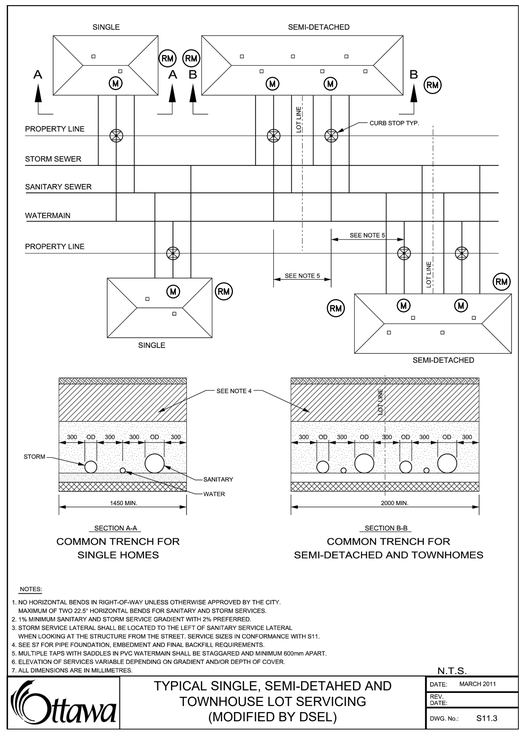
GENERAL NOTES

1. ALL WORKS AND MATERIALS SHALL CONFORM TO THE LATEST REVISION OF THE STANDARDS AND SPECIFICATIONS FOR THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS), WHERE APPLICABLE. LOCAL UTILITY STANDARDS AND MINISTRY OF TRANSPORTATION STANDARDS WILL APPLY WHERE REQUIRED.
2. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE SITE AND ADJACENT WORK AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY SERVICES OR UTILITIES DISTURBED DURING CONSTRUCTION, TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION.
3. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER. LOST TIME DUE TO FAILURE OF THE CONTRACTOR TO CONFIRM UTILITY LOCATIONS AND NOTIFY ENGINEER OF POSSIBLE CONFLICTS PRIOR TO CONSTRUCTION WILL BE AT THE CONTRACTORS EXPENSE.
4. ANY AREAS BEYOND THE LIMIT OF THE SITE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AT THE CONTRACTOR'S EXPENSE.
5. RELOCATION OF EXISTING SERVICES AND/OR UTILITIES SHALL BE AS SHOWN ON THE DRAWINGS OR DIRECTED BY THE ENGINEER AT THE EXPENSE OF THE DEVELOPER.
6. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS". THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE "CONSTRUCTOR" AS DEFINED IN THE ACT.
7. ALL CONSTRUCTION SIGNAGE MUST CONFORM TO THE MINISTRY OF TRANSPORTATION OF ONTARIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PER LATEST AMENDMENT.
8. THE CONTRACTOR IS ADVISED THAT WORKS BY OTHERS MAY BE ONGOING DURING THE PERIOD OF THIS CONTRACT. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES TO PREVENT CONFLICTS.
9. ALL DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
10. THERE WILL BE NO SUBSTITUTION OF MATERIALS UNLESS PRIOR WRITTEN APPROVAL IS RECEIVED FROM THE ENGINEER.
11. ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT.
12. FOR DETAILS RELATING TO STORMWATER MANAGEMENT AND ROOF DRAINAGE REFER TO THE SITE SERVICING AND STORMWATER MANAGEMENT REPORT PREPARED BY DSEL.
13. ALL SEWERS CONSTRUCTED WITH GRADES LESS THAN 1.0% SHALL BE INSTALLED USING LASER ALIGNMENT AND CHECKED WITH LEVEL INSTRUMENT PRIOR TO BACKFILLING.
14. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND TO BEAR THE COST OF THE SAME.
15. THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL BEDDING, OR ADDITIONAL STRENGTH PIPE IF THE MAXIMUM TRENCH WIDTH AS SPECIFIED BY OPSD IS EXCEEDED.
16. ALL PIPE / CULVERT SECTION SIZES REFER TO INSIDE DIMENSIONS.
17. SHOULD DEEPLY BURIED ARCHAEOLOGICAL REMAINS BE FOUND ON THE PROPERTY DURING CONSTRUCTION ACTIVITIES, THE HERITAGE OPERATIONS UNIT OF THE ONTARIO MINISTRY OF CULTURE MUST BE NOTIFIED IMMEDIATELY.
18. ALL NECESSARY CLEARING AND GRUBBING SHALL BE COMPLETED BY THE CONTRACTOR. REVIEW WITH CONTRACT ADMINISTRATOR AND THE CITY OF OTTAWA PRIOR TO ANY TREE CUTTING / REMOVAL.
19. DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL SITE PLAN.
20. THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER ONE SET OF AS CONSTRUCTED SITE SERVICING AND GRADING DRAWINGS.
21. BENCHMARKS: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE SITE BENCHMARK(S) HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION DEPICTED ON THIS PLAN.



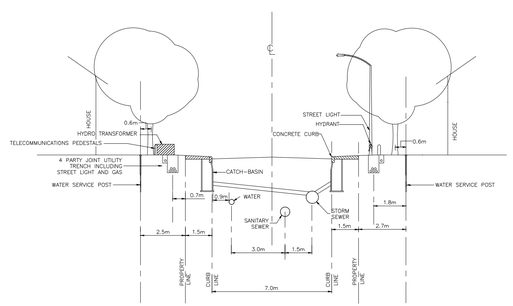
NOTES:

1. NO HORIZONTAL BENDS IN RIGHT-OF-WAY UNLESS OTHERWISE APPROVED BY THE CITY. MAXIMUM OF TWO 22.5° HORIZONTAL BENDS FOR SANITARY AND STORM SERVICES.
2. 1% MINIMUM SANITARY AND STORM SERVICE GRADIENT WITH 2% PREFERRED.
3. STORM SERVICE LATERAL SHALL BE LOCATED TO THE LEFT OF SANITARY SERVICE LATERAL WHEN LOOKING AT THE STRUCTURE FROM THE STREET. SERVICE SIZES IN CONFORMANCE WITH S11.
4. SEE S7 FOR PIPE FOUNDATION, EMBEDMENT AND FINAL BACKFILL REQUIREMENTS.
5. MULTIPLE TAPS WITH SADDLES IN PVC WATERMAIN SHALL BE STAGGARED AND MINIMUM 600mm APART.
6. ELEVATION OF SERVICES VARIABLE DEPENDING ON GRADIENT AND/OR DEPTH OF COVER.
7. ALL DIMENSIONS ARE IN MILLIMETRES.

N.T.S.

DATE:	MARCH 2011
REV. DATE:	
DWG. No.:	S11.3

TYPICAL SINGLE, SEMI-DETAHED AND TOWNHOUSE LOT SERVICING (MODIFIED BY DSEL)



SECTION

NTS

RESIDENTIAL ROAD 7.0m ROAD JOINT USE TRENCH

WATERMAIN NOTES

1. ALL WATERMAIN INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE CITY OF OTTAWA AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
2. ALL PVC WATERMAINS SHALL BE AWWA C-900 CLASS 150, SDR 18 OR APPROVED EQUIVALENT.
3. WATERMAIN TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W17. UNLESS SPECIFIED OTHERWISE, BEDDING AND COVER MATERIAL SHALL BE SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER.
4. ALL PVC WATERMAINS SHALL BE INSTALLED WITH A 10 GAUGE STRANDED COPPER TWU OR RWU TRACER WIRE IN ACCORDANCE WITH CITY OF OTTAWA STD. W.36.
5. CATHODIC PROTECTION IS REQUIRED ON ALL METALLIC FITTINGS PER CITY OF OTTAWA STD. W40 AND W42.
6. VALVE BOXES SHALL BE INSTALLED PER CITY OF OTTAWA STD W24.
7. WATERMAIN IN FILL AREAS TO BE INSTALLED WITH RESTRAINED JOINTS PER CITY OF OTTAWA STD.25.5 AND W25.6.
8. THRUST BLOCKING OF WATERMAINS TO BE INSTALLED PER CITY OF OTTAWA STD. W25.3 AND W25.4.
9. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS, BLOW-OFFS, AND NOZZLES REQUIRED FOR TESTING AND DISINFECTION OF THE WATERMAIN.
10. WATERMAIN CROSSING OVER AND BELOW SEWERS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. W25.2 AND W25, RESPECTIVELY.
11. WATER SERVICES ARE TO BE INSULATED PER CITY STD. W23 WHERE SEPARATION BETWEEN SERVICES AND MAINTENANCE HOLES ARE LESS THAN 2.4m.
12. THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER / UTILITY IS 0.50m PER MOE GUIDELINES. FOR CROSSING UNDER SEWERS, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWERS IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING. THE LENGTH OF WATER PIPE SHALL BE CENTRED AT THE POINT OF CROSSING TO ENSURE THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.
13. ALL WATERMAINS SHALL HAVE A MINIMUM COVER OF 2.4m, OTHERWISE THERMAL INSULATION IS REQUIRED AS PER STD DWG W22.
14. GENERAL WATER PLANT TO UTILITY CLEARANCE AS PER STD DWG R20
15. FIRE HYDRANT INSTALLATION AS PER STD DWG W19. ALL BOTTOM OF HYDRANT FLANGE ELEVATIONS TO BE INSTALLED 0.10m ABOVE PROPOSED FINISHED GRADE AT HYDRANT; FIRE HYDRANT LOCATION AS PER STD DWG W18 UNLESS OTHERWISE NOTED.
16. BUILDING SERVICE TO BE CAPPED 1.0m OFF THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED AND MUST BE RESTRAINED A MINIMUM OF 12m BACK FROM STUB.
17. ALL WATERMAINS SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO GUIDELINES UNLESS OTHERWISE DIRECTED. PROVISIONS FOR FLUSHING WATER LINE PRIOR TO TESTING, ETC. MUST BE PROVIDED.
18. ALL WATERMAINS SHALL BE BACTERIOLOGICALLY TESTED IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO GUIDELINES. ALL CHLORINATED WATER TO BE DISCHARGED AND PRETREATED TO ACCEPTABLE LEVELS PRIOR TO DISCHARGE. ALL DISCHARGED WATER MUST BE CONTROLLED AND TREATED SO AS NOT TO ADVERSELY EFFECT THE ENVIRONMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MUNICIPAL AND/OR PROVINCIAL REQUIREMENTS ARE FOLLOWED.
19. ALL WATERMAIN STUBS SHALL BE TERMINATED WITH A PLUG AND 50mm BLOW OFF UNLESS OTHERWISE NOTED.

SANITARY AND STORM SEWER NOTES

GENERAL

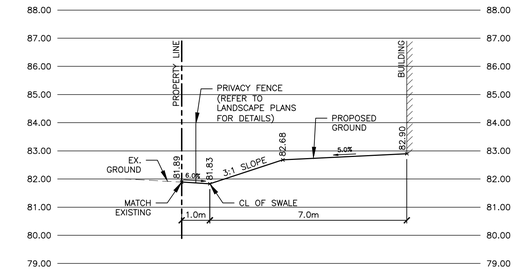
1. LASER ALIGNMENT CONTROL TO BE UTILIZED ON ALL SEWER INSTALLATIONS.
2. CLAY SEALS TO BE INSTALLED AS PER CITY STANDARD DRAWING S8. THE SEALS SHOULD BE AT LEAST 1.5m LONG (IN THE TRENCH DIRECTION) AND SHOULD EXTEND FROM TRENCH WALL TO TRENCH WALL. THE SEALS SHOULD EXTEND FROM THE FROST LINE AND FULLY PENETRATE THE BEDDING, SUB-BEDDING, AND COVER MATERIAL. THE BARRIERS SHOULD CONSIST OF RELATIVELY DRY AND COMPACTABLE BROWN SILTY CLAY PLACED IN MAXIMUM 225mm LIFTS AND COMPACTED TO A MINIMUM OF 95% SPMDD. THE CLAY SEALS SHOULD BE PLACED AT THE SITE BOUNDARIES AND AT 60m INTERVALS IN THE SERVICE TRENCHES.
3. SERVICES TO BUILDINGS TO BE TERMINATED 1.0m FROM THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
4. ALL MAINTENANCE STRUCTURE AND CATCH BASIN EXCAVATIONS TO BE BACKFILLED WITH GRANULAR MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY, A MINIMUM OF 300mm AROUND STRUCTURES.
5. "MODULOC" OR APPROVED PRE-CAST MAINTENANCE STRUCTURE AND CATCH BASIN ADJUSTERS TO BE USED IN LIEU OF BRICKING. PARGE ADJUSTING UNITS ON THE OUTSIDE ONLY.
6. SAFETY PLATFORMS SHALL BE PER OPSD 404.02.
7. DROP STRUCTURES SHALL BE IN ACCORDANCE WITH OPSD 1003.01 AND 1003.02, IF APPLICABLE.
8. THE CONTRACTOR IS TO PROVIDE CCTV CAMERA INSPECTIONS OF ALL SEWERS, INCLUDING PICTORIAL REPORT, ONE (1) CD COPY AND TWO (2) VIDEO RECORDINGS IN A FORMAT ACCEPTABLE TO THE ENGINEER. ALL SEWERS ARE TO BE FLUSHED PRIOR TO CAMERA INSPECTION. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION OF SEWERS AND NECESSARY REPAIRS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE ENGINEER.
9. CONTRACTOR SHALL PERFORM LEAKAGE TESTING, IN THE PRESENCE OF THE CONSULTANT, FOR SANITARY SEWERS IN ACCORDANCE WITH OPSS 410 AND OPSS 407. CONTRACTOR SHALL PERFORM VIDEO INSPECTION OF ALL SEWERS. A COPY OF THE VIDEO AND INSPECTION REPORT SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF WEAR COURSE ASPHALT.
10. FROST PROTECTION RECOMMENDATIONS FOR STORM SEWERS WITH LESS THAN 1.5m AND SANITARY SEWERS WITH LESS THAN 1.8m FROM GROUND SURFACE TO PIPE OBVERT TO BE PROVIDED BY GEOTECHNICAL ENGINEER.

SANITARY

11. ALL SANITARY SEWER INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE CITY OF OTTAWA AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
12. ALL SANITARY GRAVITY SEWER SHALL BE PVC SDR 35, IPEX "RING-TITE" (OR APPROVED EQUIVALENT) PER CSA STANDARD B182.2 OR LATEST AMENDMENT, UNLESS SPECIFIED OTHERWISE.
13. EXISTING MAINTENANCE STRUCTURES TO BE RE-BENCHED WHERE A NEW CONNECTION IS MADE.
14. SANITARY GRAVITY SEWER TRENCH AND BEDDING SHALL BE PER CITY OF OTTAWA STD. S6 AND S7, CLASS 'B' BEDDING, UNLESS SPECIFIED OTHERWISE.
15. SANITARY MAINTENANCE STRUCTURE FRAME AND COVERS SHALL BE PER CITY OF OTTAWA STD. S24 AND S25.
16. SANITARY MAINTENANCE STRUCTURES SHALL BE BENCHED PER OPSD 701.021.

STORM

17. ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.2, OR LATEST AMENDMENT. ALL NON-REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.1, OR LATEST AMENDMENT. PIPE SHALL BE JOINED WITH STD. RUBBER GASKETS AS PER CSA A257.3, OR LATEST AMENDMENT.
18. ALL STORM SEWER TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. S6 AND S7 CLASS 'B' UNLESS OTHERWISE SPECIFIED. BEDDING AND COVER MATERIAL SHALL BE SPECIFIED BY PROJECT GEOTECHNICAL ENGINEER.
19. ALL PVC STORM SEWERS ARE TO BE SDR 35 APPROVED PER C.S.A. B182.2 OR LATEST AMENDMENT, UNLESS OTHERWISE SPECIFIED.
20. CATCH BASINS SHALL BE IN ACCORDANCE WITH OPSD 705.010.
21. CATCH BASIN LEADS SHALL BE 200MM DIA. AT 1% SLOPE (MIN) UNLESS SPECIFIED OTHERWISE.
22. ALL CATCH BASINS SHALL HAVE 600MM SUMPS, UNLESS SPECIFIED OTHERWISE.
23. ALL CATCH BASIN LEAD INVERTS TO BE 1.5m BELOW FINISHED GRADE UNLESS SPECIFIED OTHERWISE.
24. THE STORM SEWER CLASSES HAVE BEEN DESIGNED BASED ON BEDDING CONDITIONS SPECIFIED ABOVE. WHERE THE SPECIFIED TRENCH WIDTH IS EXCEEDED, THE CONTRACTOR IS REQUIRED TO PROVIDE AND SHALL BE RESPONSIBLE FOR EXTRA TEMPORARY AND/OR PERMANENT REPAIRS MADE NECESSARY BY THE WIDENED TRENCH.
25. PERFORATED SUBDRAIN FOR ROAD AND PARKING LOT CATCH BASIN SHALL BE INSTALLED PER CITY STD R1 AND GEOTECHNICAL RECOMMENDATIONS UNLESS OTHERWISE NOTED.
26. PERFORATED SUBDRAIN FOR REAR YARD AND LANDSCAPING APPLICATIONS SHALL BE INSTALLED PER CITY STD S29, S30, AND S31, WHERE APPLICABLE.
27. RIP-RAP TREATMENT FOR SEWER AND CULVERT OUTLETS PER OPSD 810.010.
28. ALL STORM SEWERS / CULVERTS TO BE INSTALLED WITH FROST TREATMENT PER OPSD 803.031 WHERE APPLICABLE.
29. STORM MAINTENANCE STRUCTURE FRAME AND COVERS SHALL BE PER CITY OF OTTAWA STD S25 AND S24.1, UNLESS OTHERWISE NOTED.
30. CATCH BASIN FRAME AND COVER SHALL BE PER OPSD 400.02 AND CITY STD S19.1, UNLESS OTHERWISE NOTED.



SECTION A-A
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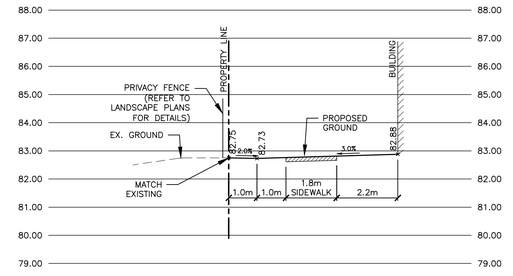

SECTION B-B
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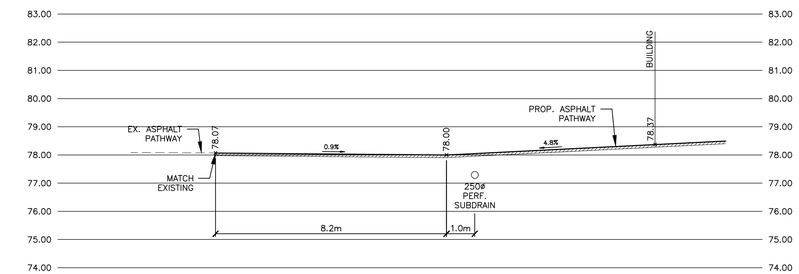
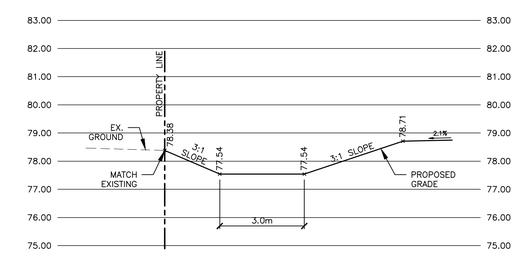
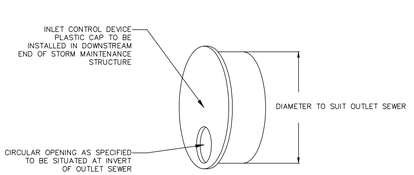


SECTION C-C
SCALE 1:100



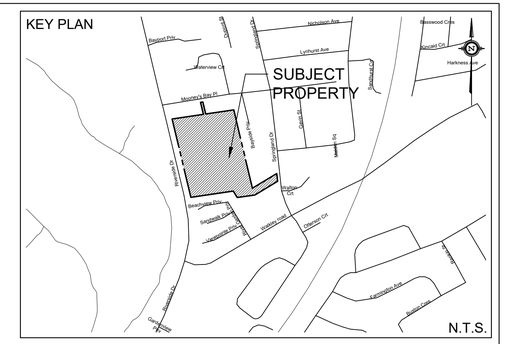
SECTION D-D
SCALE 1:100

INLET CONTROL DEVICE (ICD) DETAIL
PLASTIC "PLUG" STYLE



NOT TO SCALE

KEY PLAN



APPROVED
By herweyerdo at 3:44 pm, Oct 31, 2018

DON HERWEYER, MCIP, RPP
MANAGER, DEVELOPMENT REVIEW - SOUTH
PLANNING, INFRASTRUCTURE & ECONOMIC
DEVEVELOPMENT DEPARTMENT, CITY OF OTTAWA

TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
PROJ. NO. 16810-16
DATED DECEMBER 23, 2016

SITE PLAN INFORMATION

SITE PLAN PROVIDED BY RODERICK LAHEY ARCHITECT INC.
PROJ. NO. 1637
DATED SEPTEMBER 5, 2018

GEOTECHNICAL STUDY

GEOTECHNICAL RECOMMENDATIONS PROVIDED BY PATERSON GROUP
PROJ. NO. PG4069-1
DATED MARCH 15, 2017

SITE SERVICING AND STORMWATER MANAGEMENT STUDY

SERVICING AND STORMWATER MANAGEMENT RECOMMENDATIONS PROVIDED BY DSEL
PROJ. NO. 16-898
DATED JUNE 2018

BENCH MARK

#1 - TOP OF SIB ELEV=79.59
#2 - TOP OF CUT CROSS IN SIDEWALK ELEV=77.74
#3 - TOP OF CUT CROSS ELEV=78.55

No.	BY	YY.MM.DD	DESCRIPTION
11	S.L.M.	18.10.29	ISSUED FOR MUNICIPAL APPROVAL
10	A.W.T.	18.09.19	ISSUED FOR MUNICIPAL APPROVAL
9	G.G.M.	18.09.11	ISSUED FOR CONSTRUCTION
8	A.W.T.	18.09.05	ISSUED FOR MUNICIPAL APPROVAL
7	A.W.T.	18.08.27	ISSUED FOR PERMIT
6	G.G.M	18.08.16	ISSUED FOR MUNICIPAL APPROVAL
6	G.G.M	18.07.04	ISSUED FOR PERMIT
5	G.G.M	18.06.27	REVISED PER MUNICIPAL COMMENTS
4	A.D.F.	18.04.19	REVISED PER MUNICIPAL COMMENTS
3	A.W.T.	18.04.06	ISSUED FOR TENDER
2	H.J.P.	18.01.29	ISSUED FOR MUNICIPAL REVIEW

PROJECT No. 16-898

LICENSED PROFESSIONAL ENGINEER S. L. MERRICK 100186523 2018-10-25 PROVINCE OF ONTARIO

REVIEWED BY

NOTES AND DETAILS SHEET
3071 RIVERSIDE DRIVE

CANOE BAY COMMUNITY

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Ottawa, Ontario, K2J 3Z8

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DRAWN BY:	B.N.C.	CHECKED BY:	S.L.M.	DRAWING NO.	SHEET NO.
DESIGNED BY:	B.N.C.	CHECKED BY:	A.D.F.	DS-1	5 of 7
SCALE:	AS NOTED	DATE:	JUNE 2018		

CITY FILE No. _D07-12-17-0122_ CITY PLAN No. _17520_

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