

Groundwater Impact Assessment

Proposed Residential Development

5971, 5993, 6115 6141 & 6151 Flewellyn Road, 6070 Fernbank
Road & 1170 & 1820 Shea Road
Ottawa, Ontario

Prepared for Caivan (Stittsville) Inc.

Report PH5222-REP.01R

June 17, 2026



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1.0 Introduction

Paterson Group (Paterson) was commissioned by Caivan (Stittsville) Inc. to complete a Groundwater Impact Assessment (GIA) for the proposed residential development, to be located at 5971, 5993, 6115, 6141 and 6159 Flewellyn Road, 6070 Fernbank Road, and 1770 and 1820 Shea Road, in the City of Ottawa, Ontario as shown on the Drawings in Appendix 1.

The following report has been prepared specifically and solely for the aforementioned project described herein. It contains a hydrogeological review and assessments pertaining to the proposed development as it is understood by Paterson at the time of writing this report.

1.1 Proposed Development

It is our understanding that the proposed development will consist of townhomes and detached homes, with associated driveways, local roadways and landscaped areas. The development is further expected to have condo blocks, parklands, stormwater management ponds and is expected to be municipally serviced.

2.0 Background Information

Field programs were carried out between November 2020 and February 2026 by Paterson at the subject site. During that time, a total of 50 boreholes, one (1) hand auger hole and 18 test pits were advanced to a maximum depth of 10.2 m below ground surface (bgs). The test hole locations were distributed in a manner to provide general coverage of the subject site taking into consideration site features.

Reference should be made to the Soil Profile and Test Data sheets included in Appendix 2 for the details of the soil profiles encountered at each test hole location. The locations of the test holes are presented on Paterson Drawing PG5570-1 - Test Hole Location Plan included in Appendix 2.

The hydrogeological information described in this report is based on the information included in the approved Hydrogeological Existing Conditions Study for this site.

3.0 Site Conditions

The subject site is a mix of agricultural land and forested areas with a hydro corridor and a Stormwater Management Pond (SWMP) for the adjacent residential development to the north transecting the eastern portion of the subject site. The hydro corridor transects the subject site in a northerly orientation from Flewellyn Road to the northern corner of the subject site. The eastern portion of the study area consists of a cleared area that has been converted into agricultural land. The subject site is bordered to the northwest by municipally serviced residential developments. An existing, privately serviced residential development with country estate lots is located to the west of the subject site. Shea Road is located to the east of the subject site while Flewellyn Road is located to the south. Residential properties that border both Flewellyn Road and Shea Road are anticipated to be privately serviced in the area surrounding the subject site.

The subject site generally slopes from east to west with a topographical relief of approximately 109 to 102 m. Greater slopes are observed in the western portion of the subject site.

3.1 Geology

Generally, the subsurface profile encountered at the test hole locations consisted of topsoil underlain by silty sand to a sandy silt deposit followed by glacial till. Clay was observed interbedded with the sandy silt layer on the eastern portion of the subject site. Bedrock was encountered between 0.8 and 6.0 m bgs across the subject site and was characterized as excellent quality dolostone interbedded with limestone. Specific details of the soil profile at each test hole location within the subject site are presented on the Soil Profile and Test Data sheets included in Appendix 2.

According to surficial mapping prepared by the Ontario Geological Survey (OGS, MRD128-Revised) the subject site is in an area where the surficial geology is recorded to consist primarily of glaciomarine deposits with fine grained material to the east and coarse-grained material to the west. To the north, a small portion of the subject site consists of glacial till. The surficial mapping is presented on Paterson Drawing PH4625-1 - Surficial Geology Plan included in Appendix 1.

Silty Sand to Sandy Silt

At select test hole locations, a very loose to dense brown silty sand to sandy silt was encountered below the topsoil, extending to a maximum depth of 4.7 m bgs.

The silty sand to sandy silt had varying amounts of gravel and clay.

Glacial Till

A very loose to very dense brown to grey glacial till deposit was the last stratigraphic unit encountered before bedrock. The glacial till deposit consisted of a silty sand matrix with varying amounts of gravel, cobbles, boulders. The glacial till deposit was observed to extend to a maximum depth of 6.1 m bgs.

Bedrock

Based on coring results completed by Paterson, dolostone bedrock interbedded with limestone was encountered between 0.8 and 6.0 m bgs and was cored to maximum depth of 10.2 m bgs. The recovery values were between 95 and 100%, while RQD values varied between 57 and 100%. Based on these results, the quality of the bedrock generally ranges from fair to excellent.

Based on the available geological mapping provided by the Ontario Geological survey (OGS, MRD 219), the subject site is located in an area where the bedrock consists of limestone, dolostone, shale and sandstone of the Gull River Formation (Middle Ordovician) with an overburden drift thickness of 0 to 10 m. The bedrock geology is presented on drawing PH4625-3 - Bedrock Geology Plan included in Appendix 1.

Karst Features

The term 'karst' refers to a geologic formation characterized by the dissolution of carbonate bedrock, such as limestone. Based on a review of Ontario Geological Survey available mapping, a small area within the western portion of the subject site is inferred to contain karst, while the remainder of the site falls within an area that can potentially contain karst. It should be noted that no evidence of karstification was observed at the time of the field investigations completed at the subject site. Site specific testing provides better resolution than high level mapping as well as our experience at other sites in the area, it is our opinion that the subject site does not contain karst.

3.2 Hydrogeology

Existing Aquifer Systems

Aquifer systems are defined as a geological media, either overburden soils or fractured bedrock, which permit the movement of groundwater under hydraulic gradients. Although groundwater has been observed within the overburden material at the subject site, the shallow depth of the overburden aquifer makes it an unlikely source for water supply wells. Water supply wells in the vicinity are expected to only be accessing the bedrock aquifer.

Based on the available geological mapping provided by the Ontario Geological survey (OGS, MRD 219), the bedrock aquifer system consists of limestone, dolostone, shale and sandstone of the Gull River Formation (Middle Ordovician).

Based on the Ministry of the Environment, Conservation and Parks (MECP) online well mapping and geoOttawa online municipal water supply mapping, the residential properties to the west of the subject site and along Flewellyn Road to the south and east are serviced by private water supply wells.

Groundwater Levels

Groundwater levels were measured at the piezometer installations after the initial field investigation and at the monitoring well installations as part of both field investigations using an electronic water level meter. Groundwater levels were measured relative to the ground surface elevation at each monitoring installation.

Multiple groundwater level measurement events have been completed to date as part of the approved Hydrogeological Existing Conditions Study with measurements occurring between January 2022 and May 2024. Groundwater levels in piezometers and the monitoring wells varied between -0.2 to 3.7 m bgs, respectively.

A groundwater monitoring program was undertaken at the subject site from October 2022 to May 2024 and showed a similar range of groundwater levels as to the range in manual groundwater readings above. It should be noted that groundwater levels can fluctuate both seasonally and in conjunction with precipitation events. As such, water levels may vary at the time of construction.

Horizontal Hydraulic Gradients

The direction of hydraulic gradients shows that groundwater flow travels predominantly from west to east towards the eastern corner of the subject site. The study area is located within the Flowing Creek subwatershed where local groundwater flow is generally in an eastward direction towards the Faulkner Drain. Regional groundwater flow is also in an eastward direction towards the Jock River.

The horizontal hydraulic gradient in the bedrock was observed to be in a general eastward direction with magnitudes of approximately, 0.001 to 0.026 based on groundwater measurements collected on October 11, 2022. Higher hydraulic gradients were observed within the western portion of the subject site. As for the horizontal hydraulic gradient in the overburden material, it was interpreted to have a similar magnitude and direction as the bedrock given the similarities in groundwater levels at the nested well locations and the topographic profile of the site.

Vertical Hydraulic Gradients

Vertical hydraulic gradients were calculated within two nested well installations across the study area based on a select number of groundwater level measurements collected between October 2022 and May 2023. The vertical hydraulic gradients provide insight on the hydraulic interactions between the bedrock and overburden units. BH 1-22 and BH 1A-22 (west portion of the study area) had a vertical upward gradient of approximately 0.012 to 0.016 while BH 3-22 and BH 3A-22 (east portion of the study area) had a vertical downward gradient of 0.004 to 0.035 or a vertical upward gradient of 0.010, depending on the time of year.

Hydraulic Conductivity

Based on the field hydraulic conductivity testing undertaken as part of this assessment, the hydraulic conductivity of the overburden materials were observed to range between 4.2×10^{-6} m/sec and 2.2×10^{-5} m/sec while the hydraulic conductivity of the bedrock was observed to range between 4.3×10^{-7} and 1.6×10^{-4} m/sec. These values are consistent with tabulated values from Freeze and Cherry (1979) and field values encountered at similar sites for similar materials.

Groundwater Recharge and Discharge

In general, groundwater will follow the path of least resistance from areas of higher hydraulic head to areas of lower hydraulic head. Upward and downward hydraulic gradients are typically indicative of areas of discharge and recharge, respectively.

Based on field saturated hydraulic conductivity testing in the overburden soils, the overburden soils are considered to have a moderate hydraulic conductivity, which are mapped as a significant groundwater recharge area (SGRA) by the Mississippi-Rideau Source Protection Region (MRSPR).

It is our interpretation that precipitation will intercept the soil surface where it will flow vertically downward through the unsaturated surficial soils before intercepting the shallow overburden aquifer where it will predominantly travel laterally at the bedrock interface. This interpretation is supported by the vertical gradient information discussed above coupled with the topographic relief of the site and high RQD bedrock. It should be noted that site specific testing provides better resolution than the high level SGRA mapping provided by the MRSPR.

There is inferred minor groundwater discharge to a man-made surface water feature in the western portion of the subject site due to topographic variations, however, is expected to be limited in nature.

The study area intersects one subwatershed as previously mentioned and will have flow generally travelling in an eastward direction within the western portion of the subject site, and in a southeastern direction within the eastern portion of the subject site, towards the Faulkner Drain which is tributary to the Jock River. The elevation of the Faulkner Drain at the southeastern edge of the subject site has an elevation similar to the groundwater elevations in that area, thus supporting the interpretation that shallow groundwater at the subject site is predominantly travelling east/southeast towards the Faulkner Drain.

4.0 Potential Impacts

4.1 Radius of Influence

Based on available civil drawings provided by DSEL which are included in Appendix 3, the anticipated depth of excavation for servicing installations will range from 2 to 9 m bgs. The deepest servicing excavations are expected to be on the north end of the subject site while the shallowest excavations being will be on the south end, along Flewellyn Road. The maximum depth of excavation for the stormwater management ponds is expected to be 5.5 m bgs. Given the observed groundwater levels in the monitoring wells installed at the subject site and proposed excavation depths, it is estimated that approximately 1.5 to 8.5 m of saturated material could be encountered within the open excavations.

In order to determine potential impacts, potential theoretical radii of influence have been calculated based on the anticipated saturated excavation depths, discussed above.

These calculations were completed based on Sichardt (1992) using the equation:

$$R = 3000 \cdot \Delta h (k^{0.5})$$

- ☐ R = Radius of influence (m)
- ☐ Δh = Drawdown of groundwater (m)
- ☐ k = Hydraulic conductivity (m/sec)

For the purposes of completing the calculations, the following assumptions were made:

- ☐ $k = 2.47 \times 10^{-5}$ m/sec (geometric mean of the measured hydraulic conductivities within the bedrock) to 7.00×10^{-5} m/sec (corresponding k value used for safety factored dewatering assessment completed under a different cover).
- ☐ $\Delta h = 1$ to 8.5 m, to review potential minimum and maximum conditions

Using the above equation and assumptions, a radius of influence of approximately ≤ 22 to 127 m will develop as a steady state condition, extending from the edge of the excavations. A radius of influence up to 213 m may develop if bedrock with increased hydraulic properties is encountered at select dewatering locations.

4.2 Adverse Effects on Neighbouring Water Wells

Bedrock removal (blasting and/or hoe-ramming) and dewatering activities have the potential to impact surrounding private water supplies. Therefore, an assessment was completed to ensure that the proposed development does not negatively impact surrounding well users.

A search of the Ontario Water Well Records (WWRs) database indicates there are several domestic water supply wells within 500 m of the subject site as depicted on Drawing PH5222-1 – MECP Water Well Location Plan included in Appendix 1. The wells that are currently in use were noted to be accessing the underlying bedrock aquifer system with sufficient vertical separation between the maximum potential depth of excavation and the depth of the wells. Furthermore, WWRs note that the majority of water-bearing zones were encountered below the anticipated servicing depths at the subject site. As such, these wells are considered to have a relatively low potential to be impacted by construction dewatering activities at the subject site.

However, as a precautionary measure, a Baseline Water Sampling Program has been recommended to be completed prior to commencing construction on site. The premise of the program is to obtain groundwater quality information from the water supply wells in the vicinity of the proposed development prior to the project commencing. This ensures that all parties involved (developer, homeowners, and City of Ottawa) are protected should a concern arise during or after construction.

Baseline Water Sampling Program

As mentioned above, the theoretical radius of influence that may develop as a result of dewatering activities associated with the proposed development is expected to be ≤ 22 to 213 m, from the edge of the excavations at the time of construction, depending on the hydraulic properties and groundwater levels across the site. The domestic wells in the area were completed at depths well below the anticipated municipal servicing depths with WWRs noting that the majority of water-bearing zones were encountered below the anticipated servicing depths at the subject site.

Based on the water service mapping provided by the City of Ottawa, as well as all the available information, a total of twenty-nine (29) potential privately serviced lots have been identified to be included in the Baseline Water Sampling Program and are shown on the attached Drawing PH5222-1 MECP Water Well Location Plan. All privately serviced lots on either side of adjacent streets (i.e., Poplarwood Avenue and Flewellyn Road) were included in the program, which provides a sampling radius in excess of the potential theoretical radius of influence discussed above and exceeds the 250 m sampling radius that what was done for the development to the north of the subject site. Furthermore, given the size and layout of the proposed development, only servicing installations on the outer perimeter of the subject site will have a radius of influence that may intercept adjacent properties.

The following municipal addresses are proposed to be included in the Baseline Water Sampling Program:

- 1-21 Poplarwood Avenue
- 23 Poplarwood Avenue
- 5891 Flewellyn Road
- 6015 Flewellyn Road
- 6025 Flewellyn Road
- 6026 Flewellyn Road
- 6035 Flewellyn Road
- 6140 Flewellyn Road
- 6172 Flewellyn Road

The available water well records that are mapped within the aforementioned properties are included in Appendix 4.

The homeowners of the aforementioned properties will be invited to participate in the Baseline Water Sampling Program by providing one registered letter delivered by Canada Post. Upon receipt of the letter, homeowners will have approximately two to four weeks to contact Paterson to participate in the sampling program. To avoid the harassment of homeowners, homeowners that do not contact Paterson within four-weeks of receiving the notification letter will be considered to have elected not to participate in the program. Interested homeowners will be interviewed for the purpose of obtaining anecdotal baseline water quality/quantity information about their water supply well followed by the collection of a raw water sample that will be submitted to an accredited laboratory for analysis.

The parameters that are being analyzed as part of the sampling program consist of the "Subdivision Water Quality Package" offered by Eurofins Environmental Testing Canada Inc. This package includes; alkalinity, bacteria, colour, conductivity, pH, hardness, IC anions, NH₃, TKN, DOC, phenols, sulphide, trace metals (as listed in City of Ottawa's Hydrogeological and Terrain Analysis Guidelines), Tannin & Lignin, TDS and turbidity.

A draft copy of the registered letter has been appended to this report and will be submitted to the City of Ottawa for review prior to commencement of the Baseline Water Sampling Program outlined above.

4.3 Adverse Effects on Adjacent Structures

The overburden at the subject site generally consists of topsoil underlain by silty sand to a sandy silt deposit followed by glacial till. Clay was observed interbedded with the sandy silt layer on the eastern portion of the subject site. Bedrock was encountered between 0.8 to 6.0 m bgs across the subject site and was characterized as excellent quality dolostone interbedded with limestone. The majority of the expected groundwater infiltration will be encountered within the silty sand to sandy silt, glacial till and/or bedrock. The potential dewatering volumes due to groundwater infiltration into excavation footprints are anticipated to be moderate to high dependant on location across the site and majority composition

of the materials at a given location. The structures in the surrounding area typically consist of low-rise residential buildings and are expected to be founded on the silty sand to sandy silt or glacial till. The compressibility of the sandy silty, glacial till and bedrock in the area as a result of dewatering is anticipated to be minimal. Additionally, given the nature of the development, the duration of excavations on-site is expected to be short-term in duration. As such, any effects related to ground surface settlement due to the water taking activities are anticipated to be negligible.

If the taking of water is shown to cause negative impacts to surrounding structures, the Party responsible for water taking activities shall take action to remedy the impacts, compensate persons for reasonable costs associated to do so and shall reduce water taking amounts to alleviate the negative impacts.

4.4 Soil, Surface Water and Groundwater

A search of the MECP Environmental Site Registry for Records of Site Condition (RSC) was conducted as part of the assessment of the site, neighbouring properties and the general area. No RSC sites were identified within 500 m of the subject site.

It is anticipated that excess soil will be handled in accordance with O.Reg. 406-19 – On-site and Excess Soil Management.

With respect to surface water bodies within 500 m of the subject site, the Faulkner Drain transects the subject site from the northwest to the southeast. The west corner of the site contains a small shallow man-made excavation that was likely used for private aggregates. The excavation has been observed to be filled with water with a connection noted to extend to a man-made drainage ditch leading to the Faulkner Drain. There are also several unnamed drainage ditches within the country estate lots west of the subject site as well as the agricultural land to the east.

The Faulkner Drain is expected to be maintained while the small shallow man-made excavation is expected to be infilled as part of the development. As the remaining surface water features are drainage ditches within the surrounding properties, adverse effects to surface water features resulting from dewatering activities at the subject site are expected to be negligible.

If the discharged water is to be directed to overland drainage within 30 m of a watercourse, the turbidity of the water shall not exceed 8 NTU above background levels of the nearest water body. The contractor will be required to maintain appropriate Best Management Practices with respect to sediment and erosion control to ensure negative effects to the surrounding environment are minimized.

The groundwater that is pumped from the excavations must be managed in an appropriate manner. The contractor may be required to implement a water

management and treatment program to dispose of the pumped water. It is expected the groundwater will be discharged to overland. Further treatment may be required should the discharge not meet the required guidelines.

4.5 Adjacent Permits to Take Water

A search of the MECP Environmental Site Registry provided no active Permit to Take Water (PTTW) and one (1) Environmental Activity and Sector Registry (EASR) within 500 m of the subject site.

EASR R-009-5406108159 has been registered to Taggart Construction Limited for construction dewatering associated with the installation of servicing for a residential development. The site is located approximately 235 m northwest of the subject site. The EASR contains one (1) source for construction dewatering with a maximum potential taking of 6,453,000 L/day.

Given the maximum potential water takings associated with EASR R-009-5406108159, the theoretical radius of influence calculated for water takings at the subject site may overlap with the radius of influence from EASR R-009-5406108159. As such, the potential does exist for cumulative drawdown to occur between the sources for both sites if dewatering is completed simultaneously. Structures identified within the potential zone of cumulative drawdown are low-rise residential homes and the hydro-corridor. Structures between the two sites are expected to be founded on the silty sand to sandy silt, glacial till or bedrock, with minimal compressibility. No domestic water supply wells are located within the potential zone of cumulative drawdown between the two sites. Furthermore, given the nature of the developments, dewatering is expected to be short term. Therefore, given the short-term nature of dewatering, cumulative impacts related to ground surface settlement or water taking activities between the two sites are expected to be minimal.

Based on the above, the risk of cumulative impacts resulting from multiple water taking permits in proximity to each other is considered negligible.

4.6 Existing Servicing

All existing wells within the subject site will be required to be properly decommissioned by a licensed well contractor as per O.Reg. 903 prior to construction.

5.0 Recommendations

The following aspects of the program should be performed prior to commencing construction for the proposed residential development:

- ☐ A Baseline Water Sampling Program should be completed based on the methodology described in Section 4.2 of this report.
- ☐ All existing wells within the proposed development should be properly decommissioned as per O.Reg. 903 prior to construction, if they are not intended to be maintained in accordance with the regulations.
- ☐ Prior to and during site development, it is recommended that construction best management practices with respect to fuels and chemical handling, spill prevention, erosion and sediment control be followed.
- ☐ Water taking volumes associated with the development are expected to be greater than 50,000 L/day. Therefore, a water taking permit will be required. An Environmental Activity and Sector Registry (EASR) is expected to be registered for water takings at the subject site.

6.0 Statement of Limitations

The recommendations provided in this report are in accordance with our present understanding of the project.

A hydrogeological review of this nature is a limited sampling of a site. The recommendations are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around the test locations. Should any conditions at the site be encountered which differ from those at the test locations, we request notification immediately in order to permit reassessment of our recommendations.

The present report applies only to the project described in this document. Use of this report for purposes other than those described herein or by person(s) other than Caivan (Stittsville) Inc. or their agent(s) is not authorized without review by Paterson Group for the applicability of our recommendations to the altered use of the report.

Paterson Group Inc.



Zavian Buchanan, EIT



Oliver Blume, P.Geo.

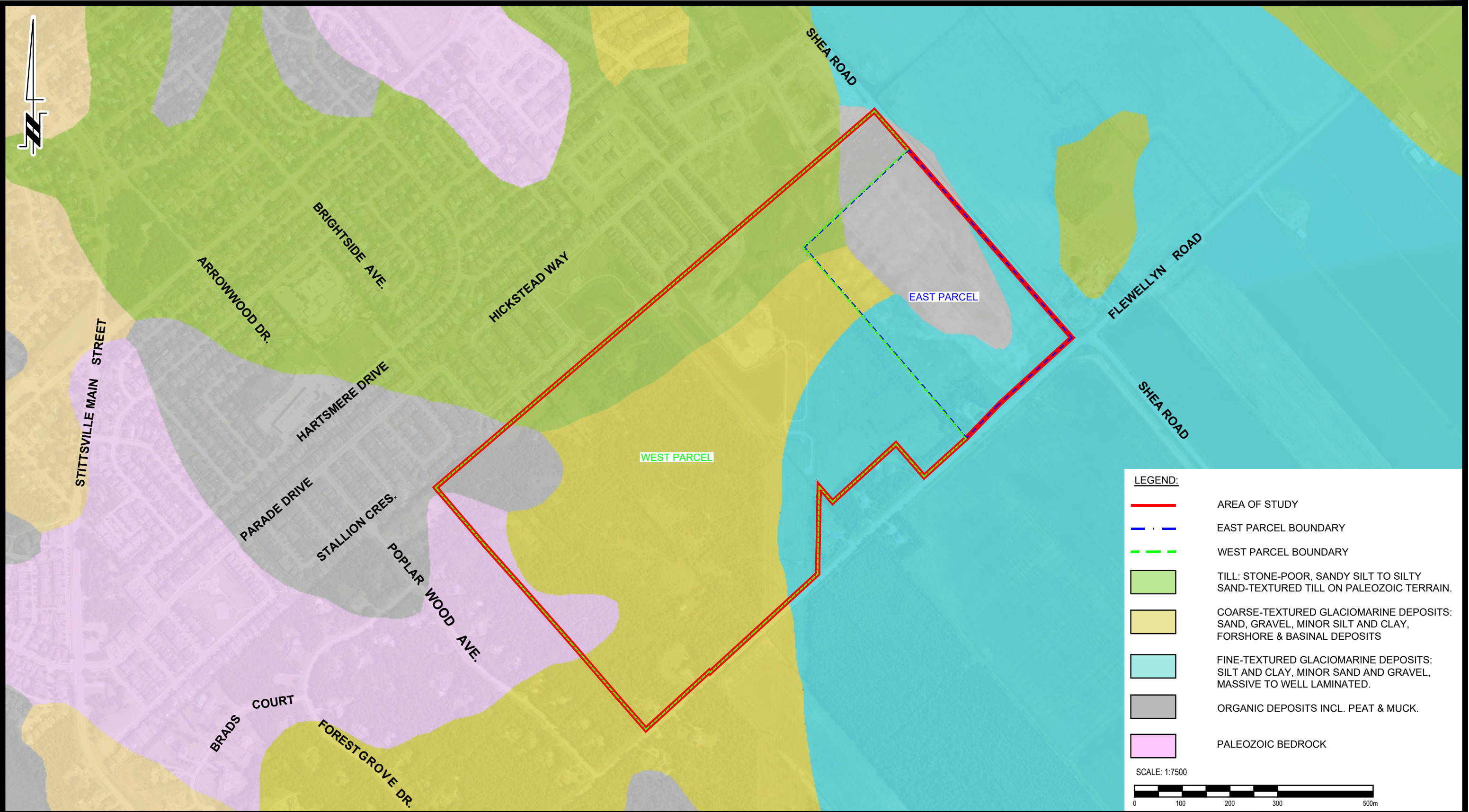


APPENDIX 1

DRAWING PH4625-1 - SURFICIAL GEOLOGY PLAN

DRAWING PH4625-3 - BEDROCK GEOLOGY PLAN

DRAWING PH5222-1 - MECP WATER WELL LOCATION PLAN





9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

5	REVISED SITE BOUNDARY	13/04/2026	OB
4	REVISED SITE BOUNDARY	29/05/2025	OB
3	REVISED SITE BOUNDARY	15/05/2025	OB
2	REVISED SITE BOUNDARY	04/07/2024	OB
1	UPDATED CLIENT'S NAME AND SITE ADDRESS	12/06/2023	OB
NO.	REVISIONS	DATE	INITIAL

CAIVAN (STITTSVILLE) INC.
HYDROGEOLOGICAL EXISTING CONDITIONS
PROPOSED RESIDENTIAL DEVELOPMENT
5971, 5993, 6115, 6141 & 6159 FLEWELLYN ROAD, 6070 FERNBANK ROAD
& 1770 & 1820 SHEA ROAD

OTTAWA, ONTARIO

SURFICIAL GEOLOGY PLAN

Scale:	1:7500	Date:	10/2022
Drawn by:	JM	Report No.:	PH4625-REP.01 PH4625-REP.02
Checked by:	OB	Dwg. No.:	PH4625-1
Approved by:	MK	Revision No.:	5





9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

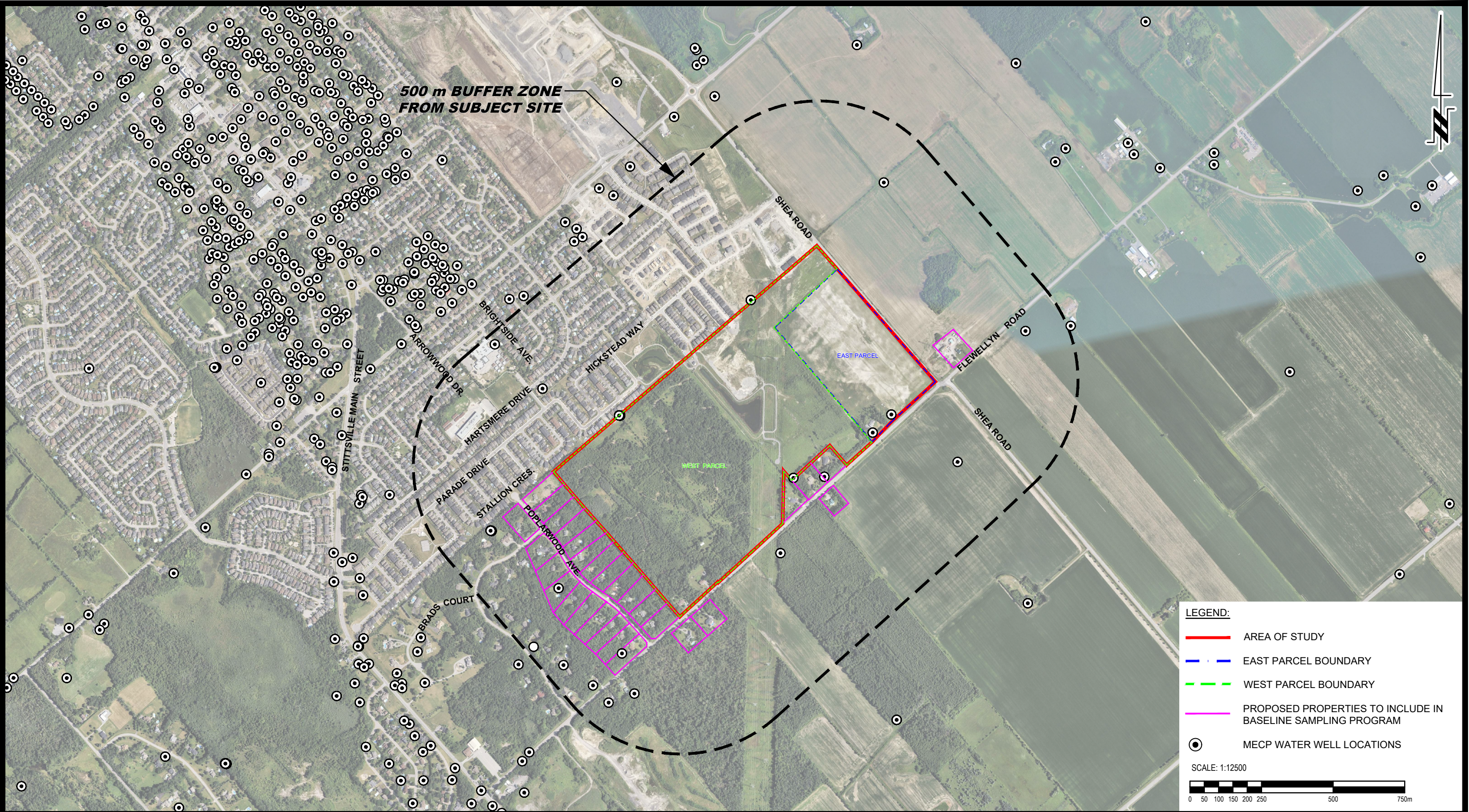
5	REVISED SITE BOUNDARY	13/04/2026	OB
4	REVISED SITE BOUNDARY	29/05/2025	OB
3	REVISED SITE BOUNDARY	15/05/2025	OB
2	REVISED SITE BOUNDARY	04/07/2024	OB
1	UPDATED CLIENT'S NAME AND SITE ADDRESS	12/06/2023	OB
NO.	REVISIONS	DATE	INITIAL

CAIVAN (STITTVILLE) INC.
HYDROGEOLOGICAL EXISTING CONDITIONS
PROPOSED RESIDENTIAL DEVELOPMENT
5971, 5993, 6115, 6141 & 6159 FLEWELLYN ROAD, 6070 FERNBANK ROAD
& 1770 & 1820 SHEA ROAD

OTTAWA, ONTARIO

BEDROCK GEOLOGY PLAN

Scale:	1:7500	Date:	10/2022
Drawn by:	JM	Report No.:	PH4625-REP.01 PH4625-REP.02
Checked by:	OB	Dwg. No.:	PH4625-3
Approved by:	MK	Revision No.:	5



 9 AURIGA DRIVE OTTAWA, ON K2E 7T9 TEL: (613) 226-7381				CAIVAN (STITTVILLE) INC. HYDROGEOLOGICAL REVIEW AND GROUNDWATER IMPACT ASSESSMENT PROPOSED RESIDENTIAL DEVELOPMENT 5971, 5993, 6115, 6141 & 6159 FLEWELLYN ROAD, 6070 FERNBANK ROAD & 1770 & 1820 SHEA ROAD ONTARIO	Scale:	1:12500	Date:	04/2026
					Drawn by:	GK	Report No.:	PH5222-REP.01
					Checked by:	ZB	Dwg. No.:	PH5222-1
					Approved by:	OB	Revision No.:	
	NO.	REVISIONS	DATE	INITIAL	Title: MECP WATER WELL LOCATION PLAN			

APPENDIX 2

PATERSON - SOIL PROFILE AND TEST DATA SHEETS
PG5570-1 - TEST HOLE LOCATION PLAN

COORD. SYS.: MTM ZONE 9 **EASTING:** 352905.38 **NORTHING:** 5012191.28 **ELEVATION:** 101.90

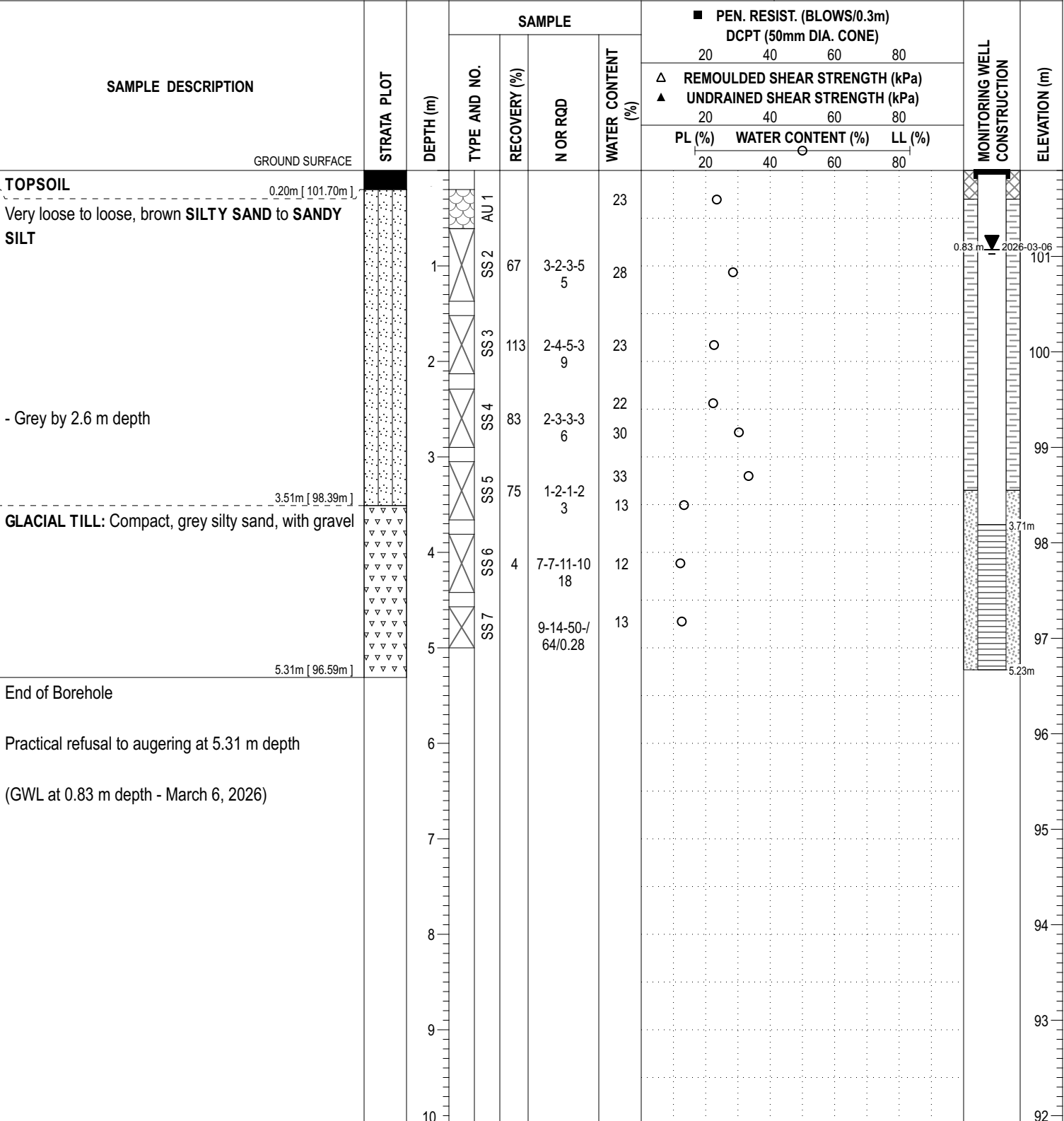
PROJECT: Proposed Residential Development

FILE NO. : PG5570

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010

DATE: January 15, 2026

HOLE NO. : BH 1-26


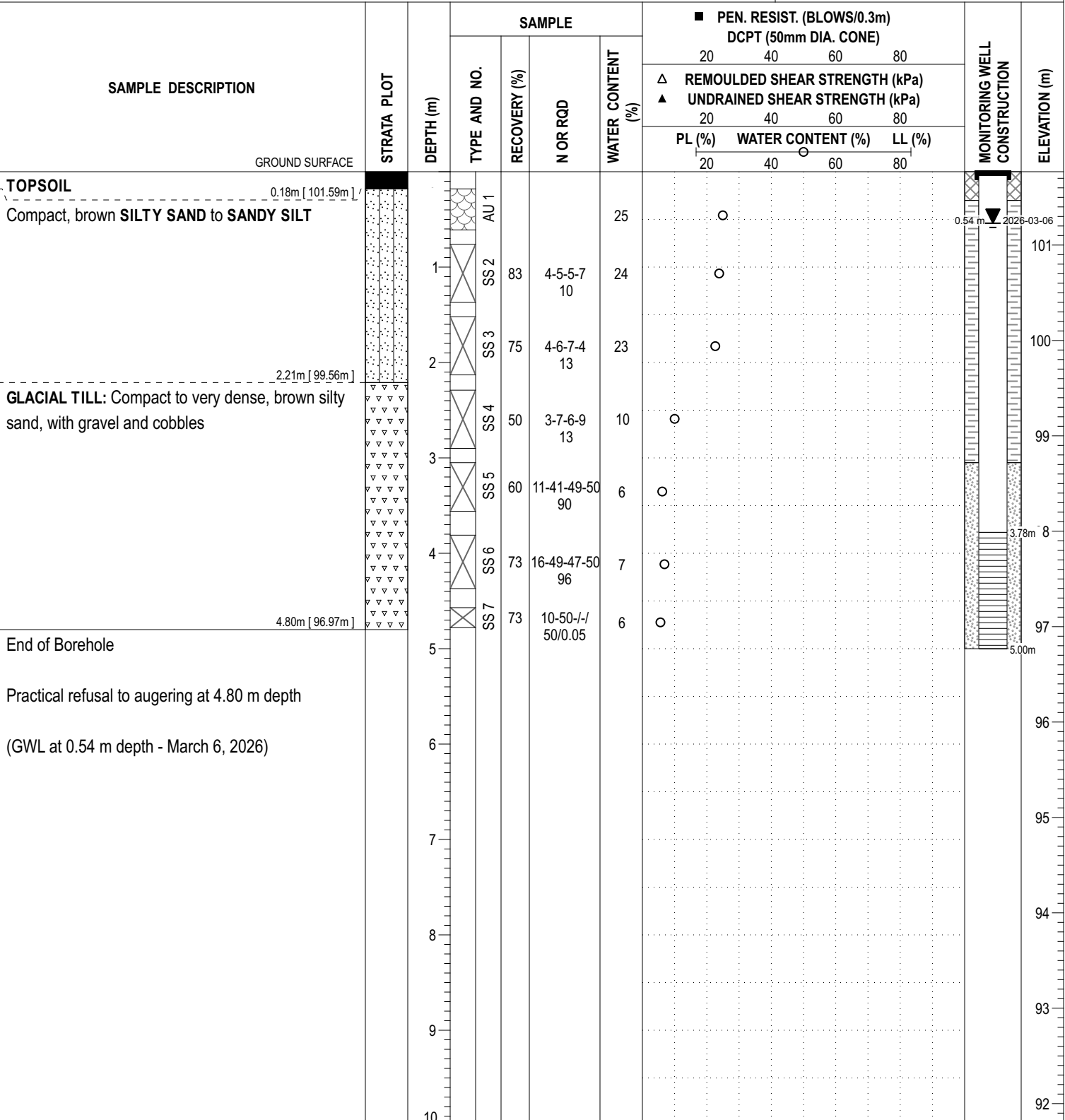
DISCLAIMER: THE DATA PRESENTED IN THIS SHEET IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHOM IT WAS PRODUCED. THIS SHEET SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT RESPONSIBLE FOR THE UNAUTHORIZED USE OF THIS DATA.

COORD. SYS.: MTM ZONE 9 EASTING: 352849.53 NORTHING: 5012139.89 ELEVATION: 101.77

PROJECT: Proposed Residential Development FILE NO. : PG5570

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 DATE: January 15, 2026 HOLE NO. : BH 2-26



DISCLAIMER: THE DATA PRESENTED IN THIS SHEET IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHOM IT WAS PRODUCED. THIS SHEET SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT RESPONSIBLE FOR THE UNAUTHORIZED USE OF THIS DATA.

COORD. SYS.: MTM ZONE 9 **EASTING:** 352324.90 **NORTHING:** 5011723.17 **ELEVATION:** 102.91

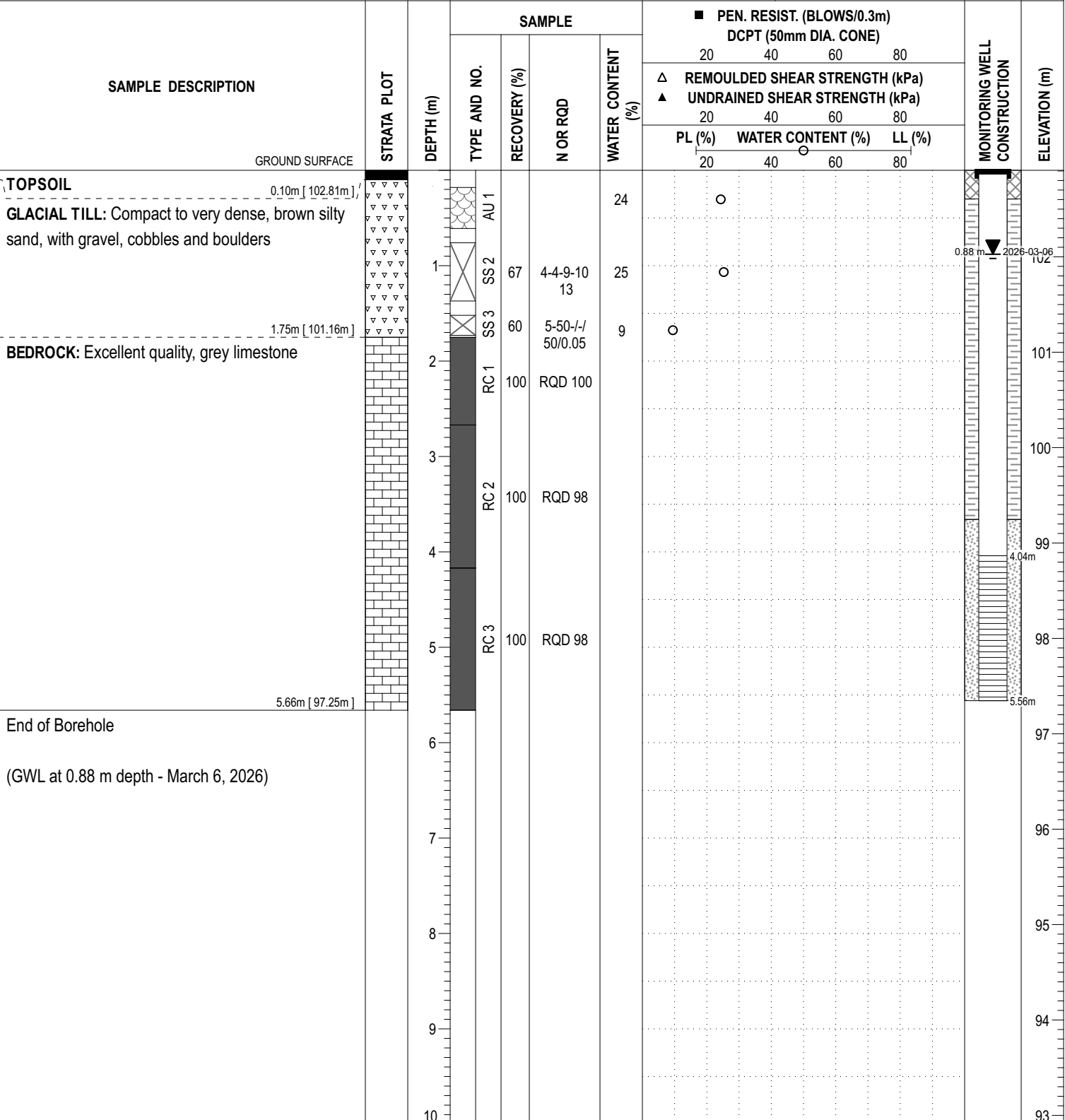
PROJECT: Proposed Residential Development

FILE NO. : PG5570

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010

DATE: February 26, 2026

HOLE NO. : BH 3-26


DISCLAIMER: THE DATA PRESENTED IN THIS SHEET IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHOM IT WAS PRODUCED. THIS SHEET SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT RESPONSIBLE FOR THE UNAUTHORIZED USE OF THIS DATA.

COORD. SYS.: MTM ZONE 9 **EASTING:** 352111.41 **NORTHING:** 5011460.99 **ELEVATION:** 104.56

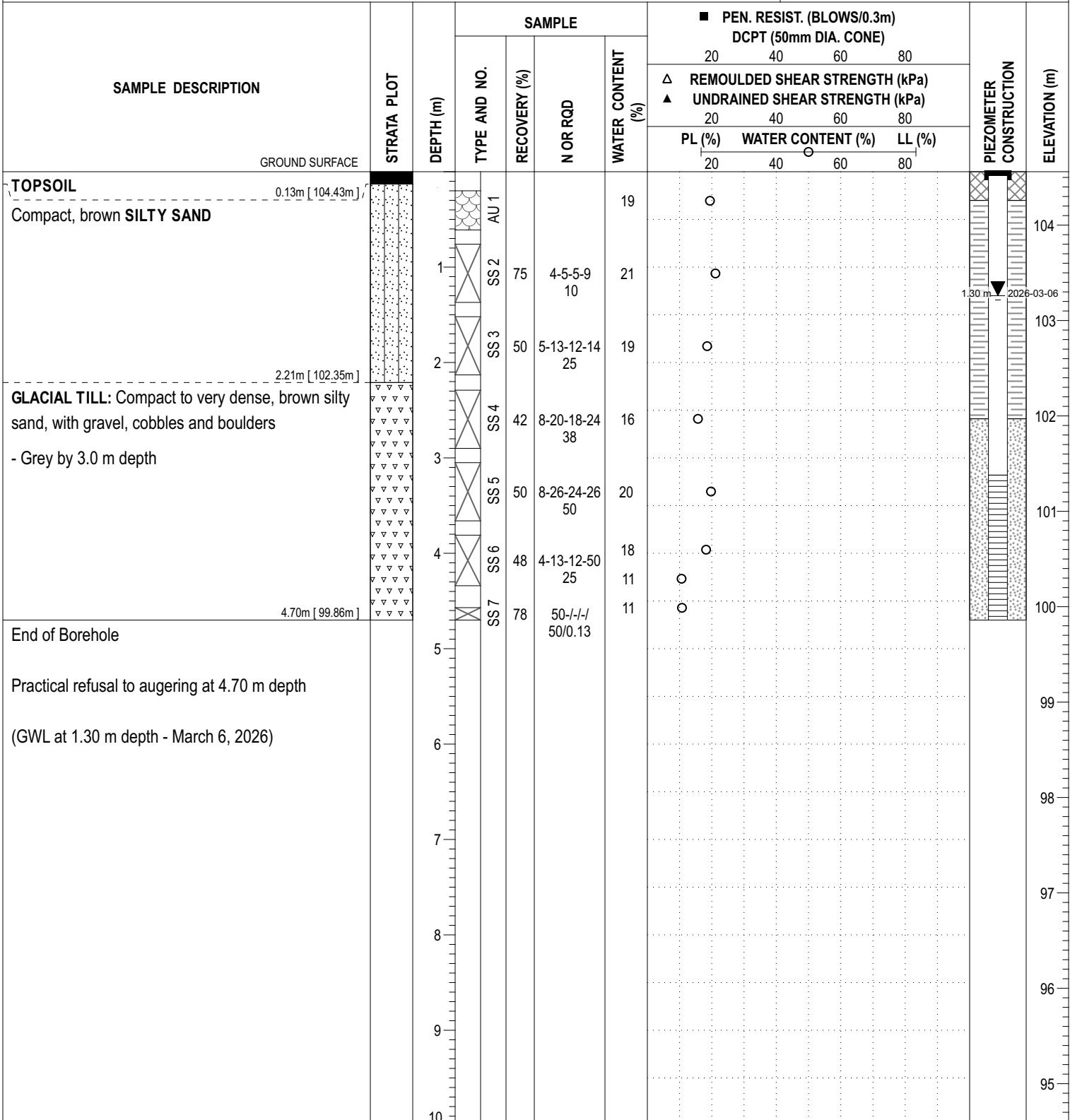
PROJECT: Proposed Residential Development

FILE NO. : PG5570

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010

DATE: February 26, 2026

HOLE NO. : BH 4-26


DISCLAIMER: THE DATA PRESENTED IN THIS SHEET IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHOM IT WAS PRODUCED. THIS SHEET SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT RESPONSIBLE FOR THE UNAUTHORIZED USE OF THIS DATA.

COORD. SYS.: MTM ZONE 9 **EASTING:** 352311.94 **NORTHING:** 5011659.47 **ELEVATION:** 103.31

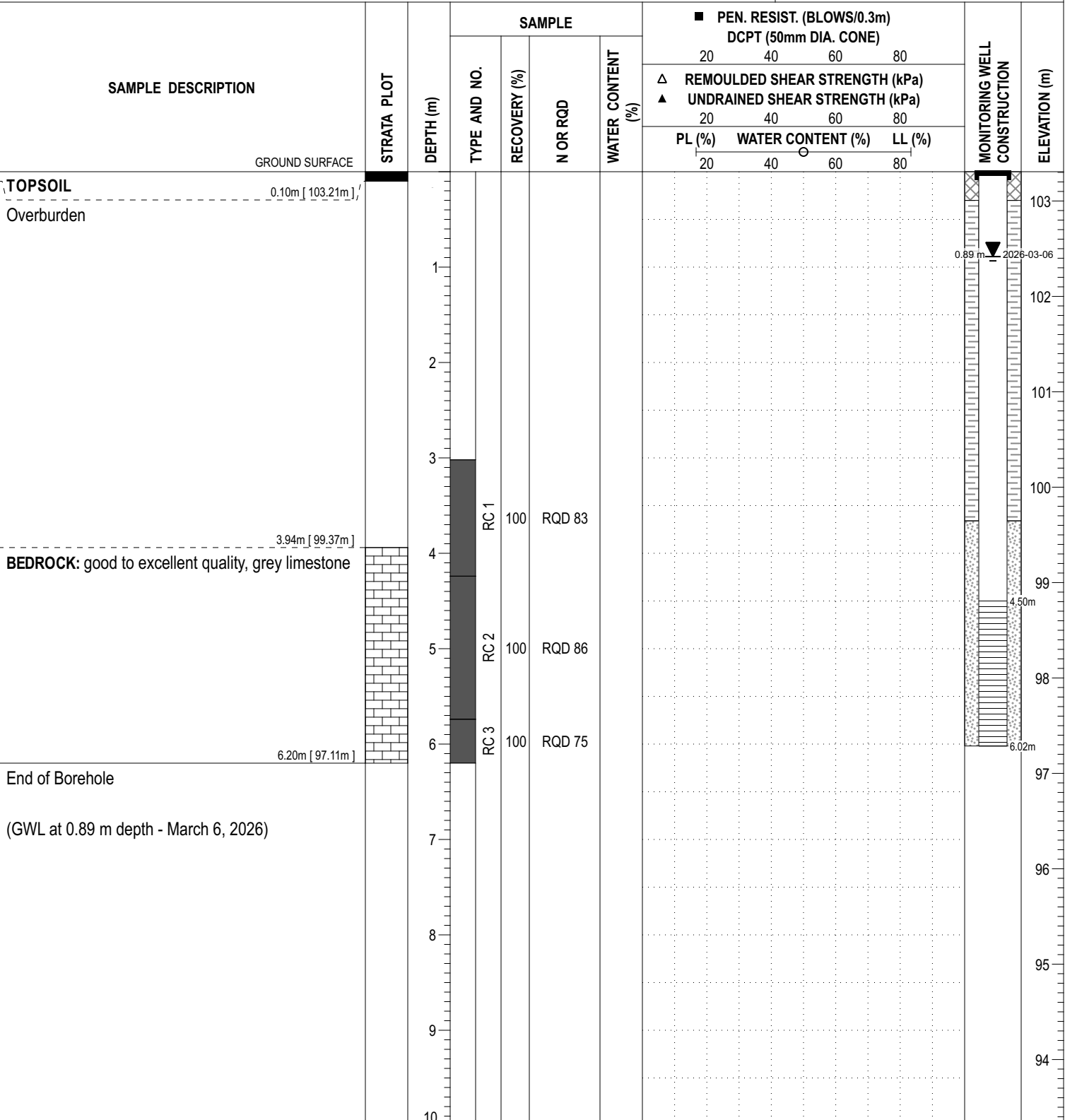
PROJECT: Proposed Residential Development

FILE NO. : PG5570

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010

DATE: February 26, 2026

HOLE NO. : BH 5-26


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DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE September 28, 2022

FILE NO.
PG5570

HOLE NO.
BH 1-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.30					0	107.31					
Loose to compact, brown SILTY SAND , trace gravel	0.60	AU	1					○				
GLACIAL TILL: Compact to dense, brown silty sand to sandy silt with gravel, cobbles and boulders		SS	2	45	17	1	106.31	○				
		SS	3	14	65			○				
	2.34					2	105.31					
BEDROCK: Excellent quality, grey limestone interbedded with dolostone		RC	1	100	89							
						3	104.31					
		RC	2	100	100							
						4	103.31					
		RC	3	100	100							
						5	102.31					
		RC	4	98	98							
						6	101.31					
		RC	5	100	100							
						7	100.31					
						8	99.31					
End of Borehole	9.02					9	98.31					
(GWL @ 1.33m - Oct. 11, 2022)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

DATUM	Geodetic
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REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE September 28, 2022

FILE NO.
PG5570

HOLE NO.
BH 1A-22

[illegible]

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE September 28, 2022

FILE NO.
PG5570

HOLE NO.
BH 2-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.30					0	103.58					
Compact, brown SILTY SAND to SANDY SILT , trace clay and gravel	0.76	AU	1									
BEDROCK: Good to excellent quality, grey limestone interbedded with dolostone		RC	1	100	77	1	102.58					
		RC	2	100	97	2	101.58					
		RC	3	100	100	3	100.58					
		RC	4	100	100	4	99.58					
		RC	5	100	97	5	98.58					
		RC	6	100	100	6	97.58					
						7	96.58					
						8	95.58					
End of Borehole	9.02					9	94.58					
(GWL @ 1.52m - Oct. 11, 2022)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE September 29, 2022

FILE NO.
PG5570

HOLE NO.
BH 3-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.28					0	102.25					
Compact, brown SILTY SAND to SANDY SILT		AU	1									
		SS	2	58	19	1	101.25					
		SS	3	58	17	2	100.25					
GLACIAL TILL: Grey silty sand to sandy silt with gravel, cobbles and boulders, trace clay		SS	4	67	3							
		SS	5	67	50+	3	99.25					
BEDROCK: Excellent quality, grey limestone interbedded with doloston		RC	1	100	96	4	98.25					
						5	97.25					
		RC	2	100	98							
						6	96.25					
		RC	3	100	100	7	95.25					
						8	94.25					
		RC	4	100	100							
						9	93.25					
End of Borehole	9.12											
(GWL @ 0.84m - Oct. 11, 2022)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

DATUM	Geodetic
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REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE September 29, 2022

FILE NO.
PG5570

HOLE NO.
BH 3A-22

[illegible]

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE September 29, 2022

FILE NO.
PG5570

HOLE NO.
BH 4-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.28					0	105.71					
Compact, brown SILTY SAND to SANDY SILT		AU	1									
		SS	2	75	22	1	104.71					
		SS	3	75	21	2	103.71					
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders, trace clay - grey by 3.0m depth	2.21											
		SS	4	67	17	3	102.71					
		SS	5	57	45							
	3.61											
BEDROCK: Good to excellent quality, grey limestone interbedded with dolostone		RC	1	100	84	4	101.71					
						5	100.71					
		RC	2	100	98							
						6	99.71					
		RC	3	100	100	7	98.71					
						8	97.71					
		RC	4	100	100							
End of Borehole	9.04					9	96.71					
(GWL @ 3.62m - Oct. 11, 2022)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE September 30, 2022

FILE NO.
PG5570

HOLE NO.
BH 5-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
GROUND SURFACE								20	40	60	80	
TOPSOIL	0.28					0	105.70					
Compact, brown SILTY SAND to SANDY SILT		AU	1									
		SS	2	79	21	1	104.70					
		SS	3	71	29	2	103.70					
GLACIAL TILL: Compact to dense, brown silty sand to sandy silt, trace gravel	1.96											
	2.29	SS	4	100	50+							
BEDROCK: Excellent quality, grey limestone interbedded with dolostone		RC	1	100	100							
						3	102.70					
		RC	2	100	100							
						4	101.70					
						5	100.70					
		RC	3	100	100							
						6	99.70					
		RC	4	100	100							
						7	98.70					
		RC	5	100	100							
End of Borehole	8.99											
(GWL @ 1.62m - Oct. 11, 2022)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

DATUM	Geodetic
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REMARKS

BORINGS BY Hand Auger

DATE September 28, 2022

FILE NO.
PG5570

HOLE NO.
HA 1-22

[illegible]

[illegible]

[illegible]

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
Mulch	0.08					0	108.41					
TOPSOIL	0.43	AU	1									
Loose, brown SILTY SAND	0.63											
Loose to compact, brown SILTY SAND to SANDY SILT		SS	2	50	10	1	107.41					
	1.55	SS	3	0	50+							
		RC	1	100	100	2	106.41					
BEDROCK: Good to excellent, grey limestone interbedded with dolostone		RC	2	100	72	3	105.41					
						4	104.41					
- 30mm thick mud seam at 4.3m depth		RC	3	100	100	5	103.41					
End of Borehole	5.72											
(GWL @ 0.89m - Jan. 11, 2022)												

20406080100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
Mulch	0.10					0	108.95					
TOPSOIL	0.30											
Compact, brown SILTY SAND, trace shells	0.60											
GLACIAL TILL: Compact, brown silty sand with gravel, cobbles and boulders						1	107.95					
						2	106.95					
End of Borehole	2.23											
Practical refusal to augering at 2.23m depth												
(GWL @ 1.23m - Jan. 11, 2022)												

20406080100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 15, 2021

FILE NO.
PG5570

HOLE NO.
BH 5-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	% RECOVERY	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.36	AU	1			0	108.38					
Loose, brown SILTY SAND	1.22	SS	2		4	1	107.38					
GLACIAL TILL: Dense, grey silty sand with gravel, cobbles and boulders	1.62	SS	3	0	50+							
End of Borehole												
Practical refusal to augering at 1.62m depth												
(BH dry - January 11, 2022)												

20406080100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 15, 2021

FILE NO.
PG5570

HOLE NO.
BH 7-21

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 15, 2021

FILE NO.
PG5570

HOLE NO.
BH 8-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %					
								20	40	60	80		
GROUND SURFACE													
Mulch	0.05		AU	1		0	105.91						
TOPSOIL	0.38												
Loose, brown SILTY SAND	0.60												
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders	1.60		SS	2	67	20	1	104.91					
End of Borehole			SS	3	0	50+							
Practical refusal to augering at 1.60m depth													
(BH dry - January 11, 2022)													

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 15, 2021

FILE NO.
PG5570

HOLE NO.
BH 9-21

[illegible]

[illegible]

SOIL DESCRIPTION		STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
			TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
									20	40	60	80	
GROUND SURFACE													
TOPSOIL	0.33						0	104.98					
Compact, brown SILTY SAND	0.66		AU	1									
Compact, brown SILTY SAND to SANDY SILT	1.12		SS	2	67	24	1	103.98					
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders			SS	3	67	32	2	102.98					
	2.54		SS	4	80	50+							
End of Borehole													
Practical refusal to augering at 2.54m depth													
(GWL @ 1.32m - Jan. 11, 2022)													

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 16, 2021

FILE NO.
PG5570

HOLE NO.
BH12-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.36					0	104.05					
Compact, brown SILTY SAND	0.69	AU	1									
Compact, brown SILTY SAND to SANDY SILT	1.45	SS	2	67	13	1	103.05					
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders	2.26	SS	3	17	36	2	102.05					
End of Borehole												
Practical refusal to augering at 2.26m depth												
(GWL @ 1.58m - Jan. 11, 2022)												

20406080100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

**Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario**

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 16, 2021

FILE NO.
PG5570

HOLE NO.
BH13-21

[illegible]

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

**Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario**

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 16, 2021

FILE NO.
PG5570

HOLE NO.
BH14-21

[illegible]

**Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario**

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 16, 2021

FILE NO.
PG5570

HOLE NO.
BH16-21

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 16, 2021

FILE NO.
PG5570

HOLE NO.
BH17-21

[illegible]

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

**Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario**

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 16, 2021

FILE NO.
PG5570

HOLE NO.
BH18-21

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 16, 2021

FILE NO.
PG5570

HOLE NO.
BH19-21

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 17, 2021

FILE NO.
PG5570

HOLE NO.
BH20-21

[illegible]

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 20, 2021

FILE NO.
PG5570

HOLE NO.
BH22-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.20					0	102.98					
Loose, brown SILTY SAND , trace gravel	0.69	AU	1									
		SS	2	100	22	1	101.98					
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders		SS	3	92	29	2	100.98					
		SS	4	83	46							
		SS	5	50	50+	3	99.98					
End of Borehole	3.48											
Practical refusal to augering at 3.48m depth.												

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger

DATE January 10, 2022

FILE NO.
PG5570

HOLE NO.
BH22A-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.20					0	102.98					
Loose, brown SILTY SAND , trace gravel	0.69	AU	1									
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders		SS	2	100	22	1	101.98					
		SS	3	92	29	2	100.98					
		SS	4	83	46	3	99.98					
		SS	5	50	50+	4	98.98					
		RC	1	77		5	97.98					
		RC	2	14		6	96.98					
		RC	3	100	94	7	95.98					
		RC	4	100	100	8	94.98					
		RC	5	100	100	9	93.98					
						10	92.98					
End of Borehole	10.21											
(GWL @ 2.49m - Jan. 11, 2022)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 20, 2021

FILE NO.
PG5570

HOLE NO.
BH23-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	% RECOVERY	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL ----- 0.28	[Pattern]	AU	1			0	102.38					
Stiff, brown SILTY CLAY , some sand	[Pattern]											
----- 1.12	[Pattern]	SS	2	25	32	1	101.38					
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders, trace clay	[Pattern]											
----- 1.83	[Pattern]	SS	3	55								
End of Borehole												
Practical refusal to augering at 1.83m depth												
(Piezometer damaged - Jan. 11, 2022)												

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.30					0	103.07					
Loose to dense, brown SILTY SAND to SANDY SILT		AU	1									
		SS	2	58	8	1	102.07					
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders - boulders cored from 2.46 to 4.42m depth	1.83	SS	3	75	32	2	101.07					
		SS	4	50	50+							
		RC	1	100		3	100.07					
		RC	2	19		4	99.07					
	4.42											
BEDROCK: Good to excellent quality, grey limestone interbedded with dolostone - 15mm thick mud seam at 5.25m depth		RC	3	100	81	5	98.07					
		RC	4	100	100	6	97.07					
		RC	5	100	100	7	96.07					
End of Borehole (GWL @ 0.67m - Jan. 11, 2022)	7.92											

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 21, 2021

FILE NO.
PG5570

HOLE NO.
BH25-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %					
								20	40	60	80		
GROUND SURFACE													
TOPSOIL	0.25					0	102.73						
Loose, brown SILTY SAND , trace clay and gravel	1.17	AU	1										
		SS	2	71	50+	1	101.73						
End of Borehole													
Practical refusal to augering at 1.17m depth													
(GWL @ 0.71m - Jan. 11, 2022)													

20406080100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 21, 2021

FILE NO.
PG5570

HOLE NO.
BH26-21

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 21, 2021

FILE NO.
PG5570

HOLE NO.
BH27-21

[illegible]

[illegible]

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

**Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario**

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 21, 2021

FILE NO.
PG5570

HOLE NO.
BH29-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.28					0	102.31					
Loose to very loose, brown SILTY SAND to SANDY SILT , trace clay - grey by 1.9m depth - intermittent layers of grey silty clay by 3.0m depth		AU	1									
		SS	2	50	9	1	101.31					
		SS	3	67	8	2	100.31					
		SS	4	67	4							
		SS	5	58	2	3	99.31					
End of Borehole	3.96	SS	6	67								
Practical refusal to augering at 3.96m depth (Piezometer damaged - Jan. 11, 2022)												

▲ Undisturbed △ Remoulded

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 21, 2021

FILE NO.
PG5570

HOLE NO.
BH30-21

[illegible]

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.36					0	103.43					
Compact to loose, brown SILTY SAND to SANDY SILT , trace clay - grey by 3.2m depth		AU	1									
		SS	2	50	14	1	102.43					
		SS	3	50	22	2	101.43					
		SS	4	42	9	3	100.43					
		SS	5	58	5	4	99.43					
		SS	6	42	12	5	98.43					
GLACIAL TILL: Dense, grey silty sand with gravel, cobbles and boulders	4.72	SS	7	58	37	5	98.43					
		SS	8		58	6	97.43					
End of Borehole	6.12	SS	9	0	50+							
Practical refusal to augering at 6.12m depth (GWL @ 1.27m - Jan. 11, 2022)												

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE December 21, 2021

FILE NO.
PG5570

HOLE NO.
BH32-21

[illegible]

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE												
Compact, brown SILTY SAND , trace clay and organics	AU	1				0	104.70					
	SS	2	50	13		1	103.70					
1.45												
GLACIAL TILL: Compact, brown silty sand with gravel, cobbles and boulders	SS	3	8	11		2	102.70					
	RC	1	30									
2.74												
BEDROCK: Good to excellent quality, grey limestone	RC	2	100	73		3	101.70					
- 25mm thick mud seam at 3.7m depth	RC	3	95	85		5	99.70					
- 30mm thick mud seam at 3.8m depth	RC	4	100	100		6	98.70					
6.27												
End of Borehole												
(GWL @ 1.84m - Jan. 11, 2022)												

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE						0	102.65					
TOPSOIL	0.25	SS AU	5	17	8							
Compact to loose, brown SILTY SAND to SANDY SILT		SS	2	42	10	1	101.65					
		SS	3	25	9	2	100.65					
	2.21	SS	4	17	2	3	99.65					
GLACIAL TILL: Very loose to loose, grey silty sand with gravel, cobbles and boulders, trace clay		RC	1	31		4	98.65					
		RC	2	100	100	5	97.65					
	5.21	RC	3	100	100	6	96.65					
BEDROCK: Excellent quality, grey limestone interbedded with dolostone												
End of Borehole	6.61											

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE January 7, 2022

FILE NO.
PG5570

HOLE NO.
BH35-21

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE January 7, 2022

FILE NO.
PG5570

HOLE NO.
BH36-21

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY Track-Mount Power Auger

DATE January 7, 2022

FILE NO.
PG5570

HOLE NO.
BH37-21

[illegible]

[illegible]

DATUM	Geodetic
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FILE NO. PG5570

REMARKS

HOLE NO. TP 1

BORINGS BY CME-55 Low Clearance Drill

DATE November 20, 2020

[illegible]

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE November 20, 2020

FILE NO. PG5570

HOLE NO. TP 2

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %					
20	40					60	80						
GROUND SURFACE						0	105.06						
TOPSOIL	0.21	G	1										
Brown SILTY SAND, trace gravel	0.92	G	2										
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders	1.64	G	3			1	104.06						
End of Test Pit													
TP terminated on inferred bedrock surface at 1.64m depth (TP dry upon completion)													

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE November 20, 2020

FILE NO. PG5570

HOLE NO. TP 3

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
GROUND SURFACE								20	40	60	80	
TOPSOIL		G	1			0	102.10					
Brown SILTY SAND , trace sea shells		G	2									
GLACIAL TILL : Brown silty sand with gravel, cobbles and boulders		G	3			1	101.10					
End of Test Pit												
TP terminated on inferred bedrock surface at 1.61m depth (TP dry upon completion)												
								</				

DATUM	Geodetic
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FILE NO. PG5570

REMARKS

HOLE NO. TP 4

BORINGS BY CME-55 Low Clearance Drill

DATE November 20, 2020

SOIL DESCRIPTION		STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
			TYPE	NUMBER	% RECOVERY	N VALUE or RQD			○ Water Content %				
GROUND SURFACE									20	40	60	80	
TOPSOIL	0.21	[Solid Black]	G	1			0	108.49	[Circle at ~15]				
Brown SILTY SAND, trace gravel, cobble and organics	0.70	[Vertical Lines]	G	2									
GLACIAL TILL: Brown silty sand, some gravel, cobble, boulder, trace clay	1.43	[Upward Triangles]	G	3			1	107.49	[Circle at ~15]				
End of Test Pit													
Test Pit terminated on bedrock surface at 1.43m depth (TP dry upon completion)													

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE November 20, 2020

FILE NO. PG5570

HOLE NO. TP 5

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
GROUND SURFACE						0	108.36	20	40	60	80	
TOPSOIL	0.22	G	1									
Brown SILTY SAND		G	2			1	107.36					
GLACIAL TILL: Brown silty sand, some gravel, cobble, and boulder	1.16	G	3									
End of Test Pit	1.46											
TP terminated on inferred bedrock surface at 1.46m depth												
(Groundwater infiltration at 1.28m - Nov 20, 2020)												
								Shear Strength (kPa)				
								20	40	60	80	100
								▲ Undisturbed △ Remoulded				

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE November 20, 2020

FILE NO. PG5570

HOLE NO. TP 6

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %					
GROUND SURFACE											20	40	60
TOPSOIL		G	1			0	107.91						
	0.27												
		G	2			1	106.91						
Brown SILTY SAND , trace cobble, boulders and seashells		G	3										
	1.70												
		G	4			2	105.91						
BEDROCK: Weathered interbedded limestone													
	2.89												
End of Test Pit													
TP terminated on inferred bedrock surface at 2.89m depth													
(Groundwater infiltration at 1.70m - Nov 20, 2020)													

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE November 20, 2020

FILE NO. PG5570

HOLE NO. TP 7

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE						0	106.31					
TOPSOIL	0.22	G	1									
Brown SILTY SAND , trace clay	0.81	G	2									
GLACIAL TILL : Brown silty sand with gravel, cobbles and boulders		G	3			1	105.31					
		G	4			2	104.31					
End of Test Pit	3.37					3	103.31					
TP terminated on inferred bedrock surface at 3.37m depth												
(Groundwater infiltration at 2.24m - Nov 20, 2020)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE November 20, 2020

FILE NO. PG5570

HOLE NO. TP 8

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
GROUND SURFACE								20	40	60	80	
TOPSOIL	0.21	G	1			0	105.48					
		G	2									
Brown SILTY SAND , trace clay and organics						1	104.48					
- increasing in silt content with depth		G	3									
						2	103.48					
End of Test Pit	2.15											
TP terminated on inferred bedrock surface at 2.15m depth												
(TP dry upon completion)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

DATUM	Geodetic
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REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE November 20, 2020

FILE NO. PG5570

HOLE NO. **TP 9**

[illegible]

DATUM	Geodetic
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REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE December 10, 2020

FILE NO. PG5570

HOLE NO. **TP 10**

[illegible]

DATUM	Geodetic
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FILE NO. PG5570

REMARKS

HOLE NO. TP 11

BORINGS BY CME-55 Low Clearance Drill

DATE December 10, 2020

[illegible]

DATUM	Geodetic
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FILE NO. PG5570

REMARKS

HOLE NO. TP 12

BORINGS BY CME-55 Low Clearance Drill

DATE December 10, 2020

[illegible]

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE December 10, 2020

FILE NO. PG5570

HOLE NO. TP 13

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
GROUND SURFACE						0	104.30	20	40	60	80	
TOPSOIL		G	1									
0.25												
Brown SILTY SAND , trace organics		G	2									
0.61												
GLACIAL TILL : Brown silty sand with gravel, cobbles and boulders		G	3									
0.91												
End of Test Pit												
TP terminated on inferred bedrock surface at 0.91m depth												
(Groundwater infiltration at 0.61m - Dec 10, 2020)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

DATUM	Geodetic
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REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE December 10, 2020

FILE NO. PG5570

HOLE NO. TP 14

[illegible]

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE December 10, 2020

FILE NO.
PG5570

HOLE NO.
TP 15

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
GROUND SURFACE								20	40	60	80	
TOPSOIL	0.18	G	1			0	106.80					
Brown SILTY SAND		G	2									
		G	3			1	105.80					
		G	4									
		G	5			2	104.80					
GLACIAL TILL: Grey silty sand with gravel, cobbles and boulders	2.64	G	6									
End of Test Pit	2.74											
TP terminated on inferred bedrock surface at 2.74m depth												
(Groundwater infiltration at 2.28m - Dec 10, 2020)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE December 10, 2020

FILE NO.

PG5570

HOLE NO.

TP 16

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
GROUND SURFACE								20	40	60	80	
TOPSOIL		G	1			0	104.62					
	0.35											
		G	2									
						1	103.62					
Brown SILTY SAND , trace gravel												
						2	102.62					
	2.34											
GLACIAL TILL : Grey silty sand with gravel, cobbles and boulders.		G	3									
	3.09					3	101.62					
End of Test Pit												
TP terminated on inferred bedrock surface at 3.09m depth												
(Groundwater infiltration at 2.33m - Dec 10, 2020)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill

DATE December 10, 2020

FILE NO.

PG5570

HOLE NO.

TP 17

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
GROUND SURFACE						0	103.90	20	40	60	80	
TOPSOIL		G	1									
0.33												
Brown SILTY SAND , trace gravel		G	2									
						1	102.90					
1.37												
GLACIAL TILL : Brown silty sand, with gravel cobbles and boulders		G	3									
1.78												
End of Test Pit												
TP terminated on inferred bedrock surface at 1.78m depth												
(Groundwater infiltration at 1.37m - Dec 10, 2020)												
						</						

DATUM	Geodetic
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FILE NO. PG5570

REMARKS

HOLE NO. TP 18

BORINGS BY CME-55 Low Clearance Drill

DATE December 10, 2020

[illegible]

SYMBOLS AND TERMS

SOIL DESCRIPTION

Behavioural properties, such as structure and strength, take precedence over particle gradation in describing soils. Terminology describing soil structure are as follows:

Desiccated	-	having visible signs of weathering by oxidation of clay minerals, shrinkage cracks, etc.
Fissured	-	having cracks, and hence a blocky structure.
Varved	-	composed of regular alternating layers of silt and clay.
Stratified	-	composed of alternating layers of different soil types, e.g. silt and sand or silt and clay.
Well-Graded	-	Having wide range in grain sizes and substantial amounts of all intermediate particle sizes (see Grain Size Distribution).
Uniformly-Graded	-	Predominantly of one grain size (see Grain Size Distribution).

The standard terminology to describe the relative strength of cohesionless soils is the compactness condition, usually inferred from the results of the Standard Penetration Test (SPT) 'N' value. The SPT N value is the number of blows of a 63.5 kg hammer, falling 760 mm, required to drive a 51 mm O.D. split spoon sampler 300 mm into the soil after an initial penetration of 150 mm. An SPT N value of "P" denotes that the split-spoon sampler was pushed 300 mm into the soil without the use of a falling hammer.

Compactness Condition	'N' Value	Relative Density %
Very Loose	<4	<15
Loose	4-10	15-35
Compact	10-30	35-65
Dense	30-50	65-85
Very Dense	>50	>85

The standard terminology to describe the strength of cohesive soils is the consistency, which is based on the undisturbed undrained shear strength as measured by the in situ or laboratory shear vane tests, unconfined compression tests, or occasionally by the Standard Penetration Test (SPT). Note that the typical correlations of undrained shear strength to SPT N value (tabulated below) tend to underestimate the consistency for sensitive silty clays, so Paterson reviews the applicable split spoon samples in the laboratory to provide a more representative consistency value based on tactile examination.

Consistency	Undrained Shear Strength (kPa)	'N' Value
Very Soft	<12	<2
Soft	12-25	2-4
Firm	25-50	4-8
Stiff	50-100	8-15
Very Stiff	100-200	15-30
Hard	>200	>30

SYMBOLS AND TERMS (continued)

SOIL DESCRIPTION (continued)

Cohesive soils can also be classified according to their “sensitivity”. The sensitivity, S_t , is the ratio between the undisturbed undrained shear strength and the remoulded undrained shear strength of the soil. The classes of sensitivity may be defined as follows:

Low Sensitivity:	$S_t < 2$
Medium Sensitivity:	$2 < S_t < 4$
Sensitive:	$4 < S_t < 8$
Extra Sensitive:	$8 < S_t < 16$
Quick Clay:	$S_t > 16$

ROCK DESCRIPTION

The structural description of the bedrock mass is based on the Rock Quality Designation (RQD).

The RQD classification is based on a modified core recovery percentage in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be a result of closely-spaced discontinuities (resulting from shearing, jointing, faulting, or weathering) in the rock mass and are not counted. RQD is ideally determined from NQ or larger size core. However, it can be used on smaller core sizes, such as BQ, if the bulk of the fractures caused by drilling stresses (called “mechanical breaks”) are easily distinguishable from the normal in situ fractures.

RQD %	ROCK QUALITY
90-100	Excellent, intact, very sound
75-90	Good, massive, moderately jointed or sound
50-75	Fair, blocky and seamy, fractured
25-50	Poor, shattered and very seamy or blocky, severely fractured
0-25	Very poor, crushed, very severely fractured

SAMPLE TYPES

SS	-	Split spoon sample (obtained in conjunction with the performing of the Standard Penetration Test (SPT))
TW	-	Thin wall tube or Shelby tube, generally recovered using a piston sampler
G	-	"Grab" sample from test pit or surface materials
AU	-	Auger sample or bulk sample
WS	-	Wash sample
RC	-	Rock core sample (Core bit size BQ, NQ, HQ, etc.). Rock core samples are obtained with the use of standard diamond drilling bits.

SYMBOLS AND TERMS (continued)

PLASTICITY LIMITS AND GRAIN SIZE DISTRIBUTION

WC%	-	Natural water content or water content of sample, %
LL	-	Liquid Limit, % (water content above which soil behaves as a liquid)
PL	-	Plastic Limit, % (water content above which soil behaves plastically)
PI	-	Plasticity Index, % (difference between LL and PL)
Dxx	-	Grain size at which xx% of the soil, by weight, is of finer grain sizes These grain size descriptions are not used below 0.075 mm grain size
D10	-	Grain size at which 10% of the soil is finer (effective grain size)
D60	-	Grain size at which 60% of the soil is finer
Cc	-	Concavity coefficient = $(D_{30})^2 / (D_{10} \times D_{60})$
Cu	-	Uniformity coefficient = D_{60} / D_{10}

Cc and Cu are used to assess the grading of sands and gravels:

Well-graded gravels have: $1 < Cc < 3$ and $Cu > 4$

Well-graded sands have: $1 < Cc < 3$ and $Cu > 6$

Sands and gravels not meeting the above requirements are poorly-graded or uniformly-graded.

Cc and Cu are not applicable for the description of soils with more than 10% silt and clay
(more than 10% finer than 0.075 mm or the #200 sieve)

CONSOLIDATION TEST

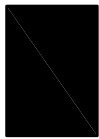
p'_o	-	Present effective overburden pressure at sample depth
p'_c	-	Preconsolidation pressure of (maximum past pressure on) sample
Ccr	-	Recompression index (in effect at pressures below p'_c)
Cc	-	Compression index (in effect at pressures above p'_c)
OC Ratio		Overconsolidation ratio = p'_c / p'_o
Void Ratio		Initial sample void ratio = volume of voids / volume of solids
Wo	-	Initial water content (at start of consolidation test)

PERMEABILITY TEST

k	-	Coefficient of permeability or hydraulic conductivity is a measure of the ability of water to flow through the sample. The value of k is measured at a specified unit weight for (remoulded) cohesionless soil samples, because its value will vary with the unit weight or density of the sample during the test.
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SYMBOLS AND TERMS (continued)

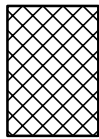
STRATA PLOT



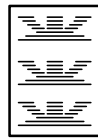
Topsoil



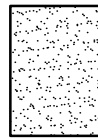
Asphalt



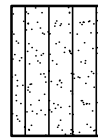
Fill



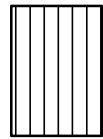
Peat



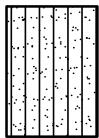
Sand



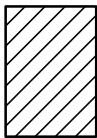
Silty Sand



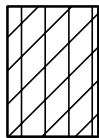
Silt



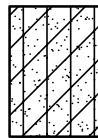
Sandy Silt



Clay



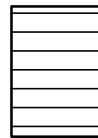
Silty Clay



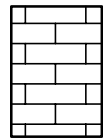
Clayey Silty Sand



Glacial Till



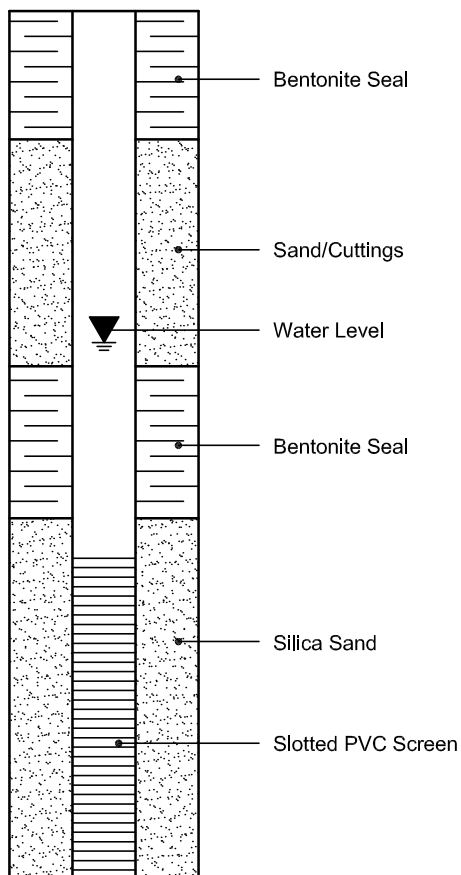
Shale



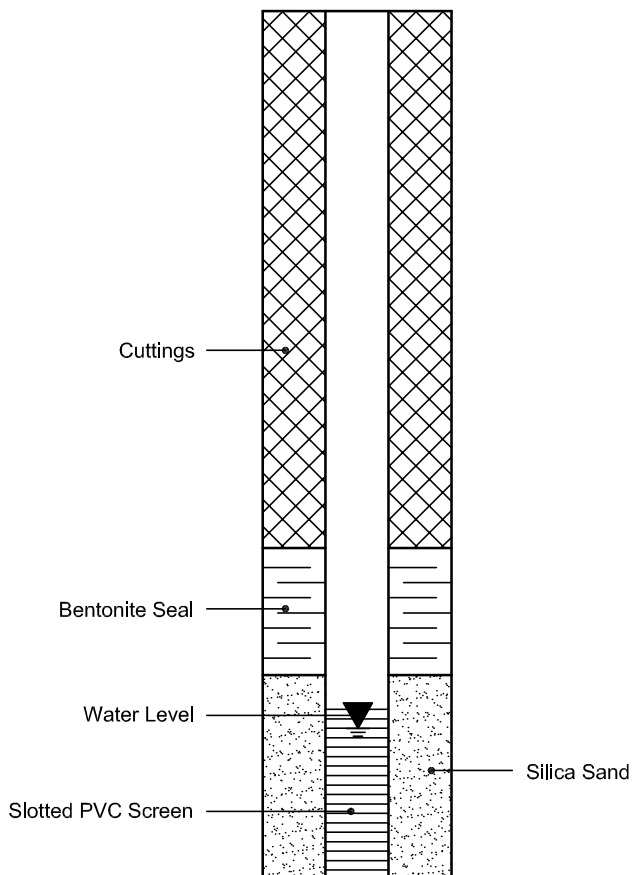
Bedrock

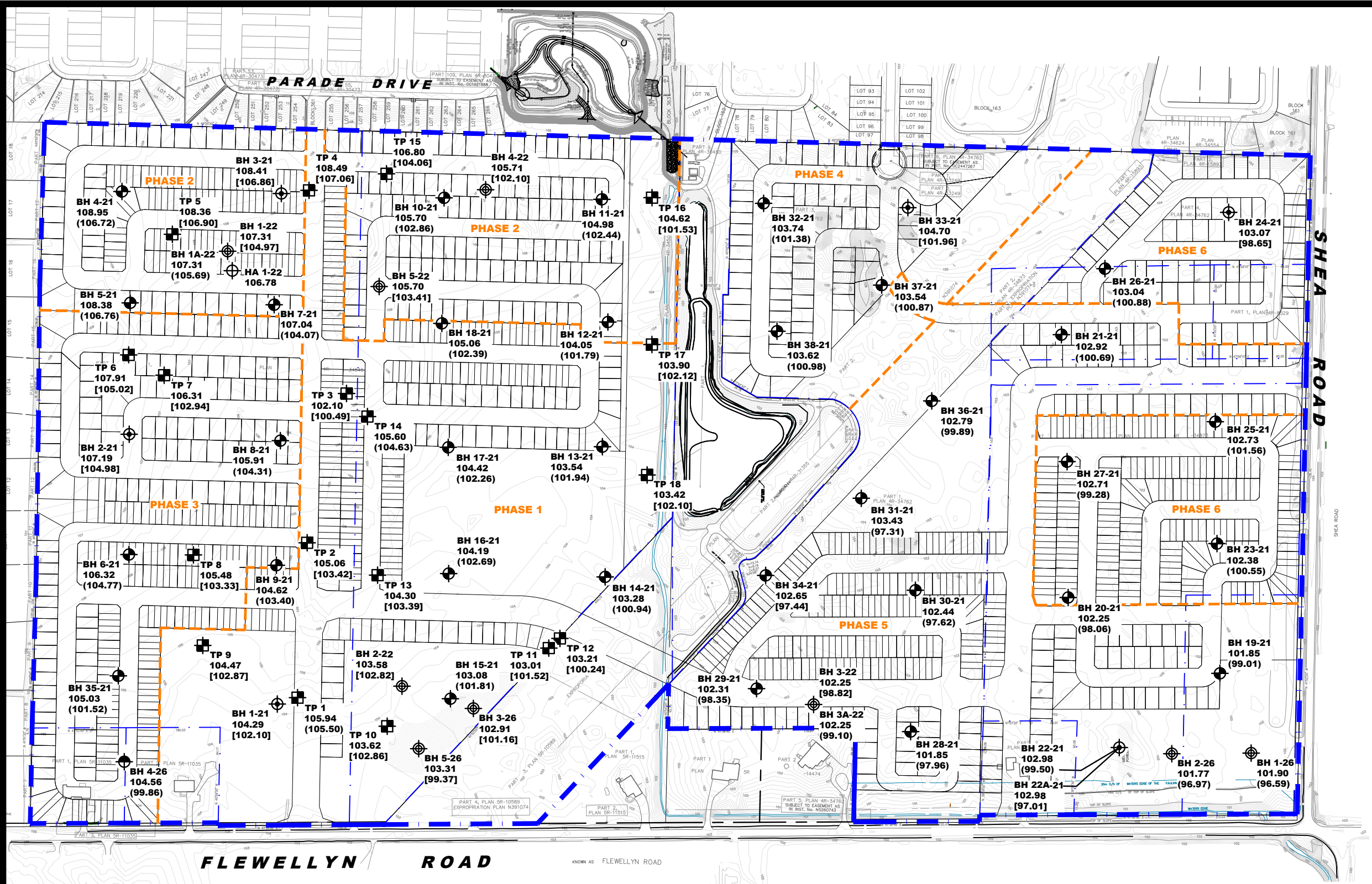
MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



PIEZOMETER CONSTRUCTION

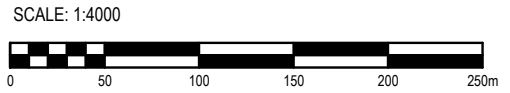




- LEGEND:**
- HAND AUGER LOCATION (CURRENT INVESTIGATION)
 - BOREHOLE WITH MONITORING WELL LOCATION (CURRENT INVESTIGATION)
 - BOREHOLE WITH PIEZOMETER LOCATION (CURRENT INVESTIGATION)
 - BOREHOLE WITH PIEZOMETER LOCATION (PATERSON GROUP REPORT; PG5570-2, JAN 20, 2022)
 - BOREHOLE WITH MONITORING WELL LOCATION (PATERSON GROUP REPORT; PG5570-2, JAN 20, 2022)
 - TEST PIT LOCATION (PATERSON GROUP REPORT; PG5570-1, JAN 3, 2021)
 - 104.29 GROUND SURFACE ELEVATION (m)
 - [102.10] BEDROCK SURFACE ELEVATION (m)
 - (102.39) PRACTICAL REFUSAL TO AUGERING / EXCAVATION ELEVATION (m)

BASE PLAN PREPARED BY J.D. BARNES LIMITED.

GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.





PATERSON GROUP

9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

9	ADDED 2026 BOREHOLE LOCATIONS	24/04/2026	KP
8	UPDATED TO NEW CONCEPTUAL PLAN	10/04/2026	KP
7	UPDATED SITE BOUNDARY	15/05/2025	OB
6	UPDATED TO NEW CONCEPTUAL PLAN	03/07/2024	KP
5	UPDATED TO NEW CONCEPTUAL PLAN	28/08/2023	KP
NO.	REVISIONS	DD/MM/YYYY	INITIAL

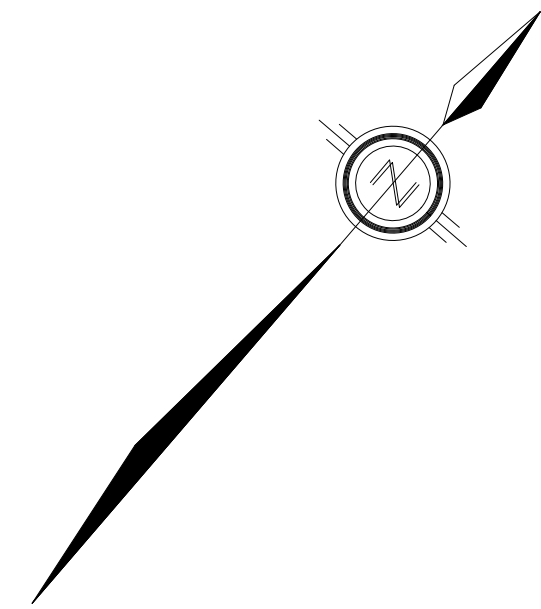
CAIVAN (STITTSVILLE) INC.
GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
5971, 5993, 6115, 6141 & 6159 FLEWELLYN ROAD, 6070 FERNBANK ROAD
& 1770 & 1820 SHEA ROAD
ONTARIO

OTTAWA,
Title:
TEST HOLE LOCATION PLAN

Scale:	1:4000	Date:	01/2022
Drawn by:	YA	Report No.:	PG5570-3
Checked by:	KP	Dwg. No.:	PG5570-1
Approved by:	DJG	Revision No.:	9

APPENDIX 3

DSEL - CIVIL DRAWINGS



7

CROSS —

- CROSS _____
45° BEND _____
LATERAL _____
HYDRANT, VALVE & VB _____
TEE _____
VALVE & VC _____
VALVE & VB _____
22.5° BEND _____
11.25° BEND _____
REDUCER _____
CAP _____
STREET CATCHBASIN & LEAD _____
STREET CATCHBASIN WITH
CLOSED LEAD & LEAD _____
STORM MAINTENANCE HOLE _____
CURB INLET CATCH-
BASIN & LEAD _____
CATCHBASIN/MAINTENANCE HOLE
DISCONNECTED _____
CATCH BASIN & LEADS _____
TEE CATCHBASIN _____
PERFORATED PIPE _____
ELBOW CATCHBASIN _____

-
- The diagram illustrates a cross-section of a sanitary sewer system. At the top, a 'SANITARY MAINTENANCE HOLE - (WATER TIGHT) LID PER OFSD 401.300' is shown. Below it is another 'SANITARY MAINTENANCE HOLE - (WATER TIGHT) LID PER OFSD 401.300'. A 'CAP' is indicated. A 'RETAINING WALL (SEE NOTES ON DWG. 1 FOR DETAIL)' is shown on the left. A 'SINGLE SERVICE LOCATION (ST, SAN & WM)' is shown. A 'SINGLE SERVICE LOCATION (ST, SAN & WM)' is shown. A 'HYDRO SWITCHGEAR' is shown. A 'HYDRO TRANSFORMER' is shown. A 'STREET LIGHT STANDARD' is shown. A 'DITCH AND CULVERT' is shown. A 'CONCRETE SIDEWALK (PER CITY OF OTTAWA STD SC1.4)' is shown. A 'BARRIER CURB, BARRIER CURB WITH FLATTER & DEPRESSIONS' is shown. A 'CURB (PER CITY OF OTTAWA STD SC1.1, SC1.2, SC1.3)' is shown. A 'TELEPHONE CONDUIT EX. SECONDARY POWER' is shown. On the right side, an 'ASPHALT SIDEWALK' is shown. A 'BLACK VINYL COATED CHAINLINK FENCE (1.5m UNLESS OTHERWISE NOTED)' is shown. A 'NOISE BARRIER' is shown. A 'WOODEN POST AND RAIL FENCE' is shown. A 'CONSTRUCTION FENCE' is shown. A 'POST AND RAIL FENCE' is shown. 'PHASING LIMITS' are indicated. A 'PROPERTY BOUNDARY' is shown. An 'OVERLAND FLOW DIRECTION' is shown. An 'EXTERNAL OVERLAND FLOW DIRECTION' is shown. An 'EMERGENCY OVERLAND FLOW DIRECTION' is shown. A 'TACTILE WALKING SURFACE (AS PER CITY OF OTTAWA SC7, SC7.1, SC7.2, SC7.3)' is shown. A 'CLAY SEAL (REFER TO GENERAL NOTES, NO. 15, ON DWG. 1)' is shown. A 'GEO TECHNICAL SPECIFICATIONS (EXISTING SANITARY MAINTENANCE HOLE EXISTING STORMWATER HOLE SPEED HUMP PER CITY STD' is shown.

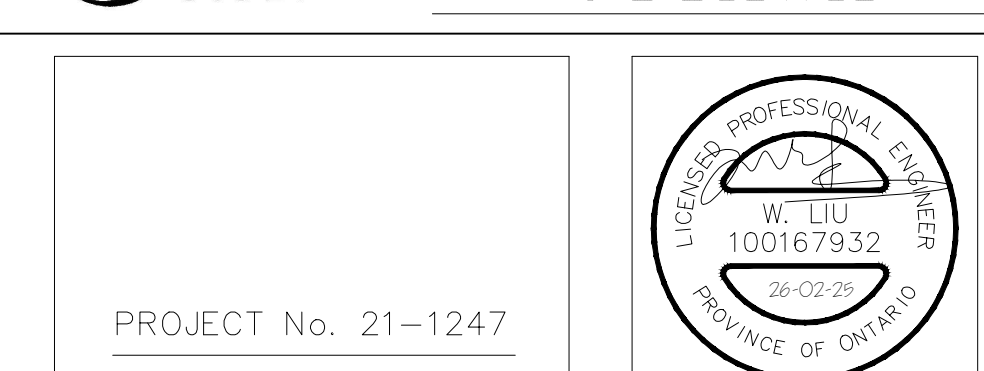
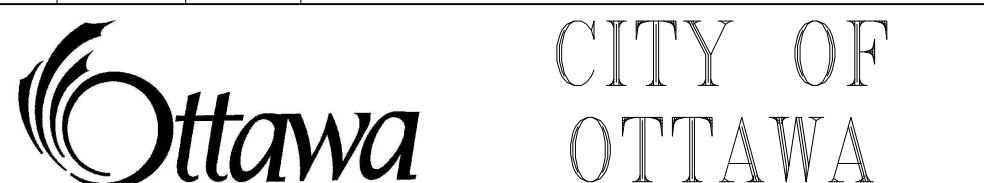
TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01. SURVEYS RECEIVED ON NOVEMBER 4, 2025

LEGAL INFORMATION

(Phase 1). RECEIVED ON OCTOBER 3, 2025.

1	W.L.	26-02-25	1st SUBMISSION
No.	BY	DATE	DESCRIPTION



CAIVAN
(STITTSVILLE)
INC.

STITTSVILLE SOUTH URBAN
EXPANSION AREA (W-4)
PHASE 1

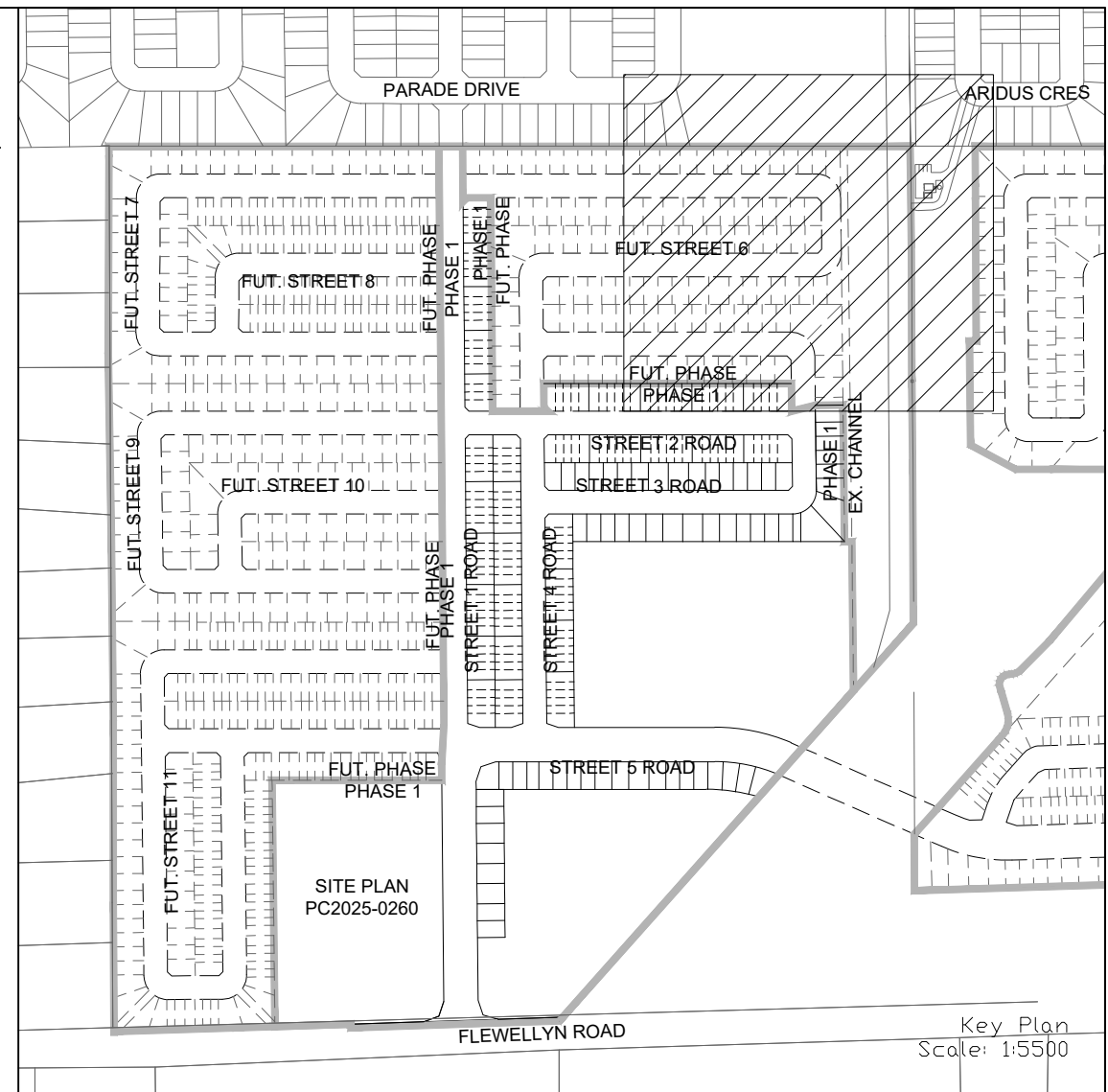
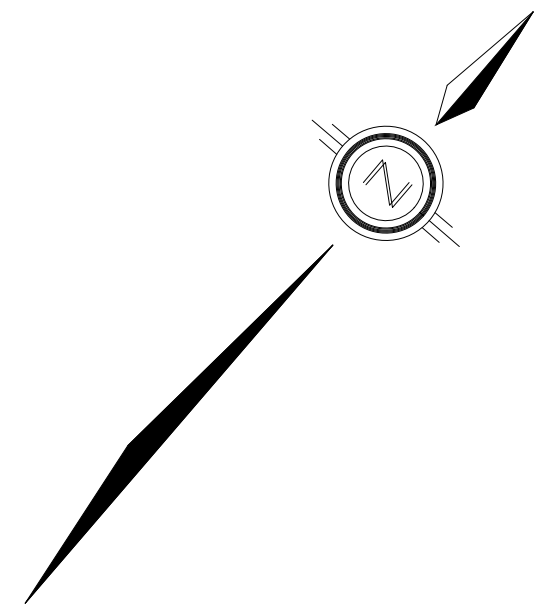
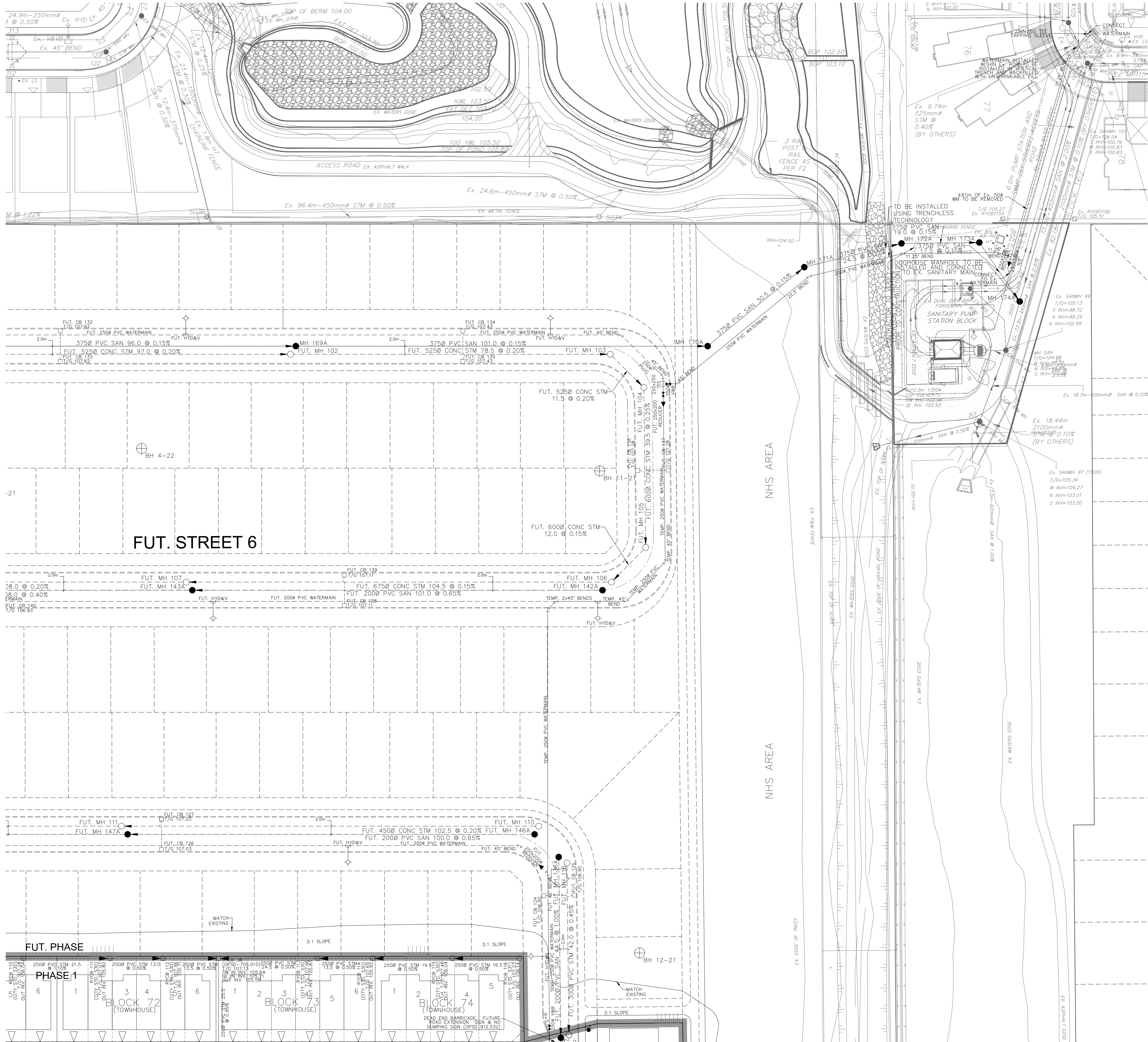


120 Iber Road, Unit 103
Stittsville, ON K2S 1E9
Tel. (613) 836-0856
Fax. (613) 836-7183
www.DSEL.ca

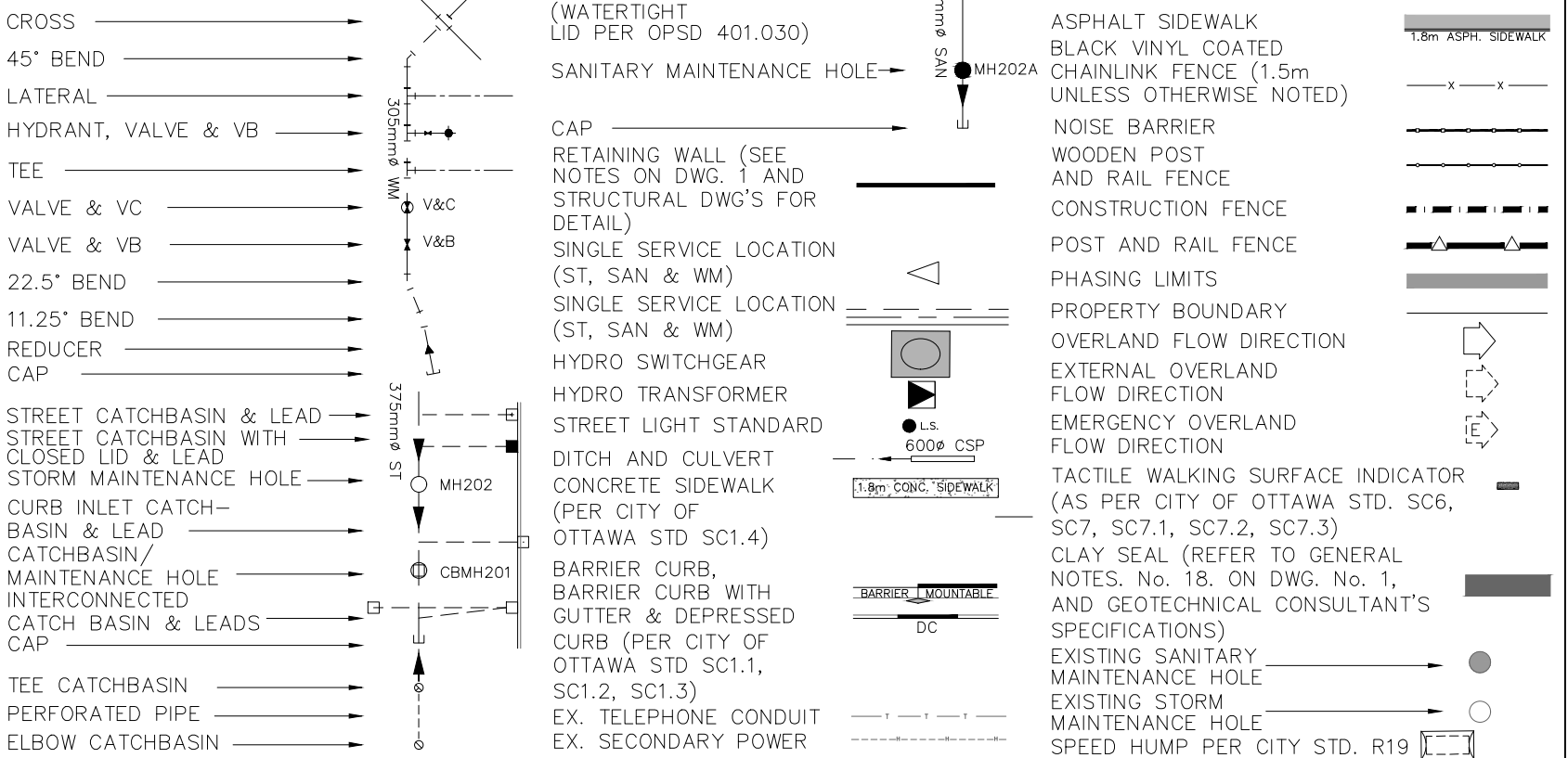
GENERAL PLAN

© DSEL

DRAWN BY: M.S & A.S.	CHECKED BY: W.L.	SHEET NO.	
DESIGNED BY: W.L.	CHECKED BY: C.M.	6	OF 5
SCALE: 1:500	DATE: FEBRUARY 2026		



LEGEND



NOTES:

- ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITIES. HAVING JURISDICTION
- CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF EX. UNDERGROUND SERVICES AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION
- ALL EXISTING ABOVE GROUND FEATURES, E.G. MH/CHAMBER COVERS, PEDESTALS, HYDRO AND LIGHT POLES, ETC. AFFECTED BY THE DEVELOPMENT TO BE ADJUSTED TO SUIT TO THE SATISFACTION OF PARTIES AFFECTED
- ALL EXISTING BUILDING, SHED, POST & WIRE FENCE, CHAIN LINK FENCE, TREE, UTILITY WIRE, POLE, CULVERT AND POOL WITHIN LOTS AND BLOCKS TO BE REMOVED, UNLESS OTHERWISE NOTED
- ALL EXISTING POST & WIRE FENCE, CULVERTS, UTILITY WIRE / POLES, TREES, SHRUBS ETC. WITHIN LOTS, BLOCKS AND ROADS TO BE REMOVED, UNLESS OTHERWISE NOTED
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- FOR R/CB LAYOUT & TYPICAL EASEMENT DETAIL REFER TO DRAWING No. 4
- ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE LEVEL WITHIN A BUILDING FOOTPRINT TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEERED FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION.
- FOR WATERMAIN CROSSING BELOW AND ABOVE SEWERS, REFER TO CITY STD. W25 AND W25.2, RESPECTIVELY, WHERE APPLICABLE
- ALL WATERMAIN CONNECTIONS AND DECOMMISSIONING OF EXISTING WATERMANS TO BE COMPLETED BY CITY FORCES. TRENCH BACKFILL/REINSTATEMENT TO BE COMPLETED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF OTTAWA
- FOR WATERMAIN STUDIES, 2.4m MIN. COVER TO BE PROVIDED
- THE COVER OF EX. MH, CB, CHAMBER AND OTHER ABOVEGROUND FEATURES TO BE ADJUSTED TO SUIT THE NEW FINISHED GRADE, WHERE APPLICABLE
- INSULATION REQUIRED FOR WATERMAIN / WATER SERVICE WHERE THE SEPARATION BETWEEN WATERMAIN / WATER SERVICE AND OTHER SERVICES AND STRUCTURES IS LESS THAN 1.2m AND THE COVER IS LESS THAN 2.4m. REFER TO CITY STD. W23 FOR DETAIL.
- FOR SERVICE INSTALLATION AT SEWER CROSSING, REFER TO CITY STD. W38 FOR DETAIL
- FOR HOUSE CONNECTIONS INSTALLED UNDER DRIVEWAYS, SLEEVE SHALL BE USED UNDER THE GARAGE SLAB
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NOT FOR CONSTRUCTION

TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01, SURVEYS RECEIVED ON NOVEMBER 4, 2025.

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC RELATED TO CGVD28.78 VERTICAL DATUM

LEGAL INFORMATION

M-PLAN PROVIDED BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00
(Phase 1), RECEIVED ON OCTOBER 3, 2025.

1

W.L.

26-02-25

1st SUBMISSION

No. BY DATE DESCRIPTION

CITY OF OTTAWA

PROJECT No. 21-1247

CAIVAN (STITTSVILLE) INC.

STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1

120 Ibbot Road, Unit 103
Stittsville, ON K2S 1E9
Tel: (613) 836-0856
Fax: (613) 836-7183
www.DSEL.ca

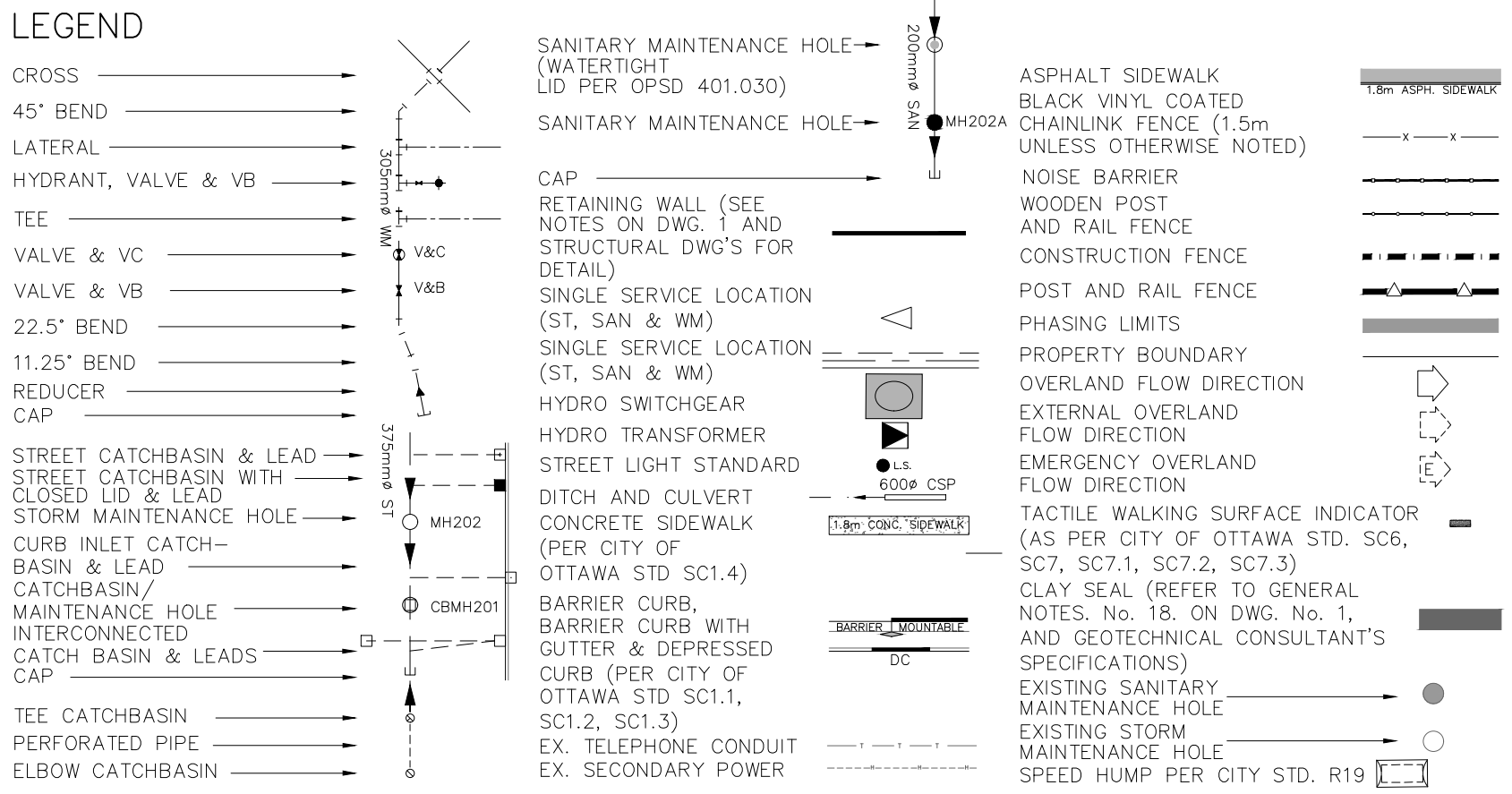
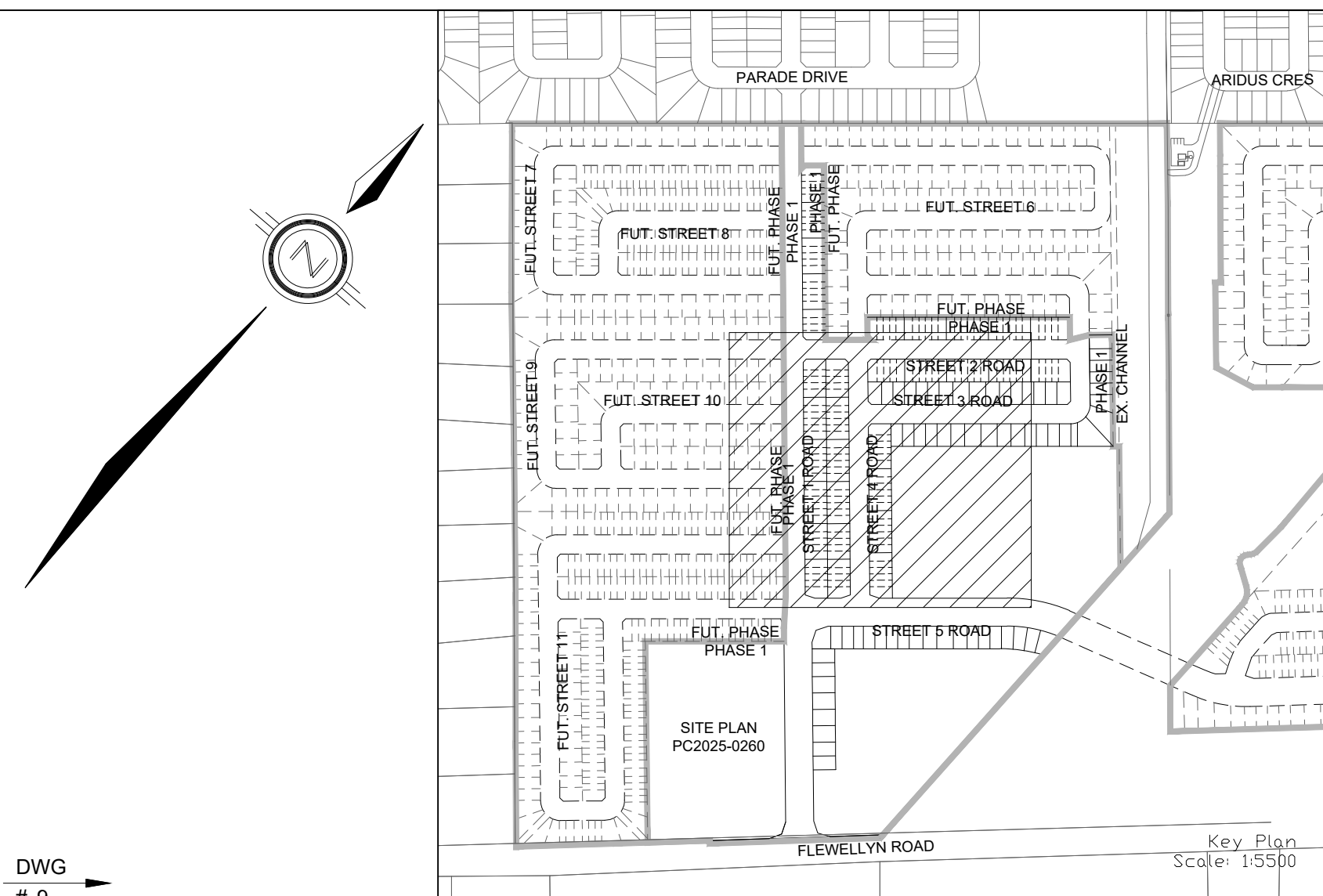
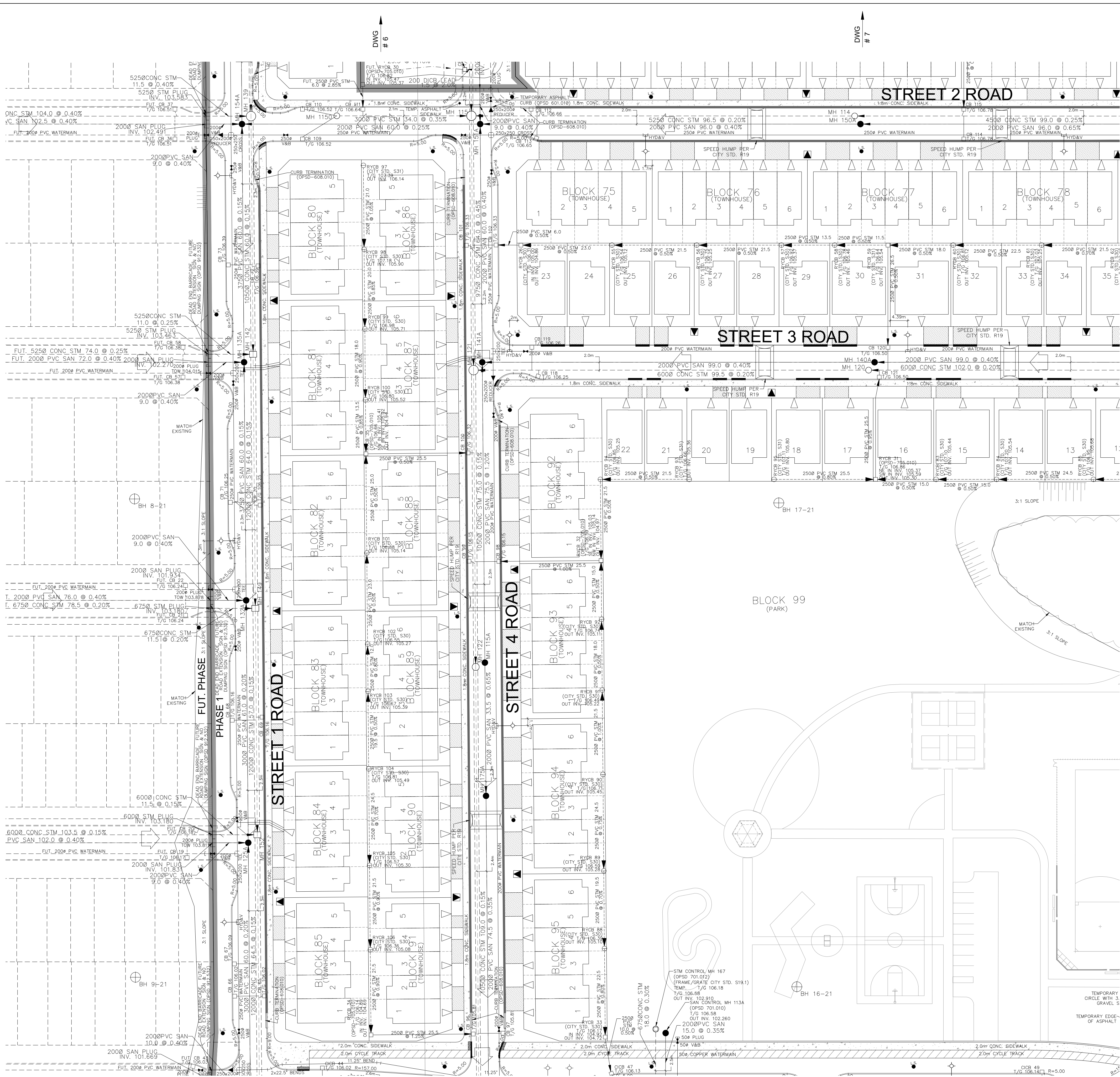
GENERAL PLAN

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DRAWN BY: M.S. & A.S. CHECKED BY: W.L. SHEET NO.

DESIGNED BY: W.L. CHECKED BY: C.M. 7 OF 52

SCALE: 1:500 DATE: FEBRUARY 2026



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TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01, SURVEYS RECEIVED ON NOVEMBER 4, 2025.
ELEVATION NOTE
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LEGAL INFORMATION
W-PLAN PROVIDED BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00
(Phase 1), RECEIVED ON OCTOBER 3, 2025.

PROJECT No. 21-1247

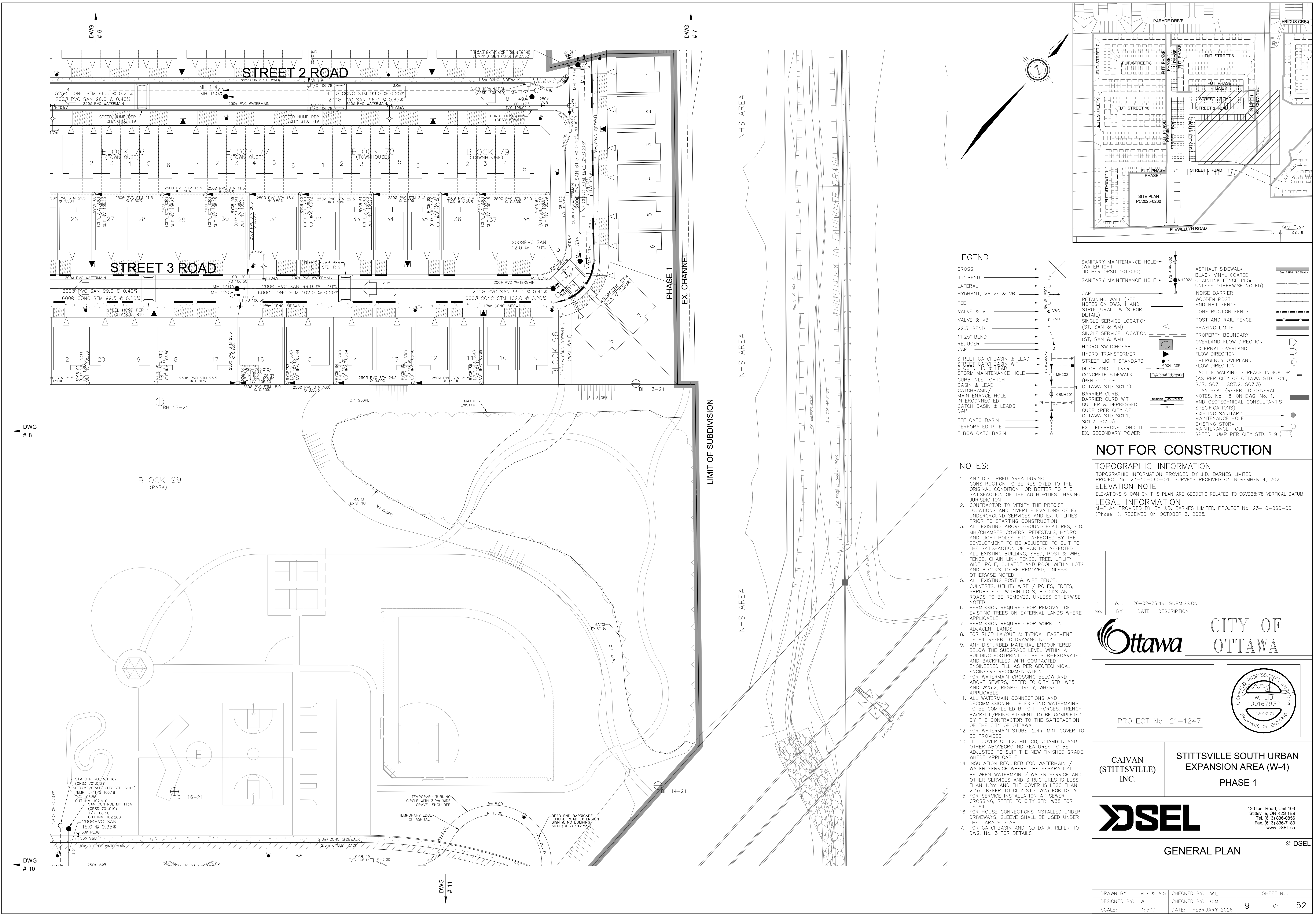
CITY OF OTTAWA

CAIVAN (STITTSVILLE) INC.

STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1

GENERAL PLAN

DRAWN BY: M.S & A.S.	CHECKED BY: W.L.	SHEET NO.
DESIGNED BY: W.L.	CHECKED BY: C.M.	8 OF 52
SCALE: 1:500	DATE: FEBRUARY 2026	



LEGEND

- CROSS
- 45° BEND
- LATERAL
- HYDRANT, VALVE & VB
- TEE
- VALVE & VC
- VALVE & VB
- 22.5° BEND
- 11.25° BEND
- REDUCER
- CAP
- STREET CATCHBASIN & LEAD
- STREET CATCHBASIN WITH CLOSED LID & LEAD
- STORM MAINTENANCE HOLE
- CURB INLET CATCH-BASIN & LEAD
- CATCHBASIN/ MAINTENANCE HOLE
- INTERCONNECTED CATCH BASIN & LEADS
- TEE CATCHBASIN
- PERFORATED PIPE
- ELBOW CATCHBASIN
- SANITARY MAINTENANCE HOLE (WATER TIGHT LID PER OPSD 401.030)
- SANITARY MAINTENANCE HOLE
- CAP
- RETAINING WALL (SEE NOTES ON DWG. 1 AND STRUCTURAL DWG'S FOR DETAIL)
- SINGLE SERVICE LOCATION (ST, SAN & WM)
- SINGLE SERVICE LOCATION (ST, SAN & WM)
- HYDRO SWITCHGEAR
- HYDRO TRANSFORMER
- STREET LIGHT STANDARD
- DITCH AND CULVERT
- CONCRETE SIDEWALK (PER CITY OF OTTAWA STD SC1.4)
- BARRIER CURB, BARRIER CURB WITH CUTTER & DEPRESSION
- CURB (PER CITY OF OTTAWA STD SC1.1, SC1.2, SC1.3)
- EX. TELEPHONE CONDUIT
- EX. SECONDARY POWER
- ASPHALT SIDEWALK
- BLACK VINYL COATED CHAINLINK FENCE (1.5m UNLESS OTHERWISE NOTED)
- NOISE BARRIER
- WOODEN POST AND RAIL FENCE
- CONSTRUCTION FENCE
- POST AND RAIL FENCE
- PHASING LIMITS
- PROPERTY BOUNDARY
- OVERLAND FLOW DIRECTION
- EXTERNAL OVERLAND FLOW DIRECTION
- TACTILE WALKING SURFACE INDICATOR (AS PER CITY OF OTTAWA STD. SC6, SC7, SC7.1, SC7.2, SC7.3)
- CLAY SEAL (REFER TO GENERAL NOTES: No. 18. ON DWG. No. 1, AND GEOTECHNICAL CONSULTANT'S SPECIFICATIONS)
- EXISTING SANITARY MAINTENANCE HOLE
- EXISTING SANITARY MAINTENANCE HOLE
- SPEED HUMP PER CITY STD. R19

NOTES:

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ELEVATION NOTE

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LEGAL INFORMATION

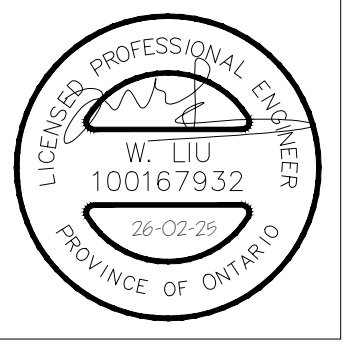
M-PLAN PROVIDED BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00 (Phase 1), RECEIVED ON OCTOBER 3, 2025.

1	W.L.	26-02-25	1st SUBMISSION
No.	BY	DATE	DESCRIPTION



CITY OF OTTAWA

PROJECT No. 21-1247



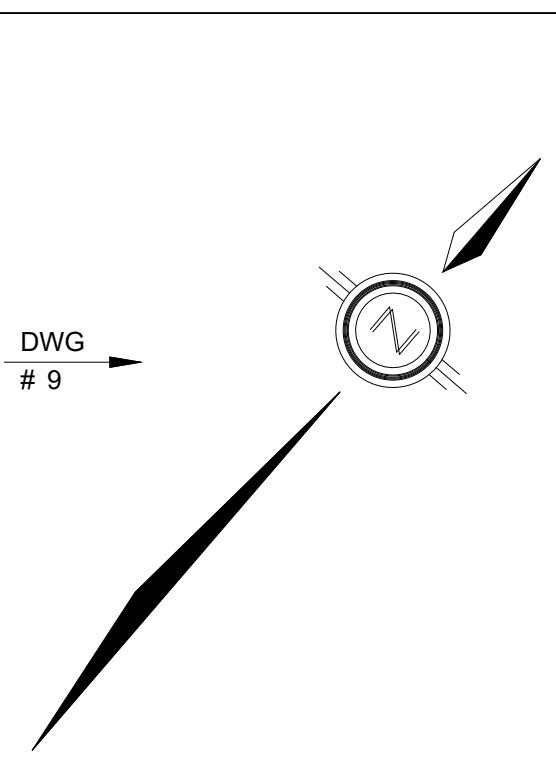
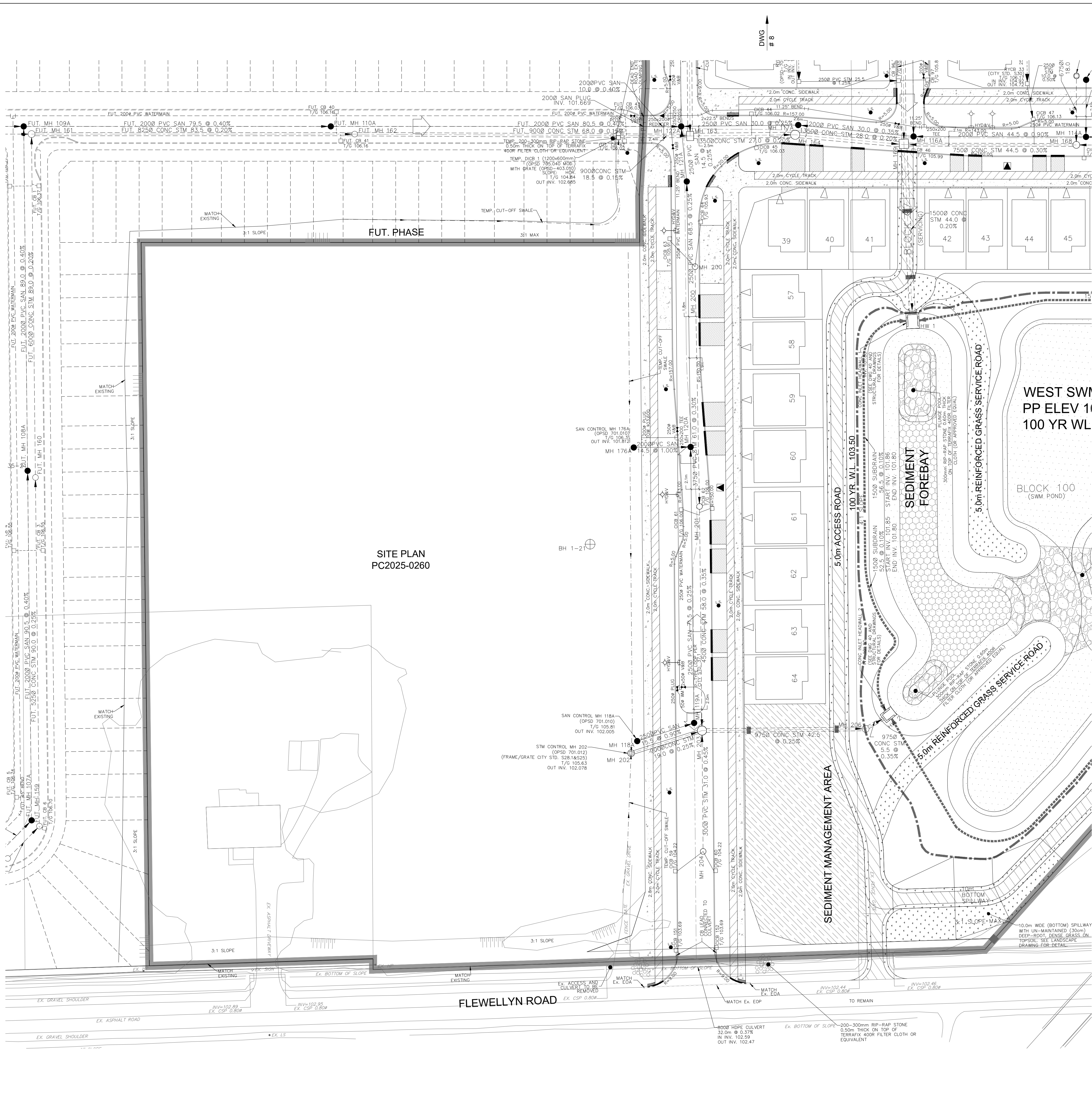
CAIVAN (STITTSVILLE) INC.

STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1



120 Ibbot Road, Unit 103
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GENERAL PLAN			
DRAWN BY: M.S. & A.S.	CHECKED BY: W.L.	SHEET NO.	
DESIGNED BY: W.L.	CHECKED BY: C.M.	9 OF 52	
SCALE: 1:500	DATE: FEBRUARY 2026		



DWG # 11

LEGEND

- CROSS
- 45° BEND
- LATERAL
- HYDRANT, VALVE & VB
- TEE
- VALVE & VC
- VALVE & VB
- 22.5° BEND
- 11.25° BEND
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- CAP
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- CATCHBASIN/MAINTENANCE HOLE
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- TEE CATCHBASIN
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- ELBOW CATCHBASIN

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- OTAWA STD SC1.4
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- CURB (PER CITY OF OTTAWA STD SC1.1, SC1.2, SC1.3)
- EX. TELEPHONE CONDUIT
- EX. SECONDARY POWER

- ASPHALT SIDEWALK
- BLACK VINYL COATED CHAINLINK FENCE (1.5m UNLESS OTHERWISE NOTED)
- NOISE BARRIER
- WOODEN POST AND RAIL FENCE
- CONSTRUCTION FENCE
- POST AND RAIL FENCE
- PHASING LIMITS
- PROPERTY BOUNDARY
- OVERLAND FLOW DIRECTION
- EXTERNAL OVERLAND FLOW DIRECTION
- TACTILE WALKING SURFACE INDICATOR (AS PER CITY OF OTTAWA STD. SC6, SC7, SC7.1, SC7.2, SC7.3)
- CLAY SEAL (REFER TO GENERAL NOTES: No. 18 ON DWG. No. 1, AND GEOTECHNICAL CONSULTANT'S SPECIFICATIONS)
- EXISTING SANITARY MAINTENANCE HOLE
- EXISTING STORM MAINTENANCE HOLE
- SPEED HUMP PER CITY STD. R19

NOTES:

- ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITIES. HAVING JURISDICTION
- CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF EX. UNDERGROUND SERVICES AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION
- ALL EXISTING ABOVE GROUND FEATURES, E.G. MH/CHAMBER COVERS, PEDESTALS, HYDRO AND LIGHT POLES, ETC. AFFECTED BY THE DEVELOPMENT TO BE ADJUSTED TO SUIT TO THE SATISFACTION OF PARTIES AFFECTED
- ALL EXISTING BUILDING, SHED, POST & WIRE FENCE, CHAIN LINK FENCE, TREE, UTILITY WIRE, POLE, CULVERT AND POOL WITHIN LOTS AND BLOCKS TO BE REMOVED, UNLESS OTHERWISE NOTED
- ALL EXISTING POST & WIRE FENCE, CULVERTS, UTILITY WIRE / POLES, TREES, SHRUBS ETC. WITHIN LOTS, BLOCKS AND ROADS TO BE REMOVED, UNLESS OTHERWISE NOTED
- PERMISSION REQUIRED FOR REMOVAL OF EXISTING TREES ON EXTERNAL LANDS WHERE NOTED
- PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS
- FOR R/CB LAYOUT & TYPICAL EASEMENT DETAIL REFER TO DRAWING No. 4
- ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE LEVEL WITHIN A BUILDING FOOTPRINT TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEERED FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION.
- FOR WATERMAIN CROSSING BELOW AND ABOVE SEWERS, REFER TO CITY STD. W25 AND W25.2, RESPECTIVELY, WHERE APPLICABLE
- ALL WATERMAIN CONNECTIONS AND DECOMMISSIONING OF EXISTING WATERMAINS TO BE COMPLETED BY CITY FORCES. TRENCH BACKFILL/REINSTATEMENT TO BE COMPLETED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF OTTAWA
- FOR WATERMAIN STUBS, 2.4m MIN. COVER TO BE PROVIDED
- THE COVER OF EX. MH, CB, CHAMBER AND OTHER ABOVEGROUND FEATURES TO BE ADJUSTED TO SUIT THE NEW FINISHED GRADE, WHERE APPLICABLE
- INSULATION REQUIRED FOR WATERMAIN / WATER SERVICE WHERE THE SEPARATION BETWEEN WATERMAIN / WATER SERVICE AND OTHER SERVICES AND STRUCTURES IS LESS THAN 1.2m AND THE COVER IS LESS THAN 2.4m. REFER TO CITY STD. W23 FOR DETAIL.
- FOR SERVICE INSTALLATION AT SEWER CROSSING, REFER TO CITY STD. W23 FOR DETAIL
- FOR HOUSE CONNECTIONS INSTALLED UNDER DRIVEWAYS, SLEEVE SHALL BE USED UNDER THE GARAGE SLAB
- FOR CATCHBASIN AND ICD DATA, REFER TO DWG. No. 3 FOR DETAILS

NOT FOR CONSTRUCTION

TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01, SURVEYS RECEIVED ON NOVEMBER 4, 2025.

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC RELATED TO CGVD28:78 VERTICAL DATUM

LEGAL INFORMATION

W-PLAN PROVIDED BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00 (Phase 1), RECEIVED ON OCTOBER 3, 2025.

PROJECT No. 21-1247

CITY OF OTTAWA

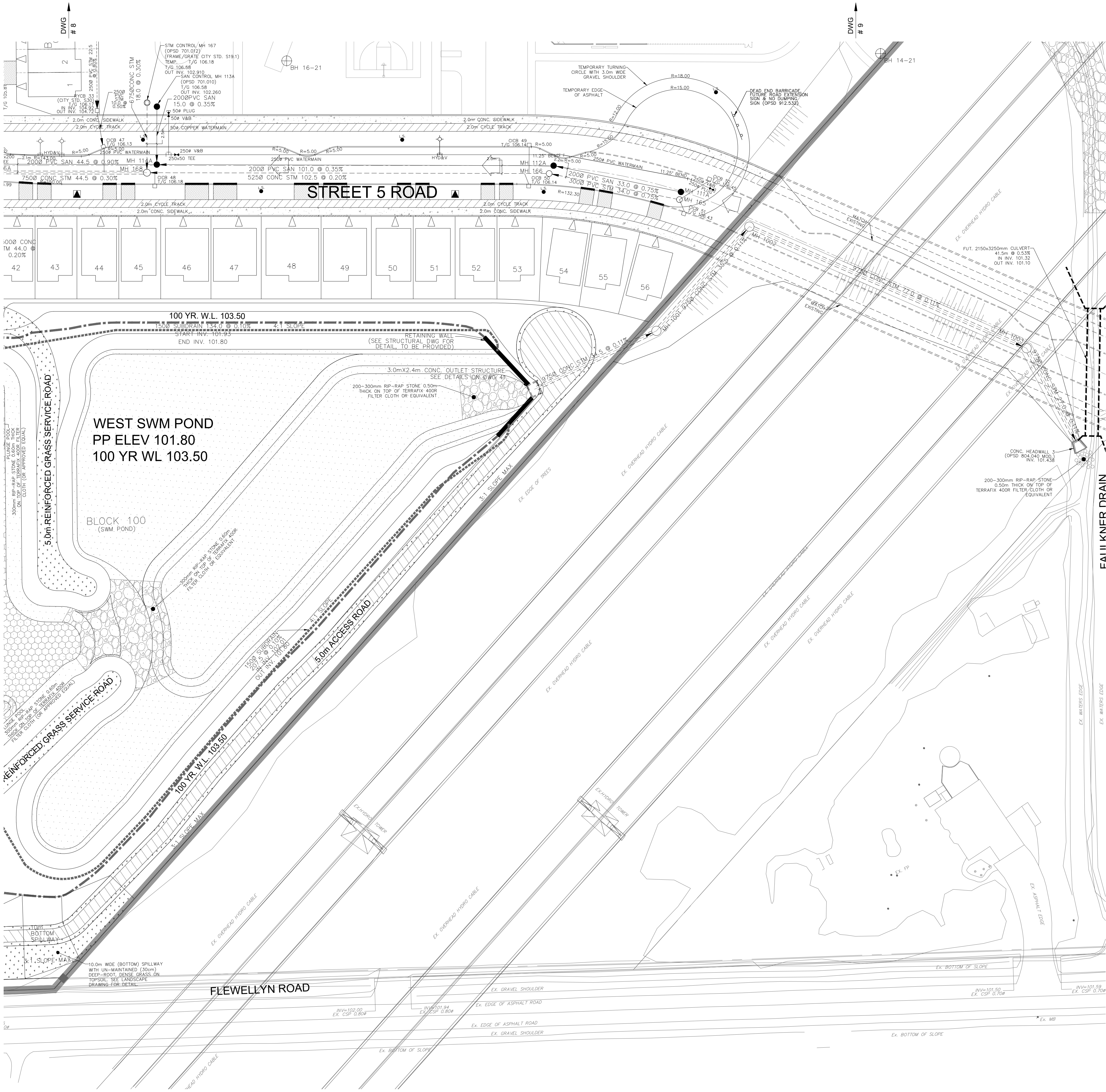
CAIVAN (STITTSVILLE) INC.

STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1

120 Iber Road, Unit 103
Stittsville, ON K2S 1E9
Tel: (613) 836-0856
Fax: (613) 836-7153
www.DSEL.ca

GENERAL PLAN

DRAWN BY: M.S. & A.S.	CHECKED BY: W.L.	SHEET NO.
DESIGNED BY: W.L.	CHECKED BY: C.M.	10 OF 52
SCALE: 1:500	DATE: FEBRUARY 2026	



LEGEND

- CROSS
- 45° BEND
- LATERAL
- HYDRANT, VALVE & VB
- TEE
- VALVE & VC
- VALVE & RB
- 22.5° BEND
- 11.25° BEND
- REDUCER
- CAP
- STREET CATCHBASIN & LEAD
- STREET CATCHBASIN WITH CLOSED LID & LEAD
- SINGLE SERVICE LOCATION (ST, SAN & WM)
- SINGLE SERVICE LOCATION (ST, SAN & WM)
- HYDRO SWITCHGEAR
- HYDRO TRANSFORMER
- DITCH AND CULVERT
- CONCRETE SIDEWALK (PER CITY OF OTTAWA STD SC1.4)
- BARRIER CURB, BARRIER CURB WITH GUTTER & DEPRESSION
- CURB INLET CATCH-BASIN & LEAD
- MAINTENANCE HOLE
- INTERCONNECTED CATCH BASIN & LEADS
- TEE CATCHBASIN
- PERFORATED PIPE
- ELBOW CATCHBASIN

NOTES:

- ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITIES. HAVING JURISDICTION
- CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF EX. UNDERGROUND SERVICES AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION
- ALL EXISTING ABOVE GROUND FEATURES, E.G. MH/CHAMBER COVERS, PEDESTALS, HYDRO AND LIGHT POLES, ETC. AFFECTED BY THE DEVELOPMENT TO BE ADJUSTED TO SUIT TO THE SATISFACTION OF PARTIES AFFECTED
- ALL EXISTING BUILDING, SHED, POST & WIRE FENCE, CHAIN LINK FENCE, TREE, UTILITY WIRE, POLE, CULVERT AND POOL WITHIN LOTS AND BLOCKS TO BE REMOVED, UNLESS OTHERWISE NOTED
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- PERMISSION REQUIRED FOR REMOVAL OF EXISTING TREES ON EXTERNAL LANDS WHERE APPLICABLE
- PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS
- FOR RLB LAYOUT & TYPICAL EASEMENT DETAIL REFER TO DRAWING No. 4
- ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE LEVEL WITHIN A BUILDING FOOTPRINT TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEERED FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION.
- FOR WATERMAIN CROSSING BELOW AND ABOVE SEWERS, REFER TO CITY STD. W25 AND W25.2, RESPECTIVELY, WHERE APPLICABLE
- ALL WATERMAIN CONNECTIONS AND DECOMMISSIONING OF EXISTING WATERMANS TO BE COMPLETED BY CITY FORCES. TRENCH BACKFILL/REINSTATEMENT TO BE COMPLETED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF OTTAWA
- FOR WATERMAIN STUDS, 2.4m MIN. COVER TO BE PROVIDED
- THE COVER OF EX. MH, CB, CHAMBER AND OTHER ABOVEGROUND FEATURES TO BE ADJUSTED TO SUIT THE NEW FINISHED GRADE, WHERE APPLICABLE
- INSULATION REQUIRED FOR WATERMAIN / WATER SERVICE WHERE THE SEPARATION BETWEEN WATERMAIN / WATER SERVICE AND OTHER SERVICES AND STRUCTURES IS LESS THAN 1.2m AND THE COVER IS LESS THAN 2.4m. REFER TO CITY STD. W23 FOR DETAIL.
- FOR SERVICE INSTALLATION AT SEWER CROSSING, REFER TO CITY STD. W38 FOR DETAIL.
- FOR HOUSE CONNECTIONS INSTALLED UNDER DRIVEWAYS, SLEEVE SHALL BE USED UNDER THE GARAGE SLAB
- FOR CATCHBASIN AND ICD DATA, REFER TO DWG. No. 3 FOR DETAILS

NOT FOR CONSTRUCTION

TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01. SURVEYS RECEIVED ON NOVEMBER 4, 2025.

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC RELATED TO CGVD28:78 VERTICAL DATUM

LEGAL INFORMATION

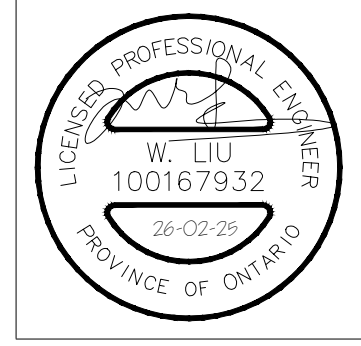
M-PLAN PROVIDED BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00
(Phase 1), RECEIVED ON OCTOBER 3, 2025.

No.	W.L.	DATE	DESCRIPTION
1	W.L.	26-02-25	1st SUBMISSION



CITY OF OTTAWA

PROJECT No. 21-1247



CAIVAN (STITTSVILLE) INC.

STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1

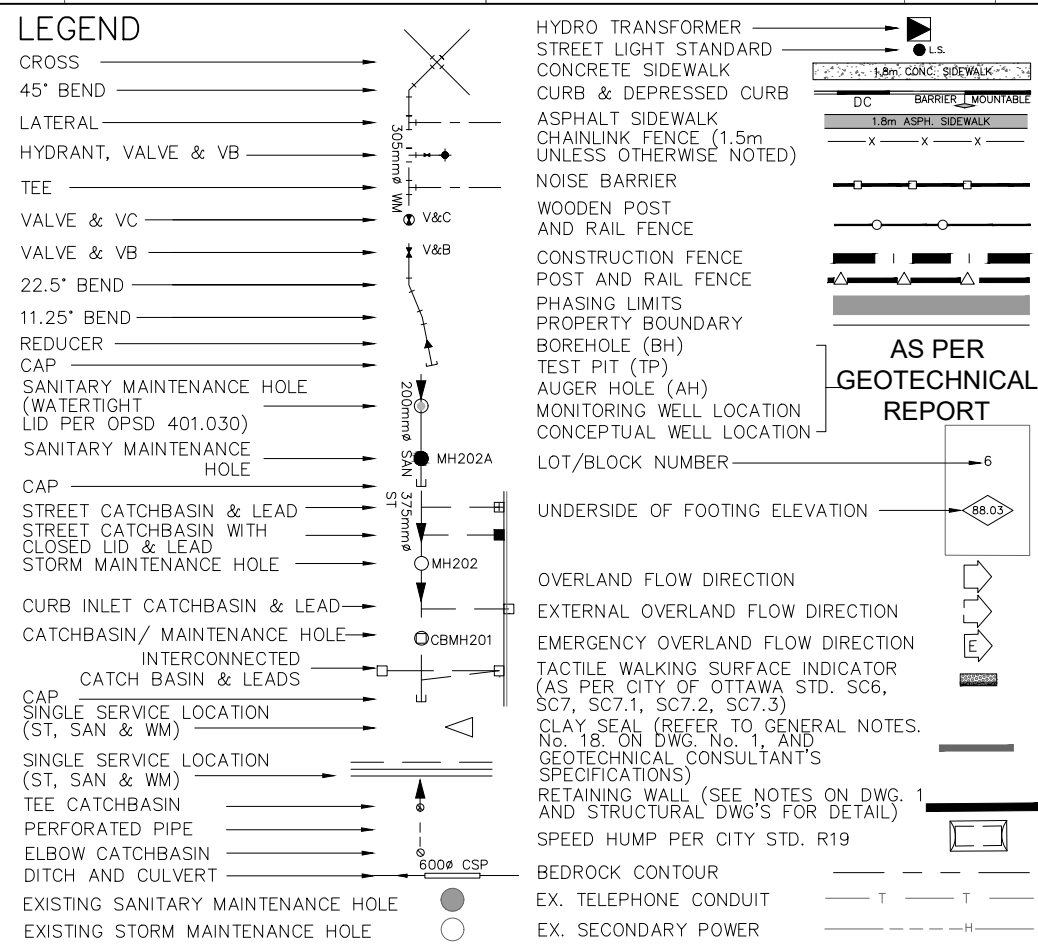
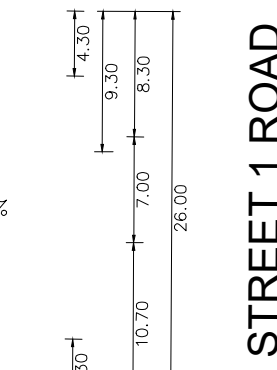


120 Ibar Road, Unit 103
Stittsville, ON K2S 1E9
Tel: (613) 836-0856
Fax: (613) 836-7153
www.DSEL.ca

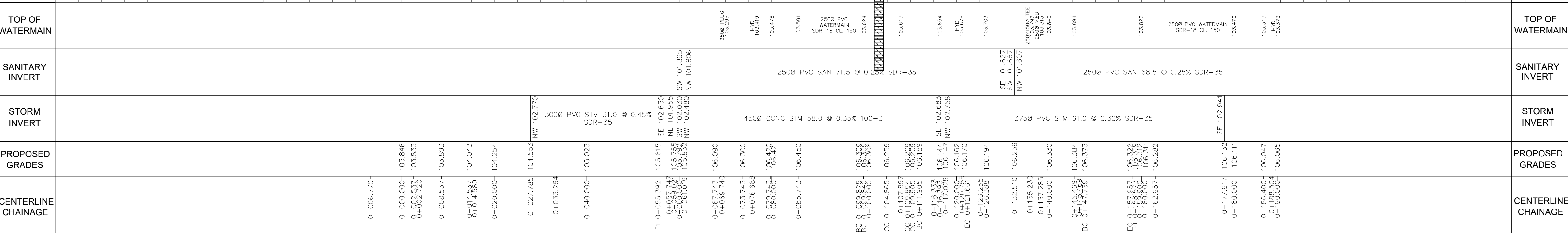
GENERAL PLAN		
DRAWN BY: M.S. & A.S.	CHECKED BY: W.L.	SHEET NO.
DESIGNED BY: W.L.	CHECKED BY: C.M.	11 OF 52
SCALE: 1:500	DATE: FEBRUARY 2026	

40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
100mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
600mm OPSS GRANULAR B TYPE II

1. ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO ORIGINAL CONDITION BETTER TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION OVER THE AREA.
2. LOCATIONS AND INVERT ELEVATIONS OF EX. UNDERGROUND SERVICES AND UTILITIES PRIOR TO STARTING CONSTRUCTION.
3. ALL EXISTING TREES, SHRUBS ETC. WITHIN PLOTS, BLOCKS AND ROADS TO BE PRESERVED UNLESS NOTED.
4. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS.
5. FOR WORK AREA PROVIDED, 2.4m MIN. COVER TO BE STUBS.
6. ANY DISTURBED MATERIAL INCURRED DURING SUBGRADE LEVEL WITHIN A BUILDING FOOTPRINT TO BE SUB-EXCAVATED AND BACKFILLED WITH SUBGRADE MATERIAL STILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION.
7. FOR ALL EXISTING AND ICD DATA, REFER TO DWG. No. 3 FOR DETAILS.



LEGAL INFORMATION
M-PLAN PROVIDED BY BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00
(Phase 1), RECEIVED ON OCTOBER 3, 2025.



CAIVAN (STITTSVILLE) INC.		STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1	
		120 Ibar Road, Unit 103 Stittsville, ON K2S 1E9 Tel: (613) 836-0856 Fax: (613) 836-7163 www.DSEL.ca	
STREET 1		© DSEL	
STA. 0+000.000 TO STA. 0+190.000			
DRAWN BY: M.S. & A.S.	CHECKED BY: W.L.	SHEET NO.	
DESIGNED BY: W.L.	CHECKED BY: C.M.	12	OF 52
SCALE: H=1:500/ V=1:50	DATE: FEBRUARY 2026		

PAVEMENT DESIGN

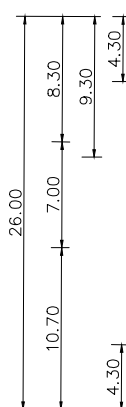
40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
100mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
600mm OPSS GRANULAR B TYPE II
COLLECTOR PAVEMENT ENDS AT STA +220

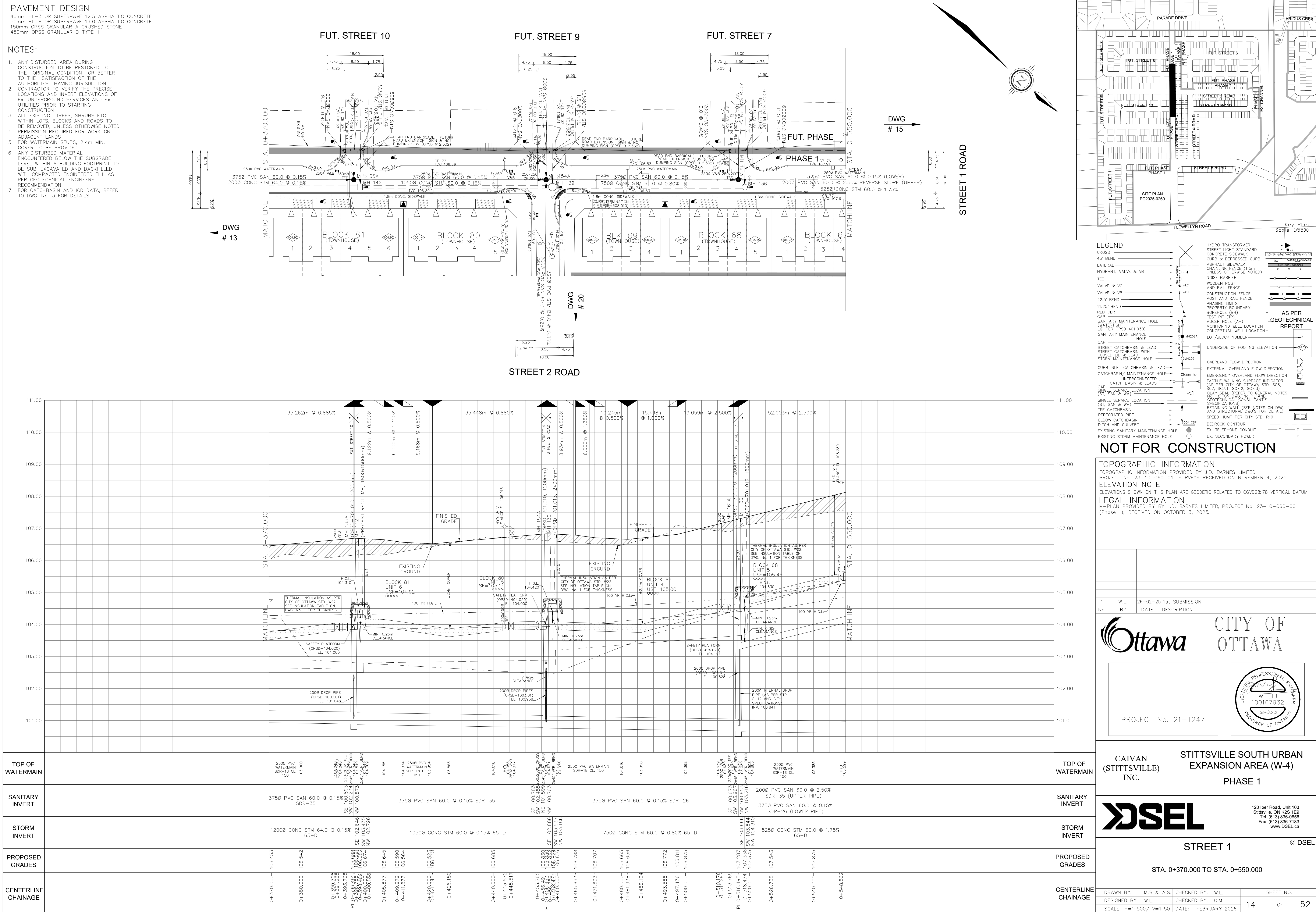
40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
450mm OPSS GRANULAR B TYPE II
LOCAL PAVEMENT STARTS FROM STA +220

NOTES:

1. ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION
2. CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF EX. UNDERGROUND SERVICES AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION
3. ALL EXISTING TREES, SHRUBS ETC. WITHIN LOTS, BLOCKS AND ROADS TO BE REMOVED, UNLESS OTHERWISE NOTED
4. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS
5. FOR WATERMAIN STUBS, 2.4m MIN. COVER TO BE PROVIDED
6. ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE LEVEL WITHIN A BUILDING FOOTPRINT TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEERED FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION
7. FOR CATCHBASIN AND ICD DATA, REFER TO DWG. No. 3 FOR DETAILS

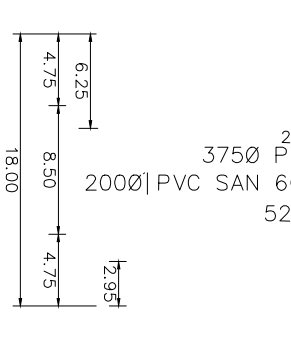
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12



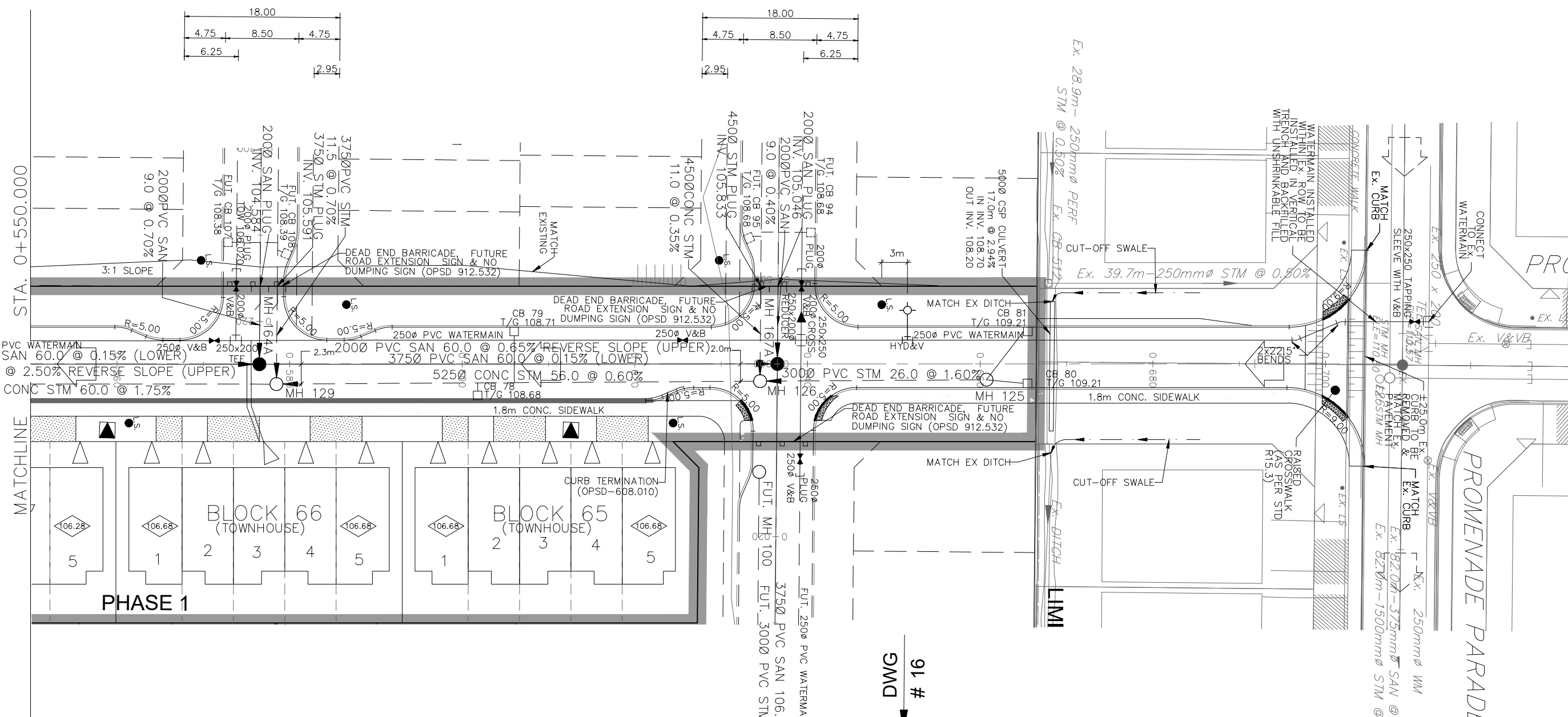


40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
450mm OPSS GRANULAR B TYPE II

1. ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER TO MATCH ADJACENT AREAS. THE AUTHORITIES HAVING JURISDICTION
2. CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF ALL EXISTING SEWERS AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION
3. ALL EXISTING TREES, SHRUBS ETC. WITHIN THE RIGHT-OF-WAY AND TO BE REMOVED, UNLESS OTHERWISE NOTED
4. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS
5. FORMER EARTH CUTS, 2.4m MIN. COVER TO BE PROVIDED
6. ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE TO BE BACKFILLED WITH CONTRACTOR TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEER FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION
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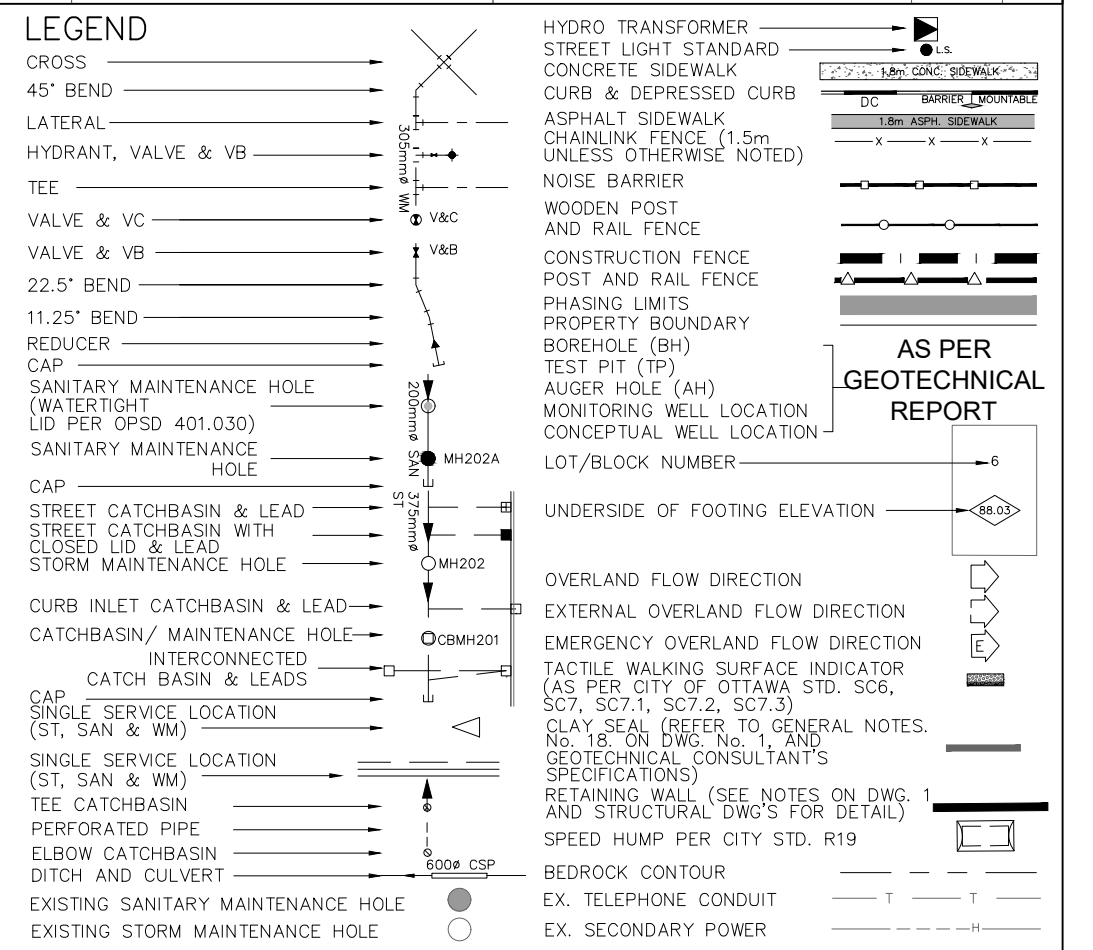
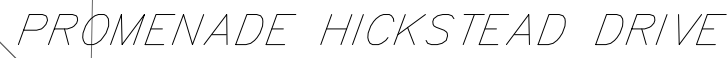
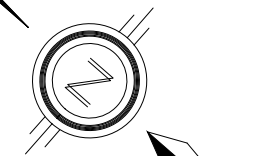


DWG
14

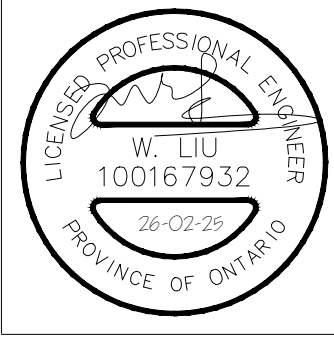


DWG
4 10

FUT. STREET 6



LEGAL INFORMATION
M-PLAN PROVIDED BY BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00
(Phase 1), RECEIVED ON OCTOBER 3, 2025.



PROJECT No. 21-1247

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STA. 0+550.000 TO STA. 0+718.903

SHEET NO.

5 OF 52

[illegible]

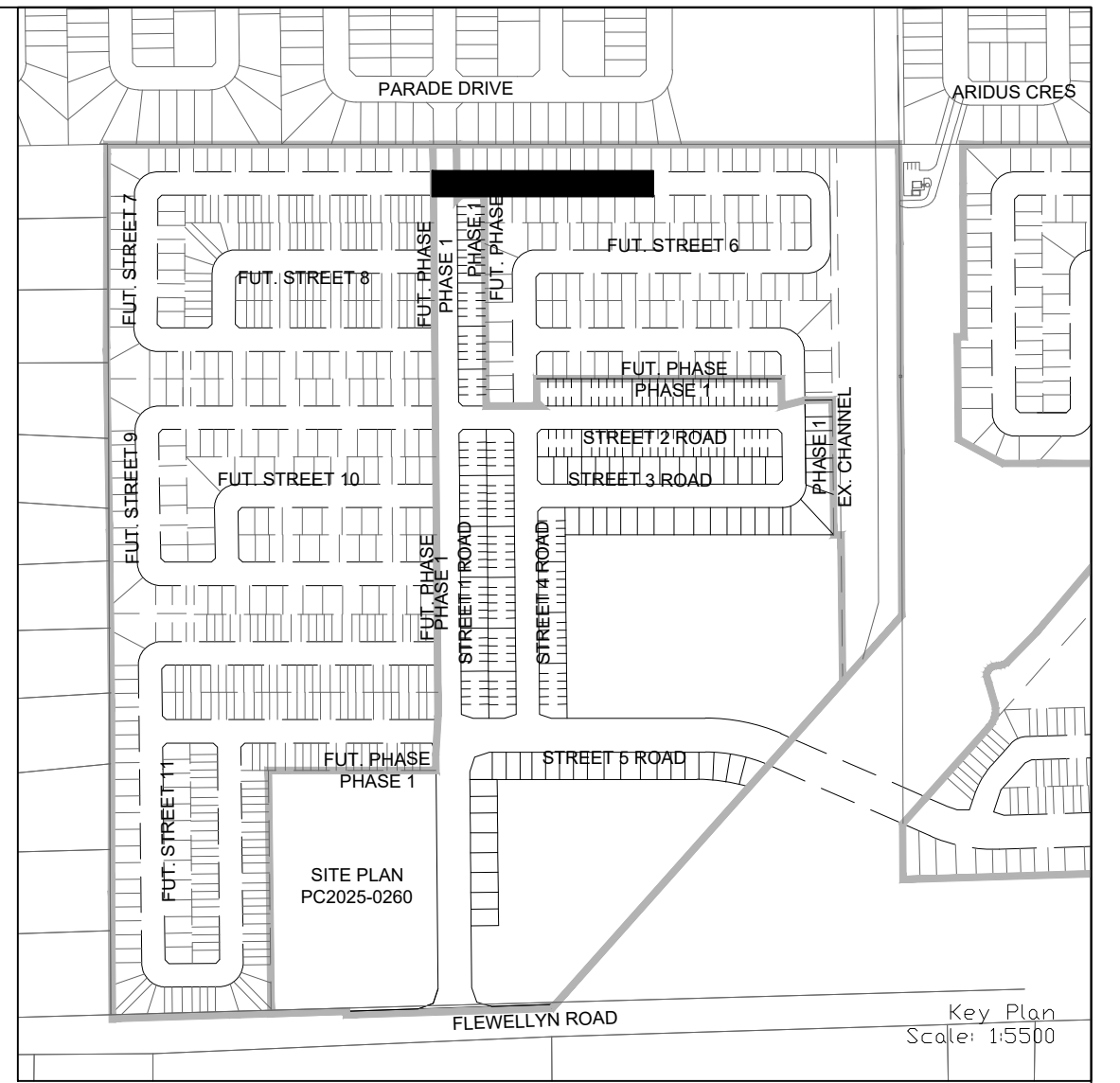
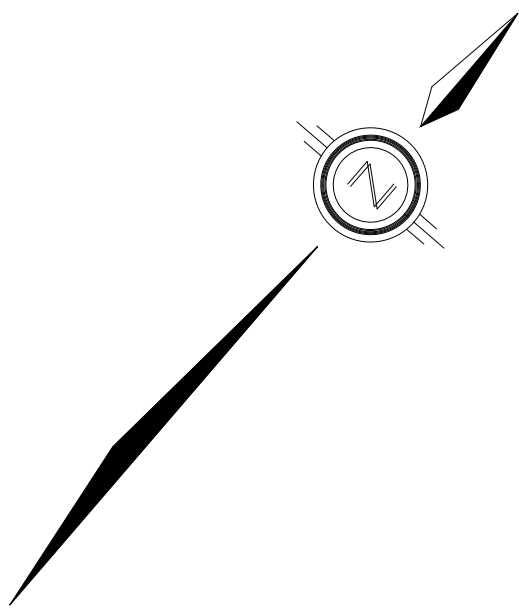
TOP OF WATERMAIN											TOP OF WATERMAIN
SANITARY INVERT											SANITARY INVERT
STORM INVERT											STORM INVERT
PROPOSED GRADES											PROPOSED GRADES
CENTERLINE CHAINAGE											CENTERLINE CHAINAGE

CITY PLAN No XXXXXX

CITY FILE # D07-16-24-0020

40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
450mm OPSS GRANULAR B TYPE II

1. ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER TO MATCH ADJACENT AREAS. THE AUTHORITIES HAVING JURISDICTION
2. CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF ALL EXISTING SEWERS AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION
3. ALL EXISTING TREES, SHRUBS ETC. WITHIN THE RIGHT-OF-WAY AND TO BE REMOVED, UNLESS OTHERWISE NOTED
4. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS
5. FORMER EARTH CUTS, 2.4m MIN. COVER TO BE PROVIDED
6. ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE TO BE BACKFILLED WITH CONTRACTOR TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEER FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION
7. FOR CATCHBASIN AND ICD DATA, REFER TO DWG. NO. 3 FOR DETAILS

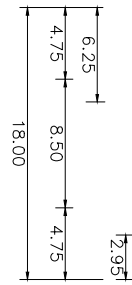


M-PLAN PROVIDED BY BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00
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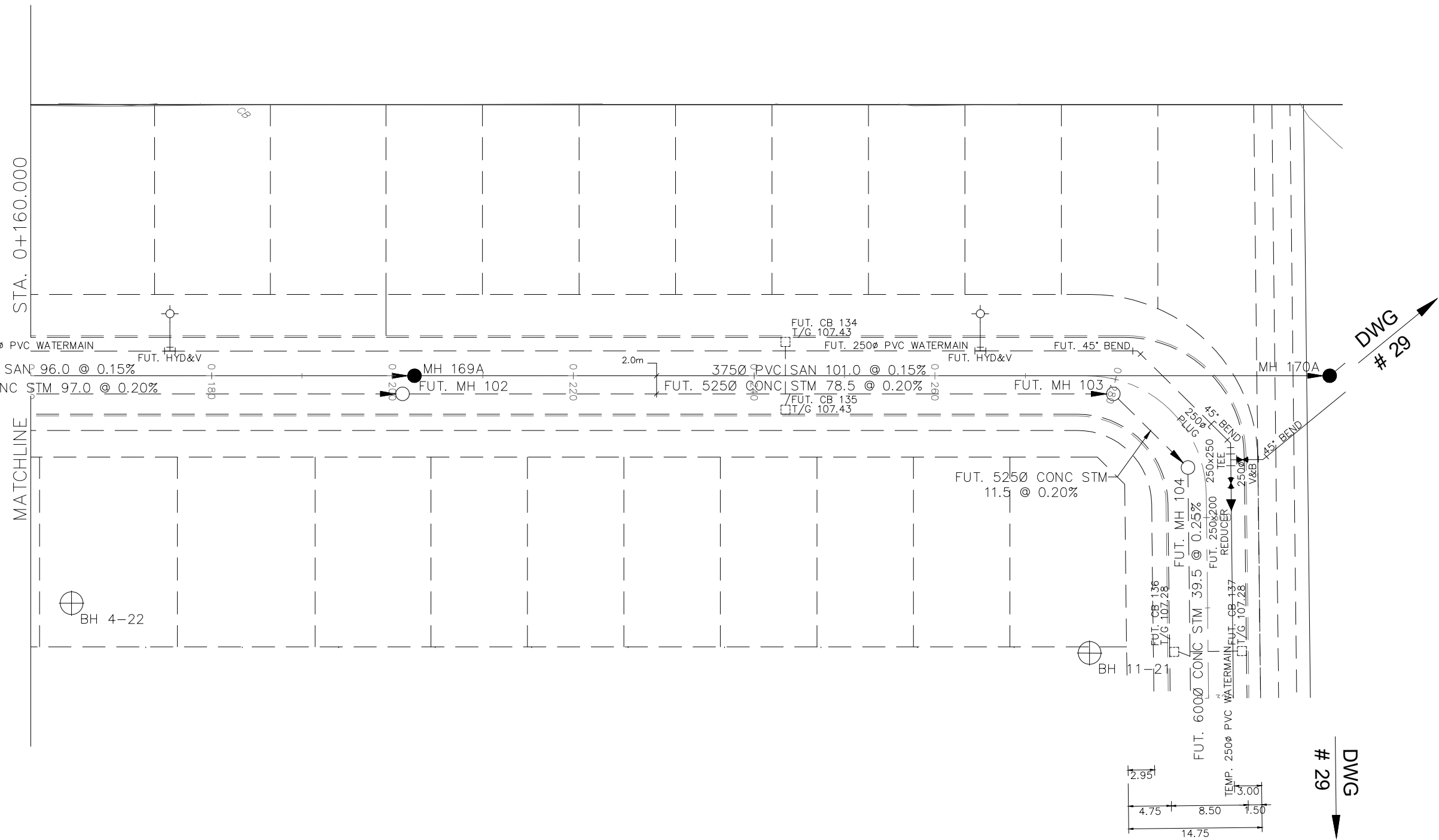
CAIVAN (STITTSVILLE) INC.		STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1	
		120 Ibor Road, Unit 103 Stittsville, ON K2S 1E9 Tel. (613) 836-0856 Fax. (613) 836-7183 www.DSEL.ca	
FUT. STREET 6		© DSEL	
STA. 0+000.000 TO STA. 0+160.000			
DRAWN BY: M.S. & A.S. DESIGNED BY: W.L. SCALE: H=1:500 / V=1:50	CHECKED BY: W.L. CHECKED BY: C.M. DATE: FEBRUARY 2026	SHEET NO. 16 OF 52	

40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
450mm OPSS GRANULAR B TYPE II

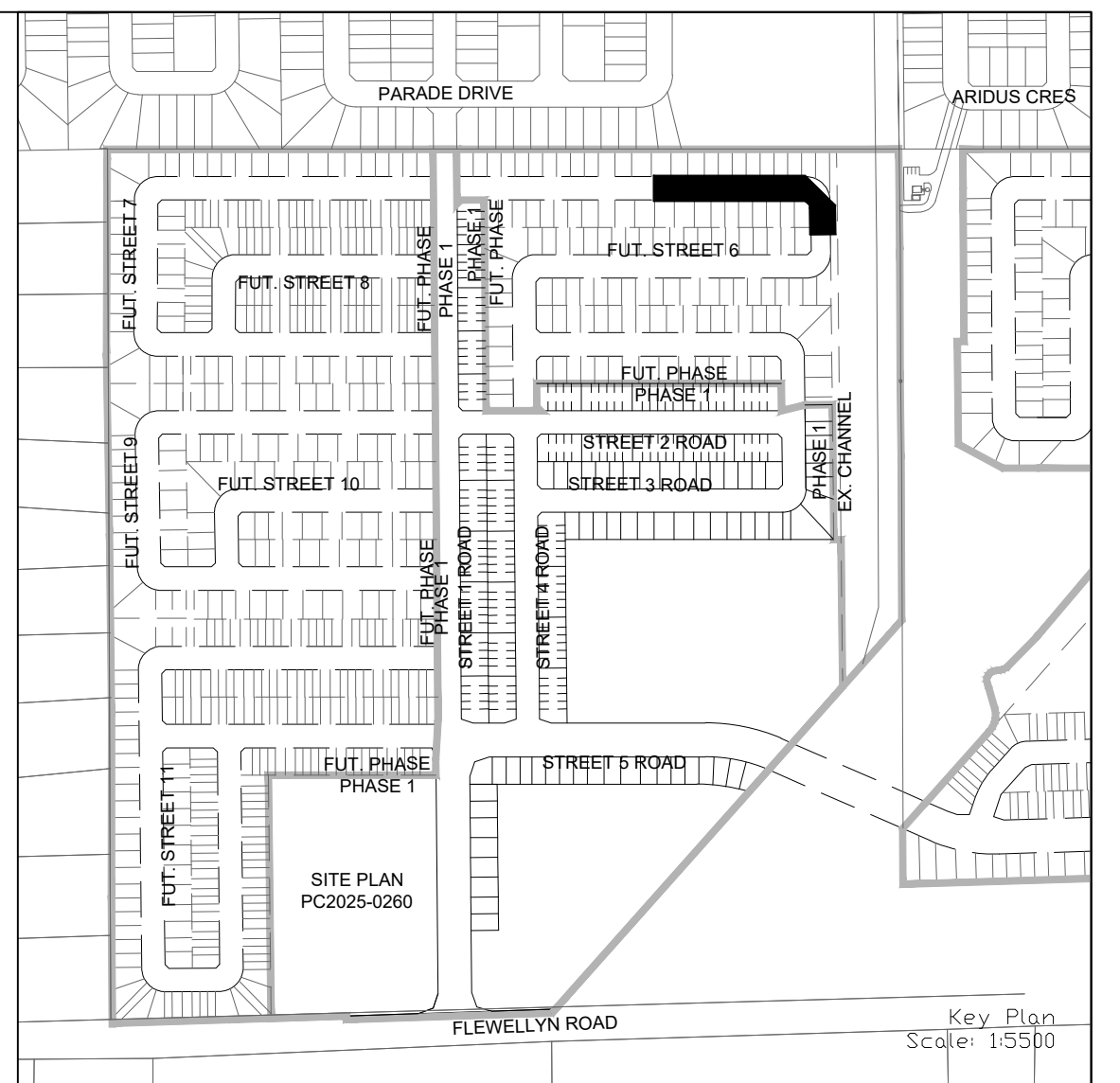
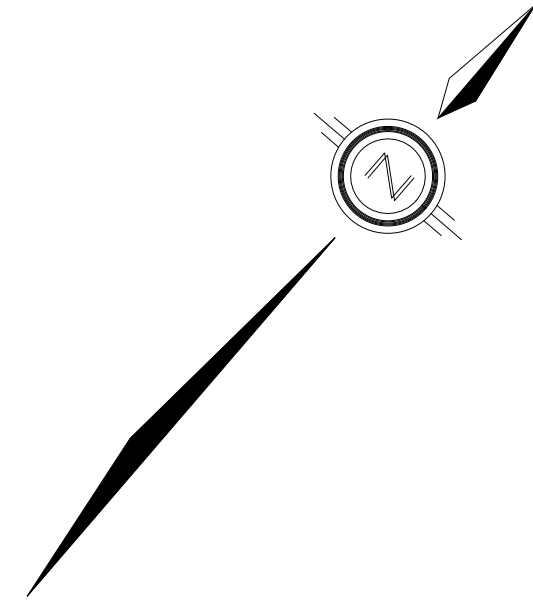
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2. CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF ALL EXISTING SEWERS AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION
3. ALL EXISTING TREES, SHRUBS ETC. WITHIN THE PROJECT LIMITS AND TO BE REMOVED, UNLESS OTHERWISE NOTED
4. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS
5. FORMER EARTH CUTS, 2.4m MIN. COVER TO BE PROVIDED
6. ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE TO BE BACKFILLED WITH CONTRACTOR TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEER FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION
7. FOR CATCHBASIN AND ICD DATA, REFER TO DWG. NO. 3 FOR DETAILS



DWG
16



FUT. STREET 6



CROSS

45° BEND

LATERAL

HYDRANT, VALVE & VB

TEE

VALVE & VC

VALVE & VB

22.5° BEND

11.25° BEND

REDUCER

CAP

SANITARY MAINTENANCE HOLE (WATERHOLE)

W/3 PER OPSD 401.03(0)

SANITARY MAINTENANCE HOLE

CAP

CATCH BASIN & LEAD

STREET CATCHBASIN WITH LEAD & LEAD

STORM MAINTENANCE HOLE

CURB INLET CATCHBASIN & LEAD

CATCHBASIN/ MAINTENANCE HOLE

INTERCONNECTED CATCH BASIN & LEADS

CAP, SINGLE SERVICE LOCATION (ST, SAN, SW)

CATCH BASIN (ST, SAN & SW)

TEE CATCHBASIN

PERFORATED PIPE

ELBOW CATCHBASIN

DITCH AND CULVERT

EXISTING SANITARY MAINTENANCE HOLE

EXISTING STREET MAINTENANCE HOLE

HYDRO TRANSFORMER STREET LIGHT STANDARD

CONCRETE SIDEWALK

CURB & DEPRESSION CURB

ASPHALT SIDEWALK

CHANNELING FENCE (1.5m UNLESS OTHERWISE NOTED)

NOISE BARRIER

WOODEN POST AND RAIL FENCE

CONSTRUCTION FENCE POST AND RAIL FENCE

PHASING LIMITS

PROPERTY BOUNDARY BORHOLE (BH)

TEST PIT (TP)

HOLE HOLE (AH)

MONITORING WELL LOCATION

CONCEPTUAL WELL LOCATION

LOT/BLOCK NUMBER

UNDERSIDE OF FLOOR ELEVATION

OVERLAND FLOW DIRECTION

EXTERNAL OVERLAND FLOW DIRECTION

EMERGENCY OVERLAND FLOW DIRECTION

TACTILE WALKING SURFACE INDICATOR

C.A.S. PER CITY OF OTTAWA STD. SGT. SGT.1, SGT.2, SGT.3

CL. 18" ON DWG. NO. 1, AND 18" ON DWG. NO. 2

RETAINING WALL (SEE NOTES ON DWG. 1 AND STRUCTURAL DWGS FOR DETAILS)

SPEED LIMIT PER CITY STD. R19

BEDROCK CONTOUR

EX. TELEPHONE CONDUIT

EX. SECONDARY POWER

AS PER GEOTECHNICAL REPORT

TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01. SURVEYS RECEIVED ON NOVEMBER 4, 2025

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC RELATED TO CGVD28:78 VERTICAL DATUM

M-PLAN PROVIDED BY BY J.D. BA

(Phase 1), RECEIVED ON OCTOBER 3, 2025.

1	W.L.	26-02-25	1st SUBMISSION
No.	BY	DATE	DESCRIPTION

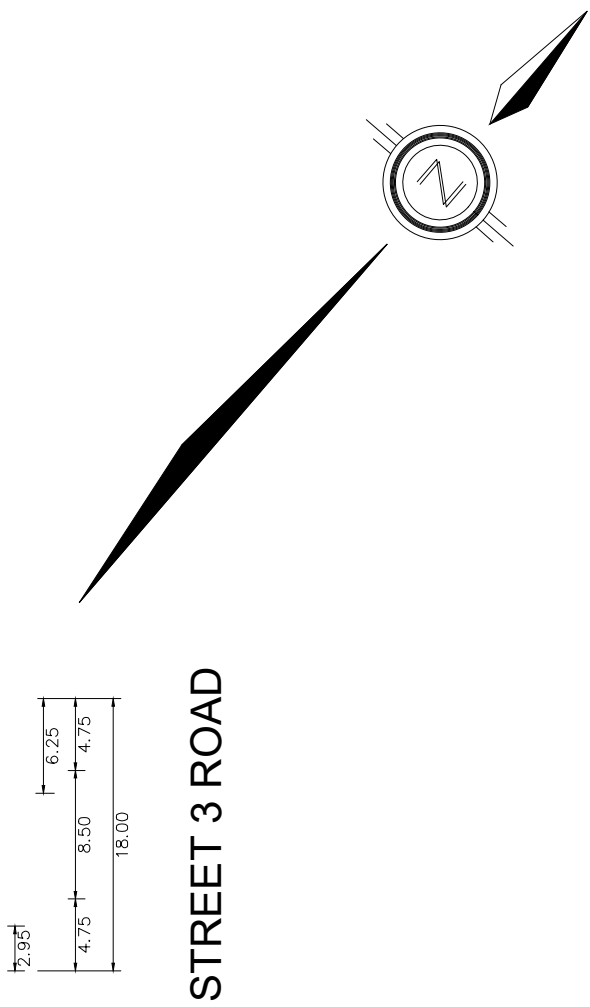


CAIVAN (STITTSVILLE) INC.		STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4)	
		PHASE 1	
		120 Iber Road, Unit 103 Stittsville, ON K2S 1E9 Tel: (613) 836-0856 Fax: (613) 836-7183 www.DSEL.ca	
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STA. 0+160.00 TO STA. 0+320.00			
DRAWN BY: M.S. & A.S.		CHECKED BY: W.L.	
DESIGNED BY: W.L.		CHECKED BY: C.M.	
SCALE: H=1:500 / V=1:50		DATE: FEBRUARY 2026	
		17	OF 52

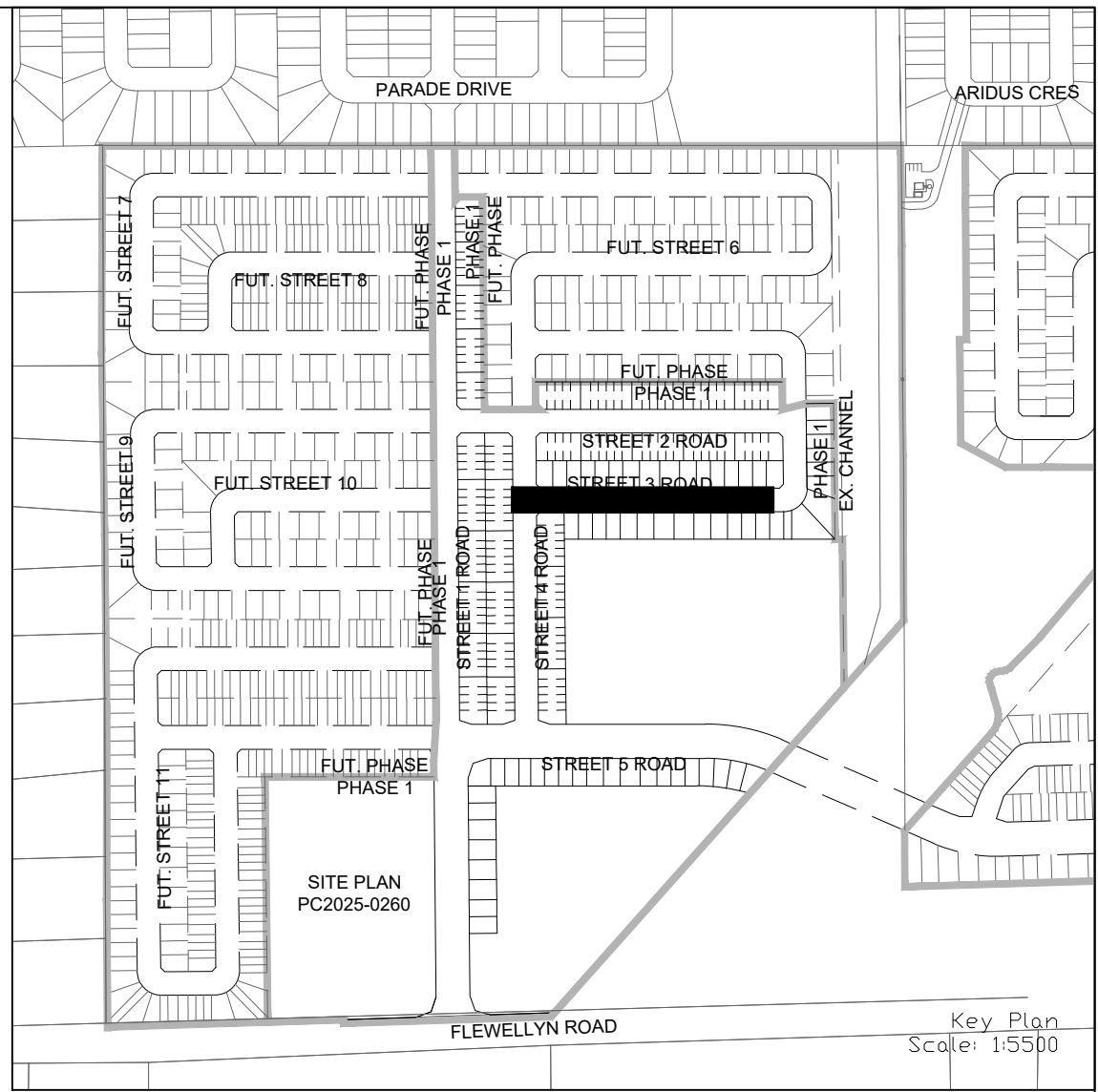
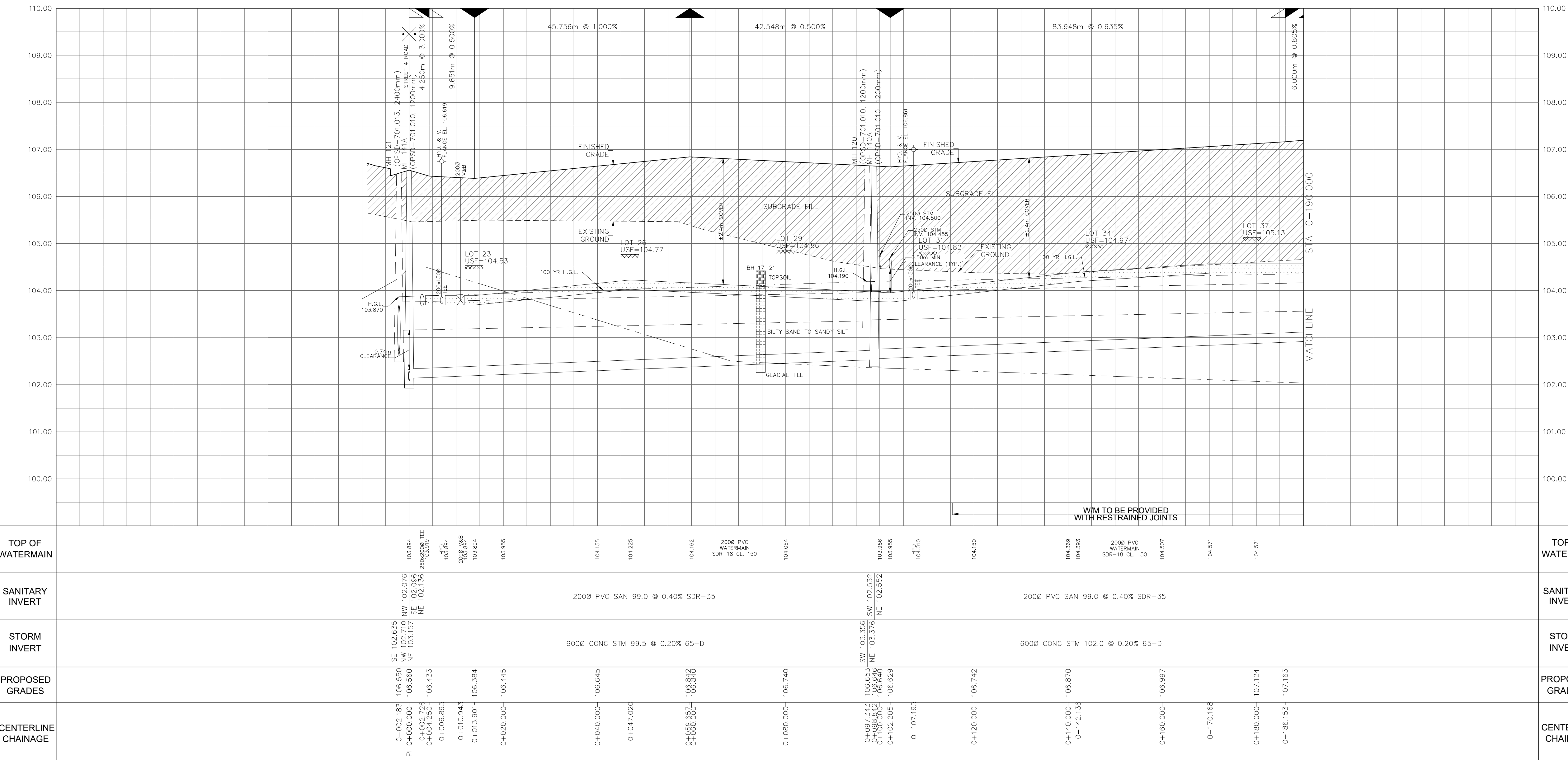
40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
450mm OPSS GRANULAR B TYPE II

1. ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER TO MATCH ADJACENT AREAS. THE AUTHORITIES HAVING JURISDICTION
2. CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF ALL EXISTING SEWERS AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION
3. ALL EXISTING TREES, SHRUBS ETC. WITHIN THE RIGHT-OF-WAY AND TO BE REMOVED, UNLESS OTHERWISE NOTED
4. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS
5. FORMER EARTH CUTS, 2.4m MIN. COVER TO BE PROVIDED
6. ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE TO BE BACKFILLED WITH CONTRACTOR TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEER FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION
7. FOR CATCHBASIN AND ICD DATA, REFER TO DWG. NO. 3 FOR DETAILS

The site plan for Block 23 (Townhouse) shows a grid of lots numbered 10 through 37. The plan includes various utility lines and structures, such as 2000 PVC SAN, 6000 CONC STM, and 2500 PVC STM. It also shows a matchline on the right and a north arrow.



DWG
19



- # LEGEND
- CROSS

45° BEND

LATERAL

HYDRANT, VALVE & VB

TEE

VALVE & VC

VALVE & VB

22.5° BEND

11.25° BEND

REDUCER

CAP

SANITARY MAINTENANCE HOLE

1/2" DR (PDS 401.030)

SANITARY MAINTENANCE HOLE

CAP

STREET CATCHBASIN & LEAD

STREET CATCHBASIN WITH

ROOFED IN LEAD

STORM MAINTENANCE HOLE

CURB INLET CATCHBASIN & LEAD

CATCHBASIN/MAINTENANCE HOLE

INTERCONNECTED

CATCH BASIN & LEAD

CAP

SINGLE SERVICE LOCATION

(S1 SAN & WM)

SINGLE SERVICE LOCATION

(S1 SAN & WM)

TEE CATCHBASIN

PERFORATED PIPE

W/OTH AND VALVE

EXISTING SANITARY MAINTENANCE HOLE

EXISTING SANITARY MAINTENANCE HOLE

HYDRO TRANSFORMER

STREET LIGHT STANDARD

CONCRETE SIDEWALK

CURB & DEPRESSION CURB

ASPHALT SIDEWALK

CHAINLINK FENCE (1.5m

CONCRETE (UNLESS NOTED)

NOISE BARRIER

WOODEN POST

RAIL FENCE

CONSTRUCTION FENCE

POST AND RAIL FENCE

PHASING LINES

PROPERTY BOUNDARY

BOREHOLE (BH)

TEST PIT (TP)

AUGER HOLE (AH)

MONITORING WELL LOCATION

CONCEPTUAL WELL LOCATION

LOT/BLK NUMBER

UNDERSIDE OF FOOTING ELEVATION

OVERLAND FLOW DIRECTION

EXTERNAL OVERLAND FLOW DIRECTION

EMERGENCY OVERLAND FLOW DIRECTION

TACTICAL WADING/SURVEY INDICATOR

AS PER OF OTTAWA STD. 510.010

SGT, SGT1, SGT2, SGT3

CLAY SEAL (SEE NOTES FOR GENERAL NOTES)

16" OR DRG. NO. 1 AND

GEOTECHNICAL CONSULTANT'S SPECIFICATIONS)

RETAINING WALL (SEE NOTES ON DWG-1

AND STRUCTURAL DWG'S FOR DETAILS)

SPEED HUMP PER CITY STD. R19

BERDOCK CUTOUT

EX. TELEPHONE CONDUIT

EX. UNDERGROUND POWER
- AS PER**

GEOTECHNICAL

REPORT

TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01. SURVEYS RECEIVED ON NOVEMBER 4, 2025

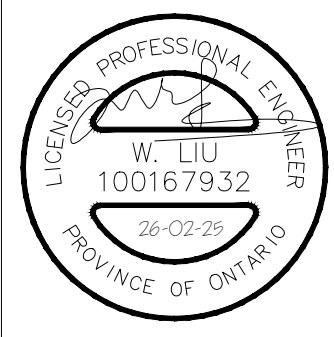
ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC RELATED TO CGVD28:78 VERTICAL DATUM

LEGAL INFORMATION

M-PLAN PROVIDED BY BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00
(Phase 1), RECEIVED ON OCTOBER 3, 2025.

1	W.L.	26-02-25	1st SUBMISSION
No.	BY	DATE	DESCRIPTION

CITY OF
OTTAWA

PROJECT No. 21-1247

CAIVAN
(STITTSVILLE)
INC.

STITTSVILLE SOUTH URBAN
EXPANSION AREA (W-4)

DSEL

120 Iber Road, Unit 103
Stittsville, ON K2S 1E9
Tel. (613) 836-0856
Fax. (613) 836-7183
www.DSEL.ca

STREET 3

© DSEL

STA. 0+000.000 TO STA. 0+190.000

DRAWN BY: M.S. & A.S.	CHECKED BY: W.L.	18	OF	52
DESIGNED BY: W.L.	CHECKED BY: C.M.			
SCALE: H=1:500/ V=1:50	DATE: FEBRUARY 2026			

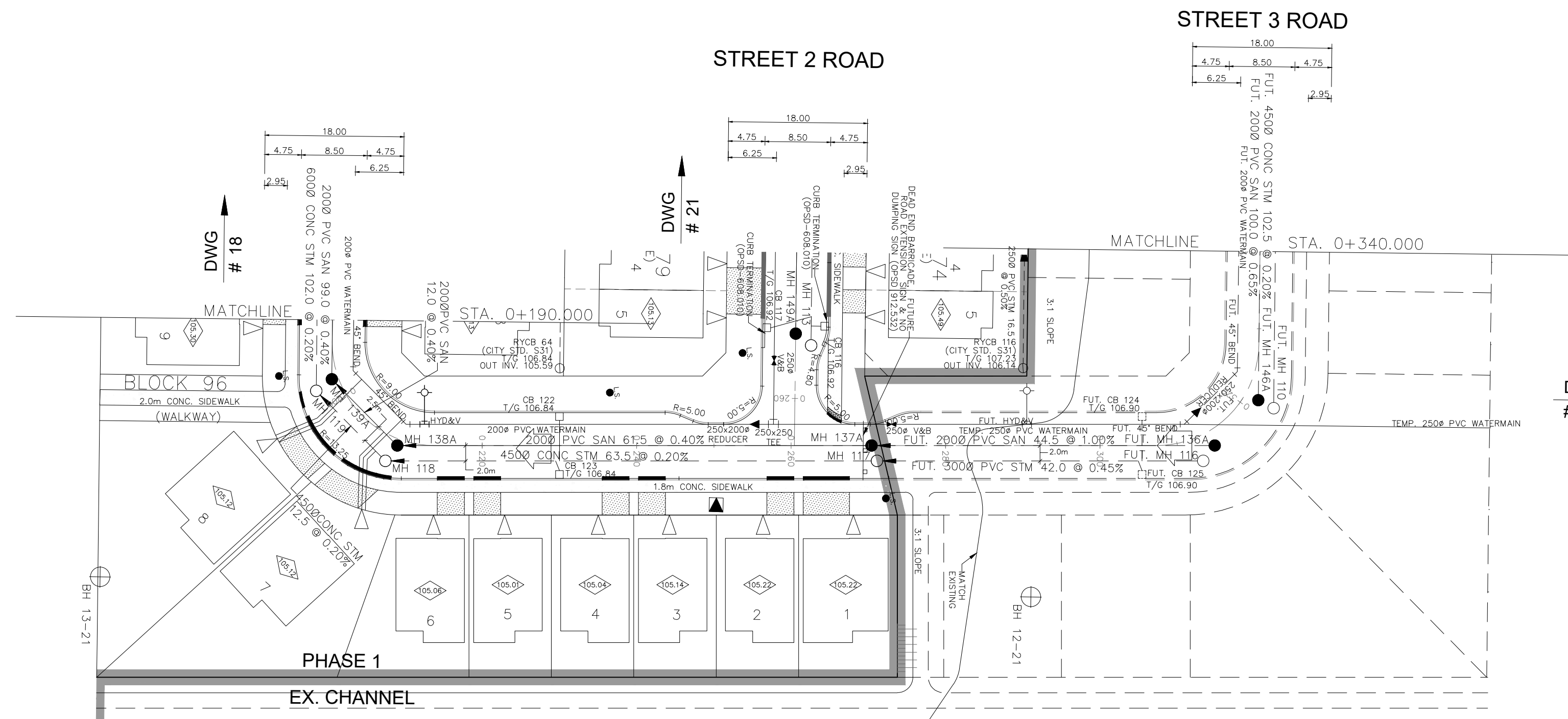
CITY PLAN No. XXXXXXXX

CITY FILE No. D07-16-24-0020

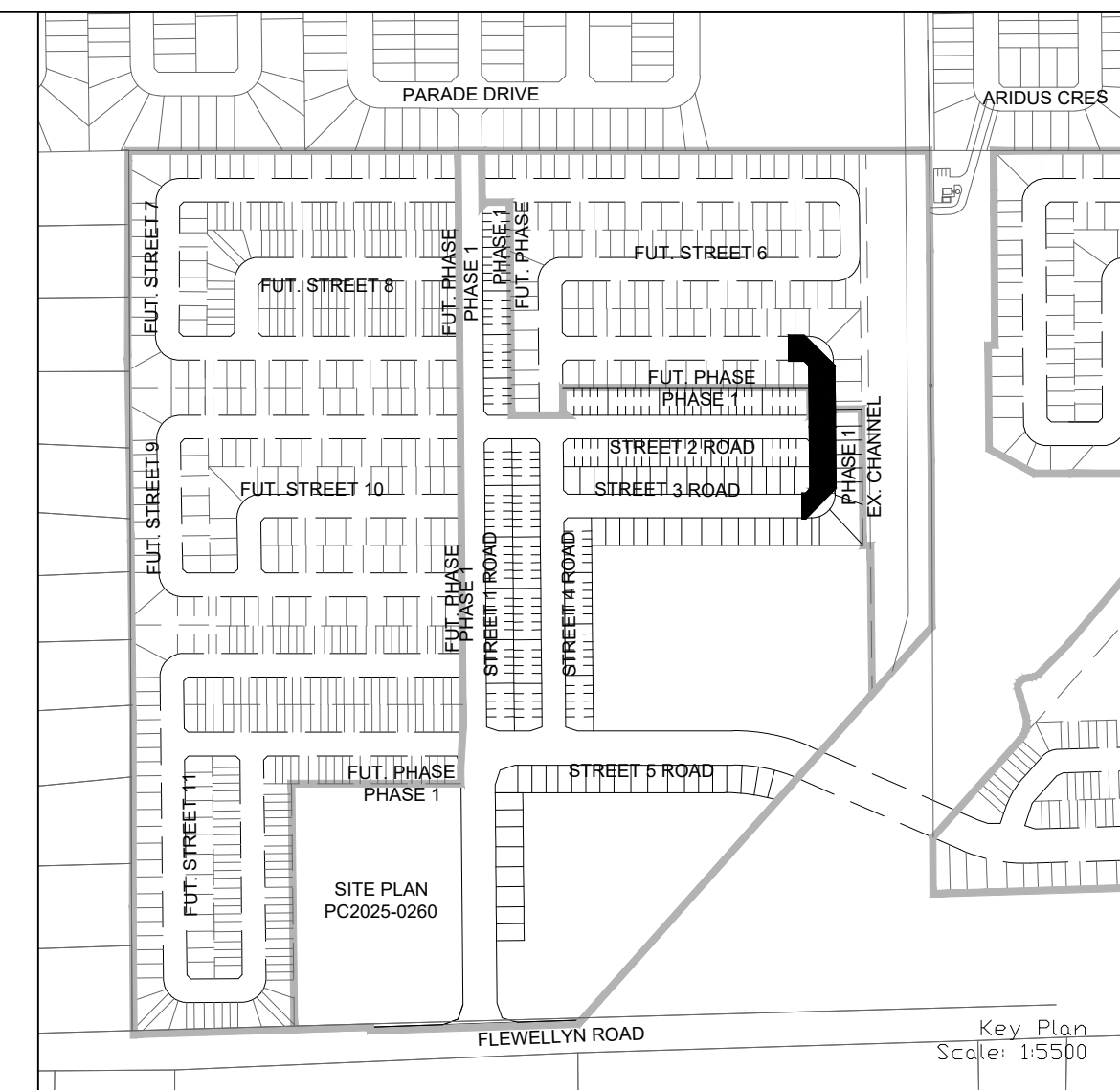
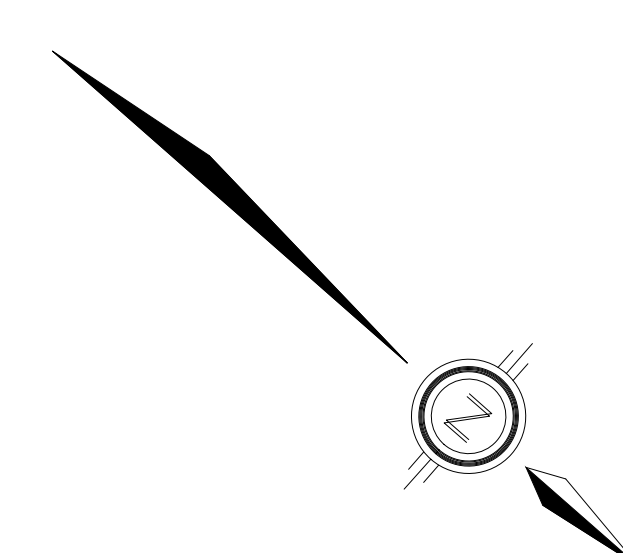
PAVEMENT DESIGN
40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
450mm OPSS GRANULAR B TYPE II

NOTES:

1. ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION.
2. CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF EX. UNDERGROUND SERVICES AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION.
3. ALL EXISTING TREES, SHRUBS ETC. WITHIN LOTS, BLOCKS AND ROADS TO BE REMOVED, UNLESS OTHERWISE NOTED.
4. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS.
5. FOR WATERMAIN STUBS, 2.4m MIN. COVER TO BE PROVIDED.
6. ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE LEVEL WITHIN A BUILDING FOOTPRINT TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEERED FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION.
7. FOR CATCHBASIN AND ICD DATA, REFER TO DWG. No. 3 FOR DETAILS.



DWG # 29



Key Plan
Scale: 1:5500

LEGEND	
CROSS	HYDRO TRANSFORMER
45° BEND	STREET LIGHT STANDARD
LATERAL	CONCRETE SIDEWALK
HYDRANT, VALVE & VB	CURB & DEPRESSIONED CURB
TEE	ASPHALT SIDEWALK
VALVE & VC	CHAINLINK FENCE (1.0m UNLESS OTHERWISE NOTED)
VALVE & VB	NOISE BARRIER
22.5° BEND	WOODEN POST AND RAIL FENCE
11.25° BEND	CONSTRUCTION FENCE
REDUCER	POST AND RAIL FENCE
CAP	PHASING LIMITS
SANITARY MAINTENANCE HOLE (WATER TIGHT)	PROPERTY BOUNDARY
SANITARY MAINTENANCE HOLE	BOREHOLE (BH)
CAP	TEST PIT (TP)
STREET CATCHBASIN & LEAD	AUGER HOLE (AH)
STREET CATCHBASIN WITH CLOSED LID & LEAD	MONITORING WELL LOCATION
STORM MAINTENANCE HOLE	CONCEPTUAL WELL LOCATION
CURB INLET CATCHBASIN & LEAD	LOT/BLOCK NUMBER
CATCHBASIN/ MAINTENANCE HOLE INTERCONNECTED	UNDERSIDE OF FOOTING ELEVATION
CATCH BASIN & LEADS	OVERLAND FLOW DIRECTION
CAP SINGLE SERVICE LOCATION (ST, SAN & WW)	EXTERNAL OVERLAND FLOW DIRECTION
CAP SINGLE SERVICE LOCATION (ST, SAN & WW)	EMERGENCY OVERLAND FLOW DIRECTION
EXISTING SANITARY MAINTENANCE HOLE	FACILE WALKING SURFACE INDICATOR (AS PER CITY OF OTTAWA STD. 306, UNLESS OTHERWISE NOTED)
EXISTING STORM MAINTENANCE HOLE	SCALY SILENCE (REFER TO GENERAL NOTES, GEOTECHNICAL CONSULTANT'S REPORT)
	RETAINING WALL (SEE NOTES ON DWG. 1 UNLESS OTHERWISE NOTED)
	SPEED HUMP PER CITY STD. R19
	BEDROCK CONTOUR
	EX. TELEPHONE CONDUIT
	EX. SECONDARY POWER

NOT FOR CONSTRUCTION

TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01, SURVEYS RECEIVED ON NOVEMBER 4, 2025.

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC RELATED TO CGVD28.78 VERTICAL DATUM

LEGAL INFORMATION

M-PLAN PROVIDED BY BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00 (Phase 1), RECEIVED ON OCTOBER 3, 2025.

1

W.L.

26-02-25

1st SUBMISSION

No.

BY

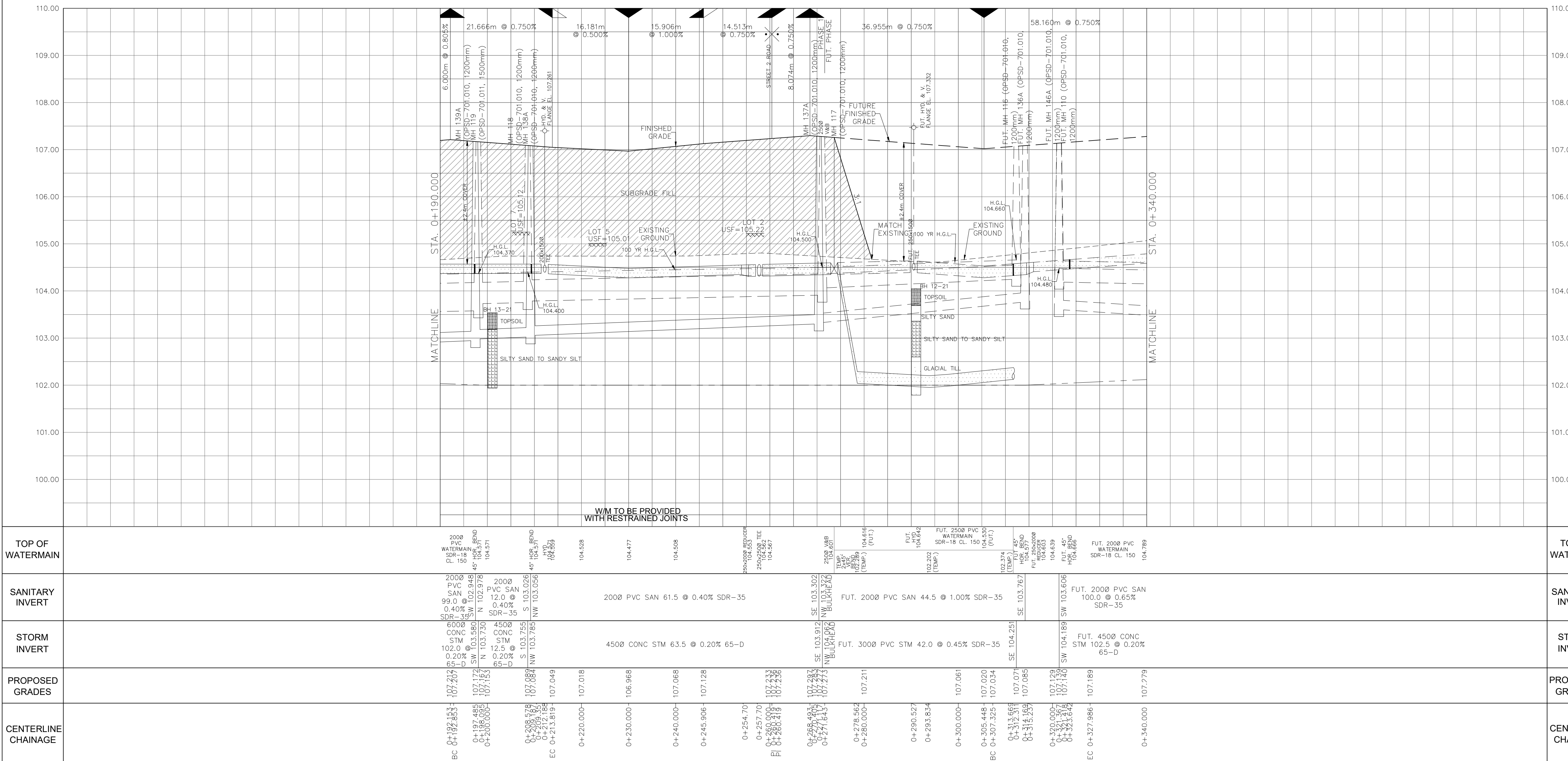
DATE

DESCRIPTION

CITY OF OTTAWA

PROJECT No. 21-1247

CAIVAN (STITTSVILLE) INC.		STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1	
		120 Iber Road, Unit 103 Stittsville, ON K2S 1E9 Tel. (613) 836-0856 Fax. (613) 836-7163 www.DSEL.ca	
STREET 3		© DSEL	
STA. 0+190.000 TO STA. 0+340.000			
DRAWN BY: M.S. & A.S.		CHECKED BY: W.L.	
DESIGNED BY: W.L.		CHECKED BY: C.M.	
SCALE: H=1:500/ V=1:50		DATE: FEBRUARY 2026	
		SHEET NO.	
		19 OF 52	



CITY PLAN No. XXXXX
CITY FILE No. _D07-16-24-0020

PAVEMENT DESIGN

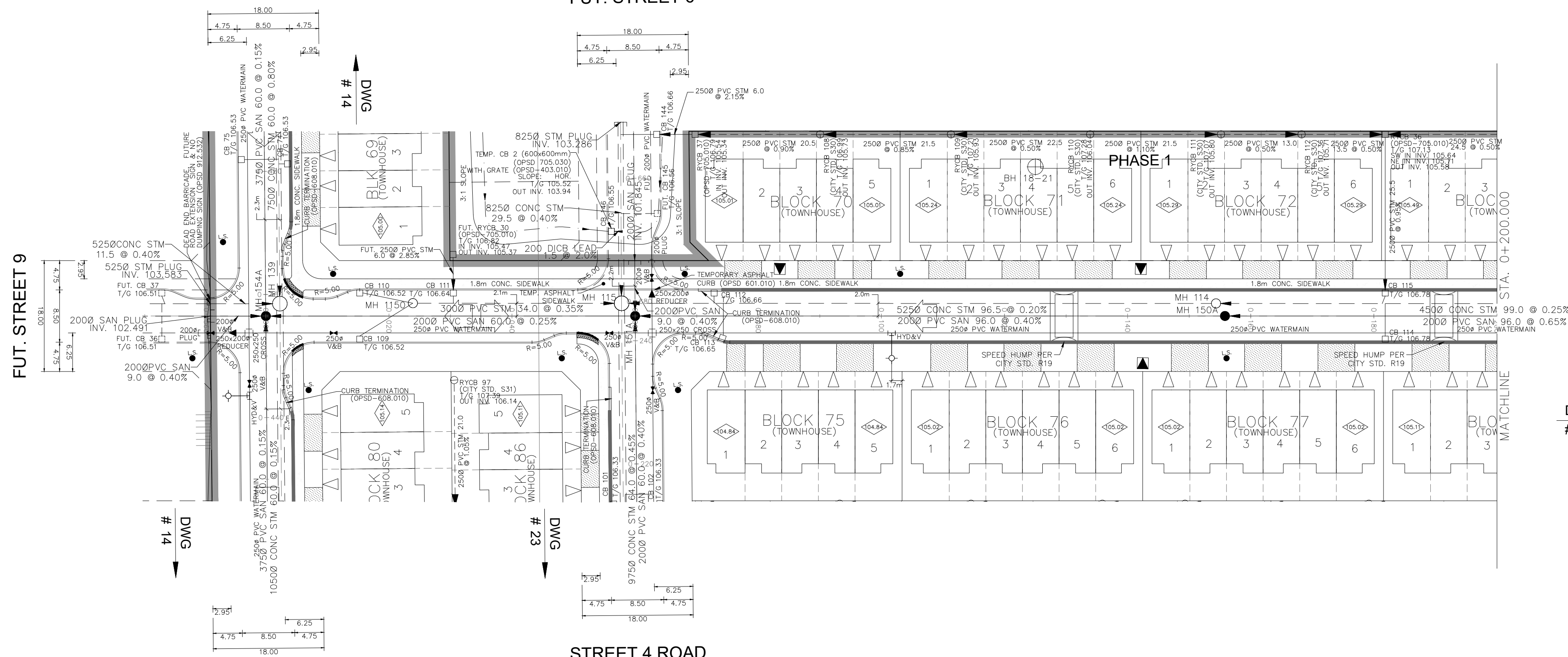
40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
450mm OPSS GRANULAR B TYPE II

NOTES:

1. ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION.
2. CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF EX. UNDERGROUND SERVICES AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION.
3. ALL EXISTING TREES, SHRUBS ETC. WITHIN LOTS, BLOCKS AND ROADS TO BE REMOVED, UNLESS OTHERWISE NOTED.
4. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS.
5. FOR WATERMAIN STUBS, 2.4m MIN. COVER TO BE PROVIDED.
6. ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE LEVEL WITHIN A BUILDING FOOTPRINT TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEERED FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION.
7. FOR CATCHBASIN AND ICD DATA, REFER TO DWG. No. 3 FOR DETAILS.

STREET 1 ROAD

FUT. STREET 6



STREET 2 ROAD

DWG # 21



LEGEND	
CROSS	HYDRO TRANSFORMER
45° BEND	STREET LIGHT STANDARD
LATERAL	CONCRETE SIDEWALK
HYDRANT, VALVE & VB	CURB & DEPRESSIONED CURB
TEE	ASPHALT SIDEWALK
VALVE & VC	CHAINLINK FENCE (1.0m UNLESS OTHERWISE NOTED)
VALVE & VB	NOISE BARRIER
11.25° BEND	WOODEN POST AND RAIL FENCE
REDUCER	CONSTRUCTION FENCE
CAP	POST AND RAIL FENCE
SANITARY MAINTENANCE HOLE (WATER TIGHT LID PER OPSD 401.030)	PROPERTY BOUNDARY
SANITARY MAINTENANCE HOLE	BOREHOLE (BH)
CAP	TEST PIT (TP)
STREET CATCHBASIN & LEAD	AUGER HOLE (AH)
STREET CATCHBASIN WITH CLOSED LID & LEAD	TEST PIT (TP) LOCATION
STORM MAINTENANCE HOLE	CONCEPTUAL WELL LOCATION
CURB INLET CATCHBASIN & LEAD	LOT/BLOCK NUMBER
CATCHBASIN/ MAINTENANCE HOLE INTERCONNECTED	UNDERSIDE OF FOOTING ELEVATION
CATCH BASIN & LEADS	OVERLAND FLOW DIRECTION
SINGLE SERVICE LOCATION (ST, SAN & WW)	EXTERNAL OVERLAND FLOW DIRECTION
SINGLE SERVICE LOCATION	EMERGENCY OVERLAND FLOW DIRECTION
TEST CATCHBASIN	FACILE WALKING SURFACE INDICATOR (AS PER CITY OF OTTAWA STD. 306, SC4, SEE REFER TO GENERAL NOTES, AND GEOTECHNICAL CONSULTANT'S SPECIFICATIONS)
PERFORATED PIPE	RETAINING WALL (SEE NOTES ON DWG. 1)
DITCH AND CULVERT	ARREST STRUCTURAL DWGS FOR DETAIL
EXISTING SANITARY MAINTENANCE HOLE	SPEED HUMP PER CITY STD. R19
EXISTING STORM MAINTENANCE HOLE	BEDROCK CONTOUR
	EX. TELEPHONE CONDUIT
	EX. SECONDARY POWER

NOT FOR CONSTRUCTION

TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01, SURVEYS RECEIVED ON NOVEMBER 4, 2025.

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC RELATED TO CGVD28:78 VERTICAL DATUM

LEGAL INFORMATION

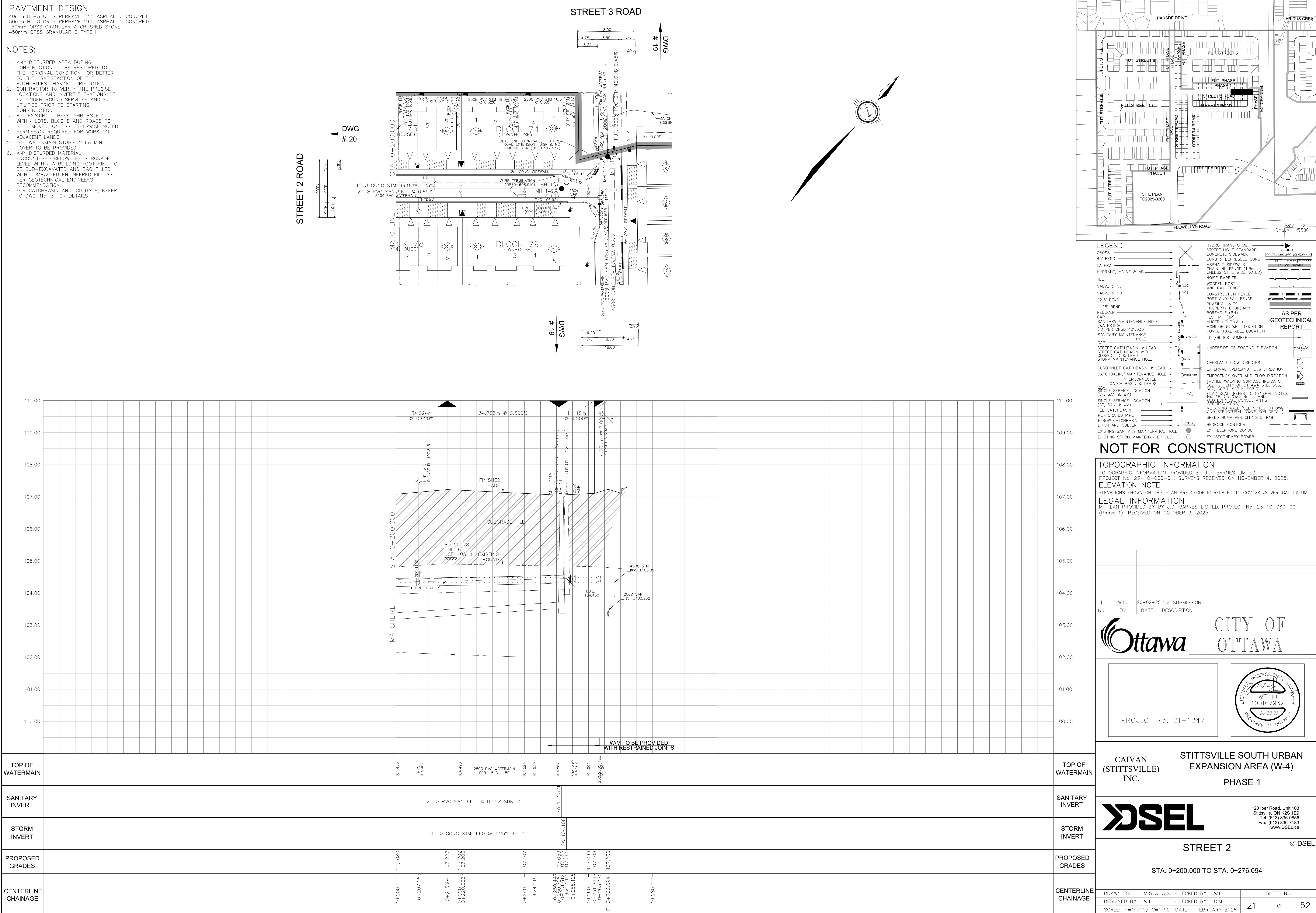
M-PLAN PROVIDED BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00 (Phase 1), RECEIVED ON OCTOBER 3, 2025.

No.	W.L.	DATE	DESCRIPTION
1	W.L.	26-02-25	1st SUBMISSION

PROJECT No. 21-1247

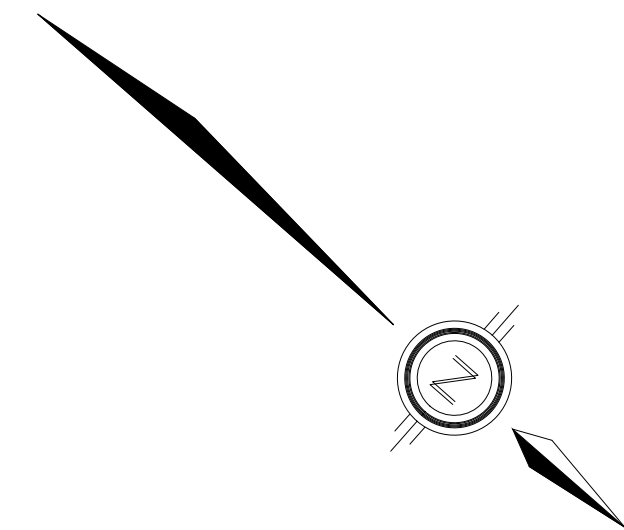
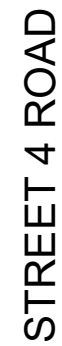
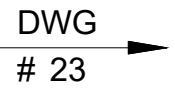
CAIVAN (STITTSVILLE) INC.		STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1	
		© DSEL	
STREET 2		STA. 0+000.000 TO STA. 0+200.000	
DRAWN BY: M.S. & A.S.	CHECKED BY: W.L.	SHEET NO.	
DESIGNED BY: W.L.	CHECKED BY: C.M.	20 OF 52	
SCALE: H=1:500/ V=1:50		DATE: FEBRUARY 2026	

CITY PLAN No. XXXXX
CITY FILE No. _D07-16-24-0020



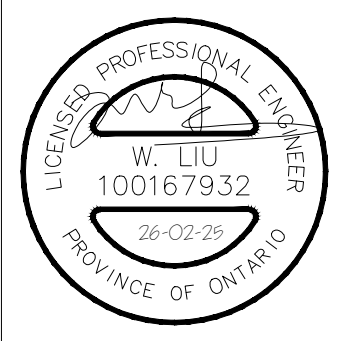
40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
450mm OPSS GRANULAR B TYPE II

1. ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER TO MEET OR EXCEED THE STANDARDS OF THE AUTHORITIES HAVING JURISDICTION
2. CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF ALL EXISTING SEWERS AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION
3. ALL EXISTING TREES, SHRUBS ETC. WITHIN THE PROJECT LIMITS AND WAYS TO BE REMOVED, UNLESS OTHERWISE NOTED
4. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS
5. FORMER EARTH CUTS, 2.4m MIN. COVER TO BE PROVIDED
6. ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE TO BE BACKFILLED WITH CONTRACTOR TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEERED FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION
7. FOR CATCHBASIN AND ICD DATA, REFER TO DWG. NO. 3 FOR DETAILS



M-PLAN PROVIDED BY BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00
(Phase 1), RECEIVED ON OCTOBER 3, 2025.

1	W.L.	26-02-25	1st SUBMISSION
No.	BY	DATE	DESCRIPTION



PROJECT No. 21-1247

CAIVAN
(STITTSVILLE)
INC.

STITTSVILLE SOUTH URBAN
EXPANSION AREA (W-4)

>SEL

120 Iber Road, Unit 103
Stittsville, ON K2S 1E9
Tel. (613) 836-0856
Fax. (613) 836-7183
www.DSEL.ca

STREET 4

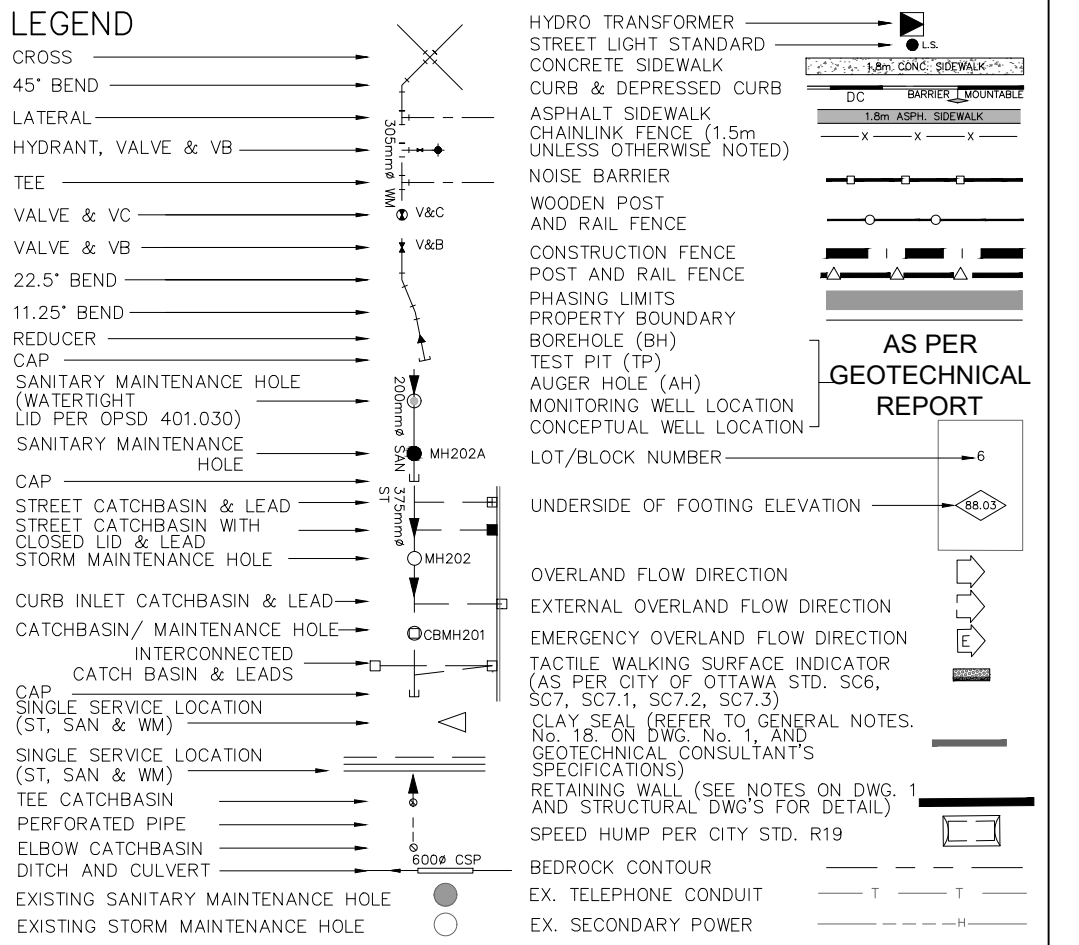
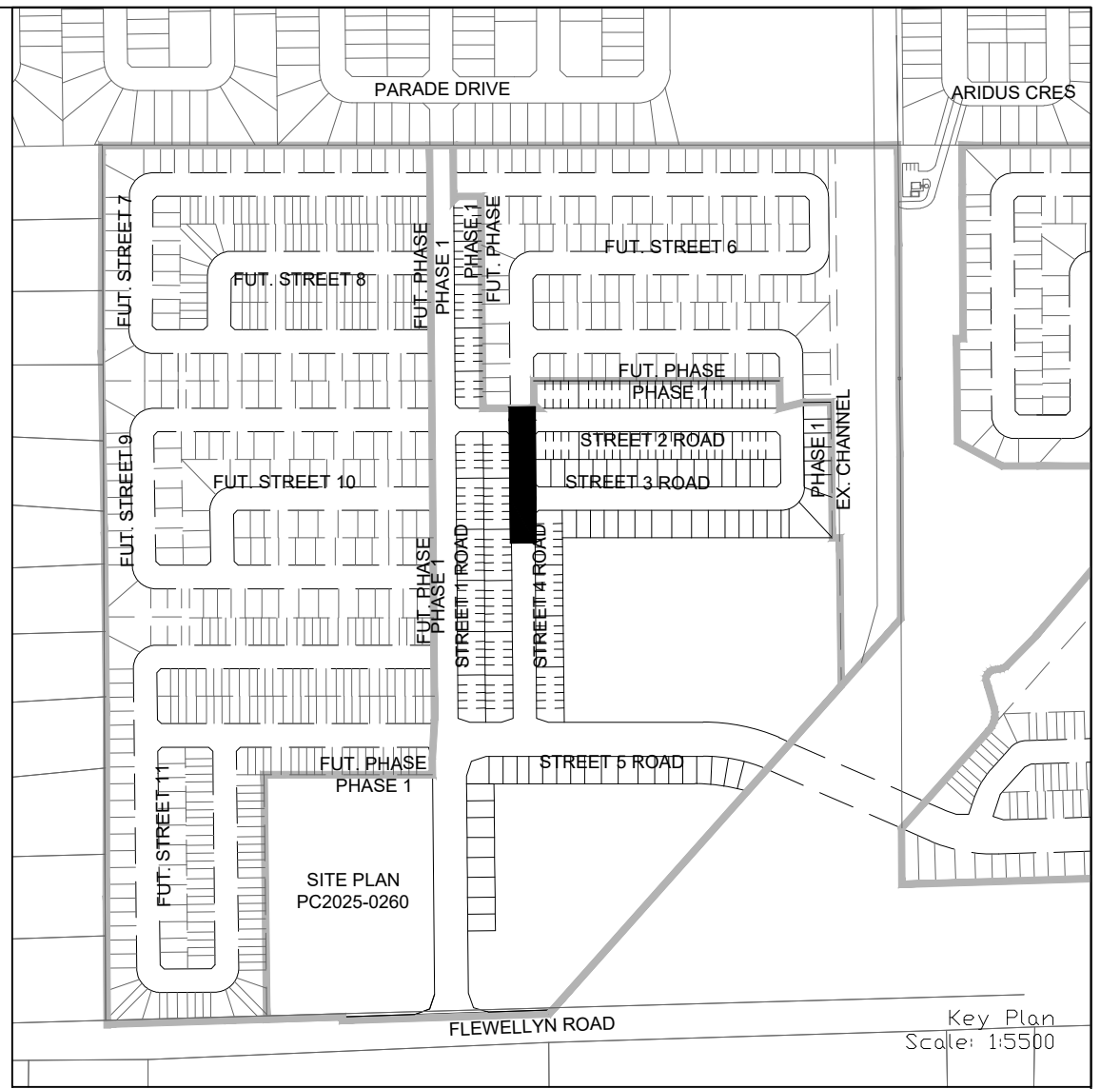
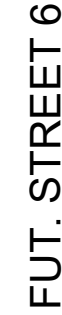
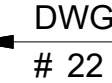
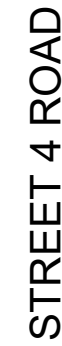
© DSEL

STA. 0+000.000 TO STA. 0+150.000

DRAWN BY: M.S. & A.S.	CHECKED BY: W.L.	22	OF	52
DESIGNED BY: W.L.	CHECKED BY: C.M.			
SCALE: H=1:500/ V=1:50	DATE: FEBRUARY 2026			

40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
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450mm OPSS GRANULAR B TYPE II

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3. ALL EXISTING TREES, SHRUBS ETC. WITHIN BLOCKS AND ROADS TO BE REMOVED, UNLESS OTHERWISE NOTED
4. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS
5. FOR WATERSHED STUDIES, 2.4m MIN. COVER TO BE PROVIDED
6. ANY DISTURBED MATERIAL ENCOUNTERED BELOW THE SUBGRADE SHALL BE A BULKY MATERIAL GOING TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEERS FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION
7. FOR CATCHBASIN AND ICD DATA, REFER TO DWG. NO. 3 FOR DETAILS



NOT FOR CONSTRUCTION

TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01. SURVEYS RECEIVED ON NOVEMBER 4, 2025.

ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC RELATED TO CGVD28:78 VERTICAL DATUM

(Phase 1), RECEIVED ON OCTOBER 3, 2025.

1	W.L.	26-02-25	1st SUBMISSION
No.	BY	DATE	DESCRIPTION



CAIVAN (STITTSVILLE) INC.	STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1
---------------------------------	--



STREET 4

STA. 0+150.000 TO STA. 0+254.009

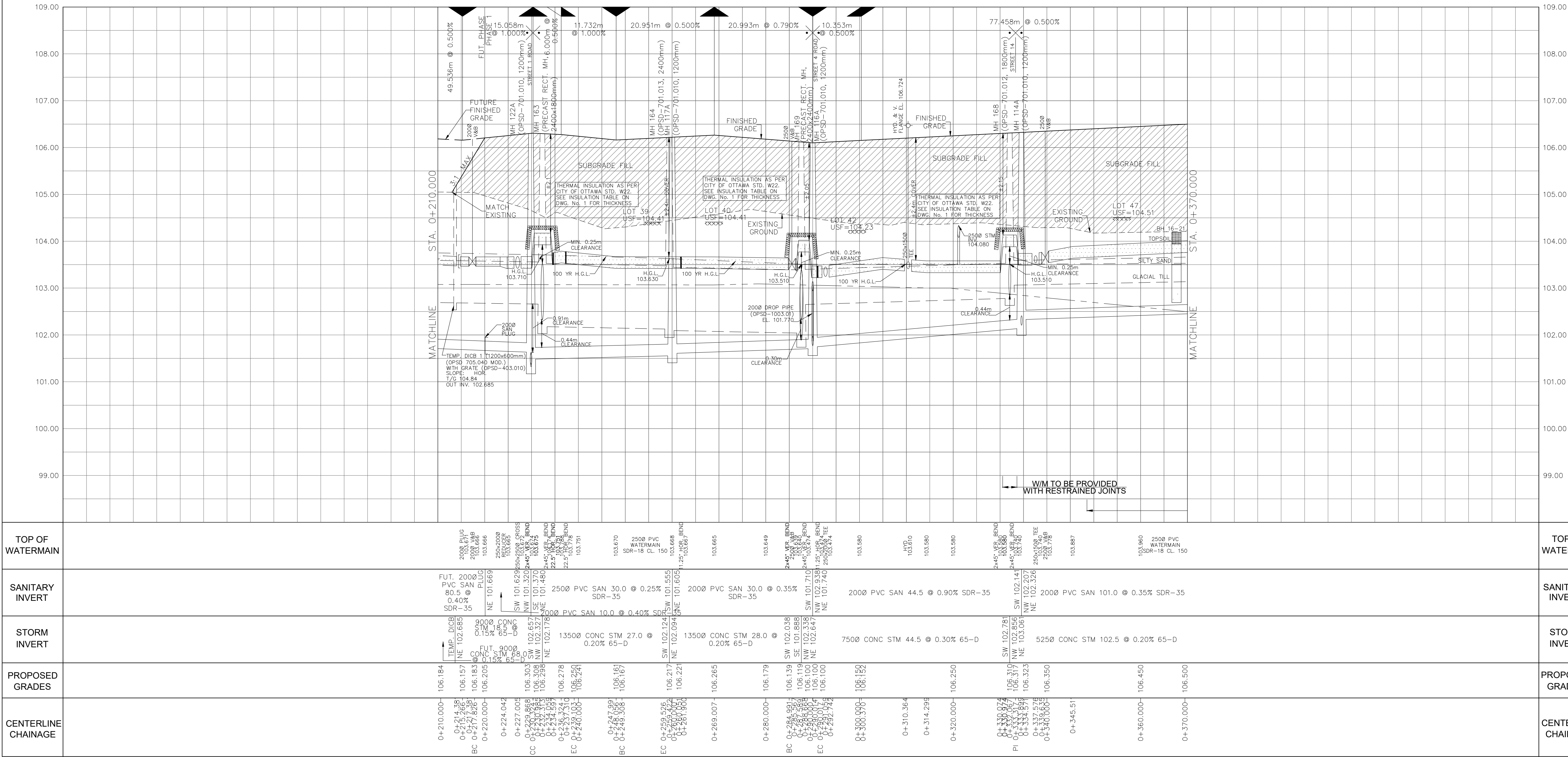
DRAWN BY: M.S & A.S.	CHECKED BY: W.L.	23 OF 52
DESIGNED BY: W.L.	CHECKED BY: C.M.	
SCALE: H=1:500/ V=1:50	DATE: FEBRUARY 2026	

PAVEMENT DESIGN

40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
100mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
600mm OPSS GRANULAR B TYPE II

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7. FOR CATCHBASIN AND ICD DATA, REFER TO DWG. No. 3 FOR DETAILS



LEGEND	
CROSS	HYDRO TRANSFORMER
45° BEND	STREET LIGHT STANDARD
LATERAL	CONCRETE SIDEWALK
HYDRANT, VALVE & VB	CURB & DEPRESSIONED CURB
TEE	ASPHALT SIDEWALK
VALVE & VC	CHAINLINK FENCE (1.0m UNLESS OTHERWISE NOTED)
VALVE & VB	NOISE BARRIER
11.25° BEND	WOODEN POST AND RAIL FENCE
REDUCER	CONSTRUCTION FENCE
CAP	POST AND RAIL FENCE
SANITARY MAINTENANCE HOLE	PHASING LIMITS
SANITARY MAINTENANCE HOLE	PROPERTY BOUNDARY
SANITARY MAINTENANCE HOLE	BORERHOLE (BH)
SANITARY MAINTENANCE HOLE	TEST PIT (TP)
SANITARY MAINTENANCE HOLE	AUGER HOLE (AH)
SANITARY MAINTENANCE HOLE	MONITORING WELL LOCATION
SANITARY MAINTENANCE HOLE	CONCEPTUAL WELL LOCATION
SANITARY MAINTENANCE HOLE	LOT/BLOCK NUMBER
SANITARY MAINTENANCE HOLE	UNDERSIDE OF FOOTING ELEVATION
SANITARY MAINTENANCE HOLE	OVERLAND FLOW DIRECTION
SANITARY MAINTENANCE HOLE	EXTERNAL OVERLAND FLOW DIRECTION
SANITARY MAINTENANCE HOLE	EMERGENCY OVERLAND FLOW DIRECTION
SANITARY MAINTENANCE HOLE	FACTILE WALKING SURFACE INDICATOR
SANITARY MAINTENANCE HOLE	(AS PER CITY OF OTTAWA STD. 306)
SANITARY MAINTENANCE HOLE	SCALY SPIN (REFER TO GENERAL NOTES)
SANITARY MAINTENANCE HOLE	GEOTECHNICAL CONSULTANT'S
SANITARY MAINTENANCE HOLE	RETAINING WALL (SEE NOTES ON DWG. 1)
SANITARY MAINTENANCE HOLE	ARREST STRUCTURAL WALLS FOR DETAIL
SANITARY MAINTENANCE HOLE	SPEED HUMP PER CITY STD. R19
SANITARY MAINTENANCE HOLE	BEDROCK CONTOUR
SANITARY MAINTENANCE HOLE	EX. TELEPHONE CONDUIT
SANITARY MAINTENANCE HOLE	EX. SECONDARY POWER

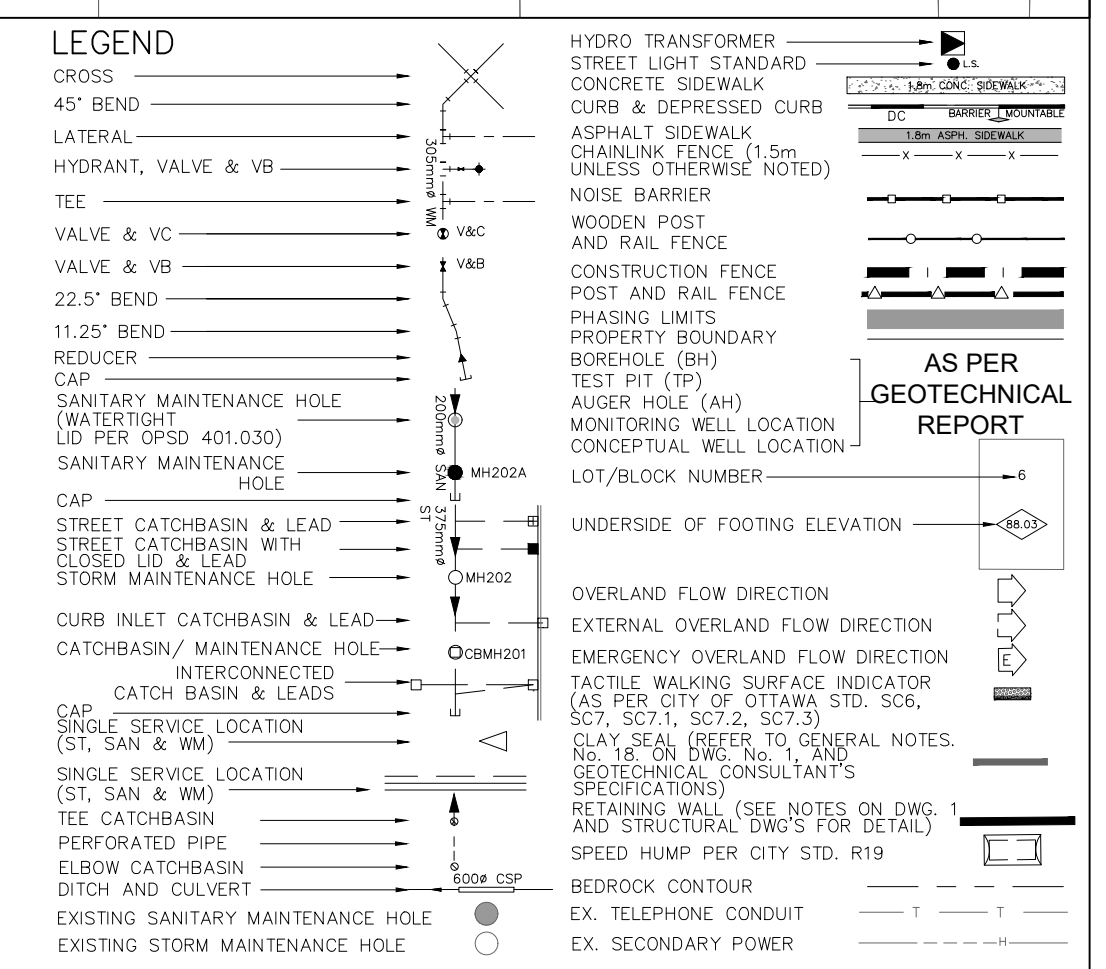
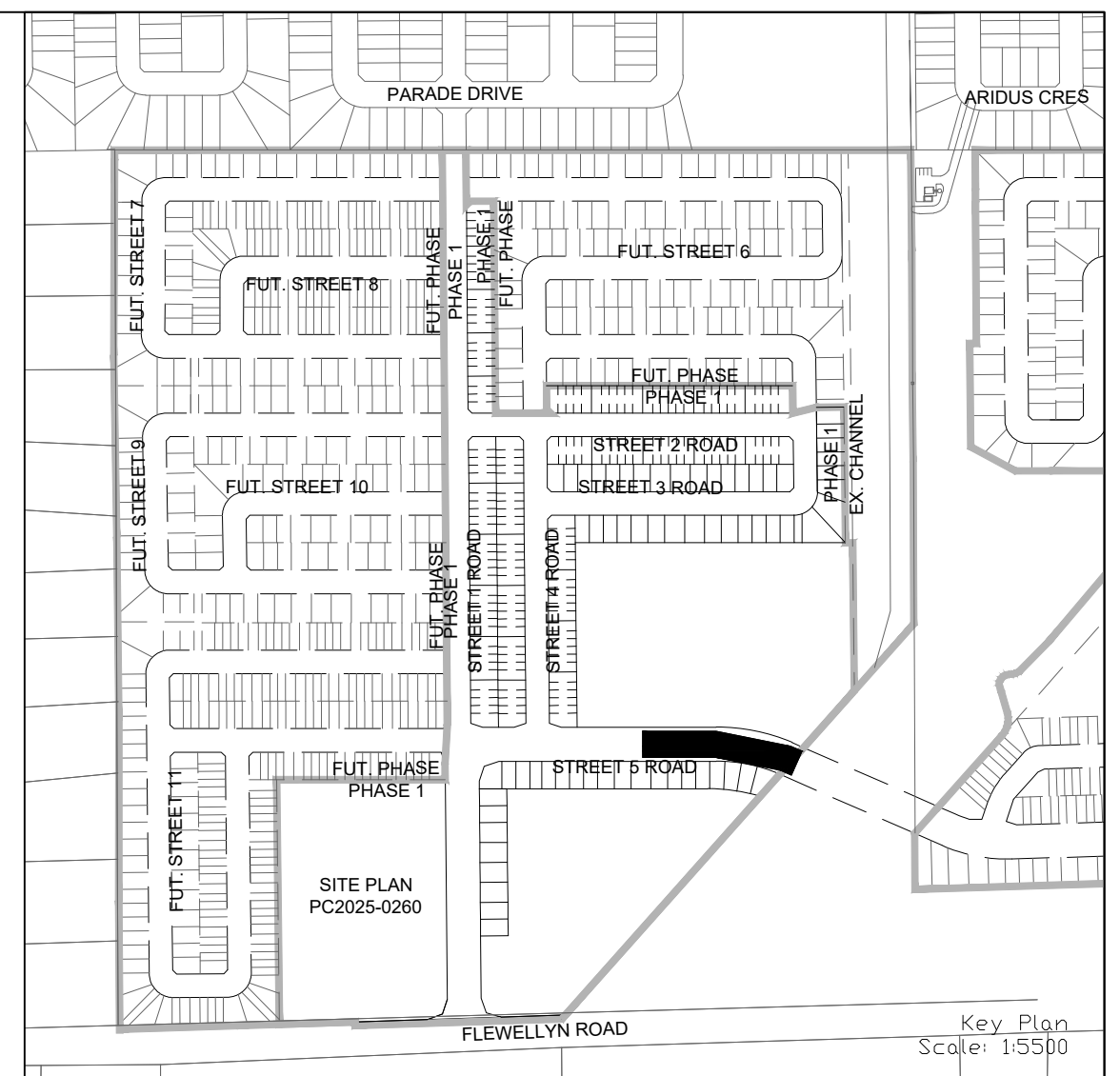
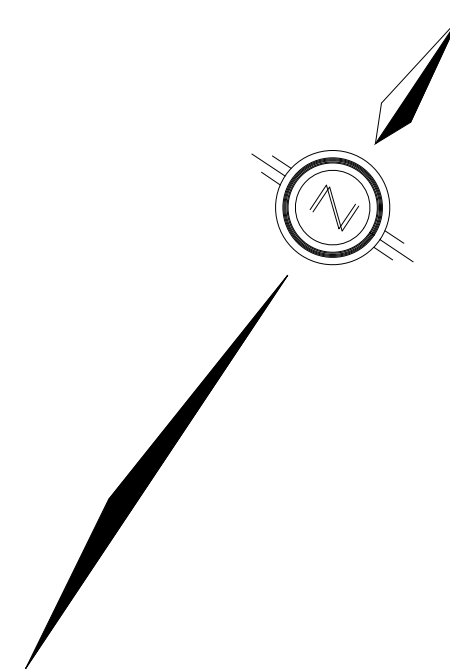
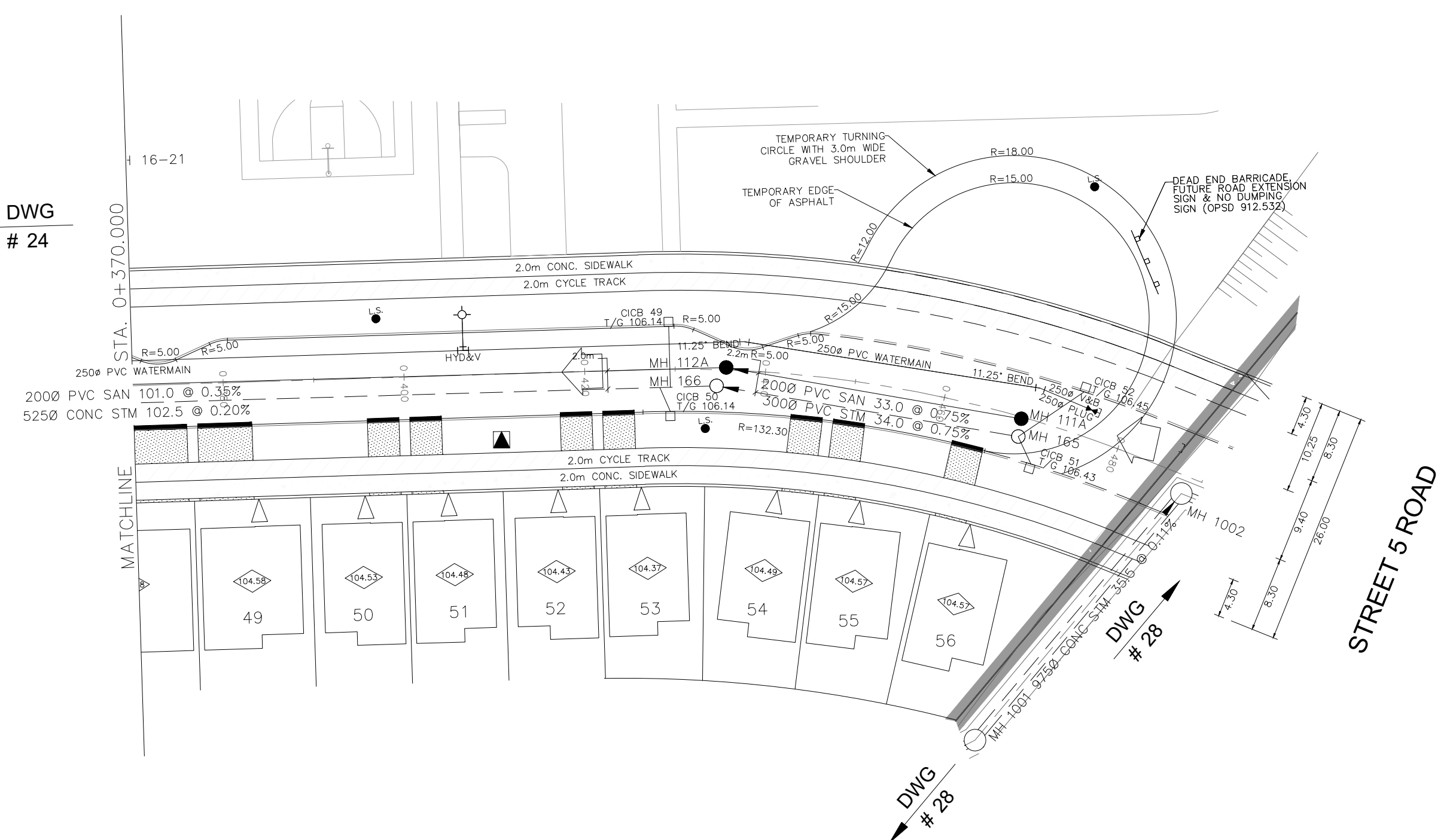
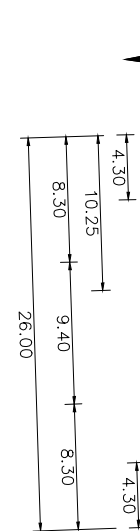
NOT FOR CONSTRUCTION

TOPOGRAPHIC INFORMATION
TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01, SURVEYS RECEIVED ON NOVEMBER 4, 2025.
ELEVATION NOTE
ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC RELATED TO CGVD2878 VERTICAL DATUM
LEGAL INFORMATION
M-PLAN PROVIDED BY BY J.D. BARNES LIMITED, PROJECT No. 23-10-060-00
(Phase 1), RECEIVED ON OCTOBER 3, 2025.

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40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
100mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A CRUSHED STONE
600mm OPSS GRANULAR B TYPE II

1. ANY DISTURBED AREA DURING CONSTRUCTION TO BE RESTORED TO THE ORIGINAL CONDITION OR BETTER.
2. CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS FROM THE LOCAL AUTHORITIES HAVING JURISDICTION.
3. CONTRACTOR TO VERIFY THE PRECISE LOCATIONS AND INVERT ELEVATIONS OF ALL EXISTING UNDERGROUND SANS AND EX. UTILITIES PRIOR TO STARTING CONSTRUCTION.
4. ALL EXISTING TREES, SHRUBS ETC. WITHIN BLOCKS AND ROADS TO BE REMOVED, UNLESS OTHERWISE NOTED.
5. PERMISSION REQUIRED FOR WORK ON ADJACENT LANDS.
6. FORM FOR TREE STUDS, 2.4m DIA. COVER TO BE PROVIDED.
7. ANY DISTURBED MATERIAL SUBMITTED BELOW THE SUBGRADE TO BE BACKFILLED WITH COPPERTOP TO BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED ENGINEERED FILL AS PER GEOTECHNICAL ENGINEERS RECOMMENDATION.
8. FOR CATBATCHIN AND ICC DATA, REFER TO DWG. NO. 3 FOR DETAILS.



TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01. SURVEYS RECEIVED ON NOVEMBER 4, 2025.

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC RELATED TO CGVD28:78 VERTICAL DATUM

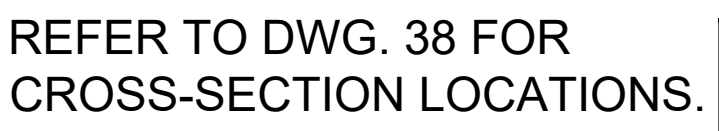
LEGAL INFORMATION
M-PLAN PROVIDED BY BY J.D. BAR

(Phase 1), RECEIVED ON OCTOBER 3, 2025.

1	W.L.	26-02-25	1st SUBMISSION
No.	BY	DATE	DESCRIPTION



CAIVAN (STITTSVILLE) INC.		STITTSMILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1	
		120 Iber Road, Unit 103 Stittsville, ON K2S 1E9 Tel. (613) 836-9856 Fax. (613) 836-7183 www.DSEL.ca	
STREET 5			
STA. 0+370.000 TO STA. 0+490.000			
DRAWN BY: M.S. & A.S.		CHECKED BY: W.L.	
DESIGNED BY: W.L.		CHECKED BY: C.M.	
SCALE: H=1:500 / V=1:50		DATE: FEBRUARY 2026	
		25	OF 52
SHEET NO.			



TOPOGRAPHIC INFORMATION
TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
PROJECT No. 23-10-060-01. SURVEYS RECEIVED ON NOVEMBER 4, 2025.
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(Phase 1), RECEIVED ON OCTOBER 3, 2025.

1	W.L.	26-02-25	1st SUBMISSION
No.	BY	DATE	DESCRIPTION

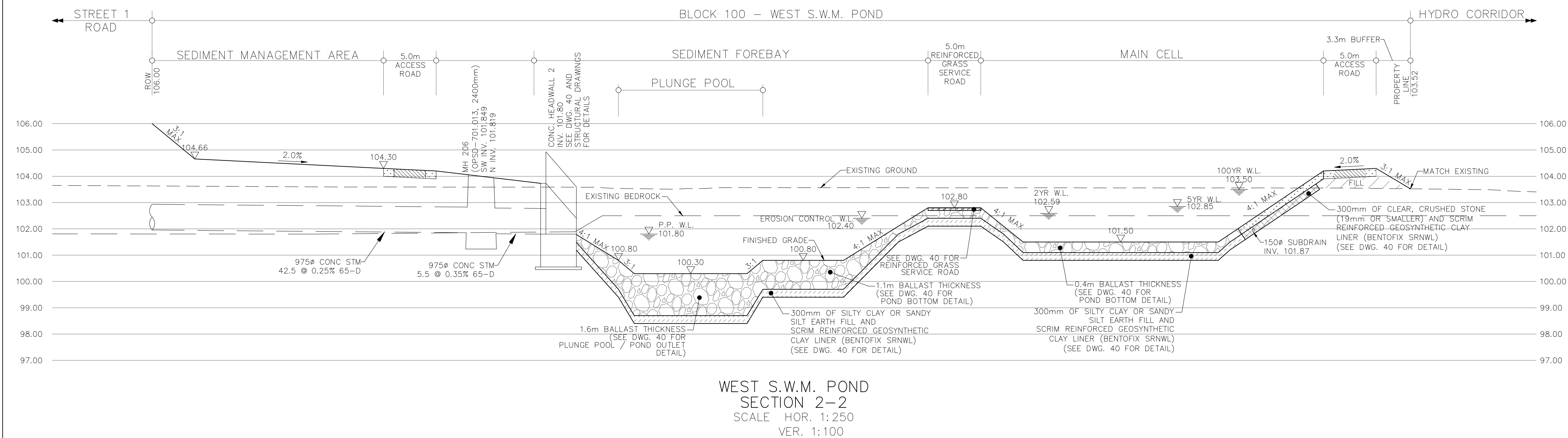


CAIVAN (STITTSVILLE) INC.	STITTSVILLE SOUTH URBAN EXPANSION AREA (W-4) PHASE 1
---------------------------------	--



SWM POND SECTIONS

DRAWN BY: M.S. & A.S.	CHECKED BY: W.L.	SHEET NO. 39 OF 52
DESIGNED BY: W.L.	CHECKED BY: C.M.	
SCALE: AS SHOWN	DATE: FEBRUARY 2026	



APPENDIX 4

WATER WELL RECORDS

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

11

1532642

Municipality

15003

Con.

CON

108

County or District Ottawa	Township/Borough/City/Town/Village Goulbourn	Con block tract survey, etc. 8	Lot 25
Address Stittsville		Date completed 8 day 02 month 02 year	

21

UTM

Northings

RC

Elevation

RC

Basin Code

ii

iii

iv

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LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

[illegible][illegible]

32

41		42		43		44		45		46		47		48	
WATER RECORD															
Water found at - feet				Kind of water											
33				10-13		1 ☒ Fresh		3 ☐ Sulphur						14	
				2 ☐ Salty		4 ☐ Minerals									
53				15-18		1 ☒ Fresh		5 ☐ Sulphur						19	
				2 ☐ Salty		6 ☐ Minerals									
54				20-23		1 ☒ Fresh		7 ☐ Sulphur						24	
				2 ☐ Salty		4 ☐ Minerals									
				25-28		1 ☐ Fresh		3 ☐ Sulphur						29	
				2 ☐ Salty		4 ☐ Minerals									
				30-33		1 ☐ Fresh		3 ☐ Sulphur						34	
				2 ☐ Salty		4 ☐ Minerals									

51 CASING & OPEN HOLE RECORD				
Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
10-11 6 1/4	☐ 1 Steel ☐ 2 Galvanized ☐ 3 Concrete ☐ 4 Open hole ☐ 5 Plastic	12 188	0	13-16 22
17-18 8 3/4	☐ 1 Steel ☐ 2 Galvanized ☐ 3 Concrete ☒ 4 Open hole ☐ 5 Plastic	19	0	20-23 20
24-25 6	☐ 1 Steel ☐ 2 Galvanized ☐ 3 Concrete ☒ 4 Open hole ☐ 5 Plastic	26	20	27-30 61

SCREEN	Sizes of opening (Slot No.)	31-33	Diameter	34-38	Length	39-40
			inches		feet	
	Material and type			Depth at top of screen		
				feet		

61				PLUGGING & SEALING RECORD			
☒ Annular space				☐ Abandonment			
Depth set at - feet			Material and type (Cement grout, bentonite, etc.)				
From		To					
10-13		14-22	cement grout				
2		22					
18-21		22-25					
26-29		30-33	80				

PUMPING TEST	Pumping test method ¹⁰ 1 ☒ Pump 2 ☐ Bailer		Pumping rate ¹¹⁻¹⁴ 26 GPM		Duration of pumping ¹⁵⁻¹⁸ 1 Hours 17-18 Mins	
	Static level	Water level end of pumping	Water levels during		1 ☐ Pumping 2 ☒ Recovery	
	19-21 4 feet	22-24 50 feet	15 minutes ²⁶⁻²⁸ 4 feet	30 minutes ²⁹⁻³¹ 4 feet	45 minutes ³²⁻³⁴ 4 feet	60 minutes ³⁵⁻³⁷ 4 feet
	If flowing give rate ³⁸⁻⁴¹ GPM		Pump intake set at feet		Water at end of test ⁴² ☐ Clear ☒ Cloudy	
	Recommended pump type ☐ Shallow ☒ Deep		Recommended pump setting ⁴³⁻⁴⁵ 50 feet		Recommended pump rate ⁴⁶⁻⁴⁹ 26 GPM	
	50-53					

FINAL STATUS OF WELL			54
1 ☒ Water supply	5 ☐ Abandoned, insufficient supply	9 ☐ Unfinished	
2 ☐ Observation well	6 ☐ Abandoned, poor quality	10 ☐ Replacement well	
3 ☐ Test hole	7 ☐ Abandoned (Other)		
4 ☐ Recharge well	8 ☐ Dewatering		

WATER USE			55-56
1 ☒ Domestic	5 ☐ Commercial	9 ☐ Not use	
2 ☐ Stock	6 ☐ Municipal	10 ☐ Other	
3 ☐ Irrigation	7 ☐ Public supply		
4 ☐ Industrial	8 ☐ Cooling & air conditioning		

METHOD OF CONSTRUCTION			57
1 ☐ Cable tool	5 ☒ Air percussion	9 ☐ Driving	
2 ☐ Rotary (conventional)	6 ☐ Boring	10 ☐ Digging	
3 ☐ Rotary (reverse)	7 ☐ Diamond	11 ☐ Other	
4 ☐ Rotary (air)	8 ☐ Jetting		

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.

Huntley Rd.

106' Ken

90'

Flewelyn Rd.

237772

Name of Well Contractor	Well Contractor's Licence No.
Air-Rock Drilling Co Ltd	1119
Address	
RR # 2 Jasper, AB	
Name of Well Technician	Well Technician's Licence No.
Shannon Purcell	T2122
Signature of Technician/Contractor	Submission date
Kenne [Signature]	15 02 03 day mo yr

MINISTRY USE ONLY	Data source	58 Contractor	59-62	Date received	63-68	69
		1119		FEB 25 2002		
	Date of inspection	Inspector				
	Remarks					
	CSS.ES2					

Well Location

Address of Well Location (Street Number/Name) 14 Poplarwood (Lot 43)				Township Goulbourn		Lot 23		Concession 9	
County/District/Municipality Ottawa Carleton				City/Town/Village Stittsville		Province Ontario		Postal Code	
UTM Coordinates		Zone	Easting	Northing		Municipal Plan and Sublot Number		Other	
NAD 83		18	429114	5010184					

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
	Previously Drilled			0	33.52
				33.52	83.20

Annular Space		
Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☒ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning
☒ Air percussion		☐ Industrial	
☐ Other, specify		☐ Other, specify	

Construction Record - Casing			Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To

Construction Record - Screen			Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To

Water Details		Hole Diameter	
Water found at Depth 67.35 (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From	To
67.35 (m/ft)	☐ Gas ☐ Other, specify	33.52	83.20
Water found at Depth 81.98 (m/ft)	Kind of Water: ☐ Fresh ☒ Untested		
81.98 (m/ft)	☐ Gas ☐ Other, specify		
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested		
	☐ Gas ☐ Other, specify		

Well Contractor and Well Technician Information	
Business Name of Well Contractor Capital Water Supply Ltd.	Well Contractor's Licence No. 1 5 5 8
Business Address (Street Number/Name) Box 490	Municipality Stittsville
Province Ontario	Postal Code K2S 1A6
Business E-mail Address office@capitalwater.ca	
Bus. Telephone No. (inc. area code) 613 836 1766	Name of Well Technician (Last Name, First Name) Miller, Stephen
Well Technician's Licence No. 0 0 9 7	Signature of Technician and/or Contractor
	Date Submitted 2011/11/02

Results of Well Yield Testing			
After test of well yield, water was:		Draw Down	
☒ Clear and sand free		Time (min)	Water Level (m/ft)
☐ Other, specify		Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	
		1	11.10
Pump intake set at (m/ft) 60.95		2	12.12
Pumping rate (l/min / GPM) 45.5		3	13.35
Duration of pumping 1 hrs + min		4	14.49
Final water level end of pumping (m/ft) 27.32		5	15.41
If flowing give rate (l/min / GPM)		10	19.12
		15	19.62
Recommended pump depth (m/ft) 39.62		20	20.59
Recommended pump rate (l/min / GPM) 45.5		25	23.96
Well production (l/min / GPM)		30	24.80
Disinfected? ☒ Yes ☐ No		40	25.52
		50	26.03
		60	27.32

Map of Well Location

Please provide a map below following instructions on the back.

Comments:

Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 2011/11/02 Date Work Completed 2011/11/02	Ministry Use Only Audit No. Z139723 FEB 09 2012
--	---	--

Measurements recorded in: ☒ Metric ☐ Imperial

Regulation 903 Ontario Water Resources Act

S-21799 Page ____ of ____

Well Owner's Information

First Name _____ Last Name / Organization Davidson Co - Tenancy / c/o Tartan Lands Consultants Inc. E-mail Address _____ ☐ Well Constructed by Well OwnerMailing Address (Street Number/Name) 237 Somerset St. W Municipality Ottawa Province ON Postal Code K2P1A1J3 Telephone No. (inc. area code) _____

Well Location

Address of Well Location (Street Number/Name) Shea and Fernbank Flewellyn Township _____ Lot _____ Concession _____County/District/Municipality _____ City/Town/Village Stittsville Province Ontario Postal Code _____UTM Coordinates Zone Easting Northing NAD 8 3 18429941 5610554 Municipal Plan and Sublot Number _____ Other _____

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
BRN	top soil		soft	0 .31
BRN	sand	silt, stones	soft	.31 2.44
GRY	silt	stones	dense	2.44 4.57
GRY	shale		layered	4.57 10.06

Annular Space			Results of Well Yield Testing			
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)	Draw Down		Recovery	
From To			Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
0 .31	concrete monument					
.31 5.49	bentonite					
5.49 10.06	filter sand					

Method of Construction		Well Use		
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☐ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☒ Test Hole	☒ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, specify _____		☐ Other, specify _____		

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		
From To					
3.20	PVC	.340	0 7.01		

Construction Record - Screen				Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)		
From To					
6.03	PVC	10	7.01 10.06		

Water Details		Hole Diameter	
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☐ Untested	Depth (m/ft) From To	Diameter (cm/in)
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☐ Untested	0 6.1	11.43
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☐ Untested	6.1 10.06	7.62

Water Details		Hole Diameter		
Water found at Depth (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify _____	Depth (m/ft) From	To	Diameter (cm/in)
Water found at Depth (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify _____	0	6.1	11.43
Water found at Depth (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify _____	6.1	10.06	7.62

CREEK

6m

120m

allyn

Map of Well Location	
Please provide a map below following instructions on the back.	

Well owner's information package delivered ☐ Yes ☐ No	Date Package Delivered <u>20180408</u>	Ministry Use Only Audit No. <u>277801</u> AUG 20 2018 Received _____
Date Work Completed <u>20180408</u>		

APPENDIX 5

HOMEOWNER LETTER

June 17, 2026
File: PH5222



PATERSON GROUP

Consulting Engineers

9 Auriga Drive
Ottawa, Ontario
K2E 7T9
Tel: (613) 226-7381

Attention: **Property Owner**

Subject: **NOTICE**
Baseline Water Sampling Program
Proposed Residential Development
5971, 5993, 6115 6141 & 6151 Flewellyn Road,
6070 Fernbank Road & 1170 & 1820 Shea Road

Geotechnical Engineering
Environmental Engineering
Hydrogeology
Materials Testing
Building Science
Rural Development Design
Temporary Shoring Design
Retaining Wall Design
Noise and Vibration Studies

To whom it may concern,

patersongroup.ca

At the request of Caivan, Paterson Group (Paterson) is conducting a Baseline Water Sampling Program (BWSP) of select neighbouring properties to the proposed residential development at 5971, 5993, 6115, 6141 and 6159 Flewellyn Road, 6070 Fernbank Road, and 1770 and 1820 Shea Road, that are not municipally serviced. The BWSP is meant to be a precautionary measure to document the existing condition of water wells in proximity to the site for the purpose of protecting the property owners should any impacts arise due to construction activities. Should you opt into the BWSP, a questionnaire regarding historical well and water quality information will be shared and a raw water sample from an exterior untreated tap/spigot or pressure tank will be retrieved by a Paterson representative during a scheduled appointment that is convenient to you. The BWSP is **completely voluntary/free** (valued at \$350) and includes a large suite of testing parameters in excess of bacteriological analyses. It generally takes approximately 15 minutes to complete the questionnaire and 15 minutes to collect the water sample. Paterson will provide each participant with a copy of their sample results. Any information obtained during this sampling program will not be released publicly by Paterson, Caivan or the City of Ottawa.

Paterson hopes that you will contact us as soon as possible to arrange an appointment or notify us that you do not wish to participate in the BWSP. Appointments will be available Monday through Friday, 8 am to 4 pm. The program will be open from **July 6 to July 31, 2026**. To schedule an appointment, sign up by scanning the QR code below, email wellsurvey@patersongroup.ca or call 613-223-7368. For any questions unrelated scheduling, please contact Michel Kearney, P.Geo. at 613-606-5862 or michel.kearney@ottawa.ca.

Best Regards,

Paterson Group Inc.

Zavian Buchanan, E.I.T.

Hydrogeological Department

Ottawa Head Office
9 Auriga Drive
Ottawa – Ontario – K2E 7T9
Tel: (613) 226-7381

Ottawa Laboratory
28 Concourse Gate
Ottawa – Ontario – K2E 7T7
Tel: (613) 226-7381

List of Services
Geotechnical Engineering ♦ Environmental Engineering ♦ Hydrogeology
Materials Testing ♦ Retaining Wall Design ♦ Rural Development Design
Temporary Shoring Design ♦ Building Science ♦ Noise and Vibration Studies



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