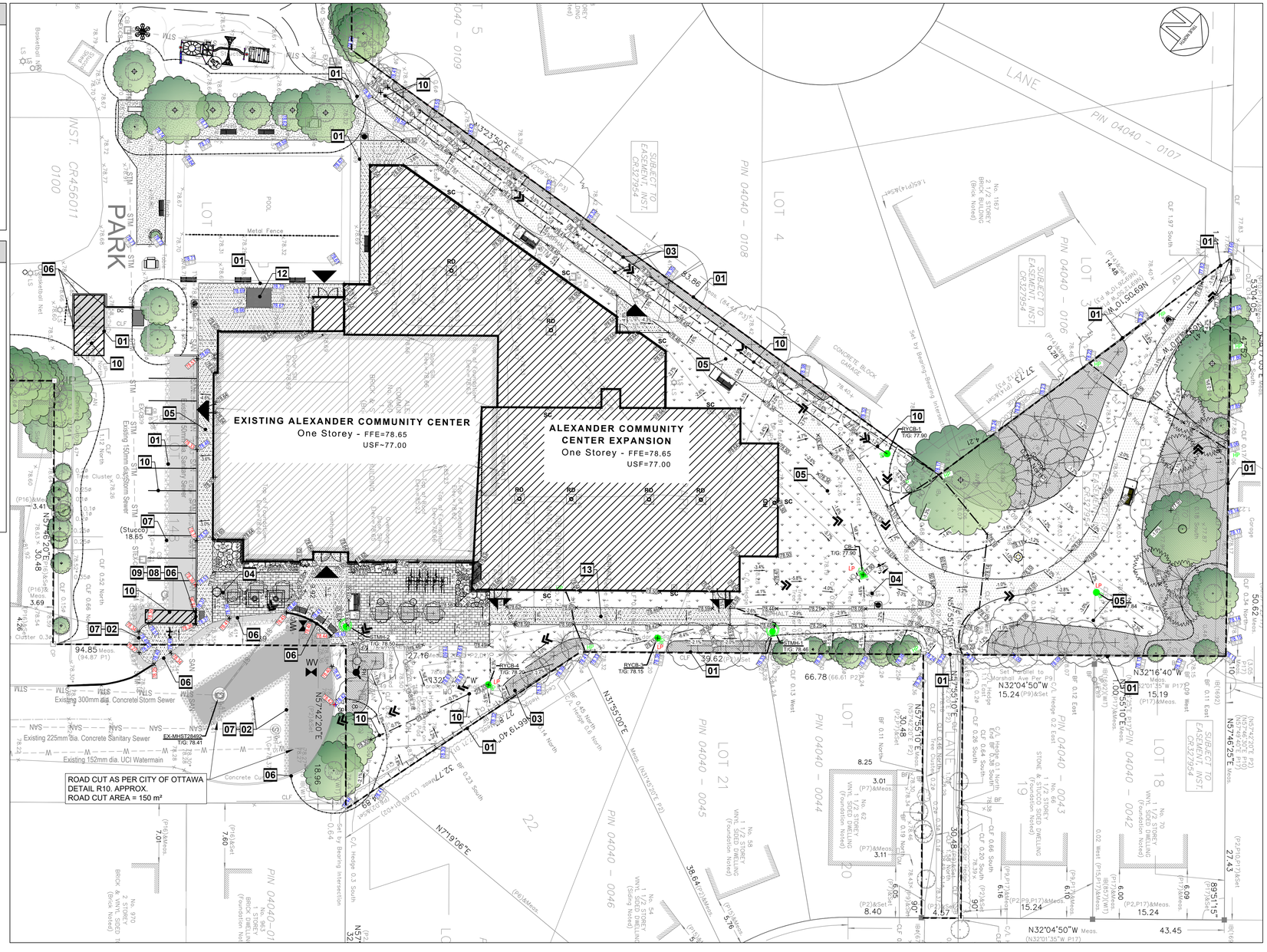
09 TWSI AS PER CITY STANDARDS.

10 CONSTRUCT NEW SWALE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD DETAIL DRAWING S29.

11 NEW TRAFFIC MARKING PAINT, REFER TO ARCHITECUTRAL.

12 EXISTING MANHOLE STRUCTURE TO REMAIN.

13 CONSTRUCT SIDEWALK AS PER CITY OF OTTAWA DETAIL SC4.


EXISTING ALEXANDER COMMUNITY CENTER
One Storey - FFE=78.65
USF=77.00
ALEXANDER COMMUNITY CENTER EXPANSION
One Storey - FFE=78.65
USF=77.00
ROAD CUT AS PER CITY OF OTTAWA DETAIL R10. APPROX. ROAD CUT AREA = 150 m²
PARK
LANE
PIN 04040 - 0107
PIN 04040 - 0108
PIN 04040 - 0109
PIN 04040 - 0044
PIN 04040 - 0045
PIN 04040 - 0046
PIN 04040 - 0042
PIN 04040 - 0043
LOT 4
LOT 5
LOT 18
LOT 19
LOT 20
LOT 21
LOT 22
SUBJECT TO EASEMENT, INST. OR327954
SUBJECT TO EASEMENT, INST. CR327954
Existing 300mm dia. Concrete Storm Sewer
Existing 225mm dia. Concrete Sanitary Sewer
Existing 152mm dia. UCI Watermain
Existing 150mm dia. Storm Sewer
Metal Fence
No. 1667 2 STOREY BRICK BUILDING (Brick Noted)
No. 58 1 1/2 STOREY VINYL SIDED DWELLING (Foundation Noted)
No. 62 1 1/2 STOREY VINYL SIDED DWELLING (Foundation Noted)
No. 70 1 1/2 STOREY VINYL SIDED DWELLING (Foundation Noted)
No. 54 1 1/2 STOREY VINYL SIDED DWELLING (Siding Noted)
No. 963 1 STOREY BRICK BUILDING (Foundation Noted)
No. 970 2 STOREY BRICK & VINYL SIDED (Brick Noted)
Basketball Net
Tree Cluster
Set by Bearing Intersection
Set Iron Bar
Found Iron Bar
Found Monument
Found Survey Marker
Found Iron Pipe
Set Iron Pipe
Set Survey Marker
Set Nail
Found Nail
Set Nail to Marshall Ave Pin
Found Iron Bar (Bent)
Found Iron Pipe (Bent)
Found Iron Bar (Disturbed)
Found Iron Pipe (Disturbed)
Found Iron Bar (Broken)
Found Iron Pipe (Broken)
Found Iron Bar (Buried)
Found Iron Pipe (Buried)
Found Iron Bar (Flattened)
Found Iron Pipe (Flattened)
Found Iron Bar (Mushroomed)
Found Iron Pipe (Mushroomed)
Found Iron Bar (Rusted)
Found Iron Pipe (Rusted)
Found Iron Bar (Worn)
Found Iron Pipe (Worn)

General Notes

1. DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND LANDSCAPE DRAWINGS.
2. ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS OF THE: CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS, ONTARIO PROVINCIAL SPECIFICATION STANDARD SPECIFICATION (OPSS) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), UNLESS OTHERWISE SPECIFIED, TO THE SATISFACTION OF THE CITY OF OTTAWA AND THE CONSULTANT.
3. THE POSITION OF EXISTING POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, STRUCTURES AND APPURTENANCES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWING, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION. ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF SUBJECT LANDS IS TO BE UNDERTAKEN AT CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANY OFFICIALS FIVE (5) BUSINESS DAYS PRIOR TO START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR EXPOSED PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO POWER, COMMUNICATION AND GAS LINES.
5. ALL TRENCHING AND EXCAVATIONS TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS AND AS PER THE RECOMMENDATIONS INCLUDED IN THE GEOTECHNICAL REPORT.
6. REFER TO ARCHITECTS PLANS FOR BUILDING DIMENSIONS, LAYOUT AND REMOVALS. REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. ALL INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
7. TOPOGRAPHIC SURVEY AND PROPERTY BOUNDARY INFORMATION COMPLETED AND PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. JOB NO.: N-26205-26, DATED FEBRUARY 13, 2026. CONTRACTOR TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION OF ANY WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
8. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS. VERIFY THAT JOB BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED.
9. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
10. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM.
11. ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS UNLESS OTHERWISE SPECIFIED. ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
12. ABUTTING PROPERTY GRADES TO BE MATCHED UNLESS OTHERWISE SHOWN.
13. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION, INCLUDING WATER PERMIT AND ROAD CUT PERMIT.
14. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
15. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS. ALL EXCESS SOIL MANAGEMENT, TESTING AND DISPOSAL MUST COMPLY WITH CURRENT O.REG. 406/19. ALL ASSOCIATED COSTS ARE TO BE BORNE BY THE CONTRACTOR.
16. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
17. CONTRACTOR TO OBTAIN POST-CONSTRUCTION TOPOGRAPHIC SURVEY, COMPLETED BY OLS OR P.ENG CONFIRMING COMPLIANCE WITH DESIGN GRADING AND SERVICING. SURVEY IS TO INCLUDE LOCATION AND INVERTS FOR BURIED UTILITIES.
18. ABIDE BY RECOMMENDATIONS OF GEOTECHNICAL REPORT. REPORT ANY VARIATIONS IN OBSERVED CONATIONS FROM THOSE INCLUDED IN REPORT.
19. REPORT REFERENCES;

    GEOTECHNICAL INVESTIGATION:

    PROPOSED ADDITION TO ALEXANDER COMMUNITY CENTRE

    960 SILVER STREET , OTTAWA, ONTARIO
    PREPARED BY EXP, PROJECT No: OTT-23011957-Q0
    DATED FEBRUARY 27,2026.
20. PROVIDE CCTV INSPECTION REPORT FOR ALL SEWERS AND CATCHBASIN LEADS 200mm DIAMETER AND LARGER. REPEAT CCTV INSPECTION FOLLOWING RECTIFICATION OF ANY DEFICIENCIES.

Excess Soil And O.REG. 406/19

1. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, FOUNDATION, PAVED AREAS, SUBDRAINS AND SERVICE TRENCHES. EXCESS MATERIAL REMOVAL FROM SITE SHALL FOLLOW THE GEOTECHNICAL AND ENVIRONMENTAL ENGINEER'S RECOMMENDATION.
2. CONTRACTOR TO STOCKPILE UN-USABLE FILL TO BE REMOVED FROM SITE TO ALLOW THE GEOTECHNICAL ENGINEER IN 10 DAYS TO INSPECT THE MATERIALS AND TO PROVIDE GUIDANCE TO CONTRACTOR PRIOR TO DISPOSAL. EROSION CONTROL MEASURE ARE TO BE APPLIED TO STOCKPILE AREA. EXCESS MATERIALS SHALL BE DISPOSED AS PER THE REQUIREMENTS OF OPSS 180.
3. IF CONTAMINATION HAZARDOUS MATERIAL IS SUSPECTED DURING CONSTRUCTION (E.G. STAINING, ODOURS, ETC.), THE CONTRACTOR MUST NOTIFY THE PROPERTY OWNER(S), PROJECT LEADER, PRIME CONSULTANT, AND GEOTECHNICAL ENGINEER, FOR DIRECTION ON HOW TO PROCEED ACCORDING TO FEDERAL AND PROVINCIAL LEGISLATION. THE GEOTECHNICAL ENGINEER UNDER THE GUIDANCE OF A QUALIFIED PERSON, MUST DETERMINE IF ADDITIONAL SAMPLING (INCLUDING LEACHATE TESTING) IS REQUIRED TO MEET THE MINIMUM SAMPLING PROVISIONS UNDER O.REG. 406/19 (AS AMENDED).
4. EXCESS SOIL MANAGEMENT, TESTING AND DISPOSAL MUST COMPLY WITH O.REG. 406/19.
5. ALL SOIL HAULAGE RECORDS SHALL BE KEPT AND PROVIDED BY THE CONTRACTOR AND SUBMITTED TO THE CONSULTANT .
6. ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED AT AN APPROVED DUMP SITE BY CONTRACTOR .

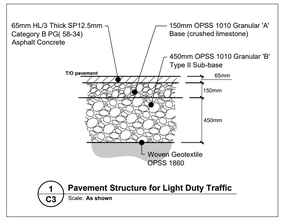
Parking Lot and Work in Public Rights of Way

**** CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES.****

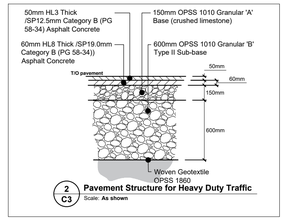
1. PRIOR TO START OF CONSTRUCTION:
   - 1.1. INSTALL SILT FENCE IN LOCATION SHOWN ON DWG C4.
   - 1.2. INSTALL FILTER FABRIC OR SILT SACK FILTERS IN ALL THE CATCHBASINS AND MANHOLES TO REMAIN DURING CONSTRUCTION WITHIN THE SITE (SEE TYPICAL DETAIL).
   - 1.3. INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.
2. DURING CONSTRUCTION:
   - 2.1. MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE AND IMPACTS TO EXISTING GRADING.
   - 2.2. PERIMETER VEGETATION TO REMAIN IN PLACE UNTIL PERMANENT STORM WATER MANAGEMENT IS IN PLACE. OTHERWISE, IMMEDIATELY INSTALL SILT FENCE WHEN THE EXISTING SITE IS DISTURBED AT THE PERIMETER.
   - 2.3. PROTECT DISTURBED AREAS FROM OVERLAND FLOW BY PROVIDING TEMPORARY SWALES TO THE SATISFACTION OF THE FIELD ENGINEER. TIE-IN TEMPORARY SWALE TO EXISTING CBS AS REQUIRED.
   - 2.4. PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED WITHIN 30 DAYS.
   - 2.5. INSPECT SILT FENCES, FILTER FABRIC FILTERS AND CATCH BASIN SUMPS WEEKLY AND WITHIN 24 HOURS AFTER A STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY.
   - 2.6. DRAWING TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION.
   - 2.7. EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
   - 2.8. DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE PAVED BEFORE THE PILE IS REMOVED. ALL TOPSOIL PILES ARE TO BE SEEDED IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS).
   - 2.9. CONTROL WIND-BLOWN DUST OFF SITE BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED AND TO THE SATISFACTION OF THE ENGINEER).
   - 2.10. NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE FIELD ENGINEER.
   - 2.11. CITY OF OTTAWA ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING AS REQUIRED.
   - 2.12. DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPED.
   - 2.13. ANY MUD/MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER.
   - 2.14. TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ABUTTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.
   - 2.15. ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER.
   - 2.16. 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.

Parking Lot and Work in Public Rights of Way

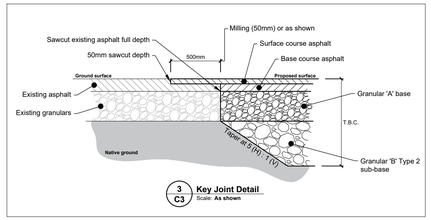
1. CONTRACTOR TO REINSTATE ROAD CUTS AS PER CITY OF OTTAWA DETAIL R10.
2. CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROOFROLLING, TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT PRIOR TO THE COMMENCEMENT OF PLACEMENT OF GRANULAR B MATERIAL.
3. FILL TO BE PLACED AND COMPACTED PER THE GEOTECHNICAL REPORT REQUIREMENTS.
4. CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR B MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL CONSULTANT. CONTRACTOR TO PROVIDE CONSULTANT WITH SAMPLES OF GRANULAR B MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL CONSULTANT THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
5. GRANULAR A MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL CONSULTANT OF GRANULAR B PLACEMENT.
6. CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR A MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL CONSULTANT. CONTRACTOR TO PROVIDE CONSULTANT WITH SAMPLES OF GRANULAR A MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL CONSULTANT THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
7. ASPHALT MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL CONSULTANT OF GRANULAR A PLACEMENT.
8. CONTRACTOR TO SUPPLY, PLACE AND COMPACT ASPHALT MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL CONSULTANT. CONTRACTOR TO PROVIDE CONSULTANT WITH SAMPLES OF ASPHALT MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL CONSULTANT THAT THE MATERIAL MEETS THE REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
9. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING LINE AND GRADE IN ACCORDANCE WITH THE PLANS, AND FOR PROVIDING THE CONSULTANT WITH VERIFICATION PRIOR TO PLACEMENT.
10. 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 CONSULTANT. CONSULTANT TO DETERMINE APPROPRIATE DISPOSAL METHOD/LOCATION.
11. PAVEMENT STRUCTURE (MATERIAL TYPES AND THICKNESS) FOR HEAVY DUTY AND LIGHT DUTY AREAS TO BE AS SPECIFIED IN THE GEOTECHNICAL REPORT AND SHOWN ON THE PLANS.



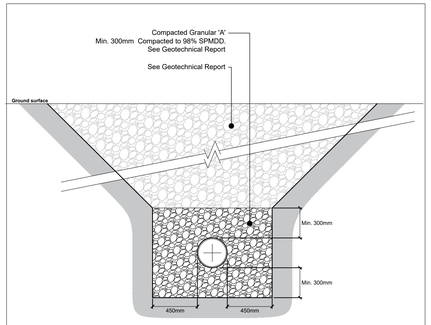
1 C3 **Pavement Structure for Light Duty Traffic**
Scale: **As shown**



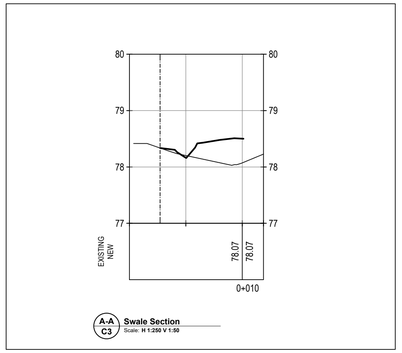
2 C3 **Pavement Structure for Heavy Duty Traffic**
Scale: **As shown**



3 C3 **Key Joint Detail**
Scale: **As shown**



4 C3 **Standard Trench Detail**
Scale: **As shown**



A-A C3 **Swale Section**
Scale: **H 1:250 V 1:50**

Notes: Storm Sewer and Manholes

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. PROVIDE CCTV INSPECTION REPORTS FOR ALL NEW STORM SEWERS, SERVICES AND CB LEADS.
2. STORM SEWERS 375mm DIAMETER AND SMALLER SHALL BE PVC SDR-35, WITH RUBBER GASKET PER CSA A-257.3.
3. STORM SEWERS 450mm AND LARGER SHALL BE REINFORCED CONCRETE CLASS 100.
4. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
5. ALL STORM MANHOLES TO BE AS PER MANHOLE AND CATCHBASIN SCHEDULE.
6. ANY NEW OR EXISTING STORM SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD S35, OR APPROVED BY THE ENGINEER.
7. CB IN LANDSCAPE AREAS SHALL BE AS PER CITY OF OTTAWA STANDARD S29, S30 AND S31.
8. ALL CATCHBASIN LEADS TO BE MINIMUM 200mm DIAMETER AT MINIMUM 1.0% SLOPE UNLESS OTHERWISE SPECIFIED.
9. STORM CATCHBASINS AS PER OPSD 705.010 AND FRAME/COVER AS PER CITY STANDARD DRAWINGS S19. STORM CBMH'S AS INDICATED IN TABLE WITH SUMP. ADJUSTMENT SECTIONS SHALL BE AS PER OPSD 704.010.
10. INSTALLATION OF FLOW CONTROL ICD'S TO BE VERIFIED BY QUALITY VERIFICATION ENGINEER RETAINED BY CONTRACTOR.

Notes: Watermain

1. ALL WATERMAIN AND WATERMAIN APPURTANANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.
2. ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 18 MEETING AWWA SPECIFICATION C900.
3. ALL WATERMAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE WATERMAINS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE SHALL BE MAINTAINED. WHERE WATERMAINS CROSS UNDER OTHER UTILITIES, A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED, THE WATERMAIN SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTTAWA STANDARD W22. WHERE A WATERMAIN IS IN CLOSE PROXIMITY TO AN OPEN STRUCTURE, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTTAWA STANDARD W23.
4. CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER, IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25.3 & W25.4.
5. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 & W42.
6. ALL VALVES AND VALVE BOXES AND CHAMBERS, HYDRANTS, AND HYDRANT VALVES AND ASSEMBLIES SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARD
7. FIRE HYDRANT LOCATION AND INSTALLATION AS PER CITY OF OTTAWA STANDARD W18 & W19. CONTRACTOR TO PROVIDE FLOW TEST AND PAINTING OF NEW HYDRANT IN ACCORDANCE WITH CITY STANDARDS.
8. IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

CROSSING TABLE

LOCATION	OVER / UNDER	T/G	OBVERT	INVERT	CLEARANCE (m)
①	NEW WATERMAIN - NEW STORM SEWER	78.40	76.00 (WM)	76.98 (STM)	0.98
②	NEW WATERMAIN -EXISTING STORM SEWER	78.54	76.13 (WM)	77.52 (STM)	1.39

WATER SERVICE TABLE

ID	DESCRIPTION	FINISHED GRADE (m)	T/O WATERMAIN (m)
①	BUILDING CONNECTION	78.65	76.25
②	EXISTING WATERMAIN STUB CONNECTION	78.30	75.90

NOTE: PROVIDE MINIMUM 2.4m COVER OVER T/O WATERMAIN TO FINISHED GRADE, OTHERWISE PROVIDE THERMAL INSULATION HL40 AS PER DETAIL A/C1.

NEW SANITARY SEWER STRUCTURE SCHEDULE

MANHOLE NO.	DESCRIPTION	T/GRATE ELEVATION	INVERT ELEVATION / PIPE DIAMETER	OPSD No. & COO	FRAME (CITY OF OTTAWA)
CB-1	600x600mm CATCHBASIN	77.90	W INV.: 77.29 - 150mmØ NW INV.: 77.31 - 150mmØ SE INV.: 77.28 - 300mmØ	705.010	S19
RYCB-1	300mmØ DRAINAGE BASIN	77.90	E INV.: 77.43 - 150mmØ	S30	S30
RYCB-2	300mmØ DRAINAGE BASIN	77.84	SE INV.: 77.45 - 150mmØ	S30	S30
RYCB-3	300mmØ DRAINAGE BASIN	78.15	SW INV.: 77.27 - 200mmØ	S30	S30
RYCB-4	300mmØ DRAINAGE BASIN	78.20	SW INV.: 77.26 - 200mmØ	S30	S30
STMH-1	1,200mmØ MAINTENANCE HOLE	78.46	NW INV.: 77.24 - 300mmØ SW INV.: 77.30 - 200mmØ SE INV.: 77.20 - 300mmØ	701.010	S24.1 / S25
STMH-2	1,200mmØ MAINTENANCE HOLE	78.50	NW INV.: 77.03 - 300mmØ SE INV.: 77.01 - 300mmØ	701.010	S24.1 / S25

Ottawa

INFRASTRUCTURE SERVICES DESIGN AND CONSTRUCTION

SERVICES D'INFRASTRUCTURE DIRECTION DE CONCEPTION ET DE CONSTRUCTION

FOR / POUR

Client - Department

Infrastructure and Water Services Department Design & Construction

6			
5			
4			
3			
2			
1	ISSUED FOR SITE PLAN CONTROL REV-1	26/04/14	R.I. / Z.B.
NUMBER/ NUMERO	MILESTONE / FAIT SAILLANT	DATE: (YY/MO/ JA/M.J)	INITIALS INITIALES

DESIGNED BY / CONCU PAR: ZACH BAUMAN
CHECKED BY / VERIFIE PAR: ALI SAMMOUR
DRAWN BY / DESSINE PAR: RAFAT ISMAIL
SCALE / ECHELLE: 1:250

DETAIL NUMBER 1 / A1.1 SCALE: SHEET NUMBER — DRAWING TITLE

ARCHITECT / ARCHITECTE

CONSULTANT / EXPERT-CONSEIL

CONSULTANT / EXPERT-CONSEIL

LICENSED PROFESSIONAL ENGINEER — Z. E. BAUMAN — 100578796 — April 14, 2026 — PROVINCE OF ONTARIO

CONSULTANT / EXPERT-CONSEIL

PROFESSIONAL ENGINEER — ALI SAMMOUR — 100227665 — April 14, 2026 — PROVINCE OF ONTARIO

PROJECT / LOCATION / PROJET / ENDROIT

ALEXANDER COMMUNITY CENTRE EXPANSION

950 Silver Street
OTTAWA, ONTARIO

DRAWING / DESSIN

DETAILS, NOTES AND SCHEDULES

BUSINESS ENTITY / NUMÉRO DE L'ENTITÉ / BUILDING NUMBER / NUMÉRO DU BÂTIMENT

SHEET NO. / FEUILLE No.

C.03

CITY PROJECT NO. / NUMÉRO DE PROJET

CONS_PROJECT NO. / NUMÉRO DE PROJET

25-1170A

EROSION AND SEDIMENT CONTROL NOTES

**** CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES.****

1. PRIOR TO START OF CONSTRUCTION:
   - 1.1. INSTALL SILT FENCE IN LOCATION SHOWN ON DRAWINGS.
   - 1.2. INSTALL FILTER FABRIC OR SILT SACK FILTERS IN ALL THE CATCHBASINS AND MANHOLES TO REMAIN DURING CONSTRUCTION WITHIN THE SITE (SEE TYPICAL DETAIL).
   - 1.3. INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.
2. DURING CONSTRUCTION:
   - 2.1. MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE AND IMPACTS TO EXISTING GRADING.
   - 2.2. PERIMETER VEGETATION TO REMAIN IN PLACE UNTIL PERMANENT STORM WATER MANAGEMENT IS IN PLACE. OTHERWISE, IMMEDIATELY INSTALL SILT FENCE WHEN THE EXISTING SITE IS DISTURBED AT THE PERIMETER.
   - 2.3. PROTECT DISTURBED AREAS FROM OVERLAND FLOW BY PROVIDING TEMPORARY SWALES TO THE SATISFACTION OF THE FIELD ENGINEER. TIE-IN TEMPORARY SWALE TO EXISTING CBS AS REQUIRED.
   - 2.4. PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED WITHIN 30 DAYS.
   - 2.5. INSPECT SILT FENCES, FILTER FABRIC FILTERS AND CATCH BASIN SUMPS WEEKLY AND WITHIN 24 HOURS AFTER A STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY.
   - 2.6. DRAWING TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION.
   - 2.7. EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.

EROSION AND SEDIMENT CONTROL NOTES CONTINUED

**** CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES.****

- 1.1. DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE PAVED BEFORE THE PILE IS REMOVED. ALL TOPSOIL PILES ARE TO BE SEEDED IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS).
- 1.2. CONTROL WIND-BLOWN DUST OFF SITE BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED AND TO THE SATISFACTION OF THE ENGINEER).
- 1.3. NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE FIELD ENGINEER.
- 1.4. CITY OF OTTAWA ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING AS REQUIRED.
- 1.5. DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPED.
- 1.6. ANY MUD/MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER.
- 1.7. TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ABUTTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.
- 1.8. ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER.
- 1.9. 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.

LEGEND

- PROPERTY LINE
- NEW BUILDING
- DEPRESSED CURB
- BREAK OF SLOPE - NEW
- NEW PROPOSED SWALE
- NEW SILT FENCE
- LIMIT OF HIGH POINT
- NEW LIGHT DUTY ASPHALT AS PER DETAIL 1 / C3
- NEW HEAVY DUTY ASPHALT AS PER DETAIL 2 / C3
- NEW CONCRETE PATHWAY
- MILLING & OVERLAY 50mm THICK HEAVY DUTY ASPHALT AS PER DETAIL 3 / C3
- NEW PRECAST PAVERS (TYPE-1 SEE LANDSCAPE)
- NEW ASPHALT PATHWAY AS PER DETAIL SC20
- 100mm TOPSOIL AND SOD
- EXISTING CONCRETE CURB
- NEW CONCRETE CURB
- PONDING LIMIT

LEGEND CONTINUED

- EXISTING CATCHBASIN
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING UTILITY POLE
- EXISTING LIGHT STANDARD
- NEW CATCHBASIN
- NEW STORM MANHOLE / CATCHBASIN MANHOLE
- NEW REAR YARD CATCH BASIN
- NEW FIRE HYDRANT
- NEW WATER VALVE
- NEW INLET CONTROL DEVICE
- RD NEW ROOF DRAIN
- SC NEW SCUPPER AT 150mm ABOVE ROOF DRAIN LEVEL
- SEWER FLOW DIRECTION
- BUILDING ENTRANCE
- OVERLAND FLOW ROUTE

LEGEND CONTINUED

- EXISTING TREES
- TRANSPLANTED TREES

ICD SCHEDULE

ICD	LOCATION	PIPE SIZE (mm)	ICD SIZE (mm)	100 YEAR HEAD (m)	100 YEAR FLOW RATE (lps)
ICD-1	CB-1	300	83	0.61	11.40

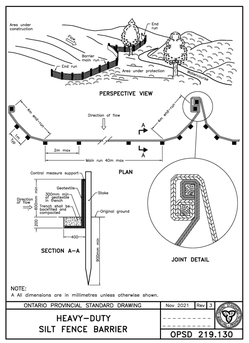
DRAWING NOTES

01 INSTALL SILT FENCE IN ACCORDANCE WITH OPSD 219.130.

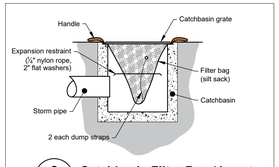
02 INSTALL FILTER BAG (SILT SACK) TO PROTECT EXISTING CATCHBASINS & CATCHBASIN MANHOLES AS PER DETAIL 2/C4.

EROSION AND SEDIMENT CONTROL NOTES

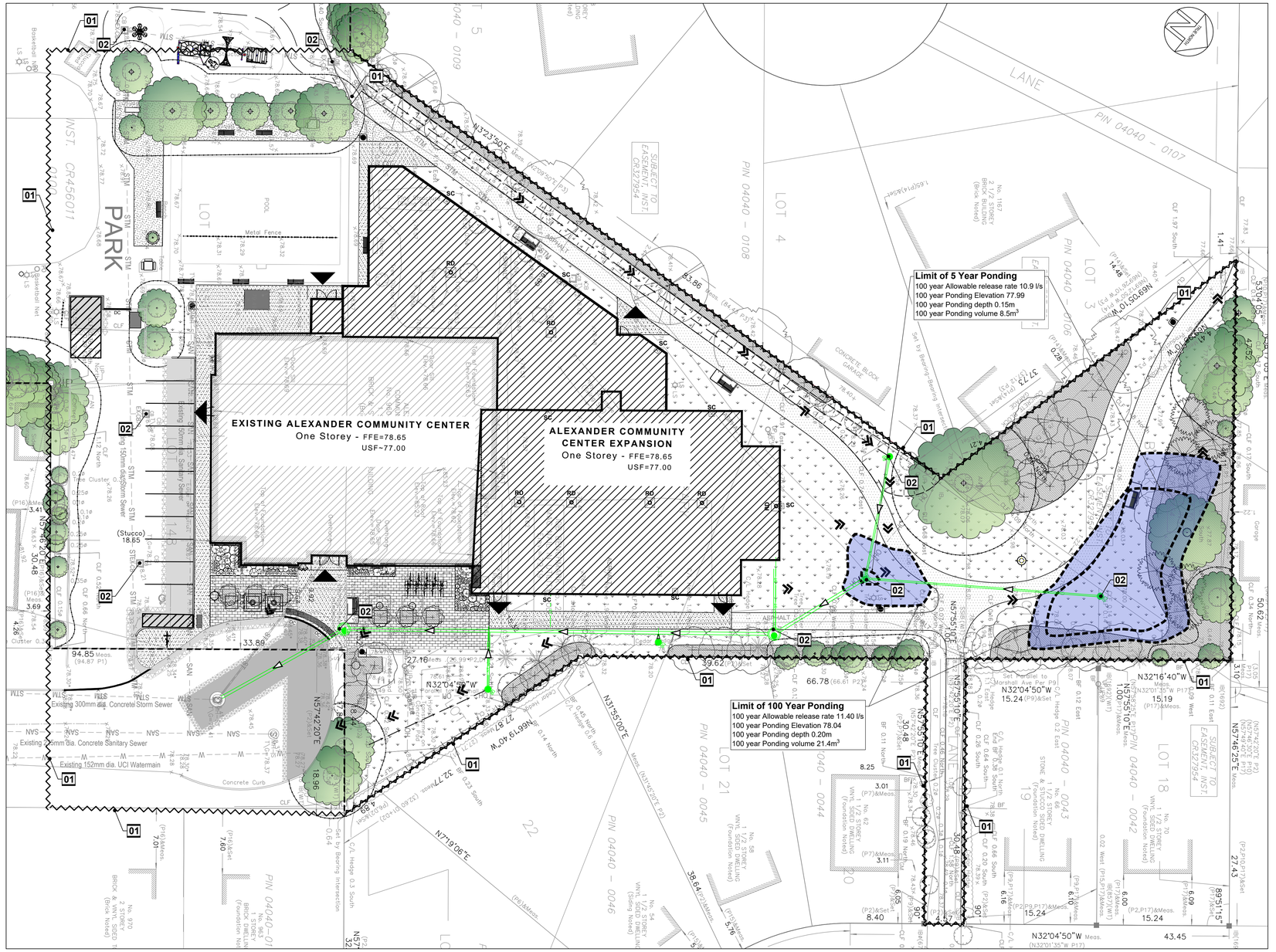
1. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATER COURSE, DURING CONSTRUCTION ACTIVITIES; THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, INSTALLING SILT FENCES AND OTHER EFFECTIVE SEDIMENT TRAPS, AND INSTALLING AND MAINTAINING MUD MATS FOR OUTGOING CONSTRUCTION TRAFFIC DURING CONSTRUCTION ACTIVITIES.
2. PREVENT SOIL LOSS DURING CONSTRUCTION (BY STORM WATER RUNOFF OR WIND EROSION).
3. PROTECT TOPSOIL BY STOCKPILING FOR REUSE.
4. PREVENT SEDIMENTATION OF STORM SEWERS AND RECEIVING STREAMS.
5. PREVENT AIR POLLUTION FROM DUST AND PARTICULATE MATTER.
6. ALL STORM MANHOLES AND CATCHBASIN MANHOLES TO HAVE 300mm SUMPS; ALL CATCHBASINS TO HAVE 600mm SUMPS.
7. INSTALL FILTER BAG INSERT IN ALL STORM MANHOLES AND CATCH BASINS IMPACTED DURING CONSTRUCTION, INCLUDING CATCH BASINS IN THE RIGHT OF WAY.
8. SEDIMENT AND EROSION CONTROL MEASURES MAY BE MODIFIED IN THE FIELD AT THE DISCRETION OF THE CITY OF OTTAWA INSPECTOR OR CONSERVATION AUTHORITY.
9. STORM WATER PUMPED INTO MUNICIPALITY OF CITY OF OTTAWA SERVICE SHALL FLOW THROUGH A FILTER SOCK.
10. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENTATION CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

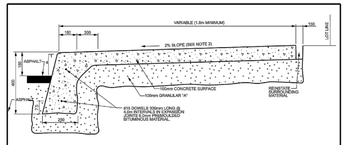


1 C4 **Heavy Duty Silt Fence Barrier**
Scale: **Not to scale**

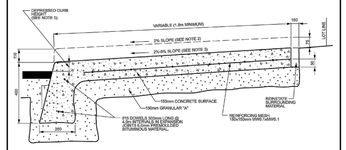


2 C4 **Catchbasin Filter Bag / Insert**
Scale: **Not to scale**


EXISTING ALEXANDER COMMUNITY CENTER
One Storey - FFE=78.65
USF=77.00
ALEXANDER COMMUNITY CENTER EXPANSION
One Storey - FFE=78.65
USF=77.00
PARK
LOT 5
PIN 04040 - 0109
PIN 04040 - 0108
PIN 04040 - 0107
PIN 04040 - 0045
PIN 04040 - 0044
PIN 04040 - 0043
PIN 04040 - 0042
PIN 04040 - 0046
LOT 4
LOT 21
LOT 22
LOT 18
LOT 19
LANE
INST. CR456011
SUBJECT TO EASEMENT, INST. CR327954
Limit of 5 Year Ponding
100 year Allowable release rate 10.9 l/s
100 year Ponding Elevation 77.99
100 year Ponding depth 0.15m
100 year Ponding volume 8.5m³
Limit of 100 Year Ponding
100 year Allowable release rate 11.40 l/s
100 year Ponding Elevation 78.04
100 year Ponding depth 0.20m
100 year Ponding volume 21.4m³
Existing 300mm dia. Concrete Storm Sewer
Existing 225mm dia. Concrete Sanitary Sewer
Existing 152mm dia. UCI Watermain
Metal Fence
Concrete Curb
Basketball Net
Tree Cluster
Set by Bearing Intersection
N32°04'50"W 15.24 (P9)&Set
N57°55'10"E 30.48 (P8)&Set
N32°04'50"W 27.87 (P8)&Set
N57°42'20"E (P4)&Set
N31°35'00"E (N31°43'20"E P2)
N57°46'25"E (N57°42'20"E P2)
N32°16'40"W 15.19 (P17)&Meas.
N57°55'10"E 1.00 (P17)&Meas.
N32°04'50"W 43.45
N57°46'25"E 27.43
N71°19'06"E 32.77
N69°19'40"W 27.87
N23°23'50"E 83.86
N32°04'50"W 94.85 Meas. (94.87 P1)
N32°04'50"W 66.78 (66.61 P2)
N57°55'10"E 39.62
N32°04'50"W 27.16
N57°55'10"E 30.48
N32°04'50"W 15.24
N57°55'10"E 15.24
N32°04'50"W 15.24
N57°55'10"E 15.24
N32°04'50"W 15.24
N57°55'10"E 15.24



TYPICAL SIDEWALK SECTION

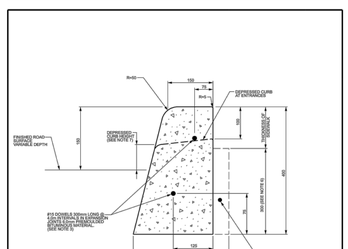


SECTION AT PRIVATE ENTRANCE AND PEDESTRIAN RAMPS

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
2. THE MAXIMUM SLOPE IS NOT TO EXCEED 2%.
3. FOR CURB RAMPS, SLOPE OF 2% TO 5%, MAXIMUM 8%.
4. EXPANSION AND DUMMY JOINTS AS PER SC0.
5. DEPRESSED CURB HEIGHT - FOR PEDESTRIAN CURB RAMPS 0 TO 6 mm AND FOR PRIVATE ENTRANCES 0 TO 13 mm.

N.T.S.

Ottawa	MONOLITHIC CONCRETE CURB AND SIDEWALK	DATE:	MAY 2001
		REV. DATE:	MAY 2021
		DWG. No.:	SC2

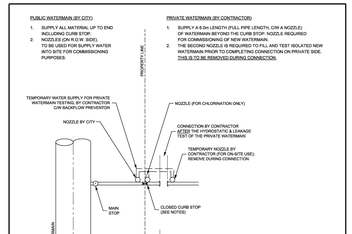


CONCRETE BARRIER CURB

NOTES:
1. THE FULL CURB DEPTH SHALL BE CARRIED THROUGH THE DEPRESSED ACCESS CROSSING.
2. A CONCRETE SUPPORT IS REQUIRED WHEN BUILT ADJACENT TO THE SIDEWALK.
3. IF AN EXTRUSION CURBING MACHINE IS USED, THE EXPANSION BITUMINOUS MATERIAL AND THE #19 DOWELS ARE TO BE PLACED AT THE END OF THE EXTRUSION.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
5. DUMMY JOINTS SHALL BE 25mm DEEP, FRONT, BACK AND TOP OF SECTION AT 4m SPACING OR MATCH JOINTING WHERE SIDEWALK IS ADJACENT.
6. FOR DEPRESSED CURB AT ENTRANCES USE 200.
7. DEPRESSED CURB HEIGHT - FOR PEDESTRIAN CURB RAMPS 0 TO 6 mm AND FOR PRIVATE ENTRANCES 0 TO 13mm.

N.T.S.

Ottawa	CONCRETE BARRIER CURB FOR GRANULAR BASE PAVEMENT (MODIFIED OPSD-600.110)	DATE:	JANUARY 2003
		REV. DATE:	MARCH 2021
		DWG. No.:	SC1.1

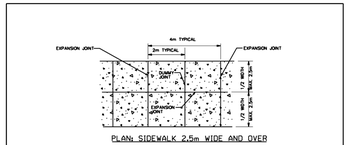


PLAN VIEW

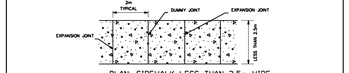
NOTES:
1. ALL WORK TO BE INSPECTED AND SCHEDULED WITH CITY INSPECTOR IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS, PERMITS AND BY-LAWS.
2. CITY FORCES WILL SUPPLY AND INSTALL THE SERVICES LATERAL UP TO AND INCLUDING THE CURB STOP.
3. CONTRACTOR TO SUPPLY A 6.0m LENGTH OF WATERMAIN PIPE BEYOND PROPERTY LINE (SEE NOTES3). CITY FORCES TO INSTALL.
4. CITY FORCES WILL COMPLETE COMMISSIONING OF SERVICES AND THEN CLOSE THE CURB STOP.
5. CONTRACTOR TO INSTALL, RINSE & HYDROSTATIC TEST PRIVATE WATERMAIN.
6. CONTRACTOR TO COMPLETE CONNECTION (ON PRIVATE SIDE).
7. CITY FORCES TO COMPLETE FLUSING, DISINFECTION, & BACTI TESTING OF PRIVATE WATERMAIN.
8. CITY FORCES TO OPEN THE CURB STOP AFTER THE METER IS INSTALLED AND INSPECTED BY DRINKING WATER SERVICES.

N.T.S.

Ottawa	TYPICAL PRIVATE SERVICE ≥100mm CONNECTION PROCEDURE	DATE:	MAY 2001
		REV. DATE:	MARCH 2013
		DWG. No.:	W50



PLAN: SIDEWALK 2.5m WIDE AND OVER

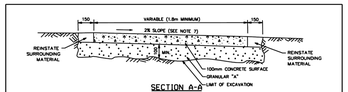


PLAN: SIDEWALK LESS THAN 2.5m WIDE

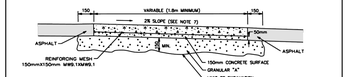
EXPANSION JOINT PROFILE DUMMY JOINT PROFILE

NOTES:
1. EXPANSION JOINTS IN SIDEWALK SHALL BE IN LINE WITH EXPANSION JOINTS IN CURB.
2. TRANSVERSE EXPANSION JOINTS ARE REQUIRED AT THE ENDS, THE MOPOINT, AT INTERVALS OF 4m MAXIMUM, AND ALSO TO ISOLATE OBSTRUCTIONS FROM SIDEWALK, HYDRANTS, POLES, BUILDINGS, ETC
3. EDGES AND JOINTS ARE TO BE FINISHED WITH A 75mm EDGING TOOL.
4. ALL CONCRETE SIDEWALKS ARE TO HAVE A BROOM FINISH UNLESS OTHERWISE SPECIFIED.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
6. INSTALL DUMMY TRANSVERSE JOINTS AS REQUIRED SO THERE IS A MAXIMUM SPACING OF 2m BETWEEN ALL JOINTS.
7. SMOOTH ALL TOOLED EDGES TO A MINIMUM DEPTH OF 1mm.

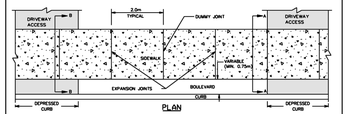
Ottawa	SIDEWALK CONSTRUCTION JOINTS	DATE:	MAY 2001
		REV. DATE:	MARCH 2016
		DWG. No.:	SC5



SECTION A-A



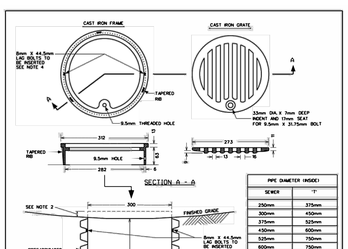
SECTION B-B



PLAN

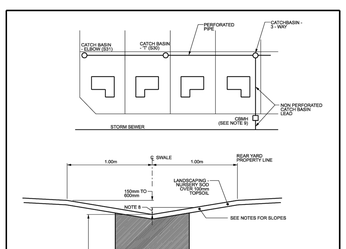
NOTES:
1. CONCRETE AND GRANULAR "A" IS TO BE INCREASED TO 150mm AT THE ENTRANCE AND 150x150mm WWR1 x WWR1 REINFORCING MESH IS TO BE PLACED MID DEPTH WITHIN DRIVEWAY ACCESS.
2. TRANSVERSE EXPANSION JOINTS ARE REQUIRED AT THE ENDS, THE MOPOINT, AT INTERVALS OF 4m MAXIMUM, AND ALSO TO ISOLATE OBSTRUCTIONS FROM SIDEWALK, HYDRANTS, POLES, BUILDINGS, ETC
3. WHEN THE OVERALL SIDEWALK WIDTH EXCEEDS 2.5m, A LONGITUDINAL CONSTRUCTION JOINT SHALL BE CREATED AT ITS MIDPOINT.
4. EDGES AND JOINTS ARE TO BE FINISHED WITH A 75mm EDGING TOOL.
5. ALL CONCRETE SIDEWALKS ARE TO HAVE A BROOM FINISH UNLESS OTHERWISE SPECIFIED.
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
7. THE MAXIMUM SLOPE IS NOT TO EXCEED 2%.
8. INSTALL DUMMY TRANSVERSE JOINTS AS REQUIRED SO THERE IS A MAXIMUM SPACING OF 2m BETWEEN ALL JOINTS.
9. SIDEWALK NOT TO BE DEPRESSED ACROSS DRIVEWAY ACCESSES.
10. EXPANSION AND DUMMY JOINTS AS PER SC5

Ottawa	TYPICAL CONCRETE SIDEWALK IN BOULEVARD	DATE:	MAY 2001
		REV. DATE:	MARCH 2016
		DWG. No.:	SC4



NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN.
2. TOP OF CB SHALL BE MIN. 5cm ABOVE BOTTOM OF THE DITCH/SWALE AND BE LOCATED 30 cm FROM EDGE OF PAVEMENT.
3. WHEN NON PERFORATED PIPE IS USED, MATCH THE "T's HORIZONTAL ORIENTING DIAMETERS TO THE PIPE DIAMETER USED. USE APPROVED CONCRETE CONNECTION SLEEVE.
4. CAST IRON FRAME TO BE SECURED TO PIPE WITH 2 LAC BOLTS AS SHOWN.

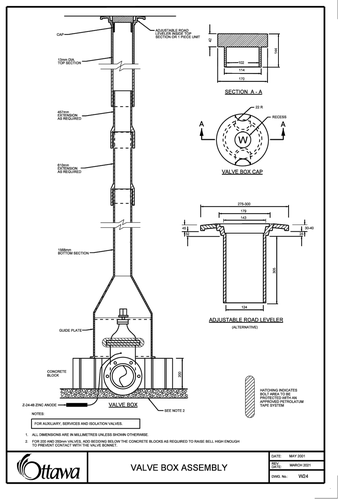
Ottawa	CATCH BASIN - 'T' FOR REAR YARD, DITCHED PIPE AND LANDSCAPING APPLICATIONS	DATE:	MARCH 2007
		REV. DATE:	MARCH 2021
		DWG. No.:	S30



NOTES:
1. SIDE SLOPE OF SWALE - MIN. 1.5%, MAX. 3:1.
2. LONGITUDINAL SLOPE OF SWALE WITHOUT PERFORATED PIPE 1.5% MIN.
3. LONGITUDINAL SLOPE OF SWALE WITH PERFORATED PIPE 0.5% MIN. WITH 1% OR GREATER PREFERRED.
4. UNDER DRIVEWAYS NON PERFORATED PIPE TO BE USED WITH 15mm BEDDING AND BACKFILLED WITH APPROVED NATIVE MATERIAL.
5. CB "T" TO BE SPACED ABOUT EVERY 20 TO 25m AND LOCATED 1m OFF REAR YARD AND SIDE YARD PROPERTY LINES.
6. CB ELBOW TO BE AT UPPER ENDS OF PERFORATED PIPE AND LOCATED 1m OFF REAR YARD AND SIDE YARD PROPERTY LINES.
7. GEOTEXTILE SHALL BE APPROVED NON-WOVEN CLASS 1 OR AS SPECIFIED.
8. MAXIMUM REAR YARD WATER DEPTH IS 300mm.
9. A STANDARD CATCHBASIN NO DEEPER THAN 2.4m CR A CATCHBASIN MAINTENANCE HOLE, STANDARD FRAMES C/W PERFORATED OR SOLID COVERS AS SPECIFIED, STANDARD LEADS AS SPECIFIED

N.T.S.

Ottawa	PERFORATED PIPE INSTALLATION FOR REAR YARD AND LANDSCAPING APPLICATIONS	DATE:	MARCH 2007
		REV. DATE:	MARCH 2016
		DWG. No.:	S29

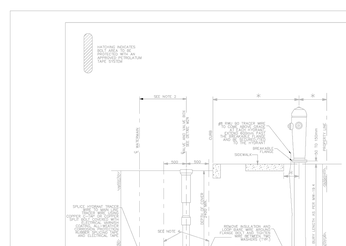


NOTES:
FOR AUXILIARY SERVICES AND ISOLATION VALVES.
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
2. FOR 250 AND 300mm DIA VALVES, ADD BEDDING BELOW THE CONCRETE BLOCKS AS REQUIRED TO RAISE BELL HIGH ENOUGH TO PREVENT CONTACT WITH THE VALVE BONNET.

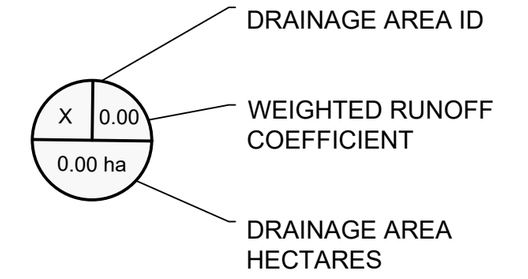
Ottawa	VALVE BOX ASSEMBLY	DATE:	MAY 2001
		REV. DATE:	MARCH 2021
		DWG. No.:	W24

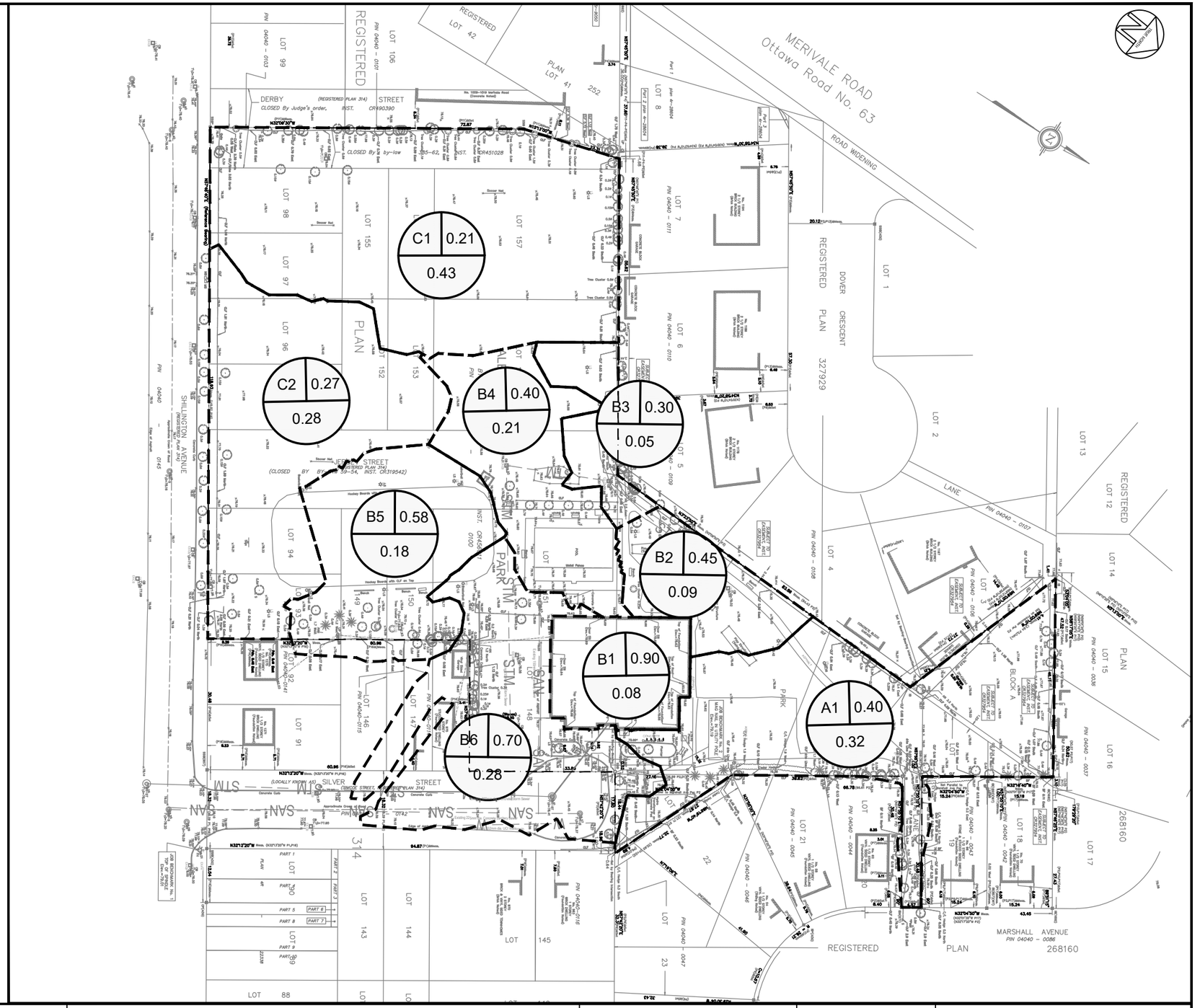
NOTE:
1. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED
2. CROSS SLOPE SIDEWALK 1 TO 2% IN DIRECTION OF NATURAL DRAINAGE TO PROVIDE POSITIVE DRAINAGE OFF ALL WALKS
3. APPROVED NON-WOVEN CLASS 1 GEOTEXTILE AS PER MS-22.15 WHEN WARRANTED BY SOIL CONDITION, SUBJECT TO APPROVAL BY THE CONTRACT ADMINISTRATOR
4. GRANULAR 'A' SHALL MEET THE REQUIREMENTS OF OPSS 1010

	TITLE: ASPHALT WALKWAY	DATE:	FEB 2013
		REV:	FEB 2016
		DWG No:	SC20



LEGEND





No.	YYYY-MM-DD	BY	DESCRIPTION
1	2026-04-14	R.I. / Z.B.	ISSUED FOR SITE PLAN CONTROL REV-1

Jp2g PROJECT No.: 24-1170A

PROJECT
ALEXANDER COMMUNITY CENTRE EXPANSION
960 SILVER STREET OTTAWA, ON, K1Z 7X3

DRAWING
FIGURE-1
PRE-DEVELOPMENT DRAINAGE AREAS

CLIENT No.:
DRAFTED: R.ISMAIL
DESIGNED: R.ISMAIL / Z.BAUMAN
REVIEWED: Z.BAUMAN
APPROVED: A.SAMMOUR

NORTH
TRUE NORTH

SCALE
1:1,000
0 m 10 20 30 40 50 m

SHEET#
FIG.1

DWG NAME: J:\1-MULTIDISCIPLINE\2025\25-1170A - HOBIN - ALEXANDER COMMUNITY CENTRE EXPANSION\05 DRAWINGS\1 ONGOING\25_1170A_ALEXANDER CC EXPANSION-SPC-REV-1.DWG LAYOUT: FIG.1_PRE_DEVELOPMENT_AREA SAVED ON 2026-04-09

LEGEND

DRAINAGE AREA ID

X | 0.00

0.00 ha

WEIGHTED RUNOFF COEFFICIENT

DRAINAGE AREA HECTARES

DRAINAGE AREA LIMIT

OVERLAND FLOW ROUTE

NEW BUILDING

NEW LIGHT DUTY ASPHALT AS PER DETAIL 1 / C3

NEW HEAVY DUTY ASPHALT AS PER DETAIL 1 / C3

NEW CONCRETE PATHWAY

NEW PRECAST PAVERS (TYPE-1 SEE LANDSCAPING)

NEW PRECAST PAVERS (TYPE-2 SEE LANDSCAPING)

NEW GRASS (SEE LANDSCAPING)

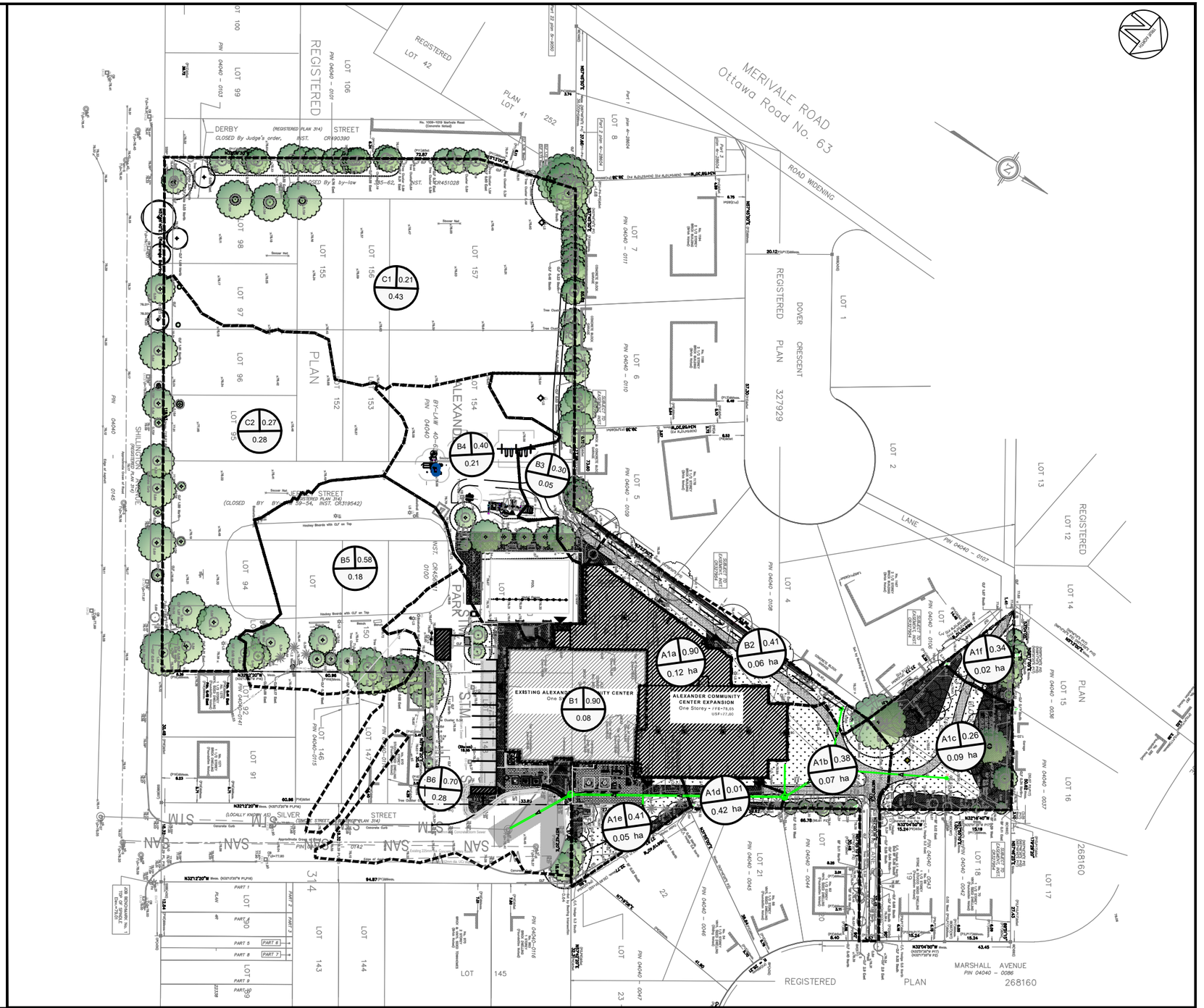
MILLING & OVERLAY 50MM THICK HEAVY DUTY ASPHALT AS PER DETAIL 2 / C3

NEW INLET CONTROL DEVICE

SEWER FLOW DIRECTION

BUILDING ENTRANCE

RD NEW ROOF DRAIN



No.	YYYY-MM-DD	BY	DESCRIPTION
1	2026-04-14	R.I. / Z.B.	ISSUED FOR SITE PLAN CONTROL REV-1

Jp2g PROJECT No.: 24-1170A

PROJECT

ALEXANDER COMMUNITY CENTRE EXPANSION

960 SILVER STREET OTTAWA, ON, K1Z 7X3

DRAWING

FIGURE-2
POST-DEVELOPMENT DRAINAGE AREAS

CLIENT No.:

DRAFTED: R.ISMAIL

DESIGNED: R.ISMAIL / Z.BAUMAN

REVIEWED: Z.BAUMAN

APPROVED: A.SAMMOUR

NORTH

TRUE NORTH

SCALE

1:1,000

0 m 10 20 30 40 50 m

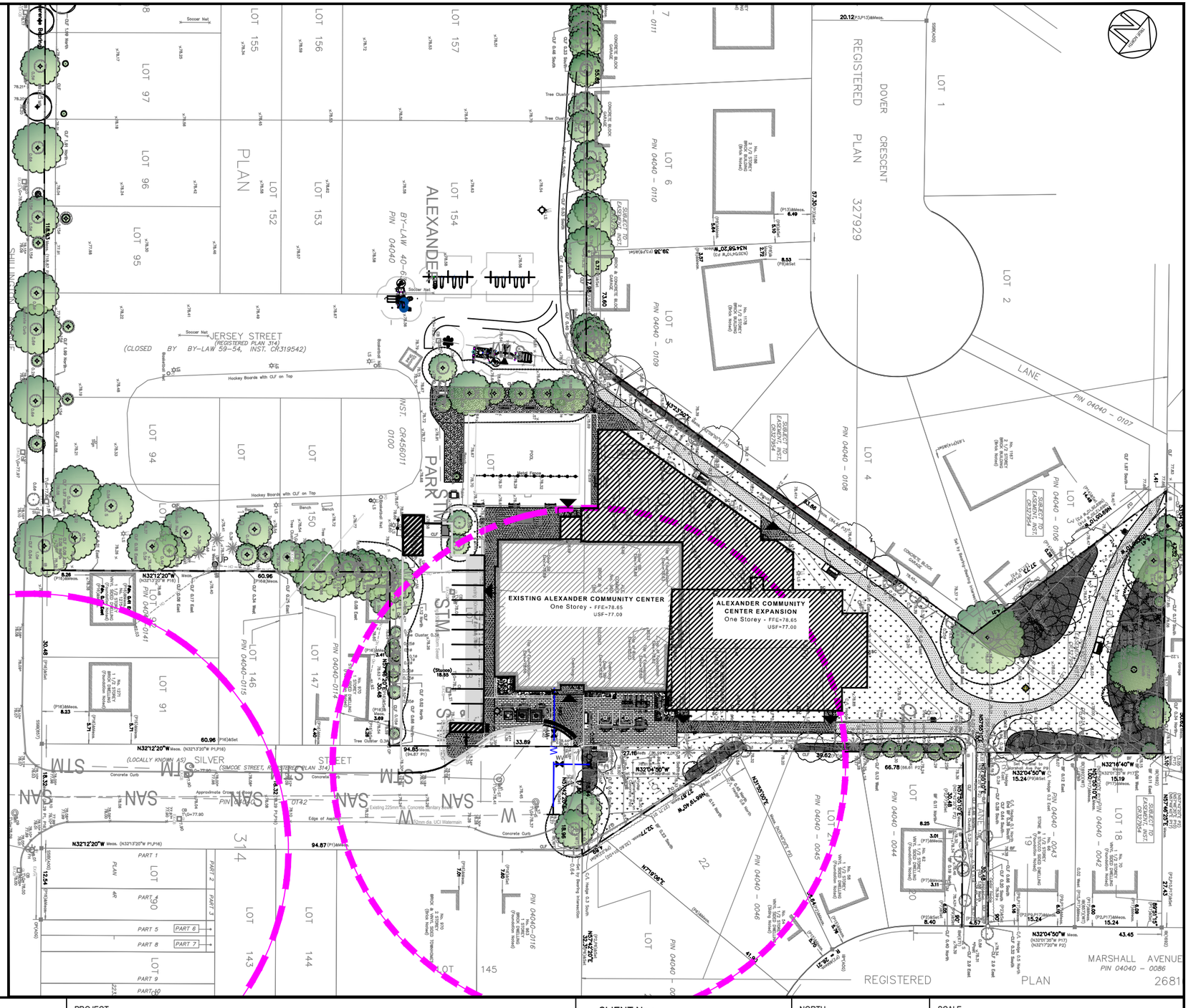
SHEET#

FIG.2

DWG NAME: J:\1-MULTIDISCIPLINE\2025\25-1170A - HOBIN - ALEXANDER COMMUNITY CENTRE EXPANSION\05 DRAWINGS\1 ONGOING\25_1170A_ALEXANDER CC EXPANSION-SPC-REV-1.DWG LAYOUT: FIG.2_POST_DEVELOPMENT_AREA SAVED ON 2026-04-09

LEGEND

○	45m RADIUS - FIRE HYDRANT COVERAGE
FH	EXISTING FIRE HYDRANT
WV ⋈	EXISTING WATER VALVE
— W —	EXISTING WATER VALVE
FH	NEW FIRE HYDRANT
WV ⋈	NEW WATER VALVE
— W —	NEW WATERMAIN



1	2026-04-14	R.I. / Z.B.	ISSUED FOR SITE PLAN CONTROL REV-1
No.	YYYY-MM-DD	BY	DESCRIPTION

Jp2g PROJECT No.: 24-1170A

PROJECT
ALEXANDER COMMUNITY CENTRE EXPANSION
960 SILVER STREET OTTAWA, ON, K1Z 7X3

DRAWING
FIGURE-3
FIRE HYDRANT COVERAGE AREAS

CLIENT No.:
DRAFTED: R.ISMAIL
DESIGNED: R.ISMAIL / Z.BAUMAN
REVIEWED: Z.BAUMAN
APPROVED: A.SAMMOUR

NORTH
TRUE NORTH

SCALE
1:750
0 m 5 10 20 30 m

SHEET#
FIG.3

Appendix B
Stormwater Management

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TABLE B-1: SOIL AND RUNOFF COEFFICIENT DATA

User Input: Land Use Name	Runoff Coefficient	
	Vegetation: Topography	RC
Hard Surface Impervious	Paved or Roofs	0.90
Grassed	Grassed area, parkland - 5 year event	0.20
Gravel	Gravel	0.60

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TABLE B-2: PRE DEVELOPMENT DRAINAGE AREA PARAMETERS AND DATA

Drainage Area ID	Comment	Area (ha)	Weighted Runoff Coefficient				Land Use	Land Use Area (ha)	Runoff Coefficient			
			<= 10-Year	25-Year Increase	50-Year Increase	100-Year Increase			<= 10-Year	25-Year	50-Year	100-Year
Pre Development												
A1	North of Existing Building	0.32	0.40	0.40	0.40	0.40	Hard Surface Impervious	0.07	0.90	0.90	0.90	0.90
							Gravel	0.04	0.60	0.60	0.60	0.60
							Grassed	0.21	0.20	0.20	0.20	0.20
B1	Existing Community Centre	0.08	0.90	0.90	0.90	0.90	Hard Surface Impervious	0.08	0.90	0.90	0.90	0.90
							Gravel	0.00	0.60	0.60	0.60	0.60
							Grassed	0.00	0.20	0.20	0.20	0.20
B2	West of Existing Building	0.09	0.45	0.45	0.45	0.45	Hard Surface Impervious	0.03	0.90	0.90	0.90	0.90
							Gravel	0.01	0.60	0.60	0.60	0.60
							Grassed	0.05	0.20	0.20	0.20	0.20
B3	West of Existing Building	0.05	0.30	0.30	0.30	0.30	Hard Surface Impervious	0.01	0.90	0.90	0.90	0.90
							Gravel	0.00	0.60	0.60	0.60	0.60
							Grassed	0.04	0.20	0.20	0.20	0.20
B4	Existing Play Area	0.21	0.40	0.40	0.40	0.40	Hard Surface Impervious	0.06	0.90	0.90	0.90	0.90
							Gravel	0.00	0.60	0.60	0.60	0.60
							Grassed	0.15	0.20	0.20	0.20	0.20
B5	South East Play Area	0.18	0.58	0.58	0.58	0.58	Hard Surface Impervious	0.10	0.90	0.90	0.90	0.90
							Gravel	0.00	0.60	0.60	0.60	0.60
							Grassed	0.08	0.20	0.20	0.20	0.20
B6	Existing Parking Area	0.28	0.70	0.70	0.70	0.70	Hard Surface Impervious	0.20	0.90	0.90	0.90	0.90
							Gravel	0.00	0.60	0.60	0.60	0.60
							Grassed	0.08	0.20	0.20	0.20	0.20
C1	West Soccer Field	0.43	0.21	0.21	0.21	0.21	Hard Surface Impervious	0.01	0.90	0.90	0.90	0.90
							Gravel	0.00	0.60	0.60	0.60	0.60
							Grassed	0.42	0.20	0.20	0.20	0.20
C2	South Soccer Field	0.28	0.27	0.27	0.27	0.27	Hard Surface Impervious	0.03	0.90	0.90	0.90	0.90
							Gravel	0.00	0.60	0.60	0.60	0.60
							Grassed	0.26	0.20	0.20	0.20	0.20
D'	Composite Drainage Area	1.93	0.42	0.42	0.42	0.42	Hard Surface Impervious	0.03	0.90	0.90	0.90	0.90
							Gravel	0.00	0.60	0.60	0.60	0.60
							Grassed	0.26	0.20	0.20	0.20	0.20

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TABLE B-3: PRE-DEVELOPMENT WATERSHED SLOPE - 85/10 METHOD

$$S_w = \frac{100 * (\Delta h - h_f)}{0.75L - L_f}$$

Where:

S_w = watershed slope, %

Δh = difference in elevation, m, between the 85% point and the 10% point obtained from contours, airphotos, etc.

h_f = sum of heights of rapids and waterfalls between 10% and 85% points, m.

L = the total length of the main channel, includes the undefined flow path, to head of basin, m.

L_f = the sum of lengths of rapids and waterfalls, up to 10% of L, m.

Drainage Area ID	85% Elevation (m)	10% Elevation (m)	Total Height Difference (m)	Waterfalls Height	Main Channel Length (m)	Waterfalls Length	Slope, S_w (%)	Drainage Area Topography
A1	78.66	77.91	0.75	0	94.00	0	1.06	Flat
B1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B2	78.69	78.02	0.67	0	34.00	0	2.63	Flat
B3	78.54	77.98	0.56	0	32.00	0	2.33	Flat
B4	78.69	78.20	0.49	0	32.00	0	2.04	Flat
B5	78.36	77.93	0.43	0	22.00	0	2.61	Flat
B6	78.68	78.08	0.60	0	20.00	0	4.00	Flat
C1	78.58	77.99	0.59	0	57.00	0	1.38	Flat
C2	78.58	77.91	0.67	0	53.00	0	1.69	Flat

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TABLE B-4: PRE DEVELOPMENT TIME OF CONCENTRATION

The Airport Formula

$$t_c = \frac{3.26\ (1.1\text{-}C)\ L^{0.5}}{S_w^{0.33}}$$

where:
- t_c = time of concentration, min.
- C = runoff coefficient
- S_w = watershed slope, %
- L = watershed length, m.

The Bransby Williams Formula

$$t_c = \frac{0.057*L}{(S_w^{0.2} * A^{0.1})}$$

where
- t_c = time of concentration, min.
- C = runoff coefficient
- S_w = watershed slope, %
- L = watershed length, m.

Drainage Area ID	Total Area (ha)	Weighted Runoff Coefficient				Physical Parameters		Airport/Bransby Williams Tc (minutes)			
		<=10-Year	25-Year	50-Year	100-Year	85/10 S_w (%)	Total Length (m)	<=10-Year	25-Year	50-Year	100-Year
A1	0.32	0.40	0.40	0.40	0.40	1.06	94	10.0	10.0	10.0	10.0
B1	0.08	0.90	0.90	0.90	0.90	N/A	N/A	10.0	10.0	10.0	10.0
B2	0.09	0.45	0.45	0.45	0.45	2.63	34	10.0	10.0	10.0	10.0
B3	0.05	0.30	0.30	0.30	0.30	2.33	34	11.5	11.5	11.5	11.5
B4	0.21	0.40	0.40	0.40	0.40	2.04	32	10.3	10.3	10.3	10.3
B5	0.18	0.58	0.58	0.58	0.58	2.61	22	10.0	10.0	10.0	10.0
B6	0.28	0.70	0.70	0.70	0.70	4.00	20.00	10.0	10.0	10.0	10.0
C1	0.43	0.21	0.21	0.21	0.21	1.38	57	19.7	19.7	19.7	19.7
C2	0.28	0.27	0.27	0.27	0.27	1.69	53	16.6	16.6	16.6	16.6

*if Tc<10 use Tc=10 min as a minimum for the Rational Method.

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TABLE B-5: PRE DEVELOPMENT DRAINAGE AREA AND FLOWS

STORM INFORMATION											
Area	Time of concentration (min.)					City of Ottawa IDF Curve					
	<=10-Year	25-Year	50-Year	100-Year		2-Year (mm/hr)	5-Year (mm/hr)	10-Year (mm/hr)	25-Year (mm/hr)	50-Year (mm/hr)	100-Year (mm/hr)
A1	10.0	10.0	10.0	10.0		76.8	104.2	122.1	144.7	161.5	178.6
B1	10.0	10.0	10.0	10.0		76.8	104.2	122.1	144.7	161.5	178.6
B2	10.0	10.0	10.0	10.0		76.8	104.2	122.1	144.7	161.5	178.6
B3	11.5	11.5	11.5	11.5		71.5	96.8	113.5	134.4	150.0	165.8
B4	10.3	10.3	10.3	10.3		75.8	102.8	120.5	142.7	159.3	176.1
B5	10.0	10.0	10.0	10.0		76.8	104.2	122.1	144.7	161.5	178.6
B6	10.0	10.0	10.0	10.0		76.8	104.2	122.1	144.7	161.5	178.6
C1	19.7	19.7	19.7	19.7		52.5	70.9	83.0	98.2	109.5	121.1
C2	16.6	16.6	16.6	16.6		58.3	78.8	92.3	109.2	121.9	134.8
IDF Curve- City of Ottawa											

PRE-DEVELOPMENT RUNOFF COEFFICIENT CALCULATIONS, RATIONAL METHOD											
Drainage Area ID	Drainage Area (ha)	Weighted R_O Coeff. (C) <=10-yr	Weighted R_O Coeff. (C) 25-yr	Weighted R_O Coeff. (C) 50-yr	Weighted R_O Coeff. (C) 100-yr	2-Year Flow Rate (L/s)	5-Year Flow Rate (L/s)	10-Year Flow Rate (L/s)	25-Year Flow Rate (L/s)	50-Year Flow Rate (L/s)	100-Year Flow Rate (L/s)
A1	0.32	0.40	0.40	0.40	0.40	27.5	37.3	43.7	51.8	57.8	63.9
B1	0.08	0.90	0.90	0.90	0.90	15.8	21.4	25.1	29.7	33.2	36.7
B2	0.09	0.45	0.45	0.45	0.45	8.4	11.4	13.3	15.8	17.6	19.5
B3	0.05	0.30	0.30	0.30	0.30	3.1	4.2	4.9	5.8	6.5	7.2
B4	0.21	0.40	0.40	0.40	0.40	17.6	23.9	28.1	33.2	37.1	41.0
B5	0.18	0.58	0.58	0.58	0.58	22.1	30.0	35.2	41.7	46.5	51.4
B6	0.28	0.70	0.70	0.70	0.70	42.2	57.3	67.1	79.5	88.7	98.1
C1	0.43	0.21	0.21	0.21	0.21	13.1	17.7	20.7	24.4	27.3	30.1
C2	0.28	0.27	0.27	0.27	0.27	12.5	16.9	19.8	23.4	26.1	28.9
				Developing Area Site Allowable 2 Year Release Rate (A1+B2)		35.9					

25-1170A -Alexander Community Centre Expansion
Appendix B-6: Post Development Summary

Subcatchment Runoff

Receiving Structure	Subcatchment	Area	Impervious Area (C = 0.90)		Pervious Area (C = 0.20)		5 Year C	5 Year Rainfall Intensity	5 Year Runoff	100 Year C (25% Increase)	100 Year Rainfall Intensity	100 Year Runoff	Structure Elevation
		(ha)	*(m^2)*	*(ha)*	*(m^2)*	*(ha)*	*<=10yr*	*(mm/hr)*	*(L/s)*	*100yr*	*(mm/hr)*	*(L/s)*	*(m)*
Controlled													
Roof	**A1a**	0.12	1249	0.125	0	0.000	0.90	104.2	32.56	1.00	178.6	62.00	-
RYCB-1	**B2**	0.06	165	0.017	388.00	0.039	0.41	104.2	6.55	0.47	178.6	13.01	77.90
CB-1	**A1b**	0.07	174	0.017	486	0.049	0.38	104.2	7.35	0.45	178.6	14.67	77.90
RYCB-2	**A1c**	0.09	69	0.007	781	0.078	0.26	104.2	6.32	0.31	178.6	13.12	77.84
Total Controlled		**0.33**					**0.55**		**52.8**	**0.63**		**102.8**	
RYCB-3	**A1d**	0.01	45	0.005	100	0.010	0.42	104.2	1.75	0.48	178.6	3.47	78.15
RYCB-4	**A1e**	0.05	143	0.014	342	0.034	0.41	104.2	5.71	0.47	178.6	11.34	78.20
Overland	**A1f**	0.02	37	0.004	151	0.015	0.34	104.2	1.84	0.40	178.6	3.71	N/A
Total Uncontrolled		**0.08**					**0.39**		**9.3**	**0.46**		**18.5**	
Total Assuming No Control		**0.41**							**62.1**			**121.3**	

SWM Control Summary - Refer to Individual Sheets

ICD	100 Year Outflow *(L/s)*	100 Yr Required Storage *(m^3)*	Structure Elevation *(m)*	Spill Elevation *(m)*	100 Yr Ponding Elevation *(m)*	100 Yr Ponding Depth *(m)*	Outlet Invert *(m)*	Pipe Diameter *(mm)*	Head over Centroid *(m)*	Orifice Coefficient	Orifice Diameter *(mm)*
ICD-1	11.4	19.20	77.84	99.29	78.04	0.20	77.28	300	0.61	0.61	83
Roof	5.90	48.92	0.00	Na	0.15	0.15	n/a - roof drain control				
Total	**17.30**	**68.12**									

Total Site Outflow Summary

Source	100 Yr Release Rate *(L/s)*
ICD-1	11.40
Roof	5.90
100 Year Uncontrolled	18.53
Total	**35.83**
Allowable	**35.86**
Difference	**0.03**

25-1170A -Alexander Community Centre Expansion
Appendix B-7: Roof Calculations
Roof

Upstream Structure	Subcatchment	Area (ha)	C <10yr	C 100yr	Rim. Elev. (m)	$Q_{allowable}$ (L/s) 2Yr	5 Yr	100 Yr	Storage Requirements 2 Yr (m^3)	5 Yr (m^3)	100 Yr (m^3)	Ponding Elev. (m)	Spill Elev. (m)	Storage Depth (m)
Roof	A1a	0.125	0.90	1.00	-									
Roof Total		0.125	0.90	1.00	0.00	3.5	5.0	5.9	16.06	24.59	48.92	0.15	0.150	0.15

Stage below ponding (m)
0.10

Roof - Rational Method 2 Year Storage Requirements Calculation

Time (min.)	Intensity (mm/hr)	Q_{actual} (L/s)	$Q_{allowable}$ (L/s)	Q_{stored} (L/s)	V_{stored} (m^3)
45	30.2	9.45	3.50	5.95	16.06
50	28.0	8.76	3.50	5.26	15.79
55	26.2	8.18	3.50	4.68	15.44
60	24.6	7.67	3.50	4.17	15.03
65	23.2	7.23	3.50	3.73	14.57
70	21.9	6.85	3.50	3.35	14.06
75	20.8	6.50	3.50	3.00	13.52
80	19.8	6.20	3.50	2.70	12.94
85	18.9	5.92	3.50	2.42	12.34
90	18.1	5.67	3.50	2.17	11.72
95	17.4	5.44	3.50	1.94	11.07

Roof - Rational Method 5 Year Storage Requirements Calculation

Time (min.)	Intensity (mm/hr)	Q_{actual} (L/s)	$Q_{allowable}$ (L/s)	Q_{stored} (L/s)	V_{stored} (m^3)
45	40.6	14.11	5.00	9.11	24.59
50	37.7	13.07	5.00	8.07	24.22
55	35.1	12.20	5.00	7.20	23.75
60	32.9	11.44	5.00	6.44	23.18
65	31.0	10.78	5.00	5.78	22.54
70	29.4	10.20	5.00	5.20	21.83
75	27.9	9.68	5.00	4.68	21.08
80	26.6	9.22	5.00	4.22	20.27
85	25.4	8.81	5.00	3.81	19.42
90	24.3	8.43	5.00	3.43	18.54
95	23.3	8.09	5.00	3.09	17.63

Roof - Rational Method 100 Year Storage Requirements Calculation

Time (min.)	Intensity (mm/hr)	Q_{actual} (L/s)	$Q_{allowable}$ (L/s)	Q_{stored} (L/s)	V_{stored} (m^3)
45	69.1	23.98	5.90	18.08	48.80
50	64.0	22.21	5.90	16.31	48.92
55	59.6	20.70	5.90	14.80	48.85
60	55.9	19.41	5.90	13.51	48.63
65	52.6	18.28	5.90	12.38	48.28
70	49.8	17.29	5.90	11.39	47.83
75	47.3	16.41	5.90	10.51	47.29
80	45.0	15.62	5.90	9.72	46.66
85	43.0	14.91	5.90	9.01	45.97
90	41.1	14.27	5.90	8.37	45.22
95	39.4	13.69	5.90	7.79	44.42

Roof - Stage-Storage Table — **No. of Drains** 7

Elevation (m)	Incremental Depth (m)	Total Depth (m)	Cumulative Volume Area (m2)				Total Volume (m^3)	Roof Drain Head (m)	Roof Drain Flow (L/s)	Rainfall Event
0.00	0.00	0.00	1240.52				0.0	0.00	0.0	
0.02	0.02	0.02	1240.52				8.3	0.02	1.8	
0.04	0.02	0.04	1240.52				16.5	0.04	3.5	2 Yr
0.06	0.02	0.06	1240.52				24.8	0.06	4.6	
0.08	0.02	0.08	1240.52				33.1	0.08	5.0	5 YR
0.10	0.02	0.10	1240.52				41.4	0.10	5.4	
0.12	0.02	0.12	1240.52				49.6	0.12	5.9	100 Yr
0.14	0.02	0.14	1240.52				57.9	0.14	6.4	
0.15	0.01	0.15	1240.52				62.0	0.15	6.6	

Elevation (m)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.15

Roof Drain Selection - Gallons Per Minute Per Roof Drain

Weir Setting	1	2	3	4	5	6
Fully Exposed	5.00	10.00	15.00	20.00	25	30
0.75	5.00	10.00	13.75	17.50	21	25
0.50	5.00	10.00	12.50	15.00	18	20
0.25	5.00	10.00	11.25	12.50	14	15
Closed	5.00	5.00	5.00	5.00	5	5

Roof Drain Selection - Litres Per Second Per Roof Drain

Weir Setting	25.4	50.8	76.2	101.6	127	152.4
Fully Exposed	0.32	0.63	0.95	1.26	1.58	1.89
0.75	0.32	0.63	0.87	1.10	1.34	1.58
0.50	0.32	0.63	0.79	0.95	1.10	1.26
0.25	0.32	0.63	0.71	0.79	0.87	0.95
Closed	0.32	0.32	0.32	0.32	0.32	0.32

Interpolated Roof Drain Flow Rates (Per Roof Drain)

Head (mm)	Flow
0	0.00
10	0.13
20	0.25
25.4	**0.32**
30	0.38
40	0.50
50	0.62
50.8	**0.63**
60	0.66
70	0.69
76.2	**0.71**
80	0.72
90	0.74
100	0.77
101.6	**0.79**
110	0.82
120	0.85
127	**0.87**
130	0.88
140	0.91
150	0.94
152.8	**0.95**

25-1170A -Alexander Community Centre Expansion
Appendix B-8: ICD-1 Calculations
ICD-1

Upstream Structure	Subcatchment	Area (ha)	C <10yr	C 100yr	Rim. Elev. (m)	$Q_{allowable}$ (L/s) 2Yr	5 Yr	100 Yr	Storage Requirements 2 Yr (m^3)	5 Yr (m^3)	100 Yr (m^3)	100 Yr Ponding Elev. (m)	Spill Elev. (m)	100 Yr Ponding Depth (m)
RYCB-1	B2	0.055	0.41	0.47	77.90									
CB-1	A1b	0.066	0.38	0.45	77.90									
RYCB-2	A1c	0.085	0.26	0.31	77.84									
ICD-1 Total		0.206	0.34	0.40	77.84	10.5	10.9	11.4	2.6	7.7	19.2	78.04	99.290	0.20

Stage below ponding (m)
78.03

ICD-1 - Rational Method 2 Year Storage Requirements Calculation

Time (min.)	Intensity (mm/hr)	Q_{actual} (L/s)	$Q_{allowable}$ (L/s)	Q_{stored} (L/s)	V_{stored} (m^3)
10	76.8	14.91	10.50	4.41	2.6
15	61.8	11.99	10.50	1.49	1.3
20	52.0	10.10	10.50	-0.40	-0.5
25	45.2	8.77	10.50	-1.73	-2.6
30	40.0	7.77	10.50	-2.73	-4.9
35	36.1	7.00	10.50	-3.50	-7.4
40	32.9	6.38	10.50	-4.12	-9.9
45	30.2	5.87	10.50	-4.63	-12.5
50	28.0	5.44	10.50	-5.06	-15.2
55	26.2	5.08	10.50	-5.42	-17.9
60	24.6	4.77	10.50	-5.73	-20.6

ICD-1 - Rational Method 5 Year Storage Requirements Calculation

Time (min.)	Intensity (mm/hr)	Q_{actual} (L/s)	$Q_{allowable}$ (L/s)	Q_{stored} (L/s)	V_{stored} (m^3)
10	104.2	23.80	10.90	12.90	7.7
15	83.6	19.09	10.90	8.19	7.4
20	70.3	16.05	10.90	5.15	6.2
25	60.9	13.91	10.90	3.01	4.5
30	53.9	12.32	10.90	1.42	2.6
35	48.5	11.08	10.90	0.18	0.4
40	44.2	10.09	10.90	-0.81	-1.9
45	40.6	9.28	10.90	-1.62	-4.4
50	37.7	8.60	10.90	-2.30	-6.9
55	35.1	8.02	10.90	-2.88	-9.5
60	32.9	7.53	10.90	-3.37	-12.1

ICD-1 - Rational Method 100 Year Storage Requirements Calculation

Time (min.)	Intensity (mm/hr)	Q_{actual} (L/s)	$Q_{allowable}$ (L/s)	Q_{stored} (L/s)	V_{stored} (m^3)
10	178.6	40.79	11.40	29.39	17.6
15	142.9	32.64	11.40	21.24	19.1
20	120.0	27.40	11.40	16.00	19.2
25	103.8	23.72	11.40	12.32	18.5
30	91.9	20.99	11.40	9.59	17.3
35	82.6	18.86	11.40	7.46	15.7
40	75.1	17.17	11.40	5.77	13.8
45	69.1	15.77	11.40	4.37	11.8
50	64.0	14.61	11.40	3.21	9.6
55	59.6	13.62	11.40	2.22	7.3
60	55.9	12.77	11.40	1.37	4.9

ICD-1 - Stage-Storage Table

Elevation (m)	Incremental Depth (m)	Total Depth (m)	Cumulative Volume CB-1 (m^3)	RYCB-2 (m^3)	(m^3)	(m^3)	(m^3)	Total Volume (m^3)	Orifice Head (m)	Orifice Flow (L/s)	Rainfall Event
77.84	0.00	0.00	0.00	0.00				0.0	0.41	9.3	
77.85	0.01	0.01	0.00	0.00				0.0	0.42	9.5	
77.86	0.01	0.02	0.00	0.02				0.0	0.43	9.6	
77.87	0.01	0.03	0.00	0.06				0.1	0.44	9.7	
77.88	0.01	0.04	0.00	0.14				0.1	0.45	9.8	
77.89	0.01	0.05	0.00	0.29				0.3	0.46	9.9	
77.90	0.01	0.06	0.00	0.49				0.5	0.47	10.0	
77.91	0.01	0.07	0.00	0.79				0.8	0.48	10.1	
77.92	0.01	0.08	0.01	1.18				1.2	0.49	10.2	
77.93	0.01	0.09	0.03	1.68				1.7	0.50	10.3	
77.94	0.01	0.10	0.06	2.30				2.4	0.51	10.4	
77.95	0.01	0.11	0.13	3.06				3.2	0.52	10.5	2 Yr
77.96	0.01	0.12	0.22	3.98				4.2	0.53	10.6	
77.97	0.01	0.13	0.35	5.06				5.4	0.54	10.7	
77.98	0.01	0.14	0.52	6.32				6.8	0.55	10.8	
77.99	0.01	0.15	0.75	7.77				8.5	0.56	10.9	5 Yr
78.00	0.01	0.16	1.03	9.43				10.5	0.57	11.0	
78.01	0.01	0.17	1.37	11.32				12.7	0.58	11.1	
78.02	0.01	0.18	1.77	13.46				15.2	0.59	11.2	
78.03	0.01	0.19	2.25	15.87				18.1	0.60	11.3	
78.04	0.01	0.20	2.81	18.57				21.4	0.61	11.4	100 Yr
78.05	0.01	0.21	3.47	21.59				25.1	0.62	11.5	
78.06	0.02	0.22	4.22	24.90				29.12	0.63	11.6	

Orifice Sizing

Elevation (m)	Outlet Structure	Pipe Diameter (mm)	Pipe Invert (m)	Area (m2)	Area (mm2)	Orifice Diameter (mm)	100 Yr Orifice Head (m)
	CB-1	300.00	77.28	0.01	5402.07	83	0.61
77.84							
77.85							
77.86							
77.87							
77.88							
77.89							
77.90							
77.91							
77.92							
77.93							
77.94							
77.95							
77.96							
77.97							
77.98							
77.99							
78.00							
78.01							
78.02							
78.03							
78.04							
78.05							
78.06							

$$Q\ (cms) = 0.61 * A * \sqrt{2 * g * H}$$

Where Q = release rate in cms
0.61 = coefficient
A = Area of the orifice (m2)
g = gravitational constant (9.81 m/s2)
H = Head above centerline of orifice (m). if orifice is not submerged.

STORM SEWER DESIGN SHEET

LOCATION					CONTRIBUTING AREA				FLOW				STORM SEWER DESIGN							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
ROAD SEGMENT	FROM	TO	SEWER TYPE (Lateral or Trunk)	AREA ID	AREA (A) (ha)	RUNOFF COEFF. (C) (--)	SECTION (C*A) [6]x[7] (ha)	ACCUM. (C*A) [8]+ prev[9] (ha)	TIME OF CONCEN. (Tc) (min)	RAINFALL INTENSITY (I) (mm/hr)	ACTUAL FLOW (Q =2.78*C*A*I) 2.78x[9]x[11] (L/s)	ACTUAL FLOW [12] or CONTROLLED FLOW (L/s)	LENGTH (m)	SLOPE (%)	DIA. (mm)	FULL FLOW CAPACITY (L/s)	% OF PIPE CAPACITY (%)	FULL FLOW VELOCITY (m/s)	TIME OF FLOW IN PIPE (min)	TIME OF CONCEN AFT. PIPE (min)	COMMENTS
	RYCB-2	CB-1	Trunk	A1c	0.09	0.26	0.022	0.022	10.00	104.193	6.32	6.32	27.1	0.50%	150	10.77	59%	0.61	0.74	10.74	
	RYCB-1	CB-1	Lateral	B2	0.06	0.41	0.023	0.023	10.00	104.193	6.55	6.55	14.3	1.00%	150	15.23	43%	0.86	0.28	10.28	
	CB-1	STMH-1	Trunk	A1b	0.07	0.38	0.025	0.070	10.00	104.193	20.22	11.40	12.0	0.35%	300	57.21	20%	0.81	0.25	10.25	ICD-1
	Roof	STMH-1	Lateral	A1a	0.12	0.90	0.112	0.112	10.00	104.193	32.56	5.90	7.0	1.00%	200	32.80	18%	1.04	0.11	10.11	Roof Drain
	RYCB-3	Conn.	Lateral	A1d	0.01	0.42	0.006	0.006	10.00	104.193	1.75	1.75	1.5	1.00%	200	32.80	5%	1.04	0.02	10.02	
	RYCB-4	Conn.	Lateral	A1e	0.05	0.41	0.020	0.020	10.00	104.193	5.71	5.71	7.1	1.00%	200	32.80	17%	1.04	0.11	10.11	
	STMH-1	STMH-2	Lateral	-	0.00	0.00	0.000	0.208	10.25	102.905	59.50	24.76	50.2	0.35%	300	57.21	43%	0.81	1.03	11.28	
	STMH-2	Silver St.	Trunk	-	0.00	0.00	0.000	0.208	11.28	97.881	56.60	24.76	16.3	0.35%	300	57.21	43%	0.81	0.34	11.62	

Notes:

Project Name:	Alexander Community Centre Expansion
Jp2g Project No.:	25-1170A
Client Ref No.:	

Prepared By:	Zach B
Reviewed By:	Ali S
Approved By:	Ali S
Date:	April 6 2026
Revision:	1

Storm Event:	1:5 Year
Rainfall Intensity Formula:	Ottawa IDF
Mannings, n =	0.013

Rational Method: $Q = 2.78 * C * A * I$

where, Q = peak flow (L/s)
C = runoff coefficient
I = average rainfall intensity (mm/hr)
A = area (ha)

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

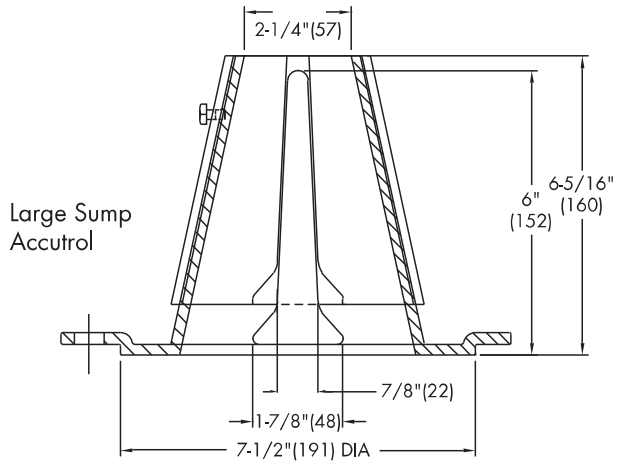
ADJUSTABLE ACCUTROL (for Large Sump Roof Drains only)

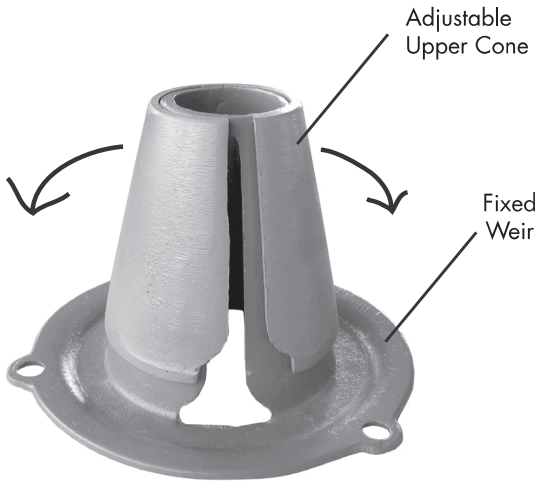
For more flexibility in controlling flow with heads deeper than 2", Watts Drainage offers the Adjustable Accutrol. The Adjustable Accutrol Weir is designed with a single parabolic opening that can be covered to restrict flow above 2" of head to less than 5 gpm per inch, up to 6" of head. To adjust the 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 _____

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Appendix C
Sanitary Servicing Info

A02-01-OT00300

RELOCATE EXISTING WATER METER TO UNDER NEW COUNTER. WATER METER R/W BY PASS.

BURIED PIPING

2" WATER SERVICE TO POOL C/W NON-FREEZE H.B

EXISTING 2" INCOMING WATER SERVICE TO REMAIN

RISE TO ABOVE DROPPED CEILING IN CHASE PROVIDED.

CONNECT TO EXISTING INCOMING WATER SERVICE

PIPING UNDER COUNTER

DROP PIPING TO UNDER COUNTER. CONNECT TO NEW KITCHEN SINKS.

CONNECT TO EXISTING SANITARY DRAIN.

CONNECT TO EXISTING 4" STORM DRAIN.

EXISTING DRINKING FOUNTAIN TO BE REMOVED. EXISTING DOMESTIC COLD WATER, SANITARY DRAIN & VENT PIPING TO BE CAPPED.

EXISTING 4" ROOF DRAIN TO REMAIN, RELOCATE PIPING TO DROP DOWN WALL. PROVIDE CLEAN OUT AT BASE OF R.W.L.

Existing 6" (150mm) sanitary service

FROM EXISTING DRINKING FOUNTAIN

CONNECT TO NEW DOMESTIC WATER SUPPLY

EXISTING SINK TO BE REMOVED. DOMESTIC HOT & COLD WATER, SANITARY DRAIN AND VENT PIPING TO BE CAPPED.

CONNECT NEW LAV. TO EXISTING 2" SANITARY DRAIN.

REPLACE EXISTING PLUGGED CONNECTION WITH NEW 3" FD

RAISE EXISTING CLEAN OUT TO NEW FLOOR LEVEL AND PROVIDE NEW BRONZE COVER PLATE.

EXISTING DRINKING FOUNTAIN AND JANITOR'S SINK TO BE REMOVED. EXISTING DOMESTIC HOT & COLD WATER, SANITARY DRAIN AND VENT PIPING TO BE CAPPED.

EXISTING SHOWER, SINKS & URINAL TO BE REMOVED. EXISTING DOMESTIC HOT & COLD WATER, SANITARY DRAIN & VENT PIPING TO BE CAPPED.

CONNECT TO EXISTING 2½" SANITARY.

REMOVE EXIST. F.D. & TRAP ASSEMBLY AND PROVIDE C/O.

MOUNT @ 14" A.F.F.

CONNECT TO EXISTING 3" SANITARY.

EXISTING SANITARY DRAIN UNDER SLAB TO BE ABANDONED.

EXISTING URINAL & SINKS TO BE REMOVED. EXISTING DOMESTIC HOT & COLD WATER, SANITARY DRAIN AND VENT PIPING TO BE CAPPED.

DROP DOWN TO BOILER ROOM. REFER TO DRAWING M-1 FOR CONTINUATION & PIPE CHASE DETAIL

EXISTING BATHROOM GROUP & ALL ASSOCIATED PIPING TO BE REMOVED

EXISTING ROOF DRAIN TO REMAIN. SITE CHECK LOCATION OF PIPING & RELOCATE AS REQUIRED.

EXISTING KITCHEN SINK, DOMESTIC HOT & COLD WATER, SANITARY DRAIN, AND VENT PIPING TO REMAIN.

EXISTING KITCHEN SINK & ASSOCIATED PIPING TO BE REMOVED.

EXISTING ROOF DRAIN & DRAIN PIPING TO BE REMOVED

EXISTING HOSE BIBB TO BE REMOVED C/W PIPING

CONJECT TO EXISTING 6" STORM DRAIN

CAP PIPE BELOW FLOOR LEVEL

EXISTING CLEANOUT TO BE REMOVED.

NOTES:

1) ALL EXISTING PLUMBING FIXTURES TO BE REMOVED AND REPLACED BY NEW, UNLESS OTHERWISED NOTED.
2) WHERE EXISTING PLUMBING FIXTURES ARE REMOVED, CAP SANITARY DRAIN PIPE BELOW SLAB AND CAP VENT PIPE ABOVE CEILING.
3) CONTRACTOR TO CHECK AND VERIFY EXISTING SITE CONDITIONS.
4) CONNECT NEW PLUMBING FIXTURES TO EXISTING SANITARY ROUGH-IN CONNECTIONS IN ROOMS 105 & 108.
5) EXISTING WATER SERVICE FOR SKATING RINK TO BE MAINTAINED DURING CONSTRUCTION.

Smartcode AAA7332

NOTE
REVISED AS BUILT DRAWING.
THIS DRAWING HAS BEEN REVISED TO INCORPORATE CHANGES AS INDICATED ON THE CONTRACTORS MARKED UP PRINT.

City of Ottawa / Ville d'Ottawa

FOR COMMUNITY DEVELOPMENT

REVISION	no.	date	by
REVISED AS PER AS-BUILT DWGS	2	21/11/84	L.M.
ISSUED FOR TENDER	1	10/2/84	M.L.

REGISTERED PROFESSIONAL ENGINEER MECHANICAL D.G. EASTWOOD PROVINCE OF ONTARIO

drawn ED
checked DE
date JAN 84
scale 1/4"=1'-0"

DEPARTMENT OF PHYSICAL ENVIRONMENT
PROPERTY BRANCH
PROJECT IMPLEMENTATION DIVISION
C. SIM P.ENG. COMMISSIONER
M.C. INSTANCE P. ENG. DIRECTOR
D.M. UNDERHILL M.R.A.I.C. CHIEF ARCHITECT

PROJECT/LOCATION
RENOVATIONS & ADDITIONS TO THE ALEXANDER COMMUNITY CENTER SHILLINGTON AND SILVER STREET OTTAWA

CONSULTANT
Smith and Andersen
Consulting Engineering
Ottawa / Ontario / 232-2651

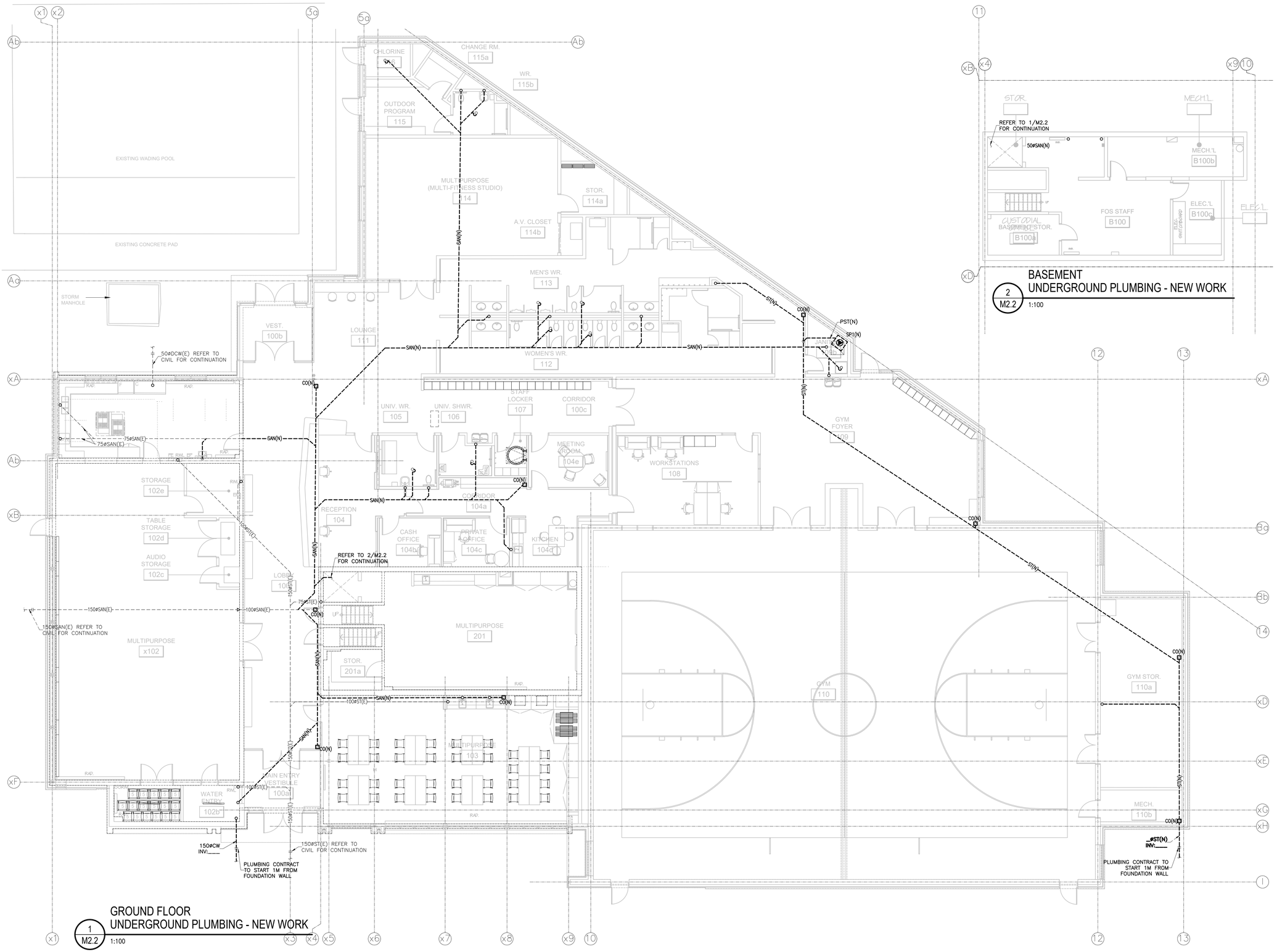
drawn
checked
date
scale

DRAWING
PLUMBING AND DRAINAGE

SHEET No.
M-2 of 5

CONTRACT NO. 82-0918

3779023 306(a)



2 / M2.2 — BASEMENT UNDERGROUND PLUMBING - NEW WORK — 1:100

1 / M2.2 — GROUND FLOOR UNDERGROUND PLUMBING - NEW WORK — 1:100

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DESIGNED BY / CONCU PAR: D.NEWTON	CHECKED BY / VÉRIFIÉ PAR: P.MCCLURE
DRAWN BY / DESSINÉ PAR: K.A./T.K.	SCALE / ÉCHELLE: AS NOTED

1 / A1.1 — DRAWING TITLE — SCALE: — SHEET NUMBER

ARCHITECT / ARCHITECTE	CONSULTANT / EXPERT-CONSEIL
CONSULTANT / EXPERT-CONSEIL	CONSULTANT / EXPERT-CONSEIL

PROJECT / LOCATION / PROJET / ENDROIT

ALEXANDER COMMUNITY CENTRE EXPANSION

950 Silver Street
OTTAWA, ONTARIO

DRAWING / DESSIN

MECHANICAL UNDERGROUND PLUMBING - NEW WORK

BUSINESS ENTITY / NUMÉRO DE L'ENTITÉ BUILDING NUMBER / NUMÉRO DU BÂTIMENT	SHEET NO. / FEUILLE No. M2.2
CITY PROJECT NO. / NUMÉRO DE PROJET	CONS_PROJECT NO. / NUMÉRO DE PROJET: 2025-565

Appendix D
Water Servicing Calculations

Alexander Community Centre Expansion - 960 Silver Street
Appendix D-1: Water Distribution Calculations

Domestic Demand - Known Number & Type of Units

Parameter	Value	Unit	Source
Unit Type			Site plan
Persons Per Unit	N/A	p/unit	*Ottawa Design Guidelines - Water Distribution* Table 4.1
Number of Units		units	Site plan
Number of Persons	N/A	p	

Domestic Demand - Pre-Zoned Land

Parameter	Value	Unit	Source
Demand Type	Other Commercial		Site plan
Average Daily Rate	28000	L/ha/d	*Ottawa Design Guidelines - Water Distribution* Table 4.2
Amount of ha	1.68	ha	Site plan
Average Daily Demand	47040 47.04 0.54	L/d m^3/d L/s	*Ottawa Design Guidelines 4.3.1:* Service Areas with a basic day demand greater than 50m3/d shall be connected with a minimum of two feedermains to avoid the creation of a vulnerable service
Maximum Daily Factor	1.5	x avg. day	*Ottawa Design Guidelines - Water Distribution* Table 4.2
Maximum Daily Demand	0.82	L/s	
Maximum Hourly Factor	1.8	x max day	*Ottawa Design Guidelines - Water Distribution* Table 4.2
Maximum Hourly Demand	1.47	L/s	

Appendix D- Fire Flow Demand Requirements OBC

Project Number	25-1170A
Date	20-Feb-26
Designed By	ZB
Checked By	AS

Appenix D-2: OBC 3.2.5.7 CALCULATIONS:

Calculate minimum water supply flow rate using OBC table 3.2.5.7(3) Table 2 lookup from Minimum Water Supply (Q)

Minimum Water Supply (Q) formula

$$Q = KVS_{tot}$$

WATER SUPPLY COEFFICIENT (K)

Select appropriate coefficient from OBC App A-3.2.5.7(3), Table 1

TYPE OF CONSTRUCTION	CLASSIFICATION BY GROUP OR DIVISION IN ACCORDANCE WITH TABLE 3.1.2.1 OBC				
	A2 B1 B2 B3 C D	A4 F3	A1 A3	E F2	F1
Building is of Noncombustible construction with fire separation and fire-resistance ratings provided in accordance with Subsection 3.2.2 of the OBC, including loadbearing walls, columns and arches.	10	12	14	17	23
Building is of Noncombustible construction of of heavy timber construction conforming to Article 3.1.4.6 of the OBC. Floor assemblies are fire separations but no fireresistance rating. Roof assemblies, mezzanines, loadbearing walls, columns and arches do not have a fireresistance 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 of the OBC, including loadbearing walls, columns and arches. Noncombustible construction may be used in lieu of fire resistance rating where permitted in subsection 3.2.2 of the OBC	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

SELECTED SUPPLY COEFFICIENT (K)	**16**
BUILDING CLASSIFICATION	**A2**

SPATIAL COEFFICIENTS (S_{tot})

Calculate total spatial coefficients from a review of exposure distances and spacial coefficient lookups.

		DISTANCE (m)	S_{side}
North	Exposure Distance 1 (m)	over 10m	0
East	Exposure Distance 2 (m)	over 10m	0
South	Exposure Distance 3 (m)	over 10m	0
West	Exposure Distance 4 (m)	over 10m	0.0
		S_{tot}	**1.00**

BUILDING VOLUME

Calculate building volumes

Building Length (m)		
Building Width (m)		
Building Area (sq.m.)	2061.21	**COMMENT ON BUILDING HEIGHT**
Building Height (m)	3.5	To u/s of roof decking.
Stories	1	

VOLUME (cu.m.)	**7,214**

MINIMUM WATER SUPPLY (Q)

Calculate Minimum Water Supply (Q) from formula

$$Q = KVS_{tot}$$

K	16
V	7,214
S_{tot}	1.00

Q	**115,428**	**Minimum Water Supply (Litres)**

MINIMUM SUPPLY FlOW RATE

Calculate Minimum Water Supply Flow Rate from OBC App A-3.2.5.7 Table 2 Lookup

BUILDING CODE, PART 3 BUILDINGS	REQUIRED MINIMUM WATER SUPPLY FLOW RATE (L/min)		
One Story Buildings with Building area not exceeding 600 m2 (excluding F1 Occupancy)			1,800
All Other Buildings	if Q > and	Q<=	
	0	108,000	2,700
	108,000	135,000	3,600
	135,000	162,000	4,500
	162,000	190,000	5,400
	190,000	270,000	6,300
	270,000		9,000

MINIMUM WATER SUPPLY FLOW RATE (L/min)	**3,600**	or	**60**	L/s

GPM (US)	**951**

VOLUME OF WATER

Under OBC 3.2.5.7. (c) 30min of fire fighting water is to be provided.

VOLUME (cu.m.)	**108**

$$Q = KVS_{tot\ \ tot}$$

APPENDIX D-3: BOUNDARY CONDITION RESULTS

From: Cassidy, Tyler <tyler.cassidy@ottawa.ca>
Sent: Friday, February 27, 2026 3:01 PM
To: Zachary Bauman
Cc: Ali Sammour; Wendy Brawley; Madelyn Byrtus
Subject: RE: 960 Silver Street Boundary Conditions Request
Attachments: 960 Silver Street February 2026.pdf

Hi Zach,

Please find the results to your boundary condition request at 960 Silver Street below:

******The following information may be passed on to the consultant, but do NOT forward this e-mail directly.******

The following are boundary conditions, HGL, for hydraulic analysis at 960 Silver Street (zone 2W2C) assumed to be connected in two (2) separate scenarios as identified below: (see attached PDF for location).

Scenario 1 – 152 mm on Silver St. (dead end)
Minimum HGL = 124.8 m
Maximum HGL = 131.9 m
Available fire flow at a residual 20 psi (assuming 78.4 m elevation) = **38 L/s**

Scenario 2 – 152 mm on Marshall Ave.
Minimum HGL = 124.9 m
Maximum HGL = 132.0 m
Max Day + OBC Fire Flow (60.0 L/s) = 106.6 m
Available fire flow at a residual 20 psi (assuming 78.3 m elevation) = **81 L/s**

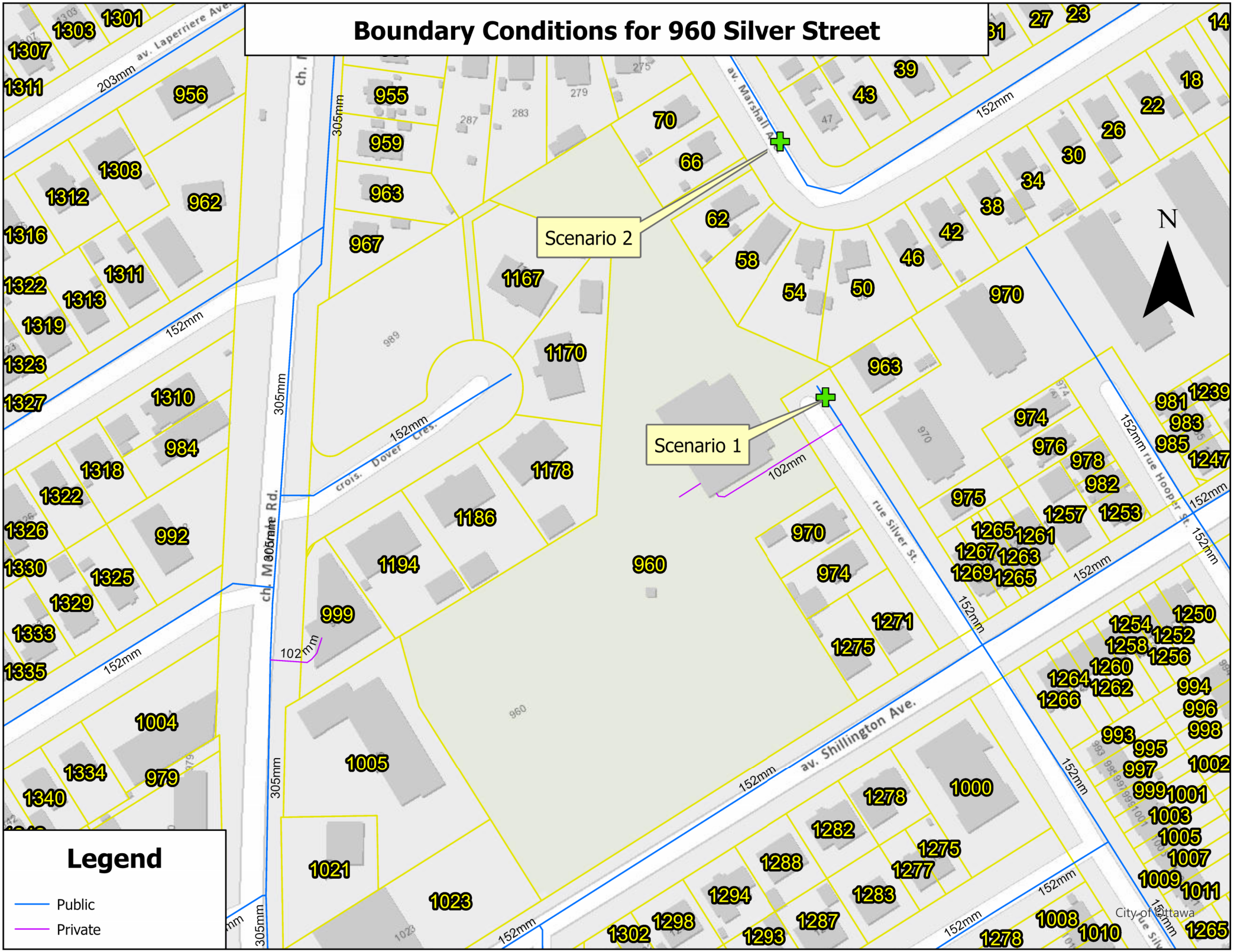
These are for current conditions and are based on computer model simulation.

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. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account.

If you have any further questions, please feel free to reach out to me.

Thank you,

Tyler Cassidy, P.Eng
Infrastructure Project Manager,
Planning, Development and Building Services department (PDBS)/ Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB) - South Branch
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1
613.580.2424 ext./poste 12977, Tyler.Cassidy@ottawa.ca


Boundary Conditions for 960 Silver Street
Scenario 1
Scenario 2
960
av. Shillington Ave.
rue Silver St.
rue Hooper St.
ch. Moodie Rd.
crois. Dover Cres.
av. Marshall Ave.
av. Laperriere Ave.
N
Legend
Public
Private
City of Ottawa

Appendix D-4 - Existing Water Boundary Conditions Analysis - Silver Street

Water Demands

Average Daily Demand:	0.54 l/s
Maximum Daily Demand:	0.82 l/s
Maximum Hour Demand:	1.47 l/s
Fire Flow Demand:	60.00 l/s
Maximum Daily + Fire Flow Demand:	60.82 l/s

Design Parameters

Pipe Diameter:	150 mm
Pipe Material:	PVC
Pipe Length (total network):	22.1 m
Finished Floor Elevation:	78.65
Pavement (R.O.W.) Elevation:	78.40

Boundary Conditions

Max. HGL:	131.9 m
Min HGL:	124.8 m

Available Fire Flow at 20 PSI (assuming 78.4m elevation) = **38 L/s**

Boundary Condition Check

Check water pressure at municipal connection:

Min. HGL - Pavement elevation =	46.40	m
=	65.98	psi*
=	454.91	kPa*

***Normal operating pressure ranges between 345 kPa (50 psi) and 552 kPa (80 psi) under a condition of maximum daily flow as per City of Ottawa Design Guidelines - Water Distribution (Section 4.2.2)**

Pressure at municipal connection — OK

Check water pressure at building connection (at max. hour demand):

Min. HGL - Finished floor elevation - Friction Loss** =	46.15	m
=	65.62	psi***
=	452.45	kPa***

****Friction loss calculated using the Hazen-Williams Equation**

*****Under maximum hourly demand conditions the pressures shall not be less than 276 kPa (40 psi) as per City of Ottawa Design Guidelines - Water Distribution (Section 4.2.2)**

Pressure at building connection (at max. hour demand) — OK

Check water pressure at building connection (at max. day + fire demand):

Min. HGL - Finished floor elevation - Friction Loss** =	44.86	m
=	63.79	psi****
=	439.80	kPa****

****Friction loss calculated using the Hazen-Williams Equation**

*****Under maximum day and fire flow demand conditions the residual pressure at any point in the system shall not be less than 140 kPa (20 psi) as per City of Ottawa Design Guidelines - Water Distribution (Section 4.2.2)**

Pressure at municipal connection (at max. day + fire demand) — OK

Appendix D-5: Hazen Williams Friction Loss Max Hour
Hazen-Williams Equation for Pressure Loss in Pipes
SI Units

Specified Data

l = length of pipe (m)	22.1	
c = Hazen-Williams roughness constant	150	
q = volume flow (liter/sec)	1.47	0.00147 m3/s
dh = inside or hydraulic diameter (mm)	150	

Calculated Pressure Loss

f = friction head loss in mm of water per 100 m of pipe (mm H20 per 100 m pipe)	5.92	
f = friction head loss in kPa per 100 m of pipe (kPa per 100 m pipe)	0.06	
Head loss (mm H20)	1.31	**0.001308 METERS**
Head loss (kPa)	0.01	

Calculated Flow Velocity

v = flow velocity (m/s)	0.08	

Material	Hazen-Williams Coefficient - c -
ABS - Acrylonite Butadiene Styrene	130
Aluminum	130 - 150
Asbestos Cement	140
Asphalt Lining	130 - 140
Brass	130 - 140
Brick sewer	90 - 100
Cast-Iron - new unlined (CIP)	130
Cast-Iron 10 years old	107 - 113
Cast-Iron 20 years old	89 - 100
Cast-Iron 30 years old	75 - 90
Cast-Iron 40 years old	64-83
Cast-Iron, asphalt coated	100
Cast-Iron, cement lined	140
Cast-Iron, bituminous lined	140
Cast-Iron, sea-coated	120
Cast-Iron, wrought plain	100
Cement lining	130 - 140
Concrete	100 - 140
Concrete lined, steel forms	140
Concrete lined, wooden forms	120
Concrete, old	100 - 110
Copper	130 - 140
Corrugated Metal	60
Ductile Iron Pipe (DIP)	140
Ductile Iron, cement lined	120
Fiber	140
Fiber Glass Pipe - FRP	150
Galvanized iron	120
Glass	130
Lead	130 - 140
Metal Pipes - Very to extremely smooth	130 - 140
Plastic	130 - 150
Polyethylene, PE, PEH	140
Polyvinyl chloride, PVC, CPVC	150
Smooth Pipes	140
Steel new unlined	140 - 150
Steel, corrugated	60
Steel, welded and seamless	100
Steel, interior riveted, no projecting rivets	110
Steel, projecting girth and horizontal rivets	100
Steel, vitrified, spiral-riveted	90 - 110
Steel, welded and seamless	100
Tin	130
Vitrified Clay	110
Wrought iron, plain	100
Wooden or Masonry Pipe - Smooth	120
Wood Stave	110 - 120

Appendix D-6: Hazen Williams Friction Loss Max Day + FF

Hazen-Williams Equation for Pressure Loss in Pipes

SI Units

Specified Data

l = length of pipe (m)	22.1	
c = Hazen-Williams roughness constant	150	
q = volume flow (liter/sec)	60.82	0.06082 m3/s
dh = inside or hydraulic diameter (mm)	150	

Calculated Pressure Loss

f = friction head loss in mm of water per 100 m of pipe (mm H20 per 100 m pipe)	5841.41	
f = friction head loss in kPa per 100 m of pipe (kPa per 100 m pipe)	57.30	
Head loss (mm H20)	1290.95	**1.290951 METERS**
Head loss (kPa)	12.66	

Calculated Flow Velocity

v = flow velocity (m/s)	3.44	

Material	Hazen-Williams Coefficient - *c* -
ABS - Acrylonite Butadiene Styrene	130
Aluminum	130 - 150
Asbestos Cement	140
Asphalt Lining	130 - 140
Brass	130 - 140
Brick sewer	90 - 100
Cast-Iron - new unlined (CIP)	130
Cast-Iron 10 years old	107 - 113
Cast-Iron 20 years old	89 - 100
Cast-Iron 30 years old	75 - 90
Cast-Iron 40 years old	64-83
Cast-Iron, asphalt coated	100
Cast-Iron, cement lined	140
Cast-Iron, bituminous lined	140
Cast-Iron, sea-coated	120
Cast-Iron, wrought plain	100
Cement lining	130 - 140
Concrete	100 - 140
Concrete lined, steel forms	140
Concrete lined, wooden forms	120
Concrete, old	100 - 110
Copper	130 - 140
Corrugated Metal	60
Ductile Iron Pipe (DIP)	140
Ductile Iron, cement lined	120
Fiber	140
Fiber Glass Pipe - FRP	150
Galvanized iron	120
Glass	130
Lead	130 - 140
Metal Pipes - Very to extremely smooth	130 - 140
Plastic	130 - 150
Polyethylene, PE, PEH	140
Polyvinyl chloride, PVC, CPVC	150
Smooth Pipes	140
Steel new unlined	140 - 150
Steel, corrugated	60
Steel, welded and seamless	100
Steel, interior riveted, no projecting rivets	110
Steel, projecting girth and horizontal rivets	100
Steel, vitrified, spiral-riveted	90 - 110
Steel, welded and seamless	100
Tin	130
Vitrified Clay	110
Wrought iron, plain	100
Wooden or Masonry Pipe - Smooth	120
Wood Stave	110 - 120

Appendix E
Additional Documents

Ottawa (Head Office)
1800 Bantree Street
Ottawa, Ontario K1B 5L6
☎ 613.745.2444
613.745.9994

Montreal
7562, Côte-de-Liesse
St-Laurent, Quebec H4T 1E7
☎ 514.738.2666
514.738.9762

www.cwwcanada.com
1.866.695.0155

CLEAN WATER WORKS INC.

INTEGRATED SEWER SOLUTIONS

SEWER CCTV INSPECTION REPORT

City of Ottawa

960 Silver St
Ottawa, ON

Work Order:
152188

Sewer Type
Sanitary & Storm

Completion Date
April 1 2026

Inspected Length:
Various

Table of contents

1. Index of pipes

3 items

Inspected length : 67.50
Total length : 0.00

Pipe	Start/End	Direction	Road	Date	Inspected	Total	Page
Cleanout to City Main	Cleanout --> City Main	Direction of flow	960 Silver St	01/04/2026, 12:00 PM	21.5		4
Manhole to 21.0 Meters (Building)	21.0 Meters (Building) --> Manhole	Against flow	960 Silver St	01/04/2026, 12:00 PM	21		8
Stack Cleanout to Foundation	Stack Cleanout --> Foundation	Direction of flow	960 Silver St	01/04/2026, 12:00 PM	25		12

2. Pipe summary and condition details

Pipe identification

Pipe:	Cleanout to City Main	**Direction of inspection:**	Cleanout --> City Main
Direction of flow:	Cleanout --> City Main	**Direction:**	Direction of flow

Pipe location

Road:	960 Silver St		UPSTREAM	DOWNSTREAM
Drainage Area:		**Easting (X):**		
City:	Ottawa	**Northing (Y):**		
Location:		**Elevation (Z):**		
Owner:	City of Ottawa	**Vertical Datum:**		

Pipe characteristics

Category:	Sanitary	**Size:**	4
Material:	Cast iron	**Width:**	
Lining:		**Total length:**	
Type:	Lateral	**Pipe unit length:**	
Invert (upstream):		**Year laid:**	
Depth (upstream):		**Invert (downstream):**	
Cover level (upstream):		**Depth (downstream):**	
		Cover level (downstream):	

Additional details

Date:	01/04/2026, 12:00 PM	**Survey Abandoned:**	
Project Number:	CCTV Inspection	**Inspected length:**	21.5
Contractor project #:		**Pre-cleaning:**	☐
Client:	City of Ottawa	**Blocked flow:**	☐
Purpose:		**Regular CCTV:**	☐
Operator:	Don	**Reinspect with ZOOM:**	☐
Analyst:		**Medium #:**	
		Start position:	
		End position:	

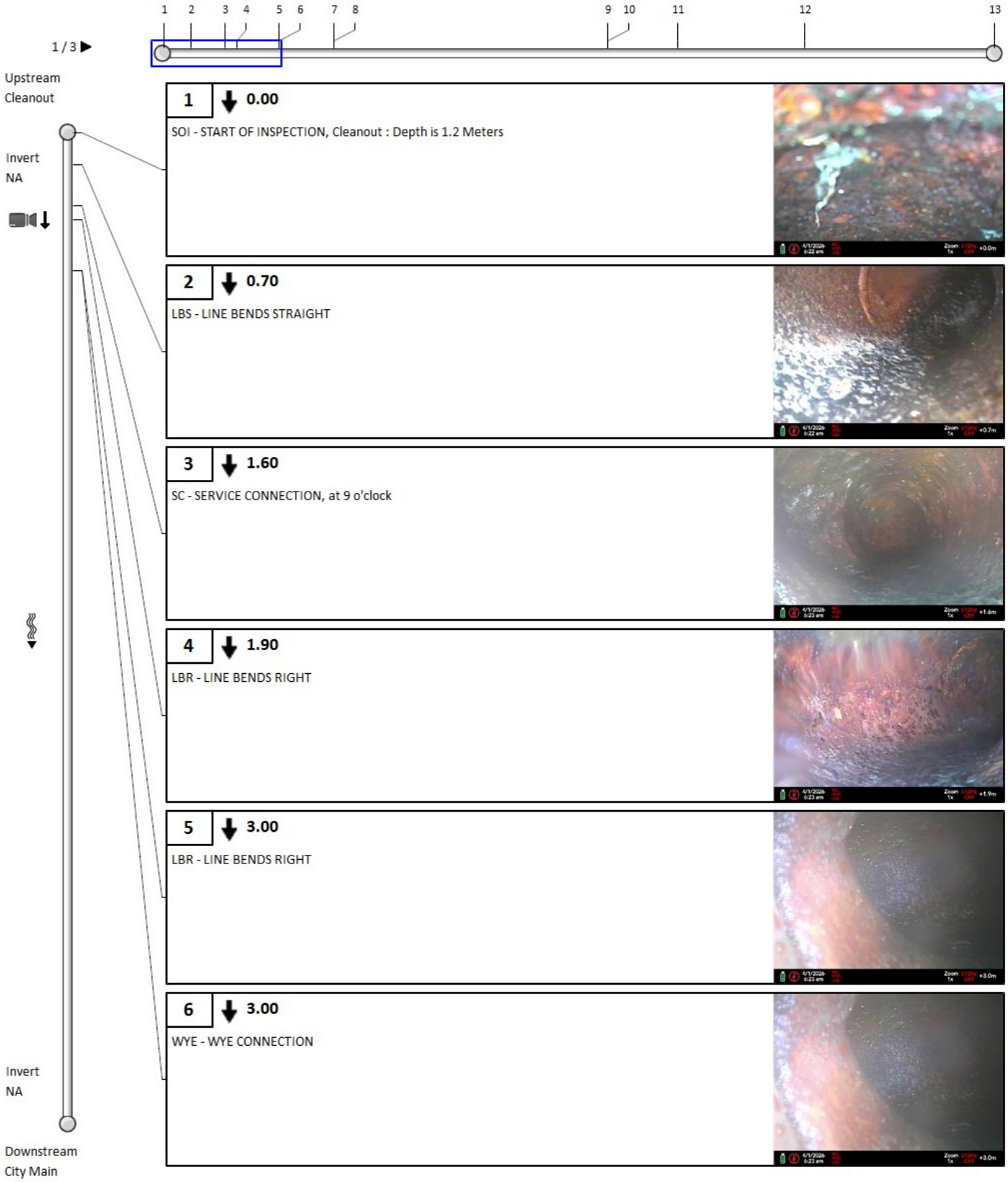
Comments

CCTV Inspection From Sanitary Cleanout to City Main

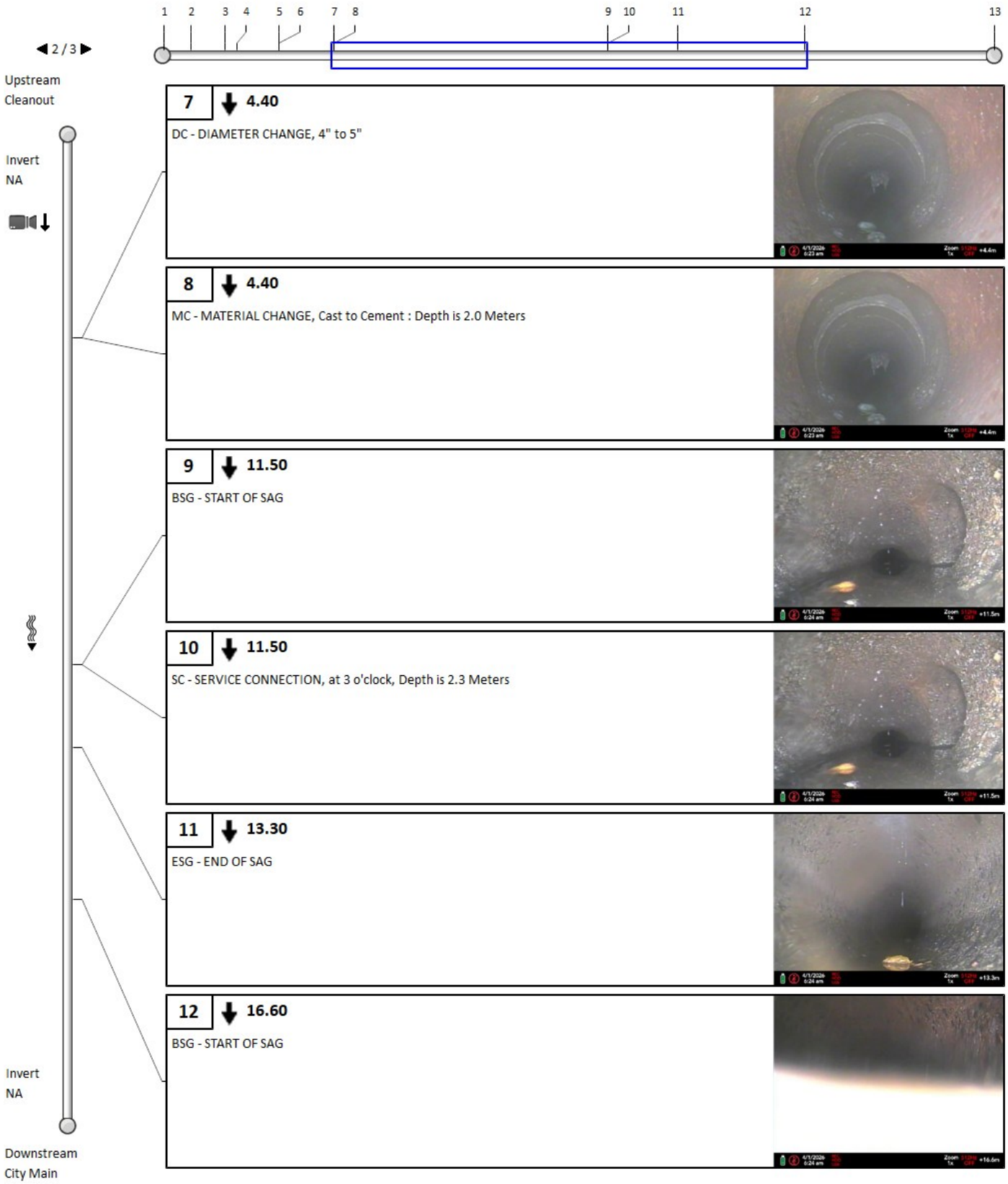
Other information

Date:	April 1 2026	**Information 7:**	
Work Order#:	152188	**Information 8:**	
Start of Location:	Cleanout	**Information 9:**	
End of Location:	City Main	**Information 10:**	
Location:	Basement - Storage Room	**PI5 (MAMR):**	0
Information 6:		**PI6 (MAMR):**	0

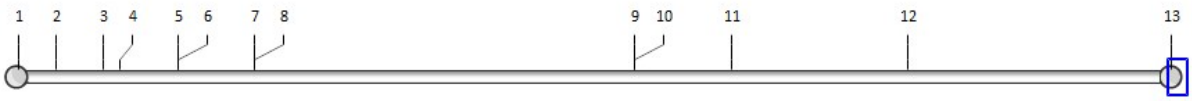
2. Pipe summary and condition details



2. Pipe summary and condition details



2. Pipe summary and condition details



◀ 3 / 3

Upstream
Cleanout

Invert
NA

Invert
NA

Downstream
City Main

13	21.50
END - END OF INSPECTION, City Main - Depth is 2.7 Meters	

2. Pipe summary and condition details

Pipe identification

Pipe:	Manhole to 21.0 Meters (Building)	**Direction of inspection:**	21.0 Meters (Building) --> Manhole
Direction of flow:	Manhole --> 21.0 Meters (Building)	**Direction:**	Against flow

Pipe location

		UPSTREAM	DOWNSTREAM
Road:	960 Silver St	**Easting (X):**	**Easting (X):**
Drainage Area:		**Northing (Y):**	**Northing (Y):**
City:	Ottawa	**Elevation (Z):**	**Elevation (Z):**
Location:		**Vertical Datum:**	
Owner:	City of Ottawa		

Pipe characteristics

Category:	Storm	**Size:**	5
Material:	Polyvinyl chloride	**Width:**	
Lining:		**Total length:**	
Type:	Lateral	**Pipe unit length:**	
Invert (upstream):		**Year laid:**	
Depth (upstream):		**Invert (downstream):**	
Cover level (upstream):		**Depth (downstream):**	
		Cover level (downstream):	

Additional details

Date:	01/04/2026, 12:00 PM	**Survey Abandoned:**	
Project Number:	CCTV Inspection	**Inspected length:**	21
Contractor project #:		**Pre-cleaning:**	☐
Client:	City of Ottawa	**Blocked flow:**	☐
Purpose:		**Regular CCTV:**	☐
Operator:	Don	**Reinspect with ZOOM:**	☐
Analyst:		**Medium #:**	
		Start position:	
		End position:	

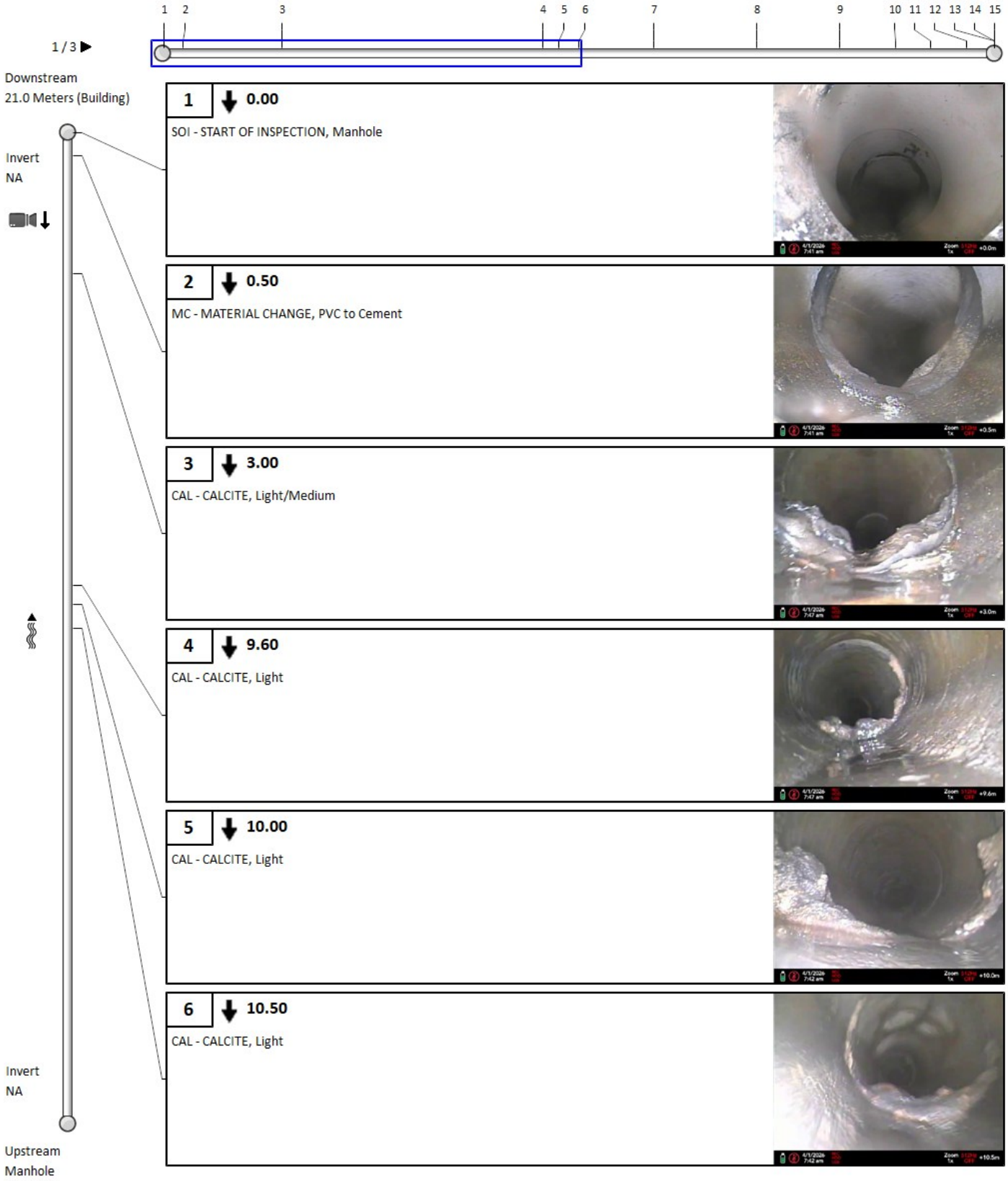
Comments

CCTV Inspection From Manhole to 21.0 Meters (Building)
Light to Medium Calcite on Almost Every Joint

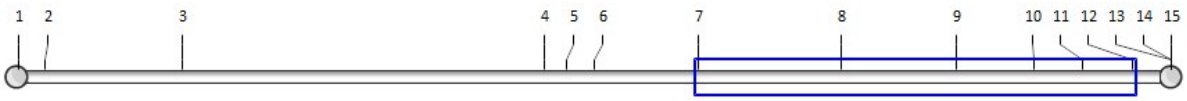
Other information

Date:	April 1 2026	**Information 7:**	
Work Order#:	152188	**Information 8:**	
Start of Location:	Manhole	**Information 9:**	
End of Location:	21.0 Meters (Building)	**Information 10:**	
Location:	Road	**PI5 (MAMR):**	0
Information 6:		**PI6 (MAMR):**	0

2. Pipe summary and condition details



2. Pipe summary and condition details



◀ 2 / 3 ▶

Downstream
21.0 Meters (Building)

Invert
NA

7 ↓ **12.40**
CAL - CALCITE, Light

8 ↓ **15.00**
CAL - CALCITE, Light/Medium

9 ↓ **17.10**
CAL - CALCITE, Light

10 ↓ **18.50**
CAL - CALCITE, Light

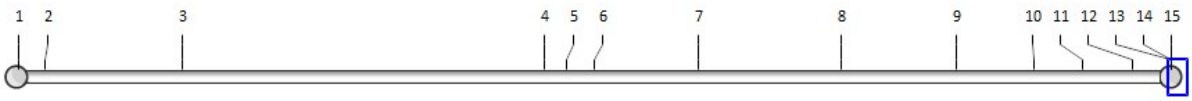
11 ↓ **19.40**
CAL - CALCITE, Light

12 ↓ **20.30**
CAL - CALCITE, Light

Invert
NA

Upstream
Manhole

2. Pipe summary and condition details



◀ 3 / 3

Downstream
21.0 Meters (Building)

Invert
NA

13 ↓ **21.00**

MC - MATERIAL CHANGE, Cement to Cast

14 ↓ **21.00**

DC - DIAMETER CHANGE, 5" to 4"

15 ↓ **21.00**

END - END OF INSPECTION, Building - Enf od Survey

Invert
NA

Upstream
Manhole

2. Pipe summary and condition details

Pipe identification

Pipe:	Stack Cleanout to Foundation	**Direction of inspection:**	Stack Cleanout --> Foundation
Direction of flow:	Stack Cleanout --> Foundation	**Direction:**	Direction of flow

Pipe location

Road:	960 Silver St		UPSTREAM	DOWNSTREAM
Drainage Area:		**Easting (X):**		
City:	Ottawa	**Northing (Y):**		
Location:		**Elevation (Z):**		
Owner:	City of Ottawa	**Vertical Datum:**		

Pipe characteristics

Category:	Storm	**Size:**	3
Material:	Cast iron	**Width:**	
Lining:		**Total length:**	
Type:	Lateral	**Pipe unit length:**	
Invert (upstream):		**Year laid:**	
Depth (upstream):		**Invert (downstream):**	
Cover level (upstream):		**Depth (downstream):**	
		Cover level (downstream):	

Additional details

Date:	01/04/2026, 12:00 PM	**Survey Abandoned:**	
Project Number:	CCTV Inspection	**Inspected length:**	25
Contractor project #:		**Pre-cleaning:**	☐
Client:	City of Ottawa	**Blocked flow:**	☐
Purpose:		**Regular CCTV:**	☐
Operator:	Don	**Reinspect with ZOOM:**	☐
Analyst:		**Medium #:**	
		Start position:	
		End position:	

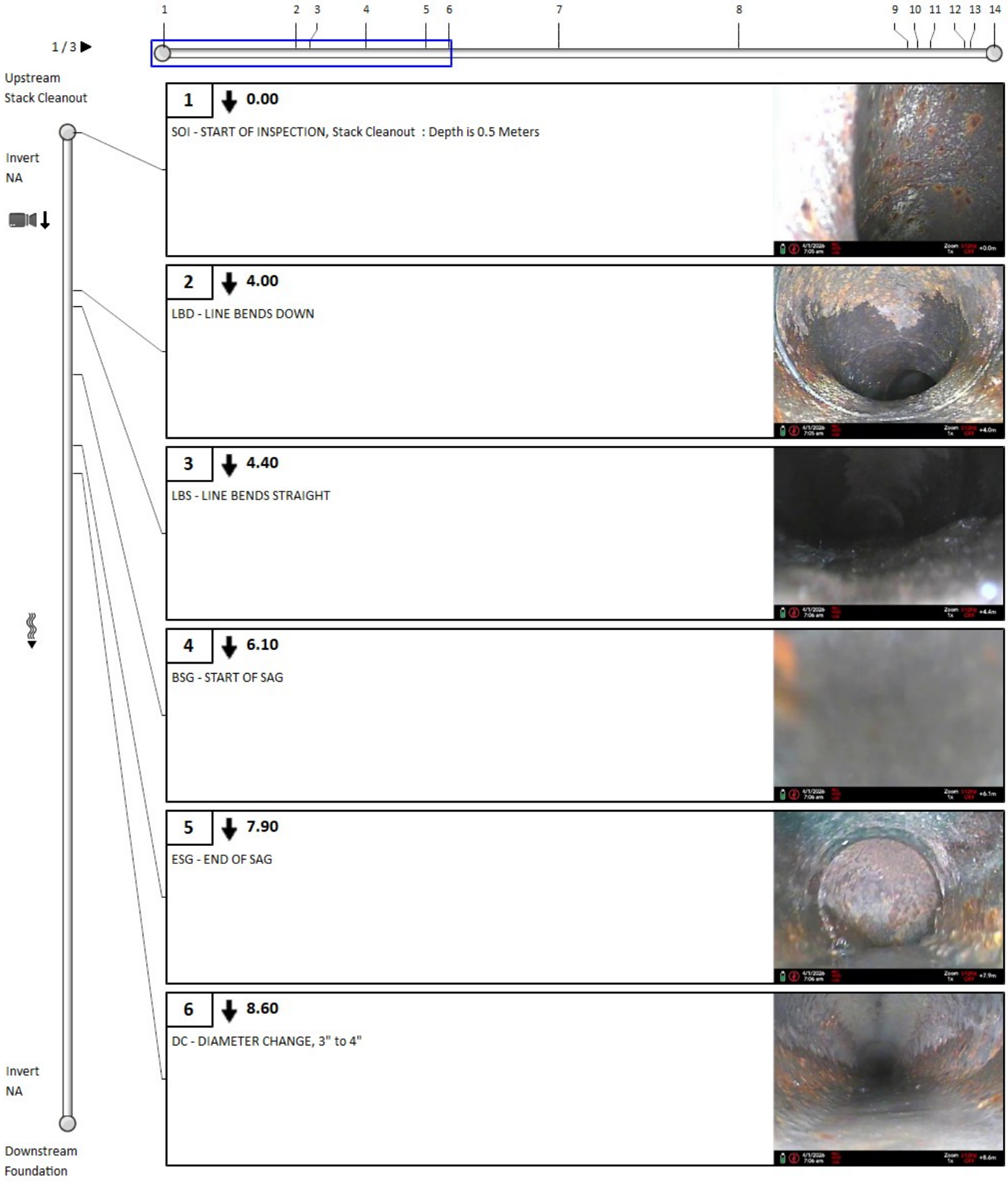
Comments

CCTV Inspection of The Storm Lateral From Stack Cleanout to Foundation

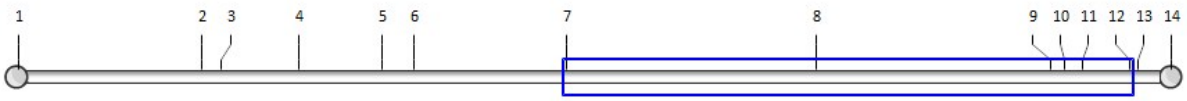
Other information

Date:	April 1 2026	**Information 7:**	
Work Order#:	152188	**Information 8:**	
Start of Location:	Stack Cleanout	**Information 9:**	
End of Location:	Foundation	**Information 10:**	
Location:	Main Floor - Kitchen	**PI5 (MAMR):**	0
Information 6:		**PI6 (MAMR):**	0

2. Pipe summary and condition details



2. Pipe summary and condition details



◀ 2 / 3 ▶

Upstream
Stack Cleanout

Invert
NA

7 ↓ **11.90**

SC - SERVICE CONNECTION, at 12 o'clock

8 ↓ **17.30**

SC - SERVICE CONNECTION, at 12 o'clock

9 ↓ **22.40**

SC - SERVICE CONNECTION, at 12 o'clock

10 ↓ **22.70**

SC - SERVICE CONNECTION, at 12 o'clock

11 ↓ **23.10**

SC - SERVICE CONNECTION, at 12 o'clock

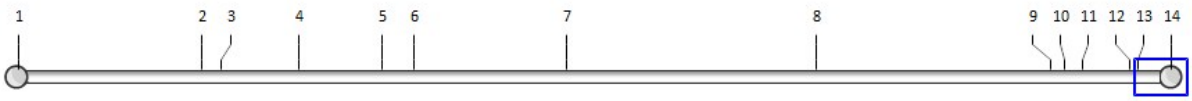
12 ↓ **24.10**

MC - MATERIAL CHANGE, Cast to Cement

Invert
NA

Downstream
Foundation

2. Pipe summary and condition details



◀ 3 / 3

Upstream
Stack Cleanout

Invert
NA

Invert
NA

Downstream
Foundation

13 ↓ **24.30**

DC - DIAMETER CHANGE, 4" to 5"

14 ↓ **25.00**

END - END OF INSPECTION, Depth is 1.0 Meters - End of Survey

February 20, 2025

Mike Russett
Planner III, Parks & Facilities Planning
Via email: mike.russett@ottawa.ca

Subject: **Pre-Consultation: Meeting Feedback**
Proposed Site Plan Control Application – 960 Silver Street

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on February 14, 2025.

Pre-Consultation Preliminary Assessment

1 ☐	**2** ☐	**3** ☐	**4** ☐	**5** ☒

One (1) indicates that considerable major revisions are required while five (5) suggests that the proposal appears to meet the City's key land use policies and guidelines. This assessment is purely advisory and does not consider technical aspects of the proposal or in any way guarantee application approval.

Supporting Information and Material Requirements

The attached **Study and Plan Identification List** outlines the information and material that has been identified, during this phase of pre-consultation, as either required (R) or advised (A) as part of a future complete application submission.

The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

Planning Comments:

1. The Official Plan designates the site Neighbourhood (Evolving Neighbourhood Overlay) in the Outer Urban Transect.

2. The site is zoned Community Leisure Facility Zone (L1). The L1 zone prescribes a maximum building height of 11 metres (approx. 3 storeys) and minimum 7.5 metre setback for the front, rear, interior, and corner side yards. The site is an irregularly shaped lot. From a zoning perspective, Silver Street is the front lot line.

3. Minimum Parking rates (Section 101):

    - Community Centre: 2 spaces per 100 sqm of GFA

    - Park, Sport Field: The greater of 1 space per 8 fixed seats or 2 spaces per sports field

    - Bicycle parking: 1 per 1500 sqm of GFA

- Barrier Free Parking: For a parking lot with 26 to 50 spaces, 2 barrier free parking spaces are required (1 Type A and 1 Type B)

4. Preliminary comments on the concept plan:

5. Additional parking is likely required (34 to 38 spaces total) based on the total gross floor area of the Community Centre and existing sports fields.

   - Shift the proposed accesses and parking spaces off Shillington north to avoid impacts to the root zones of the existing trees on Shillington Avenue.

   - Explore additional tree planting opportunities along both Silver and Shillington frontages.

6. The site is adjacent to the Veterans' Housing Character Area. The City's Heritage Planners developed a set of guidelines that were approved by Council in May 2022 to encourage the conservation of houses and manage change in the character area. Veterans' Housing Character Area: Guidelines and context

   Heritage Planning staff confirmed that they do not have any comments on the proposal.

Urban Design Comments:

7. An Urban Design Brief and elevation drawings are required.

8. Ensure pedestrian connections are clearly defined and make appropriate connections between the community centre and parking areas.

Engineering Comments:

9. The Stormwater Management Criteria, for the subject site, is to be based on the following:

   a. Application of the IDF information derived from the Meteorological Services of Canada rainfall data, taken from the MacDonald Cartier Airport, collected 1966 to 1997.

   b. In separated areas, the pre-development runoff shall be the lower of the existing coefficient or a maximum equivalent 'C' of 0.5, whichever is less (§ 8.3.7.3).

      a. A calculated time of concentration (cannot be less than 10 minutes).

      b. Flows to the storm sewer in excess of the 2-year storm release rate, up to and including the 100-year storm event, must be detained on site.

      c. Storm sewer outlets should not be submerged.

      d. The quantity control criteria is to control the 100-year post-development peak flow rate to the 2-year pre-development peak flow rate. It should be noted that the receiving downstream storm sewer is surcharging in frequent events, and additional mitigation measures are recommended.

      e. Quality control is not required for this application.

10. Deep Services (Storm, Sanitary and/or Water Supply)

Water:

a. It is recommended to reuse the community centres existing water service. In the event an additional connection is required to meet the fire flow or basic day demands, the following existing public services are available:

    i. Silver Street – 152 mm dia. UCI watermain.

    ii. Shillington Avenue – 152 mm dia. UCI watermain.

    iii. Marshall Avenue – 152 mm dia. UCI watermain.

Sanitary

b. It is recommended to reuse the community centres existing sanitary service. A CCTV inspection will be required to assess the condition of the existing lateral. In the event the service is in a state of disrepair and needs replacement or upsizing, then the following existing public service is available:

    i. Silver Street – 225 mm dia. Conc. SAN sewer.

c. A connection to the Cave Creek Trunk Collector sewer on Shillington Avenue shall be avoided. If a connection to the trunk is contemplated, contact Tyler Cassidy with the proposed wastewater flows and a rationale for not outletting to the Silver Street SAN sewer.

d. A monitoring maintenance hole is not required.

Storm

e. It is recommended to reuse the community centres existing storm service. A CCTV report indicating the existing lateral is in good condition will be required. In the event a new storm service connection is required, the following existing infrastructure is available for connection:

    i. 300 mm dia. Conc. Storm on Silver Street.

    ii. 1200 mm dia. Conc Storm on Shillington Avenue

f. Sewer connections to be made above the springline of the sewermain as per:

    i. Std Dwg S11.1 for flexible main sewers – connections made using approved tee or wye fittings.

    ii. Std Dwg S11 (For rigid main sewers) – lateral must be less that 50% the diameter of the sewermain,

    iii. Std Dwg S11.2 (for rigid main sewers using bell end insert method) – for larger diameter laterals where manufactured inserts are not available; lateral must be less that 50% the diameter of the sewermain,

iv. Connections to manholes permitted when the connection is to rigid main sewers where the lateral exceeds 50% the diameter of the sewermain. – Connect obvert to obvert with the outlet pipe unless pipes are a similar size.

11. An MECP Environmental Compliance Approval **Private Sewage Works** *may* be required for the proposed development. Please have your consultant provide a statement in the Servicing Report on the MECP ECA requirements and exemptions. If a discussion is required, a Ministry contact has been provided below but please work with City staff on the need (or not) of an application.

    a. Shannon Hamilton-Browne at (613) 521-3450 or Shannon.Hamilton-Browne@ontario.ca

12. Water

    a. Boundary conditions should be provided to the City Project Manager (listed below) early on in the design process to assess system capacity.

    b. Water Data Card will need to be completed post-approval to determine if the existing meter is sufficient for the proposed flows.

    c. Fire Flow Requirements need to be calculated using the FUS2020 methodology.

    d. Water Boundary condition requests must include the location of the service (map or plan with connection location(s) indicated) and the expected loads required by the proposed development, including calculations. Please provide the following information:

        i. Location of service

        ii. Type of development

        iii. The amount of fire flow required (per FUS).

        iv. Average daily demand: ___ l/s.

        v. Maximum daily demand: ___l/s.

        vi. Maximum hourly daily demand: ___ l/s.

13. Sewer (sanitary)

    a. Proposed peak flow rates should be provided to the City Project Manager listed below as early as possible to determine if there are any downstream capacity constraints.

14. Slope stability/global stability analysis is required if there are any proposed retaining walls greater than 1.0m in height.

15. Frontage Charges: none applicable to this application

If you have any questions, please contact Tyler Cassidy, P.Eng., Infrastructure Project Manager at tyler.cassidy@ottawa.ca.

Transportation Comments:

16. Shillington private approaches should be unidirectional.

17. The additional 890 square meters does not trigger a TIA.

If you have any questions, please contact Mike Giampa, Transportation Project Manager, at mike.giampa@ottawa.ca

Forestry Comments:

18. A Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City

    a) approved TCR is a requirement of Site Plan approval.

    b) The TCR may be combined with the Landscape Plan

19. As of January 1 2021, any removal of privately or publicly (City) owned trees 10cm or larger in diameter requires a tree permit issued under the Tree Protection Bylaw (Bylaw 2020 – 340); the permit will be based on an approved TCR and made available at or near plan approval.

20. The Planning Forester from Strategic Initiatives as well as foresters from Forestry Services will review the submitted TCR

    a) If tree removal is required, both municipal and privately-owned trees will be addressed in a single permit issued through the Planning Forester

    b) Compensation may be required for city owned trees – if so, it will need to be paid prior to the release of the tree permit

21. The TCR must list all trees on site by species, diameter, and health condition

22. Please identify trees by ownership – private onsite, private on adjoining site, city owned, co-owned (trees on a property line)

23. The TCR must list all trees on adjacent sites if they have a critical root zone that extends onto the development site

24. If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained

25. All retained trees must be shown and all retained trees within the area impacted by the development process must be protected as per City guidelines available at Tree Protection Specification or by searching Ottawa.ca

a) the location of tree protection fencing must be shown on a plan

b) show the critical root zone of the retained trees

c) if excavation will occur within the critical root zone, please show the limits of excavation

26. The City encourages the retention of healthy trees; if possible, please seek opportunities for retention of trees that will contribute to the design/function of the site.

27. Landscape Plan tree planting requirements:

    a) Minimum Setbacks

        i) Maintain 1.5m from sidewalk or MUP/cycle track.

        ii) Maintain 2.5m from curb

        iii) Coniferous species require a minimum 4.5m setback from curb, sidewalk or MUP/cycle track/pathway.

        iv)Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing.

    b) Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.

28. Tree specifications

    a) Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.

    b) Maximize the use of large deciduous species wherever possible to maximize future canopy coverage

    c) Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and include watering and warranty as described in the specification (can be provided by Forestry Services).

    d) Plant native trees whenever possible

    e) No root barriers, dead-man anchor systems, or planters are permitted.

    f) No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

29. Hard surface planting

    a) Curb style planter is highly recommended

    b) No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.

    c) Trees are to be planted at grade

30. Soil Volume

a) Please ensure adequate soil volumes are met:

Tree Type/Size	Single Tree Soil Volume (m3)	Multiple Tree Soil Volume (m3/tree)
Ornamental	15	9
Columnar	15	9
Small	20	12
Medium	25	15
Large	30	18
Conifer	25	15

31. Sensitive Marine Clay

a) Please follow the City's 2017 Tree Planting in Sensitive Marine Clay

guidelines

If you have any questions, please contact John Hoogendoorn, Forester, at john.hoogendoorn@ottawa.ca

Submission Requirements and Fees

1. Site Plan Control application subtype (Standard or Complex) will depend on the proposed size and parking. If the addition exceeds 1,860 sq. m or the parking includes more than 10 spaces, the application will trigger a Complex Site Plan Control application.

   Additional information regarding fees related to planning applications can be found here.
2. The attached **Study and Plan Identification List** outlines the information and material that has been identified as either required (R) or advised (A) as part of a future complete application submission.
   a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.
3. All the above comments or issues should be addressed to ensure the effectiveness of the application submission review.

Should there be any questions, please do not hesitate to contact the contact identified for the above areas / disciplines.

Regards,

Wendy Tse
Planner III
Development Review South

Encl. Study and Plan Identification List

c.c. Siobhan Kelly, Planner II
Tyler Cassidy, IPM
Mike Giampa, TPM
John Hoogendoorn, Forester