

LEGEND

--- PROPERTY LINE

NEW BUILDING

DEPRESSED CURB

BREAK OF SLOPE - NEW

NEW SWALE

LIMIT OF HIGH POINT

NEW LIGHT DUTY ASPHALT AS PER DETAIL 1 / C3

NEW HEAVY DUTY ASPHALT AS PER DETAIL 2 / C3

NEW CONCRETE SIDEWALK

NEW GRASS

MILLING & OVERLAY 50mm THICK HEAVY DUTY ASPHALT AS PER DETAIL 3 / C3

NEW PRECAST PAVERS

NEW EWF / MULCH

NEW CLEAR STONE SUBDRAIN TRENCH

NEW RUBBERIZED ASPHALT TRACK

NEW STONE DUST PATH

EXISTING SIDEWALK

EXISTING CONCRETE CURB

NEW CONCRETE CURB

PROPOSED TWSI

NEW TRANSFORMER PAD

EXISTING STREET LIGHT

EXISTING HYDRO POLE

LEGEND CONTINUED

EXISTING CATCHBASIN

EXISTING DITCH INLET

EXISTING STORM MANHOLE

EXISTING SANITARY MANHOLE

EXISTING STORM / SANITARY MANHOLE TO BE ADJUSTED

EXISTING FIRE HYDRANT

EXISTING WATER VALVE

NEW CATCHBASIN

NEW STORM MANHOLE / CATCHBASIN MANHOLE

NEW SANITARY MANHOLE

NEW REAR YARD CATCH BASIN

NEW FIRE HYDRANT

NEW WATER VALVE

NEW INLET CONTROL DEVICE

NEW ROOF DRAIN

NEW SCUPPER AT 150mm ABOVE ROOF DRAIN LEVEL

BUILDING ENTRANCE

NEW SIAMENSE CONNECTION

EXISTING NATURAL GRADE

PROPOSED ELEVATION

PROPOSED BOTTOM OF CURB ELEVATION

PROPOSED TOP OF CURB ELEVATION

PROPOSED SLOPE

GEOTECHNICAL NOTES

1. A GEOTECHNICAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO SHALL INSPECT ALL SUBGRADE SURFACES FOR FOOTING AND TRENCHES, PIPE BEDDING AND PAVEMENT STRUCTURES PRIOR TO CONSTRUCTION.

2. IT IS STRICTLY RECOMMENDED TO REFER GEOTECHNICAL INVESTIGATION REPORT: PROPOSED HALF MOON BAY SECONDARY SCHOOL, 3853 CAMBRIAN ROAD OTTAWA, ONTARIO BY EXP SERVICES INC.

3. IT IS ANTICIPATED THAT THE MAJORITY OF THE MATERIAL REQUIRED FOR BACKFILLING PURPOSES AND FOR TRENCH BACKFILL WOULD HAVE TO BE IMPORTED AND SHOULD CONFORM TO THE RECOMMENDATION STATED IN THE GEOTECHNICAL REPORT.

4. CONTRACTOR BIDDING ON THIS PROJECT MUST REVIEW AVAILABLE DATA AND DECIDE ON THEIR OWN THE BEST METHOD FOR THE EXCAVATION OF THE BEDROCK IF DEEMED REQUIRED.

5. IT IS RECOMMENDED THAT THE BEDDING FOR THE UNDERGROUND SERVICES INCLUDING MATERIAL SPECIFICATIONS, THICKNESS OF COVER MATERIAL AND COMPACTION REQUIREMENTS CONFORM TO MUNICIPAL REQUIREMENTS AND/OR ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS (OPSS AND OPSD).

6. IT IS RECOMMENDED THAT THE PIPE BEDDING BE 300 MM THICK AND CONSIST OF OPSS GRANULAR A. THE BEDDING MATERIAL SHOULD BE PLACED ALONG THE SIDES AND ON TOP OF THE PIPE TO PROVIDE A MINIMUM COVER OF 300 MM. THE BEDDING SHOULD BE COMPACTED TO AT LEAST 98 PERCENT OF THE SPMD.

7. THE BEDDING THICKNESS MAY BE FURTHER INCREASED IN AREAS WHERE THE SUBGRADE BECOMES DISTURBED.

8. SINCE PAVED SURFACES WILL BE LOCATED OVER SERVICE TRENCHES, IT IS RECOMMENDED THAT THE TRENCH BACKFILL MATERIAL WITHIN THE FROST ZONE (UP TO 1.8 M BELOW FINISHED GRADE), SHOULD MATCH THE EXISTING MATERIAL IN THE ROADWAY TO MINIMIZE DIFFERENTIAL FROST HEAVING OF THE SUBGRADE. THE TRENCH BACKFILL SHOULD BE PLACED IN 300 MM THICK LIFTS AND EACH LIFT SHOULD BE COMPACTED TO 95 PERCENT SPMD.

9. THE BEDROCK/AUGER REFUSAL DEPTHS ACROSS THE SITE WERE VARIABLE. SHALLOW BEDROCK AND LARGE BOULDERS SHOULD BE EXPECTED DURING THE INSTALLATION OF ANY SERVICES AT THE SITE AND CONTRACTORS BIDDING ON THIS WORK SHOULD ANTICIPATE THESE CONDITIONS.

10. IT IS ANTICIPATED THAT THE MAJORITY OF THE MATERIAL REQUIRED FOR TRENCH BACKFILL AND SUBGRADE FILL IN PARKING AREA AND ACCESS ROADS WOULD HAVE TO BE IMPORTED AND SHOULD CONFORM TO OPSS 1010 SELECT SUBGRADE MATERIAL (SSM) - COMPACTED TO 95 PERCENT OF THE SPMD AND THE UPPER 300 MM OF THE SUBGRADE FILL MUST BE COMPACTED TO 98% SPMD.

11. AS PART OF THE SUBGRADE PREPARATION, THE PROPOSED PARKING AREA, PAVED AREA AND ACCESS ROADS SHOULD BE STRIPPED OF TOPSOIL AND OTHER OBVIOUSLY UNSUITABLE MATERIAL. THE SUBGRADE SHOULD BE PROPERLY SHAPED, CROWNED, THEN PROOF ROLLED WITH A HEAVY VIBRATORY ROLLER IN THE FULL-TIME PRESENCE OF A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER. ANY SOFT OR SPONGY SUBGRADE AREAS DETECTED SHOULD BE SUB EXCAVATED AND PROPERLY REPLACED WITH SUITABLE APPROVED BACKFILL COMPACTED TO 95 PERCENT SPMD (ASTM D698-12E2).

GEOTECHNICAL NOTES CONTINUED

12. THE SUBDRAINS ILLUSTRATED ON PLANS ARE SCHEMATIC. FULL SCHEME OF SUBDRAINS SHOULD BE INSTALLED ON BOTH SIDES OF THE ACCESS ROAD(S). SUBDRAINS SHOULD BE INSTALLED ON BOTH SIDES OF THE ACCESS ROAD(S). SUBDRAINS MUST BE INSTALLED IN THE PROPOSED PARKING AREA AT LOW POINTS AND SHOULD BE CONTINUOUS BETWEEN CATCHBASINS TO INTERCEPT EXCESS SURFACE AND SUBSURFACE MOISTURE AND TO PREVENT SUBGRADE SOFTENING. THIS WILL ENSURE NO WATER COLLECTS IN THE GRANULAR COURSE, WHICH COULD RESULT IN PAVEMENT FAILURE DURING THE SPRING THAW. THE LOCATION AND EXTENT OF SUBDRAINS REQUIRED WITHIN THE PAVED AREAS SHOULD BE REVIEWED BY THE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE PROPOSED SITE GRADING.

13. TO MINIMIZE THE PROBLEMS OF DIFFERENTIAL MOVEMENT BETWEEN THE PAVEMENT AND CATCHBASIN/MANHOLE DUE TO FROST ACTION, THE BACKFILL AROUND THE STRUCTURES SHOULD CONSIST OF FREE-DRAINING GRANULAR PREFERABLY CONFORMING TO OPSS GRANULAR B TYPE II MATERIAL. WEEP HOLES SHOULD BE PROVIDED IN THE CATCHBASIN/MANHOLE TO FACILITATE DRAINAGE OF ANY WATER THAT MAY ACCUMULATE IN THE GRANULAR FILL.

14. THE MOST SEVERE LOADING CONDITIONS ON LIGHT-DUTY PAVEMENT AREAS AND THE SUBGRADE MAY OCCUR DURING CONSTRUCTION. CONSEQUENTLY, SPECIAL PROVISIONS SUCH AS RESTRICTED LANES, HALF-LOADS DURING PAVING, TEMPORARY CONSTRUCTION ROADWAYS, ETC., MAY BE REQUIRED, ESPECIALLY IF CONSTRUCTION IS CARRIED OUT DURING UNFAVORABLE WEATHER.

15. THE FINISHED PAVEMENT SURFACE SHOULD BE FREE OF DEPRESSIONS AND SHOULD BE SLOPED (PREFERABLY AT A MINIMUM CROSS FALL OF 2 PERCENT) TO PROVIDE EFFECTIVE SURFACE DRAINAGE TOWARDS CATCH BASINS. SURFACE WATER SHOULD NOT BE ALLOWED TO POND ADJACENT TO THE OUTSIDE EDGES OF PAVED AREAS.

16. RELATIVELY WEAKER SUBGRADE MAY DEVELOP OVER SERVICE TRENCHES AT SUBGRADE LEVEL. THESE AREAS MAY REQUIRE THE USE OF THICKER/COARSER SUB-BASE MATERIAL AND THE USE OF A GEOTEXTILE AT THE SUBGRADE LEVEL. IF THIS IS THE CASE, IT IS RECOMMENDED THAT ADDITIONAL 150 MM THICK GRANULAR SUB-BASE, OPSS GRANULAR B TYPE II, SHOULD BE PROVIDED IN THESE AREAS, IN ADDITION TO THE USE OF A GEOTEXTILE AT THE SUBGRADE LEVEL.

17. THE GRANULAR MATERIALS USED FOR PAVEMENT CONSTRUCTION SHOULD CONFORM TO ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS 1010) FOR GRANULAR A AND GRANULAR B TYPE II AND SHOULD BE COMPACTED TO 100 PERCENT OF THE SPMD.

18. THE ASPHALTIC CONCRETE USED, AND ITS PLACEMENT SHOULD MEET OPSS 1150 OR 1151 REQUIREMENTS. IT SHOULD BE COMPACTED FROM 92 PERCENT TO 97 PERCENT OF THE MRD (ASTM D2921). ASPHALT PLACEMENT SHOULD BE IN ACCORDANCE WITH OPSS 310 AND OPSS 313.

19. ALL EARTHWORK ACTIVITIES FROM PLACEMENT AND COMPACTION OF FILL IN THE SERVICE TRENCHES TO SUBGRADE PREPARATION, PLACEMENT AND COMPACTION OF GRANULAR MATERIALS AND ASPHALTIC CONCRETE SHOULD BE INSPECTED BY QUALIFIED GEOTECHNICALS TO ENSURE THAT CONSTRUCTION OF THE SEWERS AND PAVEMENT PROCEEDS ACCORDING TO THE SPECIFICATIONS.

20. STRINGENT CONSTRUCTION CONTROL PROCEDURES SHOULD BE MAINTAINED TO ENSURE THAT UNIFORM SUBGRADE MOISTURE AND DENSITY CONDITIONS ARE ACHIEVED.

GEOTECHNICAL NOTES CONTINUED

21. SHOULD SURFACE AND SUBSURFACE WATER SEEPAGE OCCUR INTO THE EXCAVATIONS COLLECT ANY WATER ENTERING THE EXCAVATIONS AND REMOVE IT BY PUMPING FROM SUMP.

22. IF THE BACKFILL IN THE SERVICE TRENCHES WILL CONSIST OF GRANULAR FILL, CLAY SEALS SHOULD BE INSTALLED IN THE SERVICE TRENCHES AT SELECT INTERVALS (SPACING) AS PER CITY OF OTTAWA DRAWING NO. S8. THE SEALS SHOULD BE 1m WIDE, EXTENDING OVER THE ENTIRE TRENCH WIDTH AND FROM THE BOTTOM OF THE TRENCH TO THE UNDERSIDE OF THE PAVEMENT STRUCTURE. THE CLAY SHOULD BE COMPACTED TO 95 PERCENT SPMD. THE PURPOSE OF THE CLAY SEALS IS TO PREVENT THE PERMANENT LOWERING OF THE GROUNDWATER LEVEL. CLAY SEAL LOCATIONS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.

23. IT IS RECOMMENDED THAT A GEOTEXTILE BE PLACED ON THE SURFACE OF THE SUBGRADE PRIOR TO PLACEMENT OF ANY GRANULAR SUB-BASE. THIS MUST BE ALLOWED FOR BY THE CONTRACTOR AND INSTALLED WHEN DIRECTED BY THE GEOTECHNICAL ENGINEER.

24. THE MUNICIPAL SERVICES SHOULD BE INSTALLED IN SHORT OPEN TRENCH SECTIONS THAT ARE EXCAVATED AND BACKFILLED THE SAME DAY.

GENERAL NOTES

1. DESIGN AND CONSTRUCTION IS TO BE IN ACCORDANCE WITH MOST RECENT ONTARIO BUILDING CODE.

2. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS WITH RESPECT TO SITE CONDITIONS AND ALL MATERIALS TO THE PROJECT. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.

3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MATERIAL RELEVANT TO THE PROJECT.

4. ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE CONTRACT DOCUMENTS.

5. CONTRACTOR MUST COMPLY WITH LOCAL BY-LAWS, ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND ALL REGULATIONS SET BY AUTHORITIES HAVING JURISDICTION. IN CASE OF CONFLICT OR DISCREPANCY, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.

6. CONTRACTOR RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY LOCATES, DAYLIGHTING, INSPECTIONS, PERMITS, AND APPROVALS, INCLUDING ALL ASSOCIATED COSTS. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE ONLY AND BASED ON BEST AVAILABLE INFORMATION.

7. IN THE EVENT THAT EXCAVATION IS REQUIRED ON THE CITY OF OTTAWA ROW OR ADJACENT PROPERTY, CONTRACTOR IS RESPONSIBLE TO ENSURE ADDITIONAL PERMIT AND/OR PERMISSION.

DRAWING NOTES

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

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

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

04 TWSI AS PER CITY STANDARDS.

05 EXISTING LIGHT STANDARD TO BE PROTECTED DURING CONSTRUCTION.

06 CONSTRUCT SIDEWALK AS PER CITY OF OTTAWA STANDARD DETAIL S24 S25. PROVIDE MAXIMUM SLOPE OF 2.0% INSTALL REINFORCING MESH 150X150mm MW9 1X1MW9.1 THROUGHOUT NEW SIDEWALK. STOP WIRE MESH AT EXPANSION JOINTS.

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

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

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

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

11 CONCRETE PADS FOR GARBAGE STORAGE / BIKE RACKS & NEW TRANSFORMER.

12 PROVIDE RISERS AND ADJUSTMENT UNITS OVER EXISTING 1200mm DIAMETER SANITARY MANHOLE TO BRING TOP OF FRAME TO FINISHED GRADE. EXISTING TOP OF FRAME AT APPROXIMATELY 93.87. FINISHED GRADE AT 94.01. PARGE AND PROVIDE WATER TIGHT CONNECTION. PROVIDE NEW FRAME AND GRATE AS PER CITY OF OTTAWA DETAIL S25 / S24.1 AS NECESSARY.

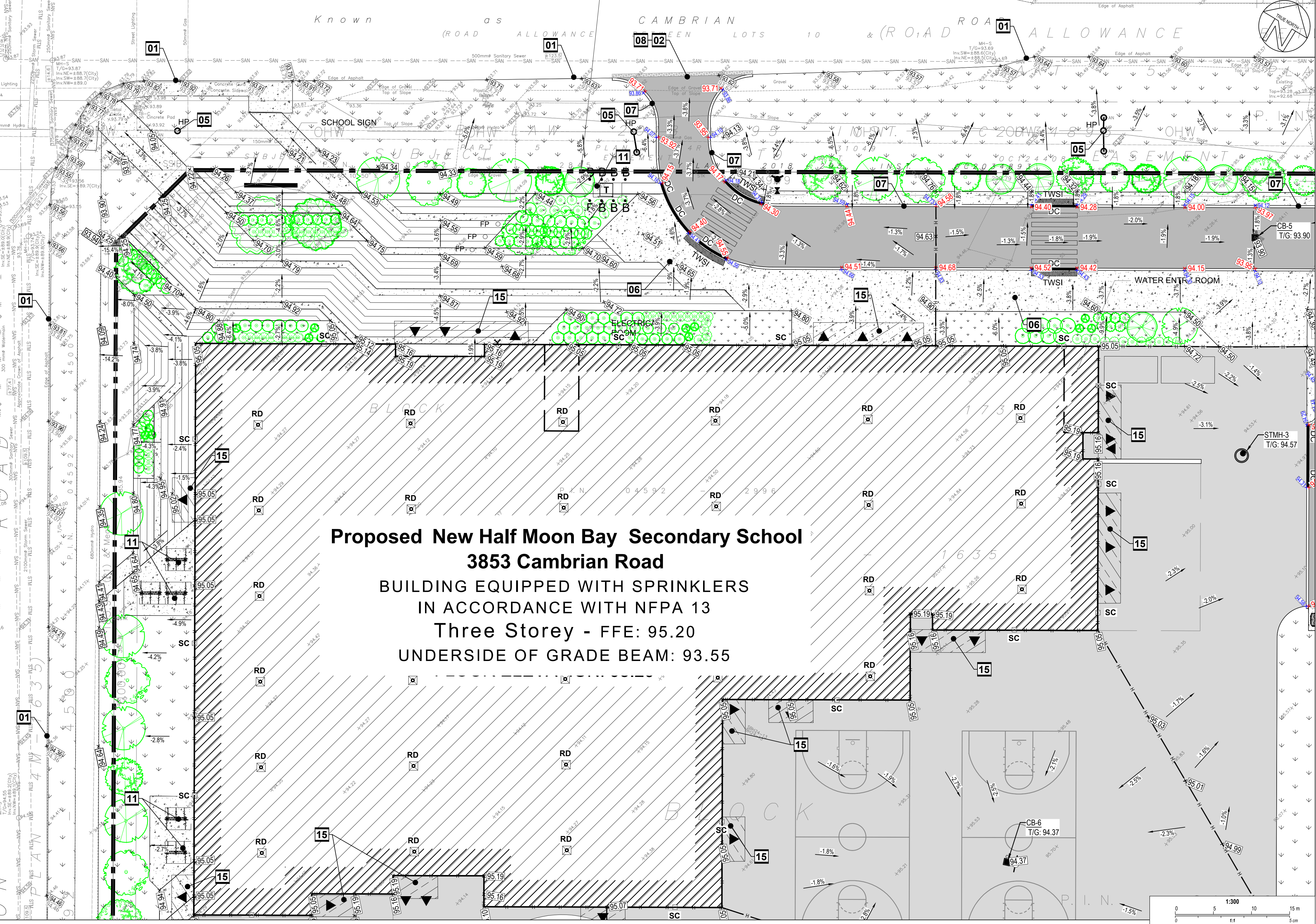
13 PROVIDE RISERS AND ADJUSTMENT UNITS OVER EXISTING 2400MM DIAMETER STORM MANHOLE TO BRING TOP OF FRAME TO FINISHED GRADE. EXISTING TOP OF FRAME AT APPROXIMATELY 93.88. FINISHED GRADE AT 93.98. PARGE AND PROVIDE WATER TIGHT CONNECTION. PROVIDE NEW FRAME AND GRATE AS PER CITY OF OTTAWA DETAIL S25 / S24.1 AS NECESSARY.

14 PROVIDE MAX 3H:1V SLOPE FROM PROPERTY LINE TO TIE INTO EXISTING DITCH GRADE.

15 PROVIDE INSULATION AT SUBGRADE UNDER ENTRANCE PAVING / PAVERS EXTENDING 3m BEYOND DOORS. REFER TO ARCHITECTURAL DETAILS.

16 FUTURE MULTI USE PATH AND FUTURE CAMBRIAN ROAD WIDENING. MATCH PROPOSED SITE GRADING INTO FUTURE CAMBRIAN ROAD AND MAP GRADING.

17 MATCH GRADING AT SOUTH PROPERTY LINE INTO GRADING PROPOSED FOR RESIDENTIAL DEVELOPMENTS. REFER TO DSEL PROJECT NUMBER 19-1089 GRADING PLANS, SHEET NO. 38 AND SHEET NO. 40.



Proposed New Half Moon Bay Secondary School
3853 Cambrian Road
BUILDING EQUIPPED WITH SPRINKLERS
IN ACCORDANCE WITH NFPA 13
Three Storey - FFE: 95.20
UNDERSIDE OF GRADE BEAM: 93.55

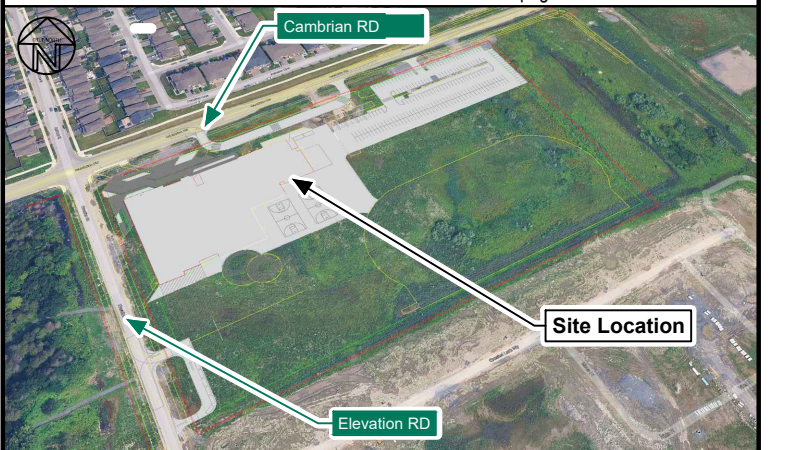
OTTAWA-CARLETON
DISTRICT SCHOOL BOARD

Jp2g Consultants Inc.
ENGINEERS • PLANNERS • PROJECT MANAGERS

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16 EDWARD ST. S. #211 ARRIPROR, ON K7S 3M4
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ARRIPROR@JP2G.COM



No.	DESCRIPTION	DATE
2	ISSUED FOR SITE PLAN CONTROL REV-1	2026-07-24
1	ISSUED FOR 33% DESIGN SUBMISSION	2026-07-17
No.	DESCRIPTION	YYYY-MM-DD

N45 ARCHITECTURE INC.

71 Bank Street, 7th Floor - Ottawa, Ontario K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
Half Moon Bay Secondary School
3853 Cambrian Road, Ottawa, ON

seal
LICENSED PROFESSIONAL ENGINEER
Z. E. BAUMAN
100578796
July 24, 2026
PROVINCE OF ONTARIO

seal
LICENSED PROFESSIONAL ENGINEER
A. SAMMOUR
100227665
July 24, 2026
PROVINCE OF ONTARIO

drawing title
Site Grading Plan

scale
As Shown

date
July 2026

project number
26-056

drawn by
B. Radan / R. Ismail

checked by
Z. Bauman / A. Sammour

drawing number
C2-A

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision

LEGEND	
	PROPERTY LINE
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	DEPRESSED CURB
	BREAK OF SLOPE - NEW
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	LIMIT OF HIGH POINT
	NEW LIGHT DUTY ASPHALT AS PER DETAIL 1 / C3
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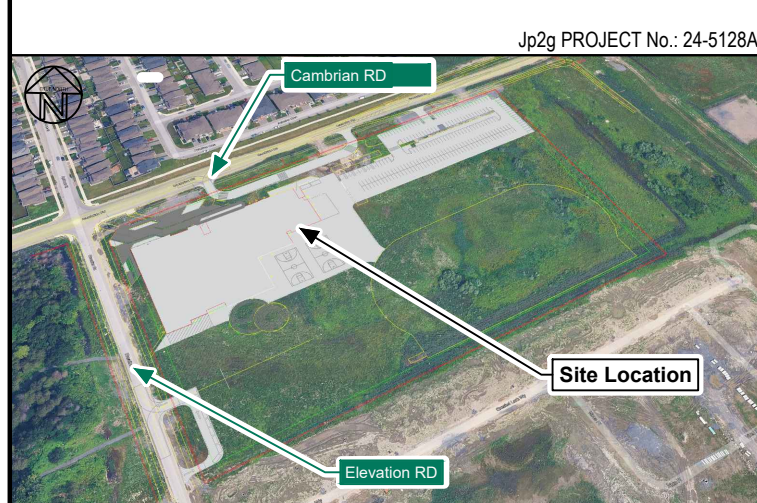
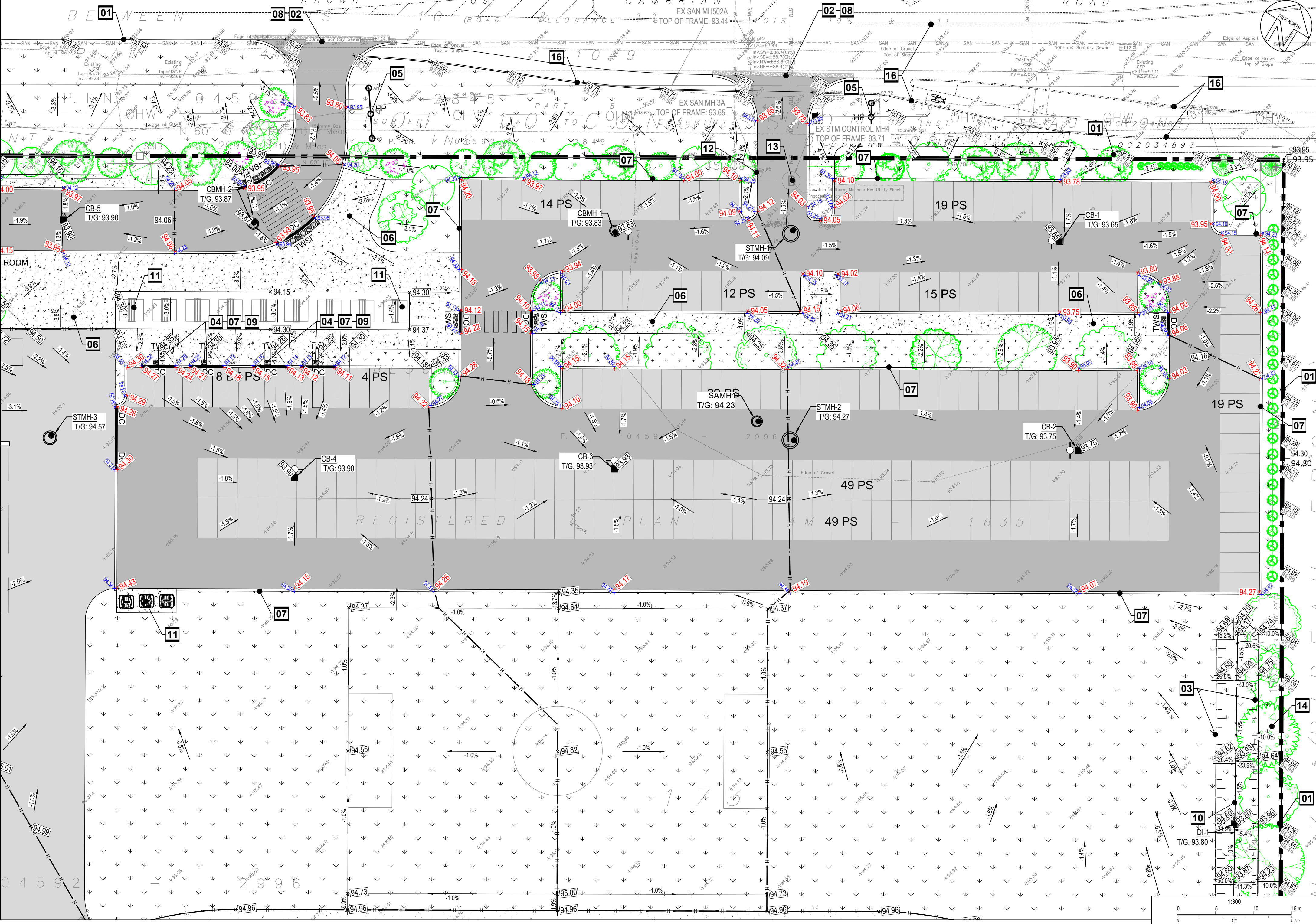
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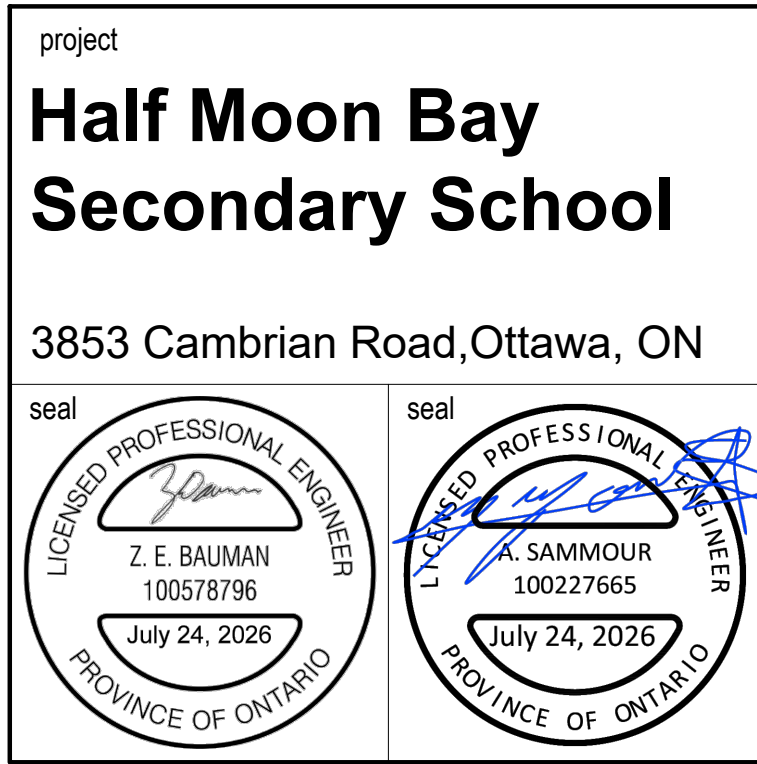
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22.	IF THE BACKFILL IN THE SERVICE TRENCHES WILL CONSIST OF GRANULAR FILL, CLAY SEALS SHOULD BE INSTALLED IN THE SERVICE TRENCHES AT SELECT INTERVALS (SPACING) AS PER CITY OF OTTAWA DRAWING NO. S8. THE SEALS SHOULD BE 1m WIDE, EXTEND OVER THE ENTIRE TRENCH WIDTH AND FROM THE BOTTOM OF THE TRENCH TO THE UNDERSIDE OF THE PAVEMENT STRUCTURE. THE CLAY SHOULD BE COMPACTED TO 95 PERCENT SPMD. THE PURPOSE OF THE CLAY SEALS IS TO PREVENT THE PERMANENT LOWERING OF THE GROUNDWATER LEVEL. CLAY SEAL LOCATIONS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.
23.	IT IS RECOMMENDED THAT A GEOTEXTILE BE PLACED ON THE SURFACE OF THE SUBGRADE PRIOR OF PLACEMENT OF ANY GRANULAR SUB-BASE. THIS MUST BE ALLOWED FOR BY THE CONTRACTOR AND INSTALLED WHEN DIRECTED BY THE GEOTECHNICAL ENGINEER.
24.	THE MUNICIPAL SERVICES SHOULD BE INSTALLED IN SHORT OPEN TRENCH SECTIONS THAT ARE EXCAVATED AND BACKFILLED THE SAME DAY.

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

DRAWING NOTES	
01	MATCH EXISTING GRADES AT PROPERTY LINE AND LIMITS OF WORK.
02	ANY DISTURBED AREA WITHIN THE RIGHT-OF-WAY SHALL BE REINSTATED TO EQUAL OR BETTER CONDITION TO THE SATISFACTION OF THE CITY OF OTTAWA.
03	TOP OF BANK, PROVIDE MAXIMUM 4:1 SLOPE TO TIE INTO EXISTING / PROPOSED GRADES.
04	TWSI AS PER CITY STANDARDS.
05	EXISTING LIGHT STANDARD TO BE PROTECTED DURING CONSTRUCTION.
06	CONSTRUCT SIDEWALK AS PER CITY OF OTTAWA STANDARD DETAIL S24 S25. PROVIDE MAXIMUM SLOPE OF 2.0%. INSTALL REINFORCING MESH 150x150mm MW9 1X MW9.1 THROUGHOUT NEW SIDEWALK. STOP WIRE MESH AT EXPANSION JOINTS.
07	CONSTRUCT CONCRETE BARRIER / DEPRESSED CURB AS PER CITY OF OTTAWA STANDARD DETAIL SC1.1.
08	SAW CUT INTO EXISTING ASPHALT AS PER DETAIL 3/C3. MATCH EXISTING PAVEMENT AND GRANULAR STRUCTURE.
09	NEW ACCESSIBLE PARKING ACCESS RAMP. PROVIDE MAXIMUM 8% SLOPE.
10	CONSTRUCT NEW SWALE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD DETAIL DRAWING S29.
11	CONCRETE PADS FOR GARBAGE STORAGE / BIKE RACKS & NEW TRANSFORMER.
12	PROVIDE RISERS AND ADJUSTMENT UNITS OVER EXISTING 1200mm DIAMETER SANITARY MANHOLE TO BRING TOP OF FRAME TO FINISHED GRADE. EXISTING TOP OF FRAME AT APPROXIMATELY 93.87. FINISHED GRADE AT 94.01. PARGE AND PROVIDE WATER TIGHT CONNECTION. PROVIDE NEW FRAME AND GRATE AS PER CITY OF OTTAWA DETAIL S25 / S24 AS NECESSARY.
13	PROVIDE RISERS AND ADJUSTMENT UNITS OVER EXISTING 2400MM DIAMETER STORM MANHOLE TO BRING TOP OF FRAME TO FINISHED GRADE. EXISTING TOP OF FRAME AT APPROXIMATELY 93.88. FINISHED GRADE AT 93.98. PARGE AND PROVIDE WATER TIGHT CONNECTION. PROVIDE NEW FRAME AND GRATE AS PER CITY OF OTTAWA DETAIL S25 / S24 AS NECESSARY.
14	PROVIDE MAX 3H:1V SLOPE FROM PROPERTY LINE TO TIE INTO EXISTING DITCH GRADE.
15	PROVIDE INSULATION AT SUBGRADE UNDER ENTRANCE PAVING / PAVERS EXTENDING 3m BEYOND DOORS. REFER TO ARCHITECTURAL DETAILS.
16	FUTURE MULTI USE PATH AND FUTURE CAMBRIAN ROAD WIDENING. MATCH PROPOSED SITE GRADING INTO FUTURE CAMBRIAN ROAD AND MAP GRADING.
17	MATCH GRADING AT SOUTH PROPERTY LINE INTO GRADING PROPOSED FOR RESIDENTIAL DEVELOPMENTS. REFER TO DSEL PROJECT NUMBER 19-1089 GRADING PLANS, SHEET NO. 38 AND SHEET NO. 40.



No.	DESCRIPTION	DATE
2	ISSUED FOR SITE PLAN CONTROL REV-1	2026-07-24
1	ISSUED FOR 33% DESIGN SUBMISSION	2026-07-17
No.	DESCRIPTION	YYYY-MM-DD



drawing title Site Grading Plan	
scale As Shown	drawn by B.Radani / R.Ismail
date July 2026	checked by Z.Bauman / A.Sammour
project number 26-056	drawing number C2-B
CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.	
revision	

LEGEND

- PROPERTY LINE
- NEW BUILDING
- DEPRESSED CURB
- BREAK OF SLOPE - NEW
- NEW SWALE
- LIMIT OF HIGH POINT
- NEW LIGHT DUTY ASPHALT AS PER DETAIL 1 / C3
- NEW HEAVY DUTY ASPHALT AS PER DETAIL 2 / C3
- NEW CONCRETE SIDEWALK
- NEW GRASS
- MILLING & OVERLAY 50mm THICK HEAVY DUTY ASPHALT AS PER DETAIL 3 / C3
- NEW PRECAST PAVERS
- NEW EWF / MULCH
- NEW CLEAR STONE SUBDRAIN TRENCH
- NEW RUBBERIZED ASPHALT TRACK
- NEW STONE DUST PATH
- EXISTING SIDEWALK
- EXISTING CONCRETE CURB
- NEW CONCRETE CURB
- PROPOSED TWSI
- NEW TRANSFORMER PAD
- EXISTING STREET LIGHT
- EXISTING HYDRO POLE

LEGEND CONTINUED

- EXISTING CATCHBASIN
- EXISTING DITCH INLET
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING STORM / SANITARY MANHOLE TO BE ADJUSTED
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- NEW CATCHBASIN
- NEW STORM MANHOLE / CATCHBASIN MANHOLE
- NEW SANITARY MANHOLE
- NEW REAR YARD CATCH BASIN
- NEW FIRE HYDRANT
- NEW WATER VALVE
- NEW INLET CONTROL DEVICE
- NEW ROOF DRAIN
- NEW SCUPPER AT 150mm ABOVE ROOF DRAIN LEVEL
- BUILDING ENTRANCE
- NEW SIAMENSE CONNECTION
- EXISTING NATURAL GRADE
- PROPOSED ELEVATION
- PROPOSED BOTTOM OF CURB ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED SLOPE

GEOTECHNICAL NOTES

- A GEOTECHNICAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO SHALL INSPECT ALL SUBGRADE SURFACES FOR FOOTING AND TRENCHES, PIPE BEDDING AND PAVEMENT STRUCTURES PRIOR TO CONSTRUCTION.
- IT IS STRICTLY RECOMMENDED TO REFER GEOTECHNICAL INVESTIGATION REPORT: PROPOSED HALF MOON BAY SECONDARY SCHOOL, 3553 CAMBRIAN ROAD, OTTAWA, ONTARIO, BY EXP SERVICES INC.
- IT IS ANTICIPATED THAT THE MAJORITY OF THE MATERIAL REQUIRED FOR BACKFILLING PURPOSES AND FOR TRENCH BACKFILL WOULD HAVE TO BE IMPORTED AND SHOULD CONFORM TO THE RECOMMENDATION STATED IN THE GEOTECHNICAL REPORT.
- CONTRACTOR BIDDING ON THIS PROJECT MUST REVIEW AVAILABLE DATA AND DECIDE ON THEIR OWN THE BEST METHOD FOR THE EXCAVATION OF THE BEDROCK IF DEEMED REQUIRED.
- IT IS RECOMMENDED THAT THE BEDDING FOR THE UNDERGROUND SERVICES INCLUDING MATERIAL SPECIFICATIONS, THICKNESS OF COVER MATERIAL AND COMPACTION REQUIREMENTS CONFORM TO MUNICIPAL REQUIREMENTS AND/OR ONTARIO PROVINCIAL STANDARD SPECIFICATION AND DRAWINGS (OPSS AND OPSD).
- IT IS RECOMMENDED THAT THE PIPE BEDDING BE 300 MM THICK AND CONSIST OF OPSS GRANULAR A. THE BEDDING MATERIAL SHOULD BE PLACED ALONG THE SIDES AND ON TOP OF THE PIPE TO PROVIDE A MINIMUM COVER OF 300 MM. THE BEDDING SHOULD BE COMPACTED TO AT LEAST 98 PERCENT OF THE SPMD.
- THE BEDDING THICKNESS MAY BE FURTHER INCREASED IN AREAS WHERE THE SUBGRADE BECOMES DISTURBED.
- SINCE PAVED SURFACES WILL BE LOCATED OVER SERVICE TRENCHES, IT IS RECOMMENDED THAT THE TRENCH BACKFILL MATERIAL WITHIN THE FROST ZONE (UP TO 1.8 M BELOW FINISHED GRADE), SHOULD MATCH THE EXISTING MATERIAL IN THE ROADWAY TO MINIMIZE DIFFERENTIAL FROST HEAVING OF THE SUBGRADE. THE TRENCH BACKFILL SHOULD BE PLACED IN 300 MM THICK LIFTS AND EACH LIFT SHOULD BE COMPACTED TO 95 PERCENT SPMD.
- THE BEDROCK/AUGER REFUSAL DEPTHS ACROSS THE SITE WERE VARIABLE. SHALLOW BEDROCK AND LARGE BOULDERS SHOULD BE EXPECTED DURING THE INSTALLATION OF ANY SERVICES AT THE SITE AND CONTRACTORS BIDDING ON THIS WORK SHOULD ANTICIPATE THESE CONDITIONS.
- IT IS ANTICIPATED THAT THE MAJORITY OF THE MATERIAL REQUIRED FOR TRENCH BACKFILL AND SUBGRADE FILL IN PARKING AREA AND ACCESS ROADS WOULD HAVE TO BE IMPORTED AND SHOULD CONFORM TO OPSS 1010 SELECT SUBGRADE MATERIAL (SSM) - COMPACTED TO 95 PERCENT OF THE SPMD AND THE UPPER 300 MM OF THE SUBGRADE FILL MUST BE COMPACTED TO 98% SPMD.
- AS PART OF THE SUBGRADE PREPARATION, THE PROPOSED PARKING AREA, PAVED AREA AND ACCESS ROADS SHOULD BE STRIPPED OF TOPSOIL AND OTHER OBVIOUSLY UNSUITABLE MATERIAL. THE SUBGRADE SHOULD BE PROPERLY SHAPED, CROWNED, THEN PROOF ROLLED WITH A HEAVY VIBRATORY ROLLER IN THE FULL-TIME PRESENCE OF A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER. ANY SOFT OR SPONGY SUBGRADE AREAS DETECTED SHOULD BE SUB EXCAVATED AND PROPERLY REPLACED WITH SUITABLE APPROVED BACKFILL COMPACTED TO 95 PERCENT SPMD (ASTM D698-12E2).

GEOTECHNICAL NOTES CONTINUED

- THE SUBDRAINS ILLUSTRATED ON PLANS ARE SCHEMATIC. FULL SCHEME OF SUBDRAINS SHOULD BE INSTALLED ON BOTH SIDES OF THE ACCESS ROAD(S). SUBDRAINS SHOULD BE INSTALLED ON BOTH SIDES OF THE ACCESS ROAD(S). SUBDRAINS MUST BE INSTALLED IN THE PROPOSED PARKING AREA AT LOW POINTS AND SHOULD BE CONTINUOUS BETWEEN CATCHBASINS TO INTERCEPT EXCESS SURFACE AND SUBSURFACE MOISTURE AND TO PREVENT SUBGRADE SOFTENING. THIS WILL ENSURE NO WATER COLLECTS IN THE GRANULAR COURSE, WHICH COULD RESULT IN PAVEMENT FAILURE DURING THE SPRING THAW. THE LOCATION AND EXTENT OF SUBDRAINS REQUIRED WITHIN THE PAVED AREAS SHOULD BE REVIEWED BY THE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE PROPOSED SITE GRADING.
- TO MINIMIZE THE PROBLEMS OF DIFFERENTIAL MOVEMENT BETWEEN THE PAVEMENT AND CATCHBASIN/MANHOLE DUE TO FROST ACTION, THE BACKFILL AROUND THE STRUCTURES SHOULD CONSIST OF FREE-DRAINING GRANULAR PREFERABLY CONFORMING TO OPSS GRANULAR B TYPE II MATERIAL. WEEP HOLES SHOULD BE PROVIDED IN THE CATCHBASIN/MANHOLE TO FACILITATE DRAINAGE OF ANY WATER THAT MAY ACCUMULATE IN THE GRANULAR FILL.
- THE MOST SEVERE LOADING CONDITIONS ON LIGHT-DUTY PAVEMENT AREAS AND THE SUBGRADE MAY OCCUR DURING CONSTRUCTION. CONSEQUENTLY, SPECIAL PROVISIONS SUCH AS RESTRICTED LANES, HALF-LOADS DURING PAVING, TEMPORARY CONSTRUCTION ROADWAYS, ETC., MAY BE REQUIRED, ESPECIALLY IF CONSTRUCTION IS CARRIED OUT DURING UNFAVORABLE WEATHER.
- THE FINISHED PAVEMENT SURFACE SHOULD BE FREE OF DEPRESSIONS AND SHOULD BE SLOPED (PREFERABLY AT A MINIMUM CROSS FALL OF 2 PERCENT) TO PROVIDE EFFECTIVE SURFACE DRAINAGE TOWARDS CATCH BASINS. SURFACE WATER SHOULD NOT BE ALLOWED TO POND ADJACENT TO THE OUTSIDE EDGES OF PAVED AREAS.
- RELATIVELY WEAKER SUBGRADE MAY DEVELOP OVER SERVICE TRENCHES AT SUBGRADE LEVEL. THESE AREAS MAY REQUIRE THE USE OF THICKER/COARSER SUB-BASE MATERIAL AND THE USE OF A GEOTEXTILE AT THE SUBGRADE LEVEL. IF THIS IS THE CASE, IT IS RECOMMENDED THAT ADDITIONAL 150 MM THICK GRANULAR SUB-BASE, OPSS GRANULAR B TYPE II, SHOULD BE PROVIDED IN THESE AREAS, IN ADDITION TO THE USE OF A GEOTEXTILE AT THE SUBGRADE LEVEL.
- THE GRANULAR MATERIALS USED FOR PAVEMENT CONSTRUCTION SHOULD CONFORM TO ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS 1010) FOR GRANULAR A AND GRANULAR B TYPE II AND SHOULD BE COMPACTED TO 100 PERCENT OF THE SPMD.
- THE ASPHALTIC CONCRETE USED, AND ITS PLACEMENT SHOULD MEET OPSS 1150 OR 1151 REQUIREMENTS. IT SHOULD BE COMPACTED FROM 92 PERCENT TO 97 PERCENT OF THE MRD (ASTM D2911). ASPHALT PLACEMENT SHOULD BE IN ACCORDANCE WITH OPSS 310 AND OPSS 313.
- ALL EARTHWORK ACTIVITIES FROM PLACEMENT AND COMPACTION OF FILL IN THE SERVICE TRENCHES TO SUBGRADE PREPARATION, PLACEMENT AND COMPACTION OF GRANULAR MATERIALS AND ASPHALTIC CONCRETE SHOULD BE INSPECTED BY QUALIFIED GEOTECHNICALS TO ENSURE THAT CONSTRUCTION OF THE SEWERS AND PAVEMENT PROCEEDS ACCORDING TO THE SPECIFICATIONS.
- STRINGENT CONSTRUCTION CONTROL PROCEDURES SHOULD BE MAINTAINED TO ENSURE THAT UNIFORM SUBGRADE MOISTURE AND DENSITY CONDITIONS ARE ACHIEVED.

GEOTECHNICAL NOTES CONTINUED

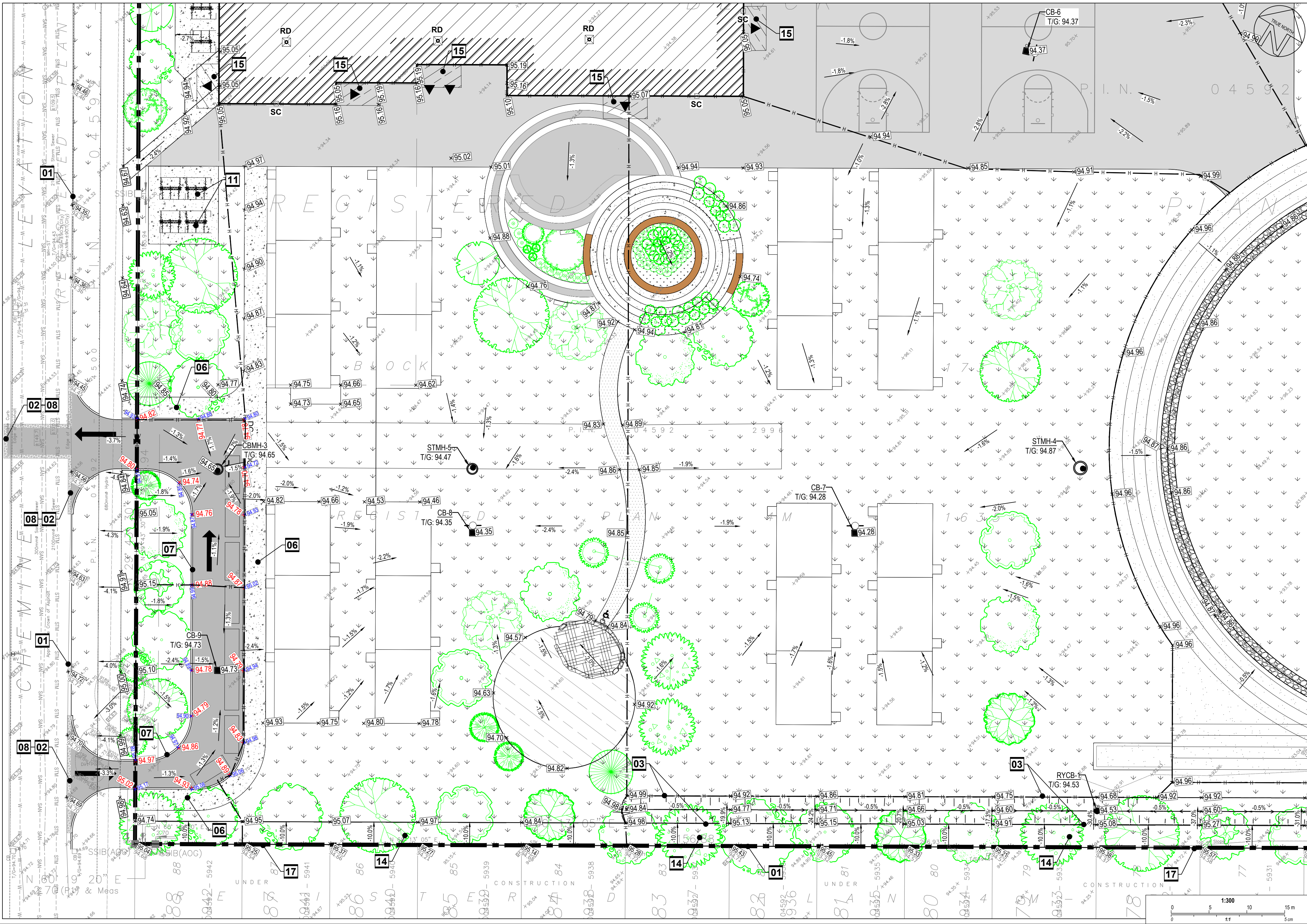
- SHOULD SURFACE AND SUBSURFACE WATER SEEPAGE OCCUR INTO THE EXCAVATIONS COLLECT ANY WATER ENTERING THE EXCAVATIONS AND REMOVE IT BY PUMPING FROM SUMP.
- IF THE BACKFILL IN THE SERVICE TRENCHES WILL CONSIST OF GRANULAR FILL, CLAY SEALS SHOULD BE INSTALLED IN THE SERVICE TRENCHES AT SELECT INTERVALS (SPACING) AS PER CITY OF OTTAWA DRAWING NO. S8. THE SEALS SHOULD BE 1m WIDE, EXTEND OVER THE ENTIRE TRENCH WIDTH AND FROM THE BOTTOM OF THE TRENCH TO THE UNDERSIDE OF THE PAVEMENT STRUCTURE. THE CLAY SHOULD BE COMPACTED TO 95 PERCENT SPMD. THE PURPOSE OF THE CLAY SEALS IS TO PREVENT THE PERMANENT LOWERING OF THE GROUNDWATER LEVEL. CLAY SEAL LOCATIONS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.
- IT IS RECOMMENDED THAT A GEOTEXTILE BE PLACED ON THE SURFACE OF THE SUBGRADE PRIOR TO PLACEMENT OF ANY GRANULAR SUB-BASE. THIS MUST BE ALLOWED FOR BY THE CONTRACTOR AND INSTALLED WHEN DIRECTED BY THE GEOTECHNICAL ENGINEER.
- THE MUNICIPAL SERVICES SHOULD BE INSTALLED IN SHORT OPEN TRENCH SECTIONS THAT ARE EXCAVATED AND BACKFILLED THE SAME DAY.

GENERAL NOTES

- DESIGN AND CONSTRUCTION IS TO BE IN ACCORDANCE WITH MOST RECENT ONTARIO BUILDING CODE.
- THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS WITH RESPECT TO SITE CONDITIONS AND ALL MATERIALS TO THE PROJECT. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MATERIAL RELEVANT TO THE PROJECT.
- ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE CONTRACT DOCUMENTS.
- CONTRACTOR MUST COMPLY WITH LOCAL BY-LAWS, ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND ALL REGULATIONS SET BY AUTHORITIES HAVING JURISDICTION. IN CASE OF CONFLICT OR DISCREPANCY, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
- CONTRACTOR RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY LOCATES, DAYLIGHTING, INSPECTIONS, PERMITS, AND APPROVALS, INCLUDING ALL ASSOCIATED COSTS. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE ONLY AND BASED ON BEST AVAILABLE INFORMATION.
- IN THE EVENT THAT EXCAVATION IS REQUIRED ON THE CITY OF OTTAWA ROW OR ADJACENT PROPERTY, CONTRACTOR IS RESPONSIBLE TO ENSURE ADDITIONAL PERMIT AND/OR PERMISSION.

DRAWING NOTES

- MATCH EXISTING GRADES AT PROPERTY LINE AND LIMITS OF WORK.
- ANY DISTURBED AREA WITHIN THE RIGHT-OF-WAY SHALL BE REINSTATED TO EQUAL OR BETTER CONDITION TO THE SATISFACTION OF THE CITY OF OTTAWA.
- TOP OF BANK, PROVIDE MAXIMUM 4:1 SLOPE TO THE INTO EXISTING / PROPOSED GRADES.
- TWSI AS PER CITY STANDARDS.
- EXISTING LIGHT STANDARD TO BE PROTECTED DURING CONSTRUCTION.
- CONSTRUCT SIDEWALK, AS PER CITY OF OTTAWA STANDARD DETAIL S22 & S25. PROVIDE MAXIMUM SLOPE OF 2.0%. INSTALL REINFORCING MESH 150x150mm MW9 1X MW9.1 THROUGHOUT NEW SIDEWALK. STOP WIRE MESH AT EXPANSION JOINTS.
- CONSTRUCT CONCRETE BARRIER / DEPRESSED CURB AS PER CITY OF OTTAWA STANDARD DETAIL SC1.1.
- SAW CUT INTO EXISTING ASPHALT AS PER DETAIL 3/C3. MATCH EXISTING PAVEMENT AND GRANULAR STRUCTURE.
- NEW ACCESSIBLE PARKING ACCESS RAMP. PROVIDE MAXIMUM 8% SLOPE.
- CONSTRUCT NEW SWALE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD DETAIL DRAWING S29.
- CONCRETE PADS FOR GARBAGE STORAGE / BIKE RACKS & NEW TRANSFORMER.
- PROVIDE RISERS AND ADJUSTMENT UNITS OVER EXISTING 1200mm DIAMETER SANITARY MANHOLE TO BRING TOP OF FRAME TO FINISHED GRADE. EXISTING TOP OF FRAME AT APPROXIMATELY 93.87. FINISHED GRADE AT 94.01. PARGE AND PROVIDE WATER TIGHT CONNECTION. PROVIDE NEW FRAME AND GRATE AS PER CITY OF OTTAWA DETAIL S25 / S24 AS NECESSARY.
- PROVIDE RISERS AND ADJUSTMENT UNITS OVER EXISTING 2400MM DIAMETER STORM MANHOLE TO BRING TOP OF FRAME TO FINISHED GRADE. EXISTING TOP OF FRAME AT APPROXIMATELY 93.88. FINISHED GRADE AT 93.96. PARGE AND PROVIDE WATER TIGHT CONNECTION. PROVIDE NEW FRAME AND GRATE AS PER CITY OF OTTAWA DETAIL S25 / S24 AS NECESSARY.
- PROVIDE MAX 3H:1V SLOPE FROM PROPERTY LINE TO THE INTO EXISTING DITCH GRADE.
- PROVIDE INSULATION AT SUBGRADE UNDER ENTRANCE PAVING / PAVERS EXTENDING 3m BEYOND DOORS. REFER TO ARCHITECTURAL DETAILS.
- FUTURE MULTI USE PATH AND FUTURE CAMBRIAN ROAD WIDENING. MATCH PROPOSED SITE GRADING INTO FUTURE CAMBRIAN ROAD AND MAP GRADING.
- MATCH GRADING AT SOUTH PROPERTY LINE INTO GRADING PROPOSED FOR RESIDENTIAL DEVELOPMENTS. REFER TO DSEL PROJECT NUMBER 19-1089 GRADING PLANS, SHEET NO. 38 AND SHEET NO. 40.



LEGEND CONTINUED	
	EXISTING CATCHBASIN
	EXISTING DITCH INLET
	EXISTING STORM MANHOLE
	EXISTING SANITARY MANHOLE
	EXISTING STORM /SANITARY MANHOLE TO BE ADJUSTED
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	NEW CATCHBASIN
	NEW STORM MANHOLE / CATCHBASIN MANHOLE
	NEW SANITARY MANHOLE
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	NEW WATER VALVE
	NEW INLET CONTROL DEVICE
	NEW ROOF DRAIN
	NEW SCUPPER AT 150mm ABOVE ROOF DRAIN LEVEL
	BUILDING ENTRANCE
	NEW SIAMESE CONNECTION
	EXISTING NATURAL GRADE
	PROPOSED ELEVATION & EXISTING NATURAL GRADE
	PROPOSED ELEVATION
	PROPOSED BOTTOM OF CURB ELEVATION
	PROPOSED TOP OF CURB ELEVATION
	PROPOSED SLOPE

GEOTECHNICAL NOTES CONTINUED

12. THE SUBURBANS ILLUSTRATED ON PLANS ARE SCHEMATIC FULL SCHEME OF SUBURRANS SHOULD BE INSTALLED ON BOTH SIDES OF THE ACCESS ROAD(S). SUBURRANS SHOULD BE INSTALLED ON BOTH SIDES OF THE ACCESS ROAD(S). SUBURRANS MUST BE INSTALLED IN THE PROPOSED PARKING LOT AND DRIVEWAYS. POINTS TO BE NOTED: THE LOCATION AND EXTENT OF SUBURRANS EXCEED SURFACE AND SUBGRADE MOISTURE AND TO PREVENT SUBGRADE SOFTENING. THIS WILL ENSURE NO WATER COLLECTS IN THE GRANULAR COURSE, WHICH COULD RESULT IN DAMAGE DURING THE FUTURE DRAINAGE CONSTRUCTION. THE LOCATION AND EXTENT OF SUBURRANS REQUIRED WITHIN THE PAVED AREAS SHOULD BE REVIEWED BY THE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE PROPOSED SITE GRADING.

13. TO MINIMIZE THE PROBLEMS OF DIFFERENTIAL MOVEMENT BETWEEN THE STRUCTURES AND THE CATCH BASINS/MANHOLES DUE TO THERMAL BACKFILL AROUND THE PERIMETER THERE SHOULD CONSIST OF FREE-DRAINING GRANULAR MATERIALS CONFORMING TO TYPE II OR CLASS B TYPE II MATERIAL. WEEP HOLES SHOULD BE PROVIDED IN THE CATCHBASINS/MANHOLES TO FACILITATE DRAINAGE OF ANY WATER THAT MAY ACCUMULATE AT THE JOINTS.

14. THE MOST SEVERE LOADING CONDITIONS ON LIGHT-DUTY PAVEMENT AREAS AND THE SUBGRADE MAY OCCUR DURING CONSTRUCTION CONSEQUENTLY, SPECIAL PROVISIONS SUCH AS RESTRICTED LANE, HALF-LOADS DURING PAVING, TEMPORARY CONSTRUCTION ROADSWAYS, ETC., MAY BE REQUIRED. ESPECIALLY IF CONSTRUCTION IS CARRIED OUT DURING UNFAVORABLE WEATHER.

15. FOR THE FINAL PAVEMENT SURFACE, AN OVERLAY REPRESENTATIVE OF THE FINISHED SLOPED (PREFERABLY AT A MINIMUM CROSS FALL OF 2 PERCENT) TO PROVIDE EFFECTIVE SURFACE DRAINAGE TOWARDS CATCH BASINS. SURFACE WATER SHOULD NOT BE ALLOWED TO POND ADJACENT TO THE OUTSIDE EDGES OF PAVED AREAS.

16. RELATIVELY WEAKER SUBGRADE MAY DEVELOPE OVER SERVICE TRENCHES AT SUBGRADE LEVEL. THESE AREAS MAY REQUIRE THE USE OF THICKER/COMMER SUB-BASE MATERIAL AND THE USE OF A GEOTEXTILE AT SUBGRADE LEVEL. IF THIS IS THE CASE, IT IS RECOMMENDED THAT ADDITIONAL, 150 MM THICK GRANULAR SUB-BASE, OPS8 GRANULAR B TYPE II, SHOULD BE PROVIDED IN THESE AREAS. IN ADDITION TO THE USE OF A GEOTEXTILE AT THE SUBGRADE LEVEL,

17. THE GRANULAR MATERIALS USED FOR PAVEMENT CONSTRUCTION SHOULD COMFORM TO ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS 1010) FOR GRANULAR A AND GRANULAR B TYPE II AND SHOULD BE COMPACTED TO 100 PERCENT OF THE SPMD0.

18. THE ASPHALTIC CONCRETE UNDER, AND THE BASEMENT SHOULD MEET OPSS 1159 R OR 1151 SPECIFICATIONS. ITS TOP SURFACE SHOULD BE COMPACTED FROM 92 PERCENT TO 100 PERCENT OF THE MRD (ASTM D2041). ASPHALTWORK PLACEMENT SHOULD BE IN ACCORDANCE WITH OPSS 310 AND OPSS 313.

19. ALL EARHWARK ACTIVITIES FROM PLACEMENT AND COMPACTION OF FILL IN THE SERVICE TRENCHES TO SUBGRADE PREPARATION, PLACEMENT AND COMPACTION OF GRANULAR MATERIALS AND CONSTRUCTION OF THE SEWERS AND PAVEMENT PROCEEDS ACCORDING TO THE SPECIFICATIONS.

20. STRINGENT CONSTRUCTION CONTROL PROCEDURES SHOULD BE MAINTAINED TO ENSURE THAT UNIFORM GRADE MOISTURE AND DENSITY CONDITIONS ARE ACHIEVED.

GENERAL NOTES

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

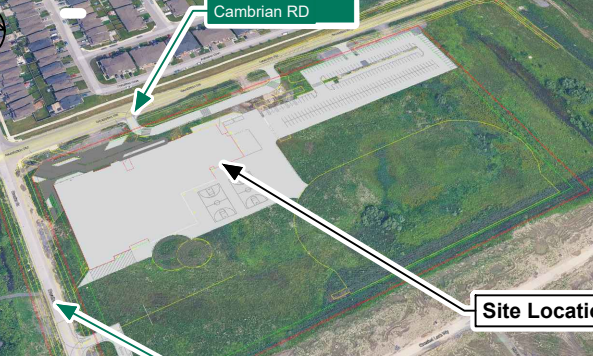
IN THE EVENT THAT EXCAVATION IS REQUIRED ON THE CITY OF WINDSOR OR ADJACENT MUNICIPALITY, CONTRACTOR IS RESPONSIBLE TO ENSURE ADDITIONAL PERMIT AND/OR PERMISSION



Jp2g Consultants Inc.
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Jp2g PROJECT No: 24-5128A



2	ISSUED FOR SITE PLAN CONTROL REV-1	2025-07-24
1	ISSUED FOR 33% DESIGN SUBMISSION	2026-07-17
No.	DESCRIPTION	YYYY-MM-DD


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project

Half Moon Bay Secondary School

3853 Cambrian Road, Ottawa, ON



seal

LICENSED PROFESSIONAL ENGINEER
Z. E. BAUMAN
1005787936
July 24, 2026
PROVINCE OF ONTARIO



seal

LICENSED PROFESSIONAL ENGINEER
A. SAMMOUR
100227665
July 24, 2026
PROVINCE OF ONTARIO

drawing title	
Site Grading Plan	
scale	drawn by
As Shown	B.Radani / R. Ismail
date	checked by
July 2026	Z. Bauman / A. Sammour
project number	drawing number
26-056	C2-D
CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.	
DO NOT SCALE DRAWINGS.	revision

DXX-XX-XX-XX-XXXX

General Notes

1. DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND LANDSCAPE DRAWINGS
2. ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS OF THE CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS, THE SPECIFIC PROVINCIAL STANDARD SPECIFICATIONS (SPSS) AND OTTAWA PROVINCIAL STANDARD DRAWINGS (OPSD), UNLESS OTHERWISE NOTED TO THE DISSATISFACTION OF THE CITY OF OTTAWA AND THE CONSULTANT.
3. THE POSITION OF EXISTING POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, INCLUDING THE LOCATION OF APPURTENANCES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWING AND WHERE SHOWN, THE ACCURACY OF THE INFORMATION IS NOT GUARANTEED. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION. ANY RELOCATION OF UTILITIES OR SUBJECT LANDS IS TO BE UNDERTAKEN AT CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANIES (O.S. 15.1.3) PRIOR TO START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR CONFORME PRIOR TO CONSTRUCTION OF THE PROJECT, INCLUDING BUT NOT LIMITED TO POWER, COMMUNICATION AND GAS LINES.
5. ALL TRENCHING AND EXCAVATIONS TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS AND AS PER THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.
6. REFER TO ARCHITECTS PLANS FOR BUILDING DIMENSIONS, LAYOUT AND REMOVALS. REFER TO LANDSCAPE PLAN FOR REMOVALS AND DETAIL OF OTHER RELEVANT INFORMATION. ALL INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
7. TOPOGRAPHIC SURVEY SHALL BE COMPLETED BY FARLEY, SMITH & DENIS SURVEYING LTD. FILE NO. - 335-24, DATED JULY 25, 2025. CONTRACTOR SHALL BE RESPONSIBLE FOR THE FIELD WORK OF CONSTRUCTION OF ANY WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
8. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS. CONTRACTOR JOB BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED.
9. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED FOR SHALE OR CATCH-BASIN OUTLETS ARE PROVIDED.
10. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAWN CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING CURB. EXISTING PAVED DRIVEWAYS SHALL BE LEFT WITH STEP JOINTS OF 500mm WIDTH MINIMUM.
11. ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS. EROSION CONTROL MEASURES AND RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND PROTECT.
12. ABUTTING PROPERTY GRADES TO BE MATCHED UNLESS OTHERWISE SHOWN.
13. CONTRACTOR SHALL OBTAIN A PERMIT FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL GOVERNMENT PRIOR TO START OF CONSTRUCTION, INCLUDING WATER PERMIT AND ROAD CUT PERMIT.
14. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
15. EXCAVATE AND REMOVE ALL OBSCURE MATERIAL AND DEBRIS LOCATED WITHIN PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS. ALL EXCESS SOIL MANAGEMENT, TESTING AND DISPOSAL MUST COMPLY WITH THE CITY OF OTTAWA 403-240-4000. DISPOSAL COSTS ARE TO BE BORNE BY THE CONTRACTOR.
16. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, GAS, ETC.) CONTRACTOR SHALL OBTAIN PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER IMMEDIATELY ON COMMENCEMENT OF WORK.
17. CONTRACTOR TO OBTAIN POST-CONSTRUCTION TOPOGRAPHIC SURVEY, COMPLETED BY OLS OR P ENG SURVEYING LTD. FILE NO. - 335-24, DATED JULY 25, 2025. SURVEY IS TO INCLUDE LOCATION AND INVERTS FOR BURIED UTILITIES.
18. ABIDE BY RECOMMENDATIONS OF GEOTECHNICAL REPORT. CONTRACTOR SHALL MONITOR AND OBSERVE CONDITIONS FROM THOSE INCLUDED IN REPORT.
19. REPORT REFERENCES:
GEOTECHNICAL INVESTIGATION
PROPOSED HALF MOON BAY SECONDARY SCHOOL,
3853 CAMBRIAN ROAD, OTTAWA, ONTARIO
PREPARED BY: EXP. PROJECT NO. OTT-3/2012/78-0
DATED OCTOBER 22, 2025.
20. PROVIDE CCTV INSPECTION REPORT ON ALL SEWERS AND CATCHBASIN LEADS 200mm diameter AND LARGER. PROVIDE INSPECTION FOLLOWING RECTIFICATION OF ANY DEFICIENCIES.

Notes: Sanitary Sewer and Manholes

1. ALL SANITARY SEWER, SANITARY SEWER APPURTENANCES AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. PROVIDE CITY INSPECTION REPORTS FOR ALL NEW SANITARY PIPING. PROVIDE DYE TESTING FOR NEW SERVICES.
2. SANITARY SEWER PIPE SIZE 150mm DIAMETER AND GREATER TO BE PVC SDR 35 (UNLESS SPECIFIED OTHERWISE) WITH GASKETED JOINTS IN CONFORMANCE WITH CSA B-182.2.3.4
3. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
4. ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSD 701.01. FRAME AND COVER TO BE AS PER CITY OF OTTAWA STANDARDS S25 AND S24.
5. MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES AS PER THE OPSD 701.021
6. ANY SANITARY SEWER WITH LESS THAN 2.0m cover DEPTH SHALL BE REPAIRED AS PER CITY OF OTTAWA STANDARD S35, OR APPROVED BY THE ENGINEER.

Notes: Storm Sewer and Manholes

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARD SPECIFICATIONS FOR SEWERAGE INSPECTION REPORTS FOR ALL NEW STORM SEWERS, SERVICES AND CB LEADS.
2. STORM SEWERS 375mm DIAMETER AND SMALLER SHALL BE PIPED IN SLOTTED DUCTILE IRON GASKET PER CSA A273.3.
3. STORM SEWERS 450mm AND LARGER SHALL BE REINFORCED CONCRETE CLASS 100.
4. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
5. ALL STORM MANHOLES TO BE AS PER MANHOLE AND CATCHBASIN.
6. ANY NEW OR EXISTING STORM SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD S35, OR APPROVED BY THE ENGINEER.
7. CB IN LANDSCAPE AREAS SHALL BE AS PER CITY OF OTTAWA STANDARD S38.
8. ALL CATCHBASIN LEADS TO BE MINIMUM 200mm DIAMETER AT MINIMUM 10% SLOPE UNLESS OTHERWISE SPECIFIED.
9. STORM CATCHBASINS AS PER OPSD 70.510 AND FRAME/COVER AS PER CITY STANDARD DRAWINGS 704.10 AND 704.15. CB GRASS AS PER CITY STANDARD DRAWING 704.10. ADJUSTMENT SECTIONS SHALL BE AS PER OPSD 704.010.
10. INSTALLATION OF FLOW CONTROL ICDS TO BE PROVIDED BY THE CITY OF OTTAWA ENGINEERING RETAINED BY CONTRACTOR.

Parking Lot and Work in Public Rights of Way

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

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|-------|--|
| 1. | PRIOR TO START OF CONSTRUCTION: |
| 1.1. | INSTALL SILT FENCE IN LOCATION SHOWN ON DWG C4. |
| 1.2. | INSTALL FILTER FABRIC OR SILT SACK FILTERS IN ALL THE CATCHBASINS AND MANHOLES TO REMAIN DURING CONSTRUCTION WITHIN 24 HOURS OF INSTALLATION. (SEE ATTACHED SCHEDULE). |
| 1.3. | INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION. |
| 2. | DURING CONSTRUCTION: |
| 2.1. | MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE AND IMPACTS TO EXISTING GRADING. |
| 2.2. | PERMITTER VEGETATION TO REMAIN IN PLACE UNTIL PERMANENT WATER MANAGEMENT SYSTEM IS IN PLACE. OTHERWISE, IMMEDIATELY INSTALL SILT FENCE WHEN THE EXISTING SITE IS DISTURBED AT THE PERMITTER. |
| 2.3. | PROTECT DISTURBED AREAS FROM OVERLAND FLOW BY PROVIDING TEMPORARY SYMBIOSIS TO THE SATISFACTION OF THE FIELD ENGINEER. TIE-IN TEMPORARY SLOPE TO EXISTING C&G AS REQUIRED. |
| 2.4. | PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING TO PROTECT AREAS IMMEDIATELY AFTER CONSTRUCTION. |
| 2.5. | INSPECT SILT FENCES, FILTER FABRIC FILTERS AND CATCH BASINS SUMP WELLS AND WITHIN 24 HOURS AFTER A STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY. |
| 2.6. | DRAWINGS TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION. |
| 2.7. | EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES. |
| 2.8. | DO NOT LOCATE TOSPOIL, PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE USED BEFORE THE PROJECT IS COMPLETED. ALL TOSPOIL PILES ARE TO BE SEEDS IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS). |
| 2.9. | CONTROL WIND-BLOWN DUST OFF SITE BY SEEDING TOSPOIL DURING OTHER ACTIVITIES. PROVIDE WATERING AS REQUIRED AND TO THE SATISFACTION OF THE ENGINEER. |
| 2.10. | NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE FIELD ENGINEER. |
| 2.11. | CONTROL AND AVOIDANCE OF EROSION SHALL BE MAINTAINED OF ALL SEDIMENT FROM VEHICULAR TRACKING AS REQUIRED. |
| 2.12. | DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPPED. |
| 2.13. | ANY MUD/MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE BRUSH. |
| 2.14. | TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ADJUTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED. |
| 2.15. | ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER. |
| 2.16. | THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA AND THE ENVIRONMENT AND TO MINIMIZE THE IMPACTS DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY SUBJECT THE CONTRACTOR TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY. |

Notes: Watermain

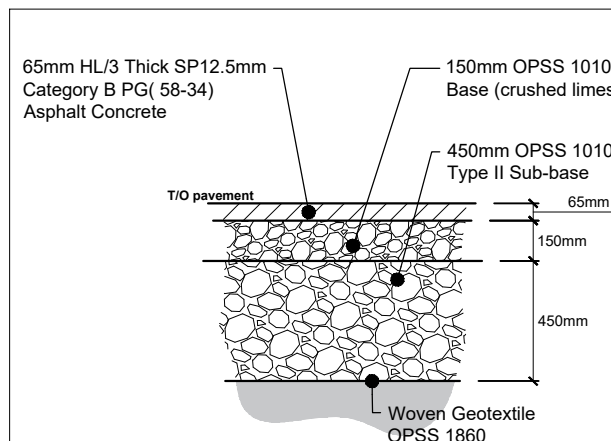
1. ALL WATERMAIN AND WATERMAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS
2. ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 R18 MEETING AWWA SPECIFICATION C900.
3. ALL WATERMAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE, WHERE WATERMAINS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE SHALL BE MAINTAINED, WHERE OTHER MAINS CROSS UNDER OTHER UTILITIES, A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED, WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED, THE WATERMAIN SHALL BE INSTALLED IN THE CITY OF OTTAWA STANDARDS W25 AND W26.2, WHERE 2.4m MINIMUM

Excess Soil And O.REG. 406/19

1. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING. CONTRACTOR SHALL PAVED AREA SURROUNDING SERVICE TRENCHES. EXCESS MATERIAL REMOVAL FROM SITE SHALL FOLLOW THE GEOTECHNICAL AND ENVIRONMENTAL ENGINEER'S RECOMMENDATION.
2. CONTRACTOR TO STOCKPILE UNUSABLE FILL TO BE REMOVED TO SITE TO ALLOW THE GEOTECHNICAL ENGINEER IN 90 DAYS TO INSPECT THE MATERIALS AND TO PROVIDE GUIDANCE TO CONTRACTOR PRIOR TO DISPOSAL OF THE MATERIALS. CONTROL MATERIALS STOCKPILED TO STOCKPILE AREA. EXCESS MATERIALS SHALL BE DISPOSED AS PER THE REQUIREMENTS OF OPSS 180.
3. IF CONTAMINATION HAZARDOUS MATERIAL IS SUSPECTED OR DETECTED DURING THE INVESTIGATION, THE CONTRACTOR MUST NOTIFY THE PROPERTY OWNER/PROJECT LEADER, PRIME CONSULTANT, AND THE ENVIRONMENTAL ENGINEER IMMEDIATELY ON HOW TO PROCEED ACCORDING TO FEDERAL AND PROVINCIAL LEGISLATION. THE GEOTECHNICAL ENGINEER UNDER THE CONTRACTOR'S SUPERVISION SHALL DETERMINE IF ADDITIONAL SAMPLING (INCLUDING LEACHATE TESTING) IS REQUIRED TO MEET THE MINIMUM SAMPLING PROVISIONS UNDER REG. 460(1) AND 460(2).
4. EXCESS SOIL MANAGEMENT, TESTING AND DISPOSAL MUST COMPLY WITH O.R.G. 460(19).
5. ALL SOIL HAULAGE RECORDS SHALL BE KEPT AND PROVIDED BY THE CONTRACTOR AND SUBMITTED TO THE CONSULTANT .
6. ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED AT AN APPROVED DUMP SITE BY CONTRACTOR

Parking Lot and Work in Public Rights of Way

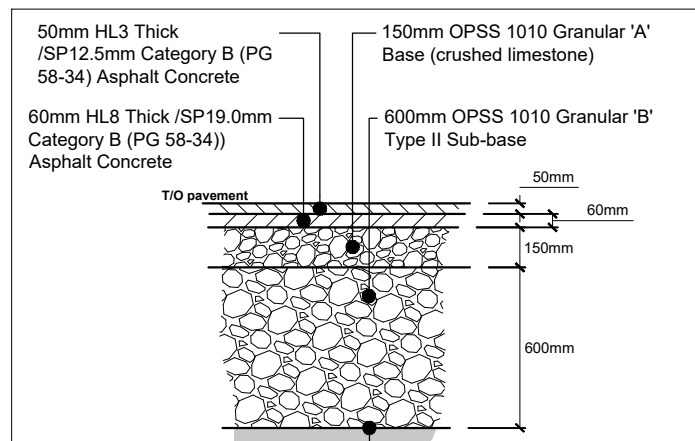
1. CONTRACTOR TO RENSTATE ROAD CUTS AS PER CITY OF OTTAWA DETAIL R10.
2. CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROFFROOLING, TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT PRIOR TO THE COMMENCEMENT OF PLACEMENT OF GRANULAR B MATERIAL.
3. FILL TO BE PLACED AND COMPACTED PER THE GEOTECHNICAL REPORT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



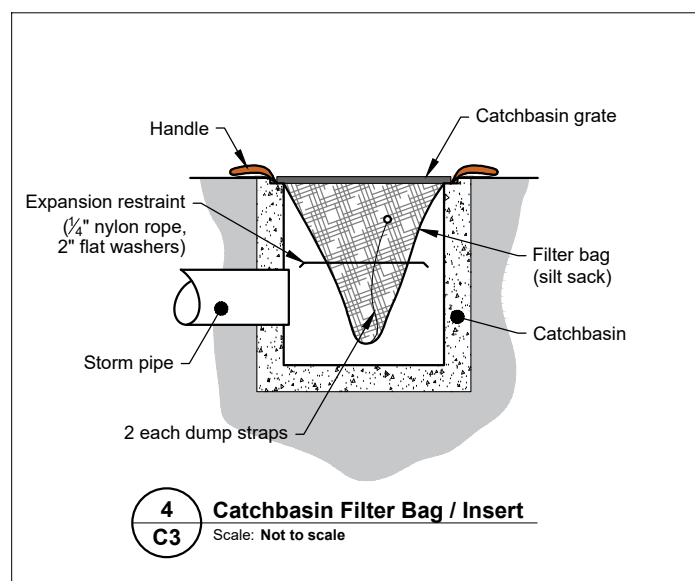
1 Pavement Structure for Light Duty Traffic
C3 Scale: As shown

Notes: Protection of City Sewers

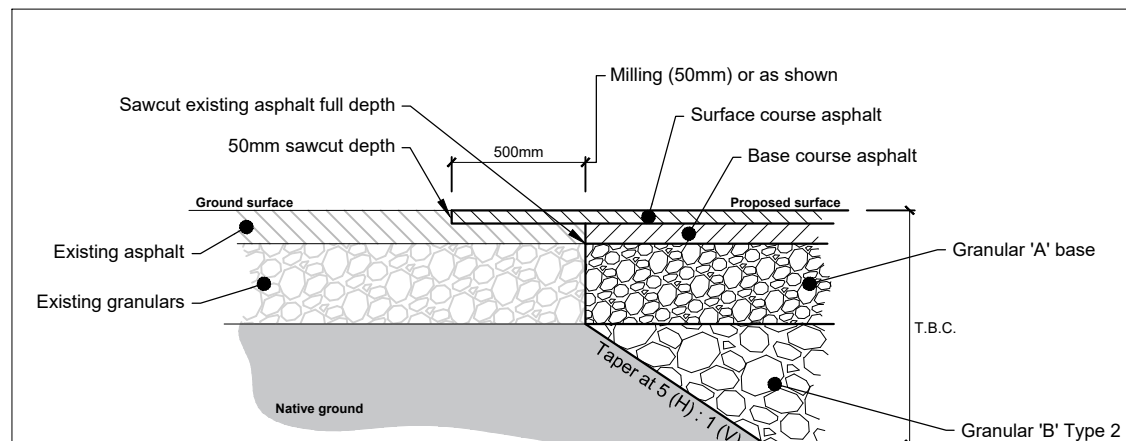
1. CONTRACTOR RESPONSIBLE TO:
 - 1.1. OBTAIN A VIDEO INSPECTION OF THE CITY SEWER SYSTEM WITHIN CAMBIAN ROAD AND ELEVATION ROAD PRIOR TO ANY CONSTRUCTION TO DETERMINE THE CONDITION OF THE EXISTING CITY SEWER SYSTEM PRIOR TO CONSTRUCTION ON THE LANDS AND TO PROVIDE SAID VIDEO INSPECTION TO THE GENERAL MANAGER, PLANNING, DEVELOPMENT AND BUILDING SERVICES.
2. UPON COMPLETION OF CONSTRUCTION ON THE LANDS, THE CONTRACTOR SHALL, AT ITS EXPENSE AND TO THE SATISFACTION OF THE GENERAL MANAGER, PLANNING, DEVELOPMENT AND BUILDING SERVICES:
 - 2.1. OBTAIN A VIDEO INSPECTION OF THE EXISTING CITY SEWER SYSTEM WITHIN CAMBIAN ROAD AND ELEVATION ROAD TO DETERMINE IF THE CITY SEWER SYSTEM SUSTAINED ANY DAMAGE AS A RESULT OF THE CONSTRUCTION OF THE LANDS, AND ASSUME ALL LIABILITY FOR ANY DAMAGES CAUSED TO THE CITY SEWER SYSTEM WITHIN ATLAS TERRACE, COPE DRIVE AND ELEVATION ROAD.



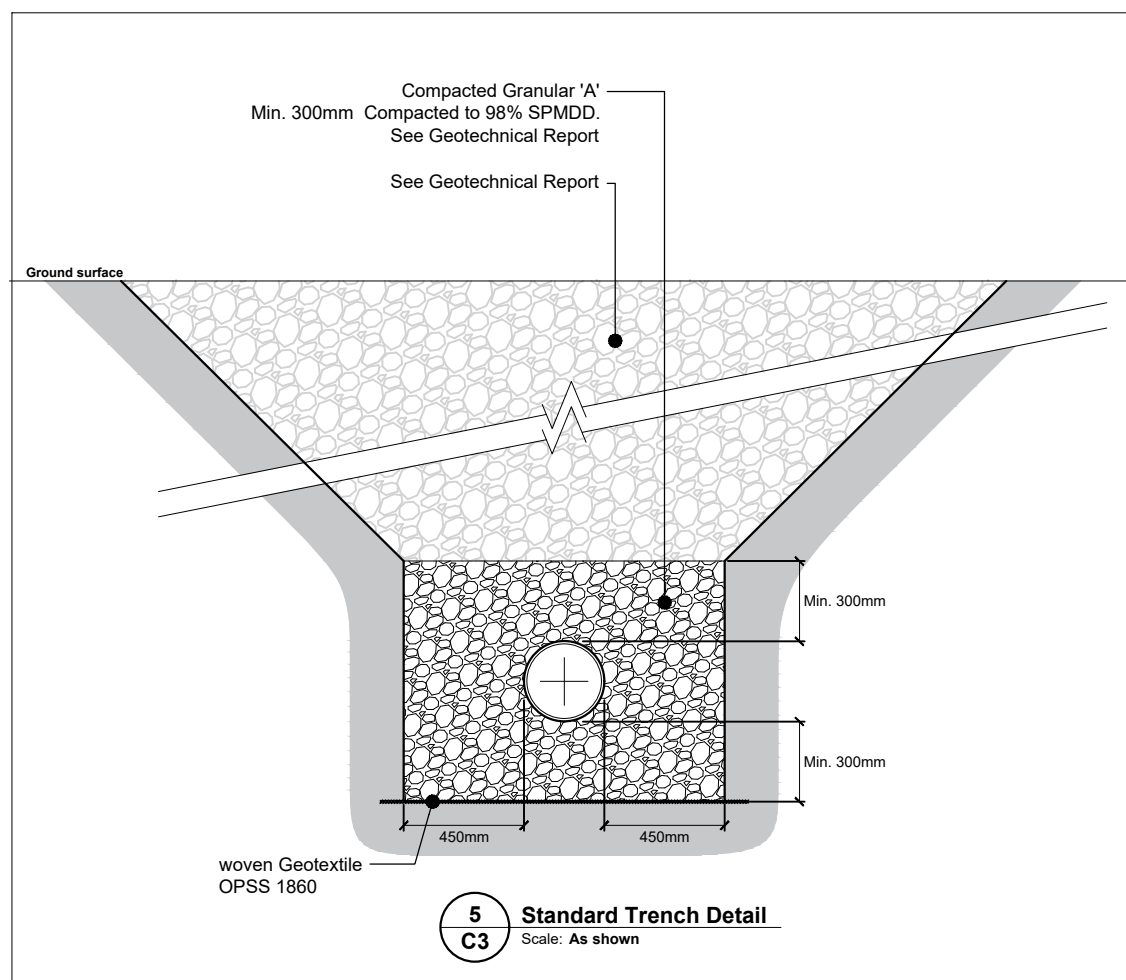
2
C3 Pavement Structure for Heavy Duty Traffic
Scale: As shown



4 **Catchbasin Filter Bag / Insert**
C3 Scale: Not to scale



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



5 Standard Trench Detail
C3 Scale: As shown

NEW STORM SEWER STRUCTURE SCHEDULE

MANHOLE NO.	DESCRIPTION	T/GRATE ELEVATION	INVERT ELEVATION / PIPE DIAMETER	OPSD No.	FRAME (CITY OF OTTAWA)
CB-1	600x600mm CATCHBASIN	93.65	SW INV.: 91.40 - 250mmØ	705.010	S19
CB-2	600x600mm CATCHBASIN	93.75	SW INV.: 91.45 - 300mmØ	705.010	S19
CB-3	600x600mm CATCHBASIN	93.93	NW INV.: 91.68 - 250mmØ	705.010	S19
CB-4	600x600mm CATCHBASIN	93.90	NW INV.: 91.52 - 300mmØ	705.010	S19
CB-5	600x600mm CATCHBASIN	93.90	NE INV.: 91.65 - 250mmØ	705.010	S19
CB-6	600x600mm CATCHBASIN	94.37	E INV.: 92.07 - 300mmØ	705.010	S19
CB-7	600x600mm CATCHBASIN	94.28	NW INV.: 92.45 - 250mmØ	705.010	S19
CB-8	600x600mm CATCHBASIN	94.35	NW INV.: 92.76 - 250mmØ	705.010	S19
CB-9	600x600mm CATCHBASIN	94.73	NW INV.: 93.04 - 250mmØ	705.010	S19
CBMH-1	1,200mmØ MAINTENANCE HOLE	93.83	SW INV.: 91.12 - 250mmØ NE INV.: 91.07 - 300mmØ	701.010	S25 / S28.1
CBMH-2	1,200mmØ MAINTENANCE HOLE	93.87	SW INV.: 91.53 - 250mmØ NE INV.: 91.50 - 250mmØ	701.010	S25 / S28.1
CBMH-3	1,200mmØ MAINTENANCE HOLE	94.65	SE INV.: 92.90 - 250mmØ NE INV.: 92.85 - 250mmØ	701.010	S25 / S28.1
STMH-1	1,800mmØ Manhole	94.09	NE INV.: 91.22 - 250mmØ SW INV.: 90.90 - 300mmØ NW INV.: 90.16 - 900mmØ SE INV.: 90.19 - 900mmØ	701.012	S25 / S24.1
STMH-2	1,800mmØ Manhole	94.27	NW INV.: 90.27 - 900mmØ NE INV.: 91.15 - 300mmØ SW INV.: 90.35 - 825mmØ E INV.: 90.92 - 250mmØ	701.012	S25 / S24.1
STMH-3	1,500mmØ MAINTENANCE HOLE	94.57	SW INV.: 91.18 - 375mmØ S INV.: 90.96 - 600mmØ SW INV.: 93.34 - 100mmØ NE INV.: 90.74 - 825mmØ	701.011	S25 / S24.1
STMH-4	1,500mmØ MAINTENANCE HOLE	94.87	SW INV.: 91.92 - 525mmØ NE INV.: 92.07 - 375mmØ SE INV.: 92.20 - 250mmØ N INV.: 91.85 - 600mmØ	701.011	S25 / S24.1
STMH-5	1,200mmØ MAINTENANCE HOLE	94.47	SW INV.: 92.68 - 250mmØ SE INV.: 92.68 - 250mmØ NW INV.: 92.55 - 375mmØ NE INV.: 92.40 - 525mmØ	701.010	S25 / S24.1

NEW SANITARY SEWER STRUCTURE SCHEDULE

MANHOLE NO.	DESCRIPTION	T/GRATE ELEVATION	INVERT ELEVATION / PIPE DIAMETER	OPSD No.	FRAME (CITY OF OTTAWA)
SAMH1	1,200mmØ MAINTENANCE HOLE	94.23	NW INV.: 90.52 - 200mmØ SW INV.: 90.58 - 200mmØ	701.010	S25 / S24

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

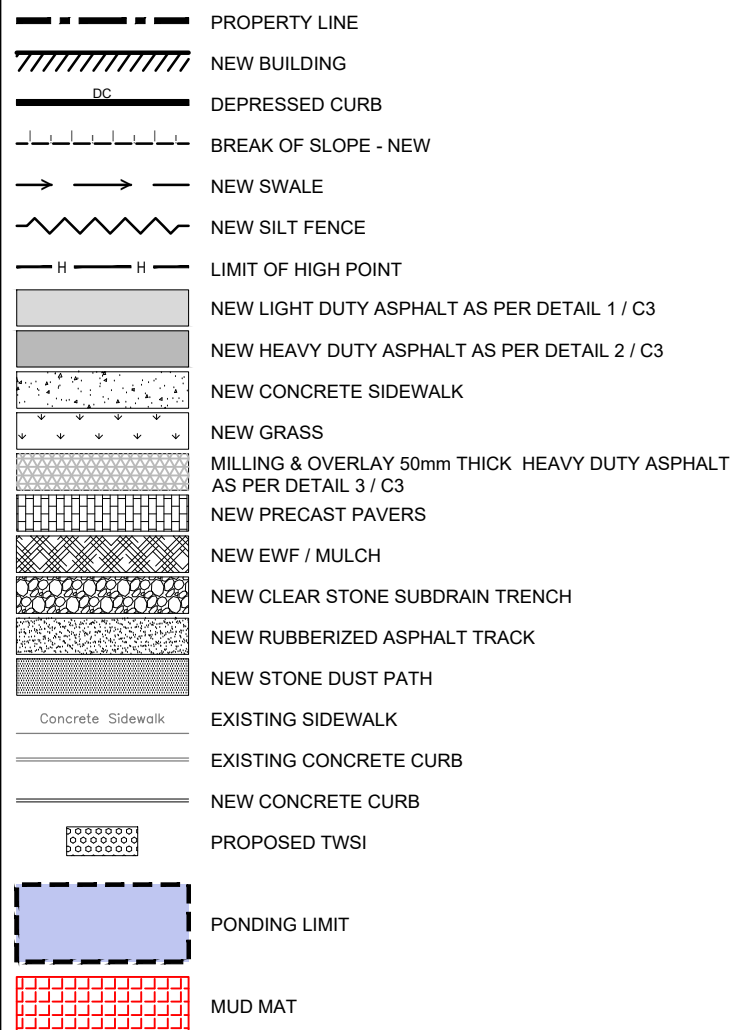
Folder: \\p2g.com\project1\Project Data\5-Civil\2024\24-5128A - OCDSB - New Half Moon Bay Secondary School\05 Drawings\1 Ongoing | Drawing: 24-5128 New Half Moon Bay SS-Issued For Site Plan Control Rev-1-2026-07-23.dwg | Layout: C3_Details_Notes & Schedules | Print date: 11:31 AM July 23, 2026

PLAN #XXXXXX

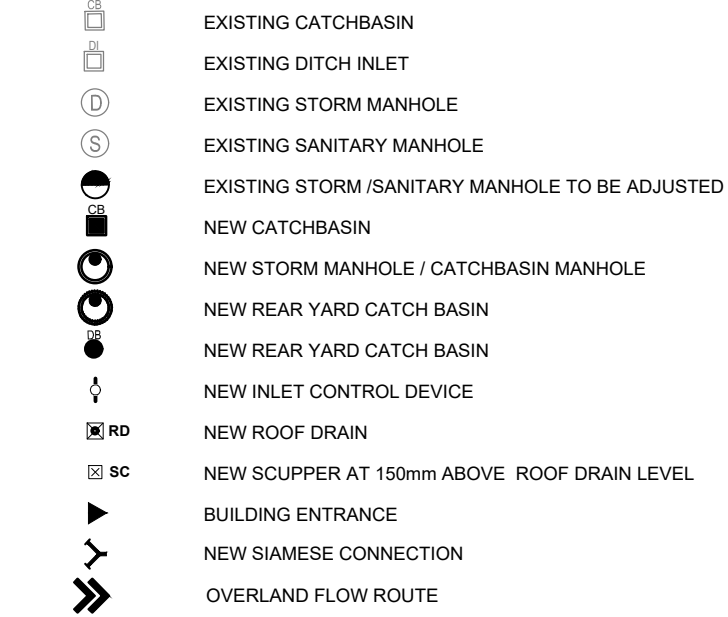
EROSION AND SEDIMENT CONTROL NOTES

- ** CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES.****
- PRIOR TO START OF CONSTRUCTION:
 - INSTALL SILT FENCE IN LOCATION SHOWN ON DRAWINGS.
 - INSTALL FILTER FABRIC OR SILT SACK FILTERS IN ALL THE CATCHBASINS AND MANHOLES TO REMAIN DURING CONSTRUCTION WITHIN THE SITE (SEE TYPICAL DETAIL).
 - INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.
 - DURING CONSTRUCTION:
 - MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE AND IMPACTS TO EXISTING GRADING.
 - PERIMETER VEGETATION TO REMAIN IN PLACE UNTIL PERMANENT STORM WATER MANAGEMENT IS IN PLACE. OTHERWISE, IMMEDIATELY INSTALL SILT FENCE WHEN THE EXISTING SITE IS DISTURBED AT THE PERIMETER.
 - PROTECT DISTURBED AREAS FROM OVERLAND FLOW BY PROVIDING TEMPORARY SWALES TO THE SATISFACTION OF THE FIELD ENGINEER. TIE-IN TEMPORARY SWALES TO EXISTING GPS AS REQUIRED.
 - PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED WITHIN 30 DAYS.
 - INSPECT SILT FENCES, FILTER FABRIC FILTERS AND CATCH BASIN SUMP WEEKLY AND WITHIN 24 HOURS AFTER A STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY.
 - DRAWING TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION.
 - EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
 - DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE PAVED BEFORE THE PILE IS REMOVED. ALL TOPSOIL PILES ARE TO BE SEEDING IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS).
 - CONTROL WIND-BLOWN DUST OFF SITE BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED AND TO THE SATISFACTION OF THE ENGINEER).
 - NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE FIELD ENGINEER.
 - CITY OF OTTAWA ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING AS REQUIRED.
 - DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPPED.
 - ANY MUDMATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER.
 - TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ADJUTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.
 - ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER.
 - THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

LEGEND



LEGEND CONTINUED



ICD SCHEDULE

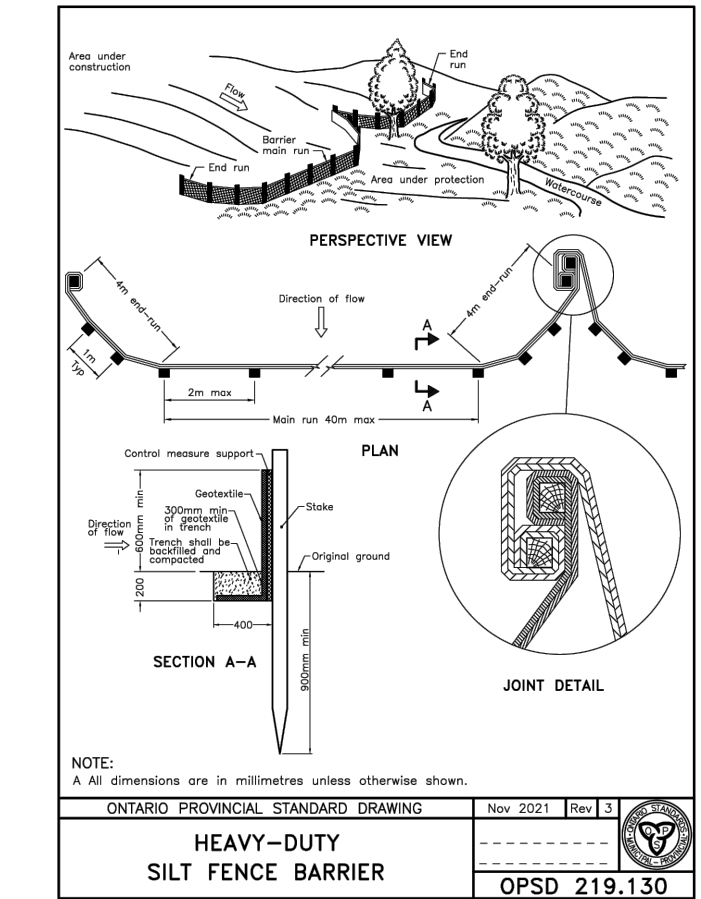
ICD	LOCATION	PIPE SIZE (mm)	ICD SIZE (mm)	100 YEAR HEAD (m)	100 YEAR FLOW RATE (l/s)
ICD-1	CB-1	250	89	2.31	25.3
ICD-2	CB2	300	130	2.39	55.3
ICD-3	CBMH-1	300	183	2.73	117.1
ICD-4	CB-3	250	97	2.30	30.2
ICD-5	CB-4	300	144	2.50	69.1
ICD-6	CB-6	300	125	2.43	51.5
ICD-7	CB-7	250	110	1.90	35.6
ICD-8	CB-8	250	115	1.67	16.0
ICD-9	CBMH-3	250	75	1.80	61.2

DRAWING NOTES

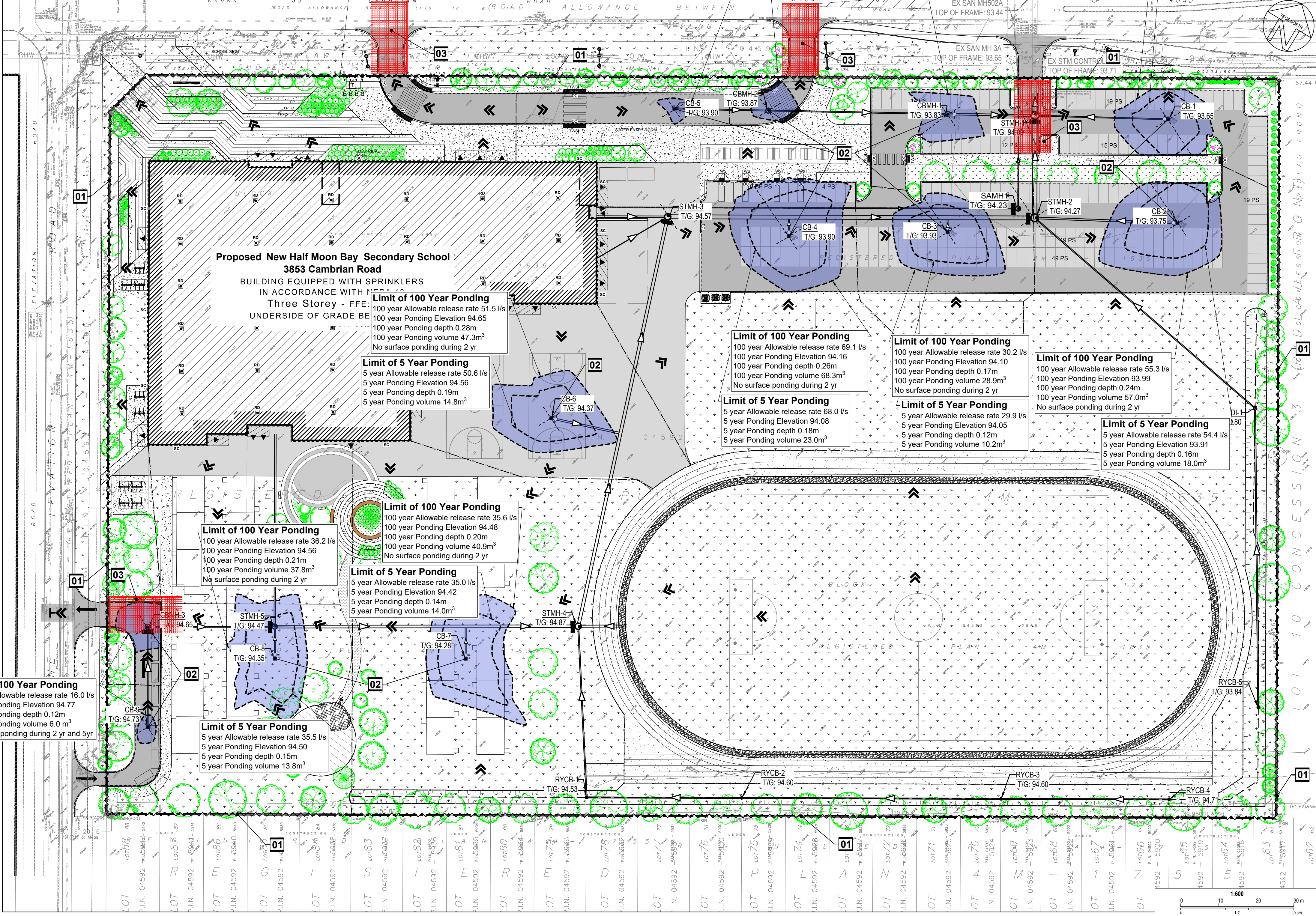
- INSTALL SILT FENCE IN ACCORDANCE WITH OPSD 219.130.
- INSTALL FILTER BAG (SILT SACK) TO PROTECT EXISTING CATCHBASINS & CATCHBASIN MANHOLES AS PER DETAIL 4/C3.
- PROPOSE MUD MAT DURING CONSTRUCTION.

EROSION AND SEDIMENT CONTROL NOTES

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



1 Heavy Duty Silt Fence Barrier
Scale: Not to scale

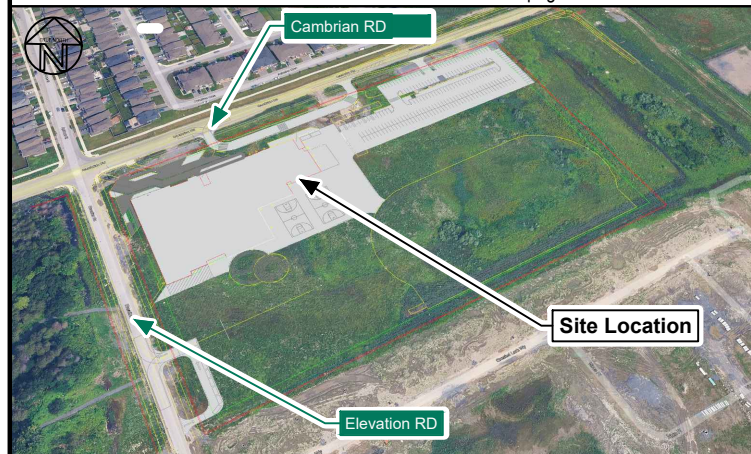


OTTAWA-CARLETON
DISTRICT SCHOOL BOARD

Jp2g Consultants Inc.
ENGINEERS • PLANNERS • PROJECT MANAGERS

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16 EDWARD ST. S. #211 ARLPRIOR, ON K7S 3M4 T: 613-584-0700 ARLPRIOR@JP2G.COM

Jp2g PROJECT No.: 24-5128A



No.	DESCRIPTION	DATE
2	ISSUED FOR SITE PLAN CONTROL REV-1	2026-07-24
1	ISSUED FOR 33% DESIGN SUBMISSION	2026-07-17
No.	DESCRIPTION	YYYY-MM-DD



N45 ARCHITECTURE INC.

71 Bank Street, 7th Floor - Ottawa, Ontario K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project

**Half Moon Bay
Secondary School**

3853 Cambrian Road, Ottawa, ON

seal



seal



drawing title

**Storm Water Management and
Erosion Sediment Control Plan**

scale

As Shown

date

July 2026

project

number

26-056

drawn by

B. Radan / R. Ismail

checked by

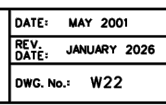
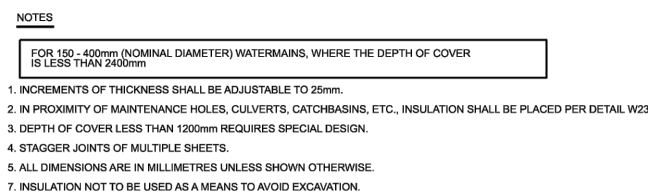
Z. Bauman / A. Sammour

drawing number

C4

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision



1. SOIL DESCRIPTION: VERY FINE SANDS, SANDY CLAYS, CLAYS				
SOILS WITH TYPICAL BEARING STRENGTH OF 100 TO 199 KPa				
PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	250	250	200	200
152	400	400	250	300
203	550	550	300	450
254	650	650	400	500
305	800	800	450	650
406	1050	1050	600	850

2. SOIL DESCRIPTION: SILTY SAND GRAVELS OR CLAYEY SAND GRAVELS
MIXTURES, MODERATE AMOUNT OF FINES.

SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 KPa

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	200	200	150	150
152	250	250	200	200
203	350	350	250	270
254	450	450	300	350
305	500	500	350	400
406	750	750	400	800

3. SOIL DESCRIPTION: SANDS, GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.

SOILS WITH TYPICAL BEARING CAPACITY OF 300 KPa AND OVER

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	150	150	150	150
152	200	200	200	200
203	300	300	200	230
254	400	400	250	270
305	450	450	300	300
406	650	650	350	450

NOTES:

THE ABOVE THRUST BLOCK DIMENSIONS MEET OR EXCEED THE WATERMAIN DESIGN CRITERIA FOR FUTURE ALTERATIONS AUTHORIZED UNDER A DRINKING WATER WORKS PERMIT.

THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:

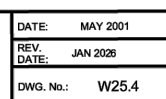
a) MAXIMUM OPERATING PRESSURE OF 100 psi

b) MAXIMUM SURFACE PRESSURE (WITH A 15% VELOCITY CHANGE) OF 3.8 m/s

c) OF 118 psi (719 psi) FOR CLASS 90 AND FOR PVC MAX. SURGE IS 130psi

THE TABLES APPLY TO BOTH DUCTILE IRON AND PVC. WHERE ONE LENGTH EXCEEDS THE OTHER THE LONGER LENGTH DIMENSIONS MAY BE ADJUSTED TO LONG AS THE BEARING SURFACE AREA OF THE THRUST BLOCK IS NOT REDUCED.

TO BE USED IN CONJUNCTION WITH HDS.3.



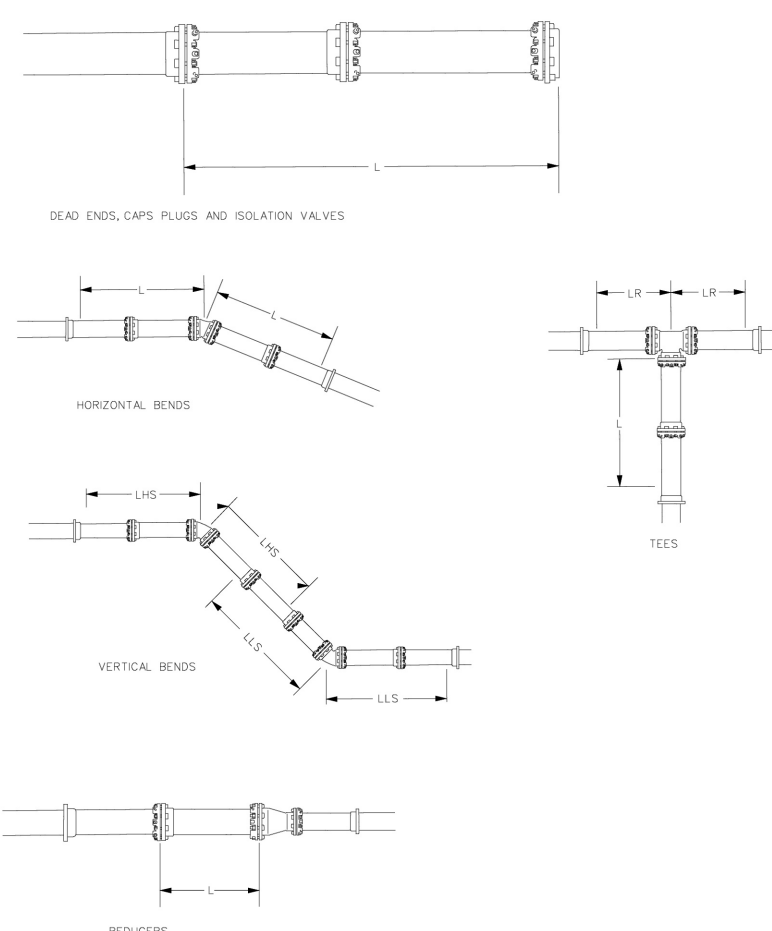
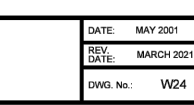
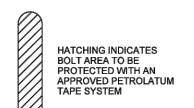
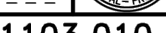
PIPE DIA	Dimensions			
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
100	150	250	200	200
150	250	400	250	300
200	400	550	300	450
250	500	650	400	500
300	650	800	450	650
350	700	900	500	700
400	800	1000	500	800

PIPE DIA	Dimensions			
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
100	150	200	150	150
150	250	250	200	200
200	400	350	250	300
250	500	450	300	350
300	650	500	350	400
350	700	600	400	500
400	900	750	400	800

PIPE DIA	Dimensions			
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
100	150	150	150	150
150	250	200	200	200
200	400	300	200	250
250	500	400	250	300
300	650	450	300	300
350	700	550	350	350
400	900	650	350	450

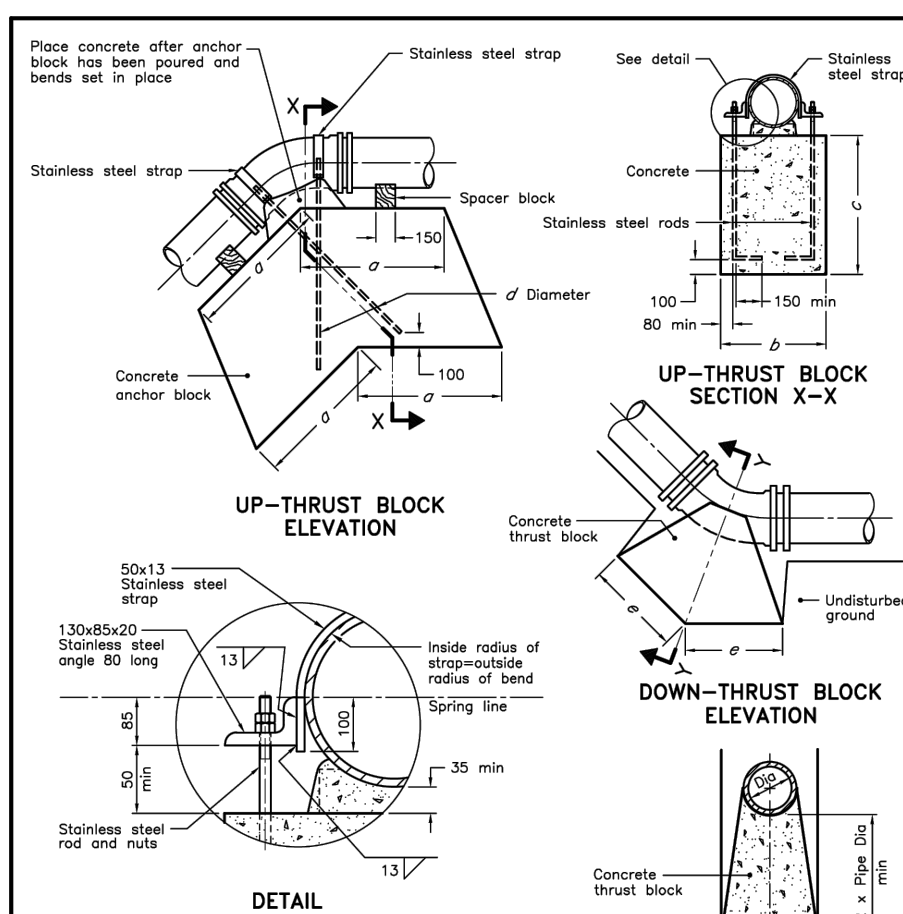
NOTES:

- A Concrete shall be placed to within 50mm of the face of the bell.
- B Bond breaker shall be used between concrete and fitting.
- C The above thrust block dimensions meet or exceed the MECP Watermain Design Criteria for Future Alteration Authorized Under a Drinking Water Works Permit.
- D The assumptions made for the above calculations are:
 - Maximum operating pressure of 690 kPa
 - Maximum surge pressure with a flow velocity change of 0.6 m/s of 790 kPa for Class 52 DI pipe and 240 kPa for PVC pipe.
- E The tables apply to both ductile iron and PVC pipe. When the length exceeded the other, the longer length was used.
- F All dimensions are in millimetres unless



NOTES:

1. ANY JOINT THAT FALLS WITHIN THE RECOMMENDED LENGTH (L) SHALL BE RESTRAINED. SEE DRAWING W25.6
2. TO REDUCE THE NUMBER OF RESTRAINERS REQUIRED THE USE OF FULL PIPE LENGTHS IS RECOMMENDED IN



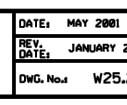
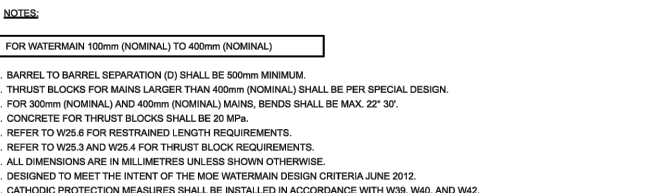
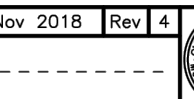
NOTES:

- Concrete shall be placed to within 50mm of the face of the bell.
- Bond breaker shall be used between concrete and fittings.
- This blocking is for bends up to 45° for up-thrust and 90° for down-thrust.
- This OPSD shall be read in conjunction with OPSP 1103.021.
- All fittings used to be June 316.

0/0+600 min

**DOWN-THRUST BLOCK
SECTION Y-Y**

- Stainless steel rods and nuts to be designed based on actual watermain diameter and surge pressure.
- All dimensions are in millimetres unless otherwise shown.



REDUCERS		LARGER DIAMETER SIDE (TO BE RESTRAINED)					
SMALLER DIAMETER (UNRESTRAINED)		100mm	150mm	200mm	250mm	300mm	400mm
100mm	N/A	3	6	8	10	14	
150mm	N/A	N/A	4	6	9	13	
200mm	N/A	N/A	N/A	3	6	11	
250mm	N/A	N/A	N/A	N/A	4	9	
300mm	N/A	N/A	N/A	N/A	N/A	7	9
400mm	N/A	N/A	N/A	N/A	N/A	N/A	14

PIPE DIAMETER
100mm 150mm 200mm 250mm 300mm 400mm

VERTICAL BENDS						
LENGTH HIGH SIDE - LHS	3	4	5	6	7	9
LENGTH LOW SIDE - LLS	1.5	2	2.5	3	3.5	4.5

LENGTH ALONG THE BRANCH - L	1	1	1	1	1	1
LENGTH ALONG THE RUN - L _r	3	3	3	3	3	3

HORIZONTAL BENDS						
11.25, 22.5, AND 45 DEGREE BENDS	1	1.5	1.5	2	2	2.5

THE ABOVE RESTRAINED LENGTHS MEET OR EXCEED THE WATERMAN DESIGN CRITERIA FOR FUTURE ADJUSTMENTS AUTHORIZED UNDER AN OPERATING WATER WORKS PROJECT.

THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:

- a. MAXIMUM OPERATING PRESSURE OF 100 psi.
- b. MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.5 m/sec.
- c. 15 ft (4.5 m) PER FEET (3.0 m) OF 24" AND 30" PVC MAX. PRESSURE LOSS OF 1.00 psi.

FOR FORTYTHREE CALCULATIONS A TEST PRESSURE OF 100 PSI AND A SAFETY FACTOR OF 1.5 WAS USED. WHEREHIN LOSS IS 22 psi MAXIMUM PRESSURE LOSS.

TEST TRENCH DESIGN:

DEPTH TO BURY 24" AND 30" EXCEPT FOR VERTICAL BENSES WHERE THE HIGH SIDE IS AT 1.8 METERS.

EMBEDMENT MATERIAL: GRAVELLAK W/ CHARACTERISTICS OF ASTM C493.

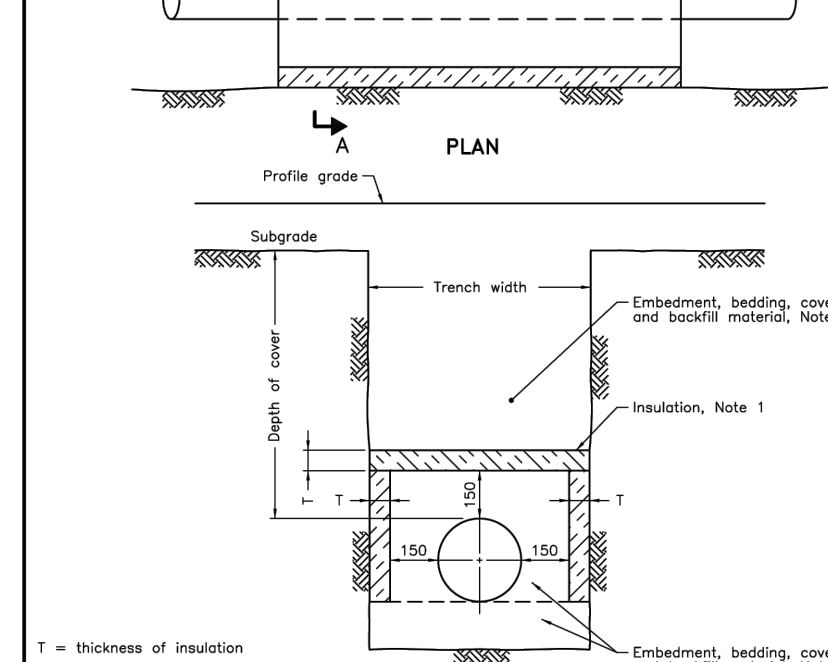
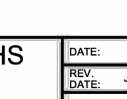
UNDERNEATH LENGTHS ARE 1.8 METERS.

ALL BENSES ARE DISCREETLY AS POORLY GRADED GRAVELLAK AND SAND GRADES. BENSES WITH LITTLE OR NO FINES.

DO NOT MEET OF SAND/FINE PARTICLES. FITTINGS: ETC.

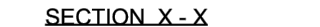
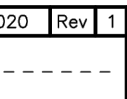
THE TABLES APPLY TO BOTH DUCTILE IRON AND PVC.

THE LONGER LENGTHS ARE 1.8 METERS.



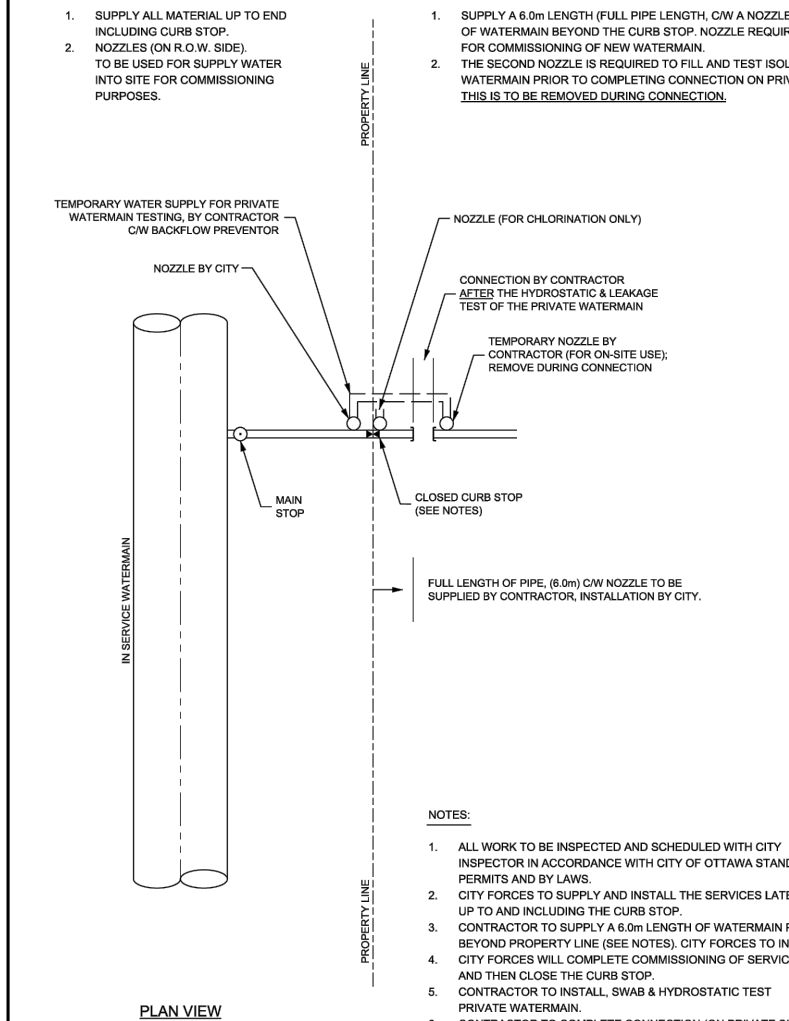
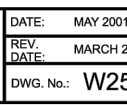
NOTES:

- The insulation material shall be extruded polystyrene according to OPSS 1605 with a minimum compressive strength of 275 kPa.
- Pipes embankment or bedding, cover, and backfill shall be according to:
 - Flexible OPSS 802.010, 802.013, 802.020, and 802.023.
 - Rigid - OPSS 802.030, 802.031, 802.032, 802.033, 802.050, 802.051, 802.052, and 802.053.
- A minimum insulation thickness shall be shown.
- Joints shall be staggered for multiple insulation sheets.
- This OPSS is to be read in conjunction with OPSS 3090.100 and 3090.101.



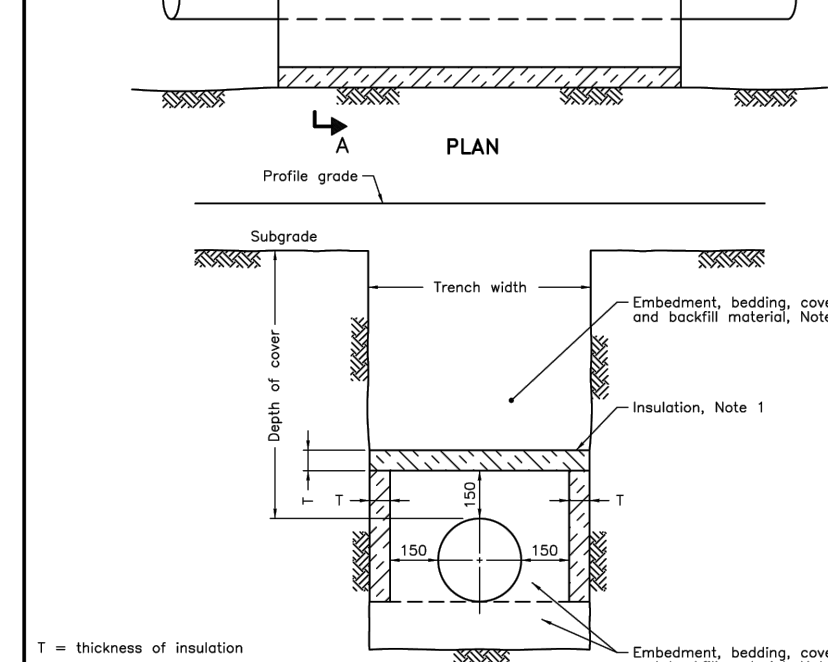
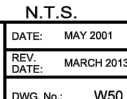
NOTES:

1. CONCRETE SHALL BE PLACED TO WITHIN 50mm OF FACE OF THE BELL.
2. BOND BREAKER TO BE USED FOR CONCRETE AND FITTINGS.
3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
4. REFER TO W25.4 FOR ADDITIONAL REQUIREMENTS.
5. THE THRU-ROD SHALL BE PLACED AS SHOWN ON ABOVE DRAWINGS UNLESS OTHER PROVIDED BY THE CONTRACT ADMINISTRATOR. THE BLOCK SHALL BE CENTERED ON THE THRUST FORCE AND ALSO PARTIALLY CRADLE THE FITTING TO DISTRIBUTE THE FORCE.
6. THE SIDES OF THE THRUST ROD SHALL BE PLACED WITHIN 50mm OF THE BEND OR END OF THE CONCRETE WHERE POSSIBLE SHALL BE PLACED AGAINST UNDISTURBED SOIL. AT THE BOTTOM OF THE THRUST ROD THE THRUST ROD BLOCS CAN NOT BE POURED TO UNDISTURBED SOIL, OR WHERE IT WOULD CONFLICT WITH EXISTING OR FUTURE INFRASTRUCTURE.
7. THE THRUST ROD BLOCK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.
8. EXIST FOR THE THRUST ROD BLOCK SHALL BE PROVIDED FOR THE THRUST BLOCK SHALL COME PREPARED FROM CONCRETE SUPPLIER, AS "READY MIX" FROM A CONCRETE TRUCK.
9. THE ADDITION OF SAND TO THE CONCRETE SHALL BE AT THE DISCRETION OF THE CONTRACTOR.



NOTES:

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



NOTES:

- The insulation material shall be extruded polystyrene according to OPSS 1605 with a minimum compressive strength of 275 kPa.
- Pipes embankment or bedding, cover, and backfill shall be according to:
 - Flexible OPSS 802.010, 802.013, 802.020, and 802.023.
 - Rigid - OPSS 802.030, 802.031, 802.032, 802.033, 802.050, 802.051, 802.052, and 802.053.
- A minimum insulation thickness shall be shown.
- Joints shall be staggered for multiple insulation sheets.
- This OPSS is to be read in conjunction with OPSS 3090.100 and 3090.101.

