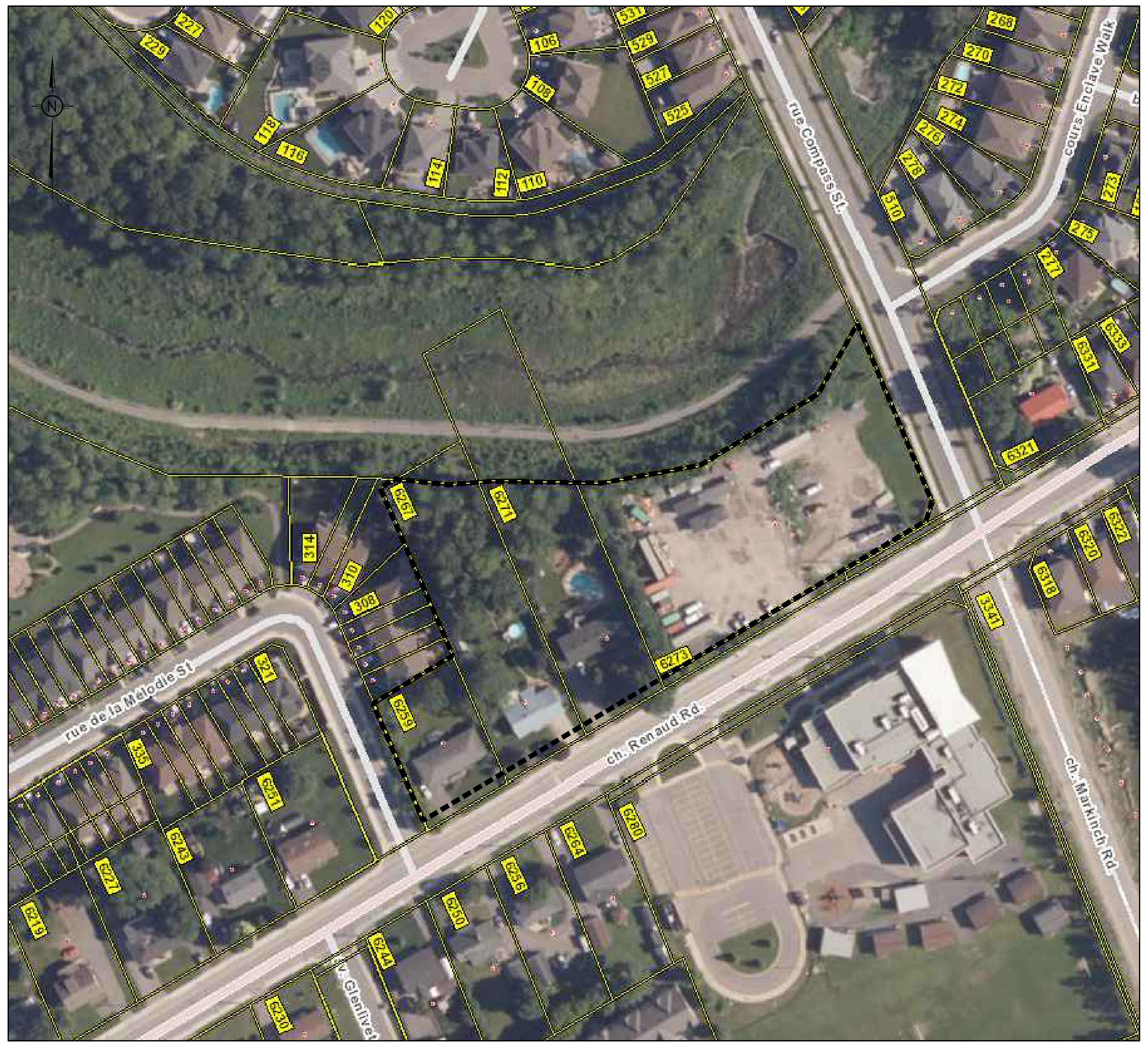
PROPOSED SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST
ORLEANS, ON

REVISION 01



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PROPOSED SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST, ORLEANS, ON
REV.01 - ISSUED FOR APPROVAL - JUNE 26, 2025
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LICENSED PROFESSIONAL ENGINEER
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06-26-2025
PROVINCE OF ONTARIO

NOT AUTHENTIC UNLESS SIGNED AND DATED

GENERAL NOTES

1. ALL WORKS MATERIALS SHALL CONFIRM TO THE LAST 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 CONTRACTORS SHALL CONFIRM THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE SITE AND ADJACENT WORK AREAS. THE CONTRACTORS 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 CONTRACTORS TO CONFIRM UTILITY LOCATIONS AND NOTIFY ENGINEER OF POSSIBLE CONFLICTS PRIOR TO CONSTRUCTION WILL BE AT CONTRACTORS EXPENSE.
4. ANY AREA 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. RELOCATING OF EXISTING SERVICES AND/OR UTILITIES SHALL BE AS SHOWN ON THE DRAWINGS OR DETECTED BY THE ENGINEER AT THE EXPENSE OF DEVELOPERS.
5. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE 'OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS'. THE GENERAL CONTRACTORS SHALL BE DEEMED TO BE THE 'CONTRACTOR' AS DEFINED IN THE ACT.
6. ALL THE CONSTRUCTION SIGNAGE MUST CONFIRM TO THE MINISTRY OF TRANSPORTATION OF ONTARIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PER LATEST AMENDMENT.
7. THE CONTRACTOR IS ADVISED THAT WORKS BY OTHERS MAY BE ONGOING DURING THE PERIOD OF THE CONTRACT. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES TO PREVENT CONFLICTS.
8. ALL DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
9. THERE WILL BE NO SUBSTITUTION OF MATERIALS UNLESS PRIOR WRITTEN APPROVAL IS RECEIVED FROM THE ENGINEER.
10. ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT.
11. FOR DETAILS RELATING TO STORMWATER MANAGEMENT AND ROOF DRAINAGE REFER TO THE SITE SERVICING AND STORMWATER MANAGEMENT REPORT.
12. ALL SEWERS CONSTRUCTED WITH GRADES LESS THAN 1.0% SHALL BE INSTALLED USING LASER ALIGNMENT AND CHECKED WITH LEVEL INSTRUMENT PRIOR TO BACKFILLING.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND TO BEAR THE COST OF THE SAME.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL BEDDING, OR ADDITIONAL STRENGTH PIPE IF THE MAXIMUM TRENCH WIDTH AS SPECIFIED BY OPSD IS EXCEEDED.
15. ALL PIPE/CULVERT SECTION SIZES REFER TO INSIDE DIMENSIONS.
16. 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.
17. 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.
18. DRAWINGS SHALL BE READ ON CONJUNCTION WITH ARCHITECTURAL SITE PLAN.
19. THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER ON SET OF AS CONSTRUCTED SITE SERVICING AND GRADING DRAWINGS.
20. 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.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

THE CONTRACTOR ACKNOWLEDGES THAT SURFACE EROSION AND SEDIMENT RUNOFF RESULTING FROM THEIR CONSTRUCTION OPERATIONS HAS POTENTIAL TO CAUSE A DETRIMENTAL IMPACT TO ANY DOWNSTREAM WATERCOURSE OR SEWER, AND THAT ALL CONSTRUCTION OPERATIONS THAT MAY IMPACT UPON WATER QUALITY SHALL BE CARRIED OUT IN MANNER THAT STRICTLY MEETS THE REQUIREMENT OF ALL APPLICABLE LEGISLATION AND REGULATIONS.

AS SUCH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THEIR OPERATIONS, AND SUPPLYING AND INSTALLING ANY APPROPRIATE CONTROL MEASURES, SO AS TO PREVENT SEDIMENT LADEN RUNOFF ENTERING ANY SEWER OR WATERCOURSE WITHIN OR DOWNSTREAM OF THE WORKING AREA.

THE CONTRACTOR ACKNOWLEDGES THAT NO ONE MEASURE IS LIKELY TO BE 100% EFFECTIVELY FOR EROSION PROTECTION AND CONTROLLING SEDIMENT RUNOFF AND DISCHARGES FROM THE SITE. THEREFORE, WHERE NECESSARY THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL MEASURES ARRANGED IN SUCH MANNER AS TO MITIGATE SEDIMENT RELEASE FROM THE CONSTRUCTION OPERATIONS AND ACHIEVE SPECIFIC MAXIMUM PERMITTED CRITERIA WHERE APPLICABLE. SUGGESTED ON-SITE MEASURES MAY INCLUDE, BUT SHALL NOT BE LIMITED TO, THE FOLLOWING METHODS: SEDIMENT PONDS, FILTER BAGS, PUMP FILTERS, SETTLING TANKS, SILT FENCE, STRAW BALES, FILTER CLOTHS, CATCH BASIN FILTERS, CHECK DAMS AND/OR OTHER RECOGNIZED TECHNOLOGIES AND METHOD AVAILABLE AT THE TIME OF CONSTRUCTION. SPECIFIC MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF OPSS 577 WHERE APPROPRIATE, OR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

WHERE, IN THE OPINION OF THE CONTRACT ADMINISTRATOR OR REGULATORY AGENCY, THE INSTALLED CONTROL MEASURES FAIL TO PERFORM ADEQUATELY, THE CONTRACTOR SHALL SUPPLY AND INSTALL ADDITIONAL OR ALTERNATIVE MEASURES AS DIRECTED BY THE CONTRACT ADMINISTRATOR OR REGULATORY AGENCY, AS SUCH, THE CONTRACTOR SHALL HAVE ADDITIONAL CONTROL MATERIALS ON SITE AT ALL TIME WHICH ARE EASILY ACCESSIBLE AND MAY BE IMPLEMENTED BY HIM AT THE MOMENT'S NOTICE.

PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL SUBMIT TO THE CONTRACT ADMINISTRATOR SIX COPIES OF A DETAILED EROSION AND SEDIMENT CONTROL PLAN (ESCP). THE ESCP WILL CONSIST OF WRITTEN DESCRIPTION AND DETAILED DRAWINGS INDICATING THE ON-SITE ACTIVITIES AND MEASURES TO BE USED TO CONTROL EROSION AND SEDIMENT MOVEMENT FOR EACH STEP OF THE WORK.

CONTRACTOR'S RESPONSIBILITIES

THE CONTRACTOR SHALL ENSURE THAT ALL WORKERS, INCLUDING SUB-CONTRACTOR, IN THE WORKING ARE ARE AWARE OF THE IMPORTANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES AND INFORMED OF THE CONSEQUENCES OF THE FAILURE TO COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AGENCIES.

THE CONTRACTOR SHALL PERIODICALLY (WEEKLY), AND WHEN REQUESTED BY THE CONTRACT ADMINISTRATOR, CLEAN OUT ACCUMULATED SEDIMENT DEPOSITS AS REQUIRED AT THE SEDIMENT CONTROL DEVICES, INCLUDING THOSE DEPOSITS THAT MAY ORIGINATE FROM OUTSIDE THE CONSTRUCTION AREA. ACCUMULATED SEDIMENT SHALL BE REMOVED IN SUCH A MANNER THAT PREVENTS THE DEPOSITION OF THIS MATERIAL INTO THE WATERCOURSE AND AVOIDS DAMAGE TO EXISTING SITE FEATURES. THE SEDIMENT SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE AND MANAGED IN COMPLIANCE WITH REQUIREMENTS FRO EXCESS EARTH MATERIAL, AS SPECIFIED ELSEWHERE IN THE CONTRACT.

THE CONTRACTOR IS REQUIRED TO IMPLEMENT SEDIMENT AND EROSION CONTROL MEASURES AT LEAST ONE WEEK BEFORE THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. THESE MEASURES SHOULD BE THOROUGHLY INSTALLED TO EFFECTIVELY MANAGE SOIL EROSION AND SEDIMENT RUNOFF. FOLLOWING INSTALLATION, THE CONTRACTOR MUST CONDUCT INSPECTIONS OF THESE CONTROL MEASURES ON A WEEKLY BASIS TO ENSURE THEIR ONGOING EFFECTIVENESS AND FUNCTIONALITY.

IN ADDITION TO THE REGULAR WEEKLY INSPECTIONS, THE CONTRACTOR MUST ALSO CARRY OUT ADDITIONAL INSPECTIONS IN THE AFTERMATH OF ANY MAJOR RAINFALL EVENTS. THIS WILL HELP ASSESS THE PERFORMANCE OF THE EROSION CONTROL MEASURES UNDER INCREASED WATER FLOW CONDITIONS. ANY DEFICIENCIES OR DAMAGES IDENTIFIED DURING THESE INSPECTIONS MUST BE PROMPTLY REPAIRED TO MAINTAIN COMPLIANCE AND ENSURE THE INTEGRITY OF THE CONSTRUCTION SITE.

THE CONTRACTOR SHALL PERIODICALLY, AND WHEN REQUESTED BY THE CONTRACT ADMINISTRATOR, CLEAN OUT ACCUMULATED SEDIMENT DEPOSITS AS REQUIRED AT THE SEDIMENT CONTROL DEVICES, INCLUDING THOSE DEPOSITS THAT MAY ORIGINATE FROM OUTSIDE THE CONSTRUCTION AREA. ACCUMULATED SEDIMENT SHALL BE REMOVED IN SUCH A MANNER THAT PREVENTS THE DEPOSITION OF THIS MATERIAL INTO THE SEWER WATERCOURSE AND AVOIDS DAMAGE TO CONTROL MEASURES. THE SEDIMENT SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE AND MANAGED IN COMPLIANCE WITH REQUIREMENTS FRO EXCESS EARTH MATERIAL, AS SPECIFIED ELSEWHERE IN THE CONTRACT.

THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE CONTRACT ADMINISTRATOR ANY ACCIDENTAL DISCHARGES OF SEDIMENT MATERIAL INTO EITHER THE WATERCOURSE OR THE STORM SEWER SYSTEM. FAILURE TO REPORT WILL BE CONSTITUTE A BRACH OF THIS SPECIFICATION AND THE CONTRACTOR MAY ALSO BE SUBJECT TO THE PENALTIES IMPOSED BY THE APPLICABLE REGULATORY AGENCY. APPROPRIATE RESPONSE MEASURES, INCLUDING ANY REPAIRS TO EXISTING CONTROL MEASURES OR THE IMPLEMENTATION OF ADDITIONAL CONTROL MEASURES, SHALL BE CARRIED OUT BY THE CONTRACTOR WITHOUT DELAY.

THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE CONTRACT ADMINISTRATOR, THE MEASURE OR MEASURES, IS NO LONGER REQUIRED. NO CONTROL MEASURE MAY BE PERMANENTLY REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE CONTRACT ADMINISTRATOR. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS THE ENTRY OF ANY EQUIPMENT, OTHER THAN HAND-HELD EQUIPMENT, INTO ANY WATERCOURSE, AND PREVENTS THE RELEASE OF ANY SEDIMENT OR DEBRIS INTO ANY SEWER OR WATERCOURSE WITHIN OR DOWNSTREAM OF THE WORKING AREA. ALL ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE WORKING AREA AT THE CONTRACTOR'S EXPENSE AND MANAGED IN COMPLIANCE WITH THE REQUIREMENTS FOR EXCESS EARTH MATERIAL

WHERE, IN THE OPINION OF EITHER THE CONTRACT ADMINISTRATOR OR A REGULATORY AGENCY, ANY OF THE TERMS SPECIFIED HEREIN HAVE NOT BEEN COMPLIED WITH OR PERFORMED IN A SUITABLE MANNER, OR TAT ALL, THE CONTRACTOR ADMINISTRATOR OR A REGULATORY AGENCY HAS THE RIGHT TO IMMEDIATELY WITHDRAW ITS PERMISSION TO CONTINUE THE WORK BUT MAY RENEW ITS PERMISSION UPON BEING SATISFIED THAT THE DEFAULTS OR DEFICIENCIES IN THE PERFORMANCE OF THIS SPECIFICATION BY THE CONTRACTOR HAVE BEEN REMEDIED.

SPILL CONTROL NOTES

1. ALL CONSTRUCTION EQUIPMENT SHALL BE RE-FUELED, MAINTAINED, AND STORED NO LESS THAN 30 METRES FROM WATERCOURSE, STEAMS, CREEKS, WOODLOTS, AND ANY ENVIRONMENTALLY SENSITIVE AREAS, OR AS OTHERWISE SPECIFIED.
2. THE CONTRACTOR MUST IMPLEMENT ALL NECESSARY MEASURES IN ORDER TO PREVENT LEAKS, DISCHARGES OR SPILLS OF POLLUTANTS, DELETERIOUS MATERIALS, OR OTHER SUCH MATERIALS OR SUBSTANCES WHICH WOULD OR COULD CAUSE AN ADVERSE IMPACT TO THE NATURAL ENVIRONMENT.
3. IN THE EVENT OF A LEAK, DISCHARGE OR SPILL OF POLLUTANT, DELETERIOUS MATERIAL OR OTHER SUCH MATERIAL OR SUBSTANCE WHICH WOULD OR COULD CAUSE AN ADVERSE IMPACT TO THE NATURAL ENVIRONMENT, THE CONTRACTOR SHALL:
   - 3.1. IMMEDIATELY NOTIFY APPROPRIATE FEDERAL, PROVINCIAL, AND LOCAL GOVERNMENT MINISTRIES, DEPARTMENTS, AGENCIES, AND AUTHORITIES OF THE INCIDENT IN ACCORDANCE WITH ALL CURRENT LAWS, LEGISLATION, ACTS, BY-LAWS, PERMITS, APPROVALS, ETC.
   - 3.2. TAKE IMMEDIATE MEASURES TO CONTAIN THE MATERIAL OR SUBSTANCE, AND TO TAKE SUCH MEASURES TO MITIGATE AGAINST ADVERSE IMPACTS TO THE NATURAL ENVIRONMENT.
   - 3.3. RESTORE THE AFFECTED AREA TO THE ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION.

MUD MAT NOTES

1. THE GRANULAR MATERIAL WILL REQUIRE PERIODIC REPLACEMENT AS IT BECOMES CONTAMINATED BY VEHICLE TRAFFIC.
2. SEDIMENT SHALL BE CLEANED FROM PUBLIC ROADS AT THE END OF EACH DAY.
3. SEDIMENT SHALL BE REMOVED FROM PUBLIC ROADS BY SHOVELING OR SWEEPING AND DISPOSED OR PROPERLY IN A CONTROLLED SEDIMENT DISPOSAL AREA.

SITE GRADING NOTES

1. PRIOR TO THE COMMENCEMENT OF THE SITE GRADING WORKS, ALL SILTATION CONTROL DEVICES SHALL BE INSTALLED AND OPERATIONAL PER EROSION CONTROL PLAN.
2. ALL GRANULAR AND PAVEMENT FOR ROADS/PARKING AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
3. ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE STRIPPED WITHIN THE ROAD AND PARKING AREAS ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
4. CONCRETE CURB SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. SC1.1 PROVISION SHALL BE MADE OR CURB DEPRESSIONS AS INDICATED ON ARCHITECTURAL SITE PLAN. CONCRETE SIDEWALK SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD SC1.4. ALL CURBS, CONCRETE ISLANDS, AND SIDEWALKS SHOWN O THIS DRAWING ARE TO BR PRICED IN SITE WORKS PORTION OF THE CONTRACT.
5. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. R10 AND OPSD 509.010 AND OPSS 310.
6. GRANULAR 'A' SHALL BE PLACED TO A MINIMUM THICKNESS OF 30MM AROUND ALL STRUCTURES WITHIN THE PAVEMENT AREA.
7. SUB-EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'B' COMPACTED IN MAXIMUM 30MM LIFTS.
8. ALL WORK ON THE MUNICIPAL RIGHT OF WAY AND EASEMENTS TO BE INSPECTED BY THE MUNICIPALITY PRIOR BACKFILLING.
9. CONTRACTOR TO OBTAIN A ROAD OCCUPANCY PERMIT 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL ROAD ALLOWANCE, IF REQUIRED BY THE MUNICIPALITY.
10. ALL PAVEMENT MARKING FEATURES AND SITE SIGNAGE SHALL BE PLACED PER ARCHITECTURAL SITE PLAN. LINE PAINTING AND DIRECTIONAL SYMBOLS SHALL BE APPLIED WITH A MINIMUM OF TWO COATS OF ORGANIC SOLVENT PAINT.
11. REFER TO ARCHITECTURAL SITE PLAN FOR DIMENSIONS AND SITE DETAILS.
12. STEP JOINTS ARE TO BE USED WHERE PROPOSED ASPHALT MEETS EXISTING ASPHALT. ALL JOINTS MUST BE SEALED.
13. SIDEWALKS TO BE 13MM & BEVELED AT 2:1 OR 6MM WITH NO BEVEL REQUIRED BELOW THE FINISHED FLOOR SLAB ELEVATION AT ENTRANCES REQUIRED TO BE BARRIER-FREE, UNLESS OTHERWISE NOTED. ALL IN ACCORDANCE WITH OBC 3.8.1.3 & OTTAWA ACCESSIBILITY DESIGN STANDARDS.
14. WHERE APPLICABLE THE CONTRACTOR IS TO SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. SHOP DRAWINGS MUST BE SITE SPECIFIC, SIGNED AND SEALED BY A LICENSED STRUCTURAL ENGINEER. THE CONTRACTOR WILL ALSO BE REQUIRED TO SUPPLY AND GEOTECHNICAL CERTIFICATION OF THE AS-CONSTRUCTED RETAINING WALL TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE.

ROADWORK SPECIFICATIONS

15. ROADWORK TO BE COMPLETED IN ACCORDANCE WITH GEOTECHNICAL REPORT, PREPARED BY LRL ASSOCIATES. DATED NOVEMBER 2020.
16. AL TOPSOIL AND ORGANIC MATERIAL SHALL BE STRIPPED WITHIN THE ROAD ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND STOCK PILLED ON SITE AS DIRECTED BY NATIONAL MUNICIPALITY.
17. THE SUBGRADE SHALL BE CROWNED AND SLOPED AT LEAST 2% AND PROOF ROLLED WITH HEAVY ROLLERS.
18. SUB-EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'A', TYPE II COMPACTED IN MAXIMUM 300MM LIFTS.
19. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO MINIMUM OF 100% STANDARD PROCTOR DENSITY MAXIMUM DRY DENSITY (SPMDD).
20. CONCRETE RAMP C/W TACTILE WALKING SURFACE INDICATORS COMPONENT AS PER OPSD 310.039. TACTILE WALKING SURFACE INDICATORS TO BE INSTALLED AT ALL RAMPS. MATERIAL TO BE POLYMER COMPOSITE, COLOR GREY.

SANITARY, FOUNDATION DRAIN, STORM SEWER AND WATERMAIN 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 COMPATIBLE 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 BUILDING 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, 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 RECORDING IN A FORMAT ACCEPTABLE TO ENGINEER. ALL SEWER 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 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.

SANITARY

10. 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).
11. 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.
12. EXISTING MAINTENANCE STRUCTURES TO BE RE-BENCHED WHERE A NEW CONNECTION IS MADE.
13. SANITARY GRAVITY SEWER TRENCH AND BEDDING SHALL BE PER CITY OF OTTAWA STD. S6 AND S7 CLASS 'B' BEDDING, UNLESS SPECIFIED OTHERWISE.
14. SANITARY MAINTENANCE STRUCTURE FRAME AND COVERS SHALL BE PER CITY OF OTTAWA STD. S24 AND S25.
15. SANITARY MAINTENANCE STRUCTURES SHALL BE BENCHED PER OPSD 701.021.
16. 100MM THICK HIGH-DENSITY GRADE 'A' POLYSTYRENE INSULATION TO BE INSTALLED IN ACCORDANCE WITH CITY STD W22 WHERE INDICATED ON DRAWING SSP-1.

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 THE 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 BASIN SHALL BE IN ACCORDANCE WITH OPSD 705.010.
21. CATCH BASIN LEADS SHALL BE IN 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. ALL ROAD AND PARKING LOT CATCH BASINS TO BE INSTALLED WITH ORTHOGONALLY PLACED SUBDRAINS IN ACCORDANCE WITH DETAIL. PERFORATED SUBDRAIN FOR ROAD AND PARKING LOT CATCH BASIN SHALL BE INSTALLED PER CITY STD R1 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 SEWER AND CULVERT OUTLETS PER OPSD 810.010.
28. ALL STORM SEWER/ CULVERTS TO BE INSTALLED WITH FROST TREATMENT PER OPSD 803.031 WHERE APPLICABLE.
29. ALL STORM MANHOLES WITH PIPE LESS THAN 900MM IN DIAMETER SHALL BE CONSTRUCTED WITH A 300MM SUMP AS PER SDG, CLAUSE 6.2.6.

WATERMAIN

30. ALL WATERMAIN INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE CITY OF OTTAWA AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
31. ALL PVC WATERMAINS SHALL BE AWWA C-900 CLASS 150, SDR 18 OR APPROVED EQUIVALENT.
32. ALL WATER SERVICES LESS THAN OR EQUAL TO 50MM IN DIAMETER TO BE TYPE 'K' COPPER.
33. 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.
34. 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.
35. CATHODIC PROTECTION IS REQUIRED ON ALL METALLIC FITTINGS PER CITY OF OTTAWA STD.25.5 AND W25.6.
36. VALVE BOXES SHALL BE INSTALLED PER CITY OF OTTAWA STD W24.
37. WATERMAIN IN FILL AREAS TO BE INSTALLED WITH RESTRAINED JOINTS PER CITY OF OTTAWA STD.25.5 AND W25.6.
38. THRUST BLOCKING OF WATERMAINS TO BE INSTALLED PER CITY OF OTTAWA STD. W25.3 AND W25.4.
39. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS, BLOW-OFFS, AND NOZZLES REQUIRED FOR TESTING AND DISINFECTION OF THE WATERMAIN.
40. WATERMAIN CROSSING OVER AND BELOW SEWERS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. W25,2 AND W25, RESPECTIVELY.
41. WATER SERVICES ARE TO BE INSULATED PER CITY STD. W23 WHERE SEPARATION BETWEEN SERVICES AND MAINTENANCE HOLES ARE LESS THAN 2.4M.
42. THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER/UTILITY IS 0.5M PER MOE GUIDELINES. FOR CROSSING UNDER SEWERS, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING. THE LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING TO ENSURE THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.
43. ALL WATERMAINS SHALL HAVE A MINIMUM COVER OR 2.4M, OTHERWISE THERMAL INSULATION IS REQUIRED AS PER STD DWG W22.
44. GENERAL WATER PLANT TO UTILITY CLEARANCE AS PER STD DWG R20.
45. 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.
46. 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.
47. 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.
48. 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 ENVIRONMENT. IT IS RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MUNICIPAL AND/OR PROVINCIAL REQUIREMENTS ARE FOLLOWED.
49. ALL WATERMAIN STUBS SHALL BE TERMINATED WITH A PLUG AND 50MM BLOW OFF UNLESS OTHERWISE NOTED.

LEGEND:

━━━━	EXISTING PROPERTY LINE TO REMAIN
════	PROPOSED CURB
══▬══	PROPOSED DEPRESSED CURB
┬┬┬┬┬┬	PROPOSED TERRACING (3:1 MIN.)
─□──□─	PROPOSED SILT FENCE AS PER OPSD 219.110
▨	PROPOSED GRASS AREA (100mm TOP SOIL & SOD)
▩	PROPOSED CONCRETE FEATURES/SLAB
▧	PROPOSED HEAVY DUTY ASPHALT
□	PROPOSED LIGHT DUTY ASPHALT
×50.00	PROPOSED ELEVATION
×50.00BC	PROPOSED BOTTOM OF CURB / ASPHALT ELEVATION
×50.00TC	PROPOSED TOP OF CURB ELEVATION
×50.00BW	PROPOSED BOTTOM OF EXPOSED RETAINING WALL
×50.00TW	PROPOSED TOP OF RETAINING WALL
×50.00EX	MATCH INTO EXISTING ELEVATION
×70.19	EXISTING ELEVATION
➡	PROPOSED OVERLAND MAJOR FLOW ROUTE
— STM —— STM —	PROPOSED STORM SEWER
— SAN —— SAN —	PROPOSED SANITARY SEWER
— WTR —— WTR —	PROPOSED WATERMAIN
— STM —— STM —	EXISTING STORM SEWER
— SAN —— SAN —	EXISTING SANITARY SEWER
— WTR —— WTR —	EXISTING WATERMAIN
— GAS —— GAS —	EXISTING GAS LINE
○	EXISTING MANHOLE
□	EXISTING CATCHBASIN
■	PROPOSED CATCHBASIN-MANHOLE/CATCHBASIN
●	PROPOSED MANHOLE
⊗	PROPOSED CURB STOP
⦿	PROPOSED SERVICE TRENCH WITHOUT STORM • 135mm SANITARY SERVICE PVC SDR-28 @ 1.0% MIN. • 19mm TYPE K SOFT COPPER WATER SERVICE C/W CURB STOP AND SERVICE POST
▼	PROPOSED SERVICE TRENCH WITH STORM • 135mm SANITARY SERVICE PVC SDR-28 @ 1.0% MIN. • 19mm TYPE K SOFT COPPER WATER SERVICE C/W CURB STOP AND SERVICE POST • 100mm STORM SERVICE PVC SDR-28 @ 1.0% MIN.
▨▨▨▨	PROPOSED PIPE INSULATION
▬ ▬ ▬ ▬	PROPOSED 100 YEAR HIGH WATER LEVEL
■ ■ ■ ■	STORM WATERSHED EXTENT
WS-XX / CONTROLLED	WATERSHED NAME
RUNOFF	RUNOFF COEFFICIENT
AREA	AREA IN HECTARES

PAVEMENT STRUCTURE

		THICKNESS (mm)	
COURSE	MATERIAL	AUTOMOBILE PARKING	TRUCK ROUTE (HEAVY TRAFFIC)
SURFACE	HL.3 A/C (PG 58-34)	50	40
BINDER	HL.8 A/C (PG 58-34)	--	50
BASECOURSE	OPSS GRANULAR "A"	150	150
SUBBASE	OPSS GRANULAR "B" TYPE II	300	400

NOTE:
IN PREPARATION FOR PAVEMENT CONSTRUCTION AT THIS SITE, ANY SURFICIAL OR NEAR SURFACE/SUBGRADE LEVEL TOPSOIL AND ANY SOFT, WET OR DELETERIOUS MATERIALS SHOULD BE REMOVED FROM THE PROPOSED PAVED AREAS. THE EXPOSED SUBGRADE SHOULD BE INSPECTED AND APPROVED BY GEOTECHNICAL PERSONNEL AND ANY SOFT AREAS EVIDENT SHOULD BE SUBEXCAVATED AND REPLACED WITH SUITABLE EARTH BORROW APPROVED BY THE GEOTECHNICAL ENGINEER. THE SUBGRADE SHOULD BE SHAPED AND CROWNED TO PROMOTE DRAINAGE OF THE SITE DRAINAGE STRUCTURES. FOLLOWING APPROVAL OF THE PREPARATION OF THE SUBGRADE, THE PAVEMENT GRANULARS MAY BE PLACED IN ACCORDANCE WITH LATEST GEOTECHNICAL INVESTIGATION PREPARED BY PATERSON GROUP, DATED OCTOBER 2022.

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LICENSED PROFESSIONAL ENGINEER
V. JOHNSON
100510576
06-26-2025
PROVINCE OF ONTARIO

NOT AUTHENTIC UNLESS SIGNED AND DATED

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ENGINEERING | INGÉNIERIE
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No.	REVISIONS	BY	DATE
01	ISSUED FOR APPROVAL	M.L.	26 JUNE 2025

CLIENT
RICHCRAFT HOMES LTD.

DESIGNED BY:	DRAWN BY:	APPROVED BY:
M.L.	M.L.	S.G.

PROJECT
SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST
ORLEANS, ON

DRAWING TITLE
GENERAL NOTES

PROJECT NO.
240347

DATE
JAN 2025

C001

5m 2 0 5 10m

SCALE: 1:300

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V. JOHNSON
100510576
06-26-2025

NOT AUTHENTIC UNLESS SIGNED AND DATED

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ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

No.	REVISIONS	BY	DATE
01	ISSUED FOR APPROVAL	M.L.	26 JUNE 2025

CLIENT
RICHCRAFT HOMES LTD.

DESIGNED BY:	DRAWN BY:	APPROVED BY:
M.L.	M.L.	S.G.

PROJECT
SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST
ORLEANS, ON

DRAWING TITLE
EROSION AND SEDIMENT
CONTROL PLAN

PROJECT NO.
240347

DATE
JAN 2025

C101

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REGISTERED PLAN 4M-1545
BLOCK 121
RENAUD ROAD
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5m 2 0 5 10m

SCALE: 1:300

LICENSED PROFESSIONAL ENGINEER
V. JOHNSON
100510576
06-26-2025
PROVINCE OF ONTARIO

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DESIGNED BY:	DRAWN BY:	APPROVED BY:
M.L.	M.L.	S.G.

PROJECT
SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST
ORLEANS, ON

DRAWING TITLE
DEMOLITION PLAN

PROJECT NO.
240347

DATE
JAN 2025

C102

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No.	REVISIONS	BY	DATE
01	ISSUED FOR APPROVAL	M.L.	26 JUNE 2025

CLIENT
RICHCRAFT HOMES LTD.

DESIGNED BY:	DRAWN BY:	APPROVED BY:
M.L.	M.L.	S.G.

PROJECT
SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST
ORLEANS, ON

DRAWING TITLE
GRADING AND DRAINAGE PLAN

PROJECT NO.
240347

DATE
JAN 2025

C301

Crossing #	WM	inv./obv.	STM	inv./obv.	SAN	inv./obv.	Depth Separation (m)
CR-01	85,08	obv.	N/A		84,58	obv.	0,50
CR-02	N/A		84,84	obv.	85,14	inv.	0,30
CR-03	85,33	obv.	84,83	inv.	N/A		0,50
CR-04	85,28	inv.	N/A		84,16	obv.	1,12
CR-05	N/A		84,96	inv.	85,47	inv.	0,51
CR-06	N/A		85,11	inv.	84,00	obv.	1,11
CR-07	84,60	obv.	85,13	inv.	N/A		0,53
CR-08	N/A		84,31	inv.	84,00	obv.	0,31
CR-09	85,25	inv.	84,75	obv.	N/A		0,50
CR-10	84,67	inv.	N/A		83,90	obv.	0,77
CR-11	85,17	inv.	84,67	obv.	N/A		0,50
CR-12	84,69	inv.	N/A		83,73	obv.	0,96
CR-13	N/A		84,67	obv.	84,97	inv.	0,30
CR-14	N/A		84,85	obv.	83,64	obv.	1,21
CR-15	85,62	inv.	85,12	obv.	N/A		0,50
CR-16	85,11	inv.	84,61	obv.	N/A		0,50
CR-17	84,61	inv.	N/A		83,32	obv.	1,29
CR-18	N/A		84,32	obv.	83,30	obv.	1,02
CR-19	N/A		83,92	obv.	83,13	obv.	0,79
CR-20	N/A		84,19	inv.	82,80	obv.	1,39
CR-21	N/A		83,85	inv.	83,35	obv.	0,50
CR-22	85,20	obv.	84,70	obv.	N/A		0,50
CR-23	84,96	inv.	N/A		83,67	obv.	1,29
CR-24	84,78	inv.	83,86	obv.	N/A		0,92
CR-25	84,91	inv.	N/A		80,05	obv.	4,86

FLOW CONTROL DEVICES

Structure number	ICD - Vortex (L/s)	Head (m)
MH05	14	2,63
CB08	5	2,39
CB101	8	2,22
CBMH14	6	2,21
CB100	8	2,43
CB102	5	2,34
CB105	6	2,61
MH17	5	2,64
CB19	9	2,50
CB23	5	2,54
CB21	5	2,90
Total	76	

Description	Chainage	Finish Grade	Obvert of Watermain	Cover (m)
WM	0+000	87,22	84,82	2,40
WM	0+020	87,10	85,08	2,02
WM	0+040	87,16	84,76	2,40
45degree bend	0+043	87,11	84,71	2,40
45degree bend	0+051	87,15	84,75	2,40
Tee	0+053	87,16	84,76	2,40
WM	0+060	87,26	84,86	2,40
Tee	0+077	87,05	84,65	2,40
WM	0+080	87,01	84,61	2,40
Tee	0+086	87,17	84,77	2,40
WM	0+100	87,38	84,98	2,40
Tee	0+115	87,20	84,80	2,40
WM	0+120	87,12	85,77	1,35
WM	0+140	87,19	84,79	2,40
WM	0+160	87,05	84,65	2,40
Tee	0+175	87,06	84,66	2,40
WM	0+180	87,13	84,73	2,40
45degree bend	0+196	87,36	84,96	2,40
45degree bend	0+198	87,37	84,97	2,40
WM	0+200	87,37	85,20	2,17
WM	0+220	87,23	84,83	2,40
45degree bend	0+223	87,25	84,85	2,40
45degree bend	0+230	87,10	84,70	2,40
WM	0+231	87,10	84,70	2,40
Tee	1+000	87,16	84,76	2,40
WM	1+020	87,28	84,88	2,40
WM	1+040	87,23	84,83	2,40
WM	1+046	87,46	85,06	2,40
Tee	2+000	87,17	84,77	2,40
WM	2+020	87,16	84,76	2,40
WM	2+040	87,33	84,93	2,40
WM	2+044	87,50	85,10	2,40
Tee	3+000	87,20	84,80	2,40
WM	3+020	87,16	84,76	2,40
Tee	3+031	87,27	84,87	2,40
Tee	4+000	87,06	84,66	2,40
Tee	4+017	87,21	84,81	2,40
Tee	5+000	87,10	84,70	2,40
WM	5+020	87,19	84,79	2,40
WM	5+037	87,19	84,79	2,40

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5m 2 0 5 10m

SCALE: 1:300

V. JOHNSON
100510576
06-26-2025

NOT AUTHENTIC UNLESS SIGNED AND DATED

LRL
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

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01	ISSUED FOR APPROVAL	M.L.	26 JUNE 2025

CLIENT
RICHCRAFT HOMES LTD.

DESIGNED BY: M.L.
DRAWN BY: M.L.
APPROVED BY: S.G.

PROJECT
SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST
ORLEANS, ON

DRAWING TITLE
SERVICING PLAN

PROJECT NO.
240347

DATE
JAN 2025

C401

PROPOSED OVERLAND STORAGE EXTENT LAWN CB03
100 YEAR STORMPONDING EXTENT (HWL = 87.10)
PONDING DEPTH = 0.30m ; STORAGE = 14.62m³
PROP STM LAWN CB03
T/G = 86.80
PROP STM CBMH04
T/G = 87.10
BUILDING 6
12 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.10
U.S.F. = 85.20
PROP STM CB08
T/G = 87.10
BUILDING 5
8 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.10
U.S.F. = 85.20
PROPOSED OVERLAND STORAGE EXTENT CB101
100 YEAR STORMPONDING EXTENT (HWL = 87.10)
PONDING DEPTH = 0.15m ; STORAGE = 6.63m³
PROP STM CB101
T/G = 86.95
PROP STM MH15
T/G = 87.00
PROP STM CB100
T/G = 86.95
PROPOSED OVERLAND STORAGE EXTENT CB100
100 YEAR STORMPONDING EXTENT (HWL = 87.10)
PONDING DEPTH = 0.15m ; STORAGE = 6.05m³
PROPOSED OVERLAND STORAGE EXTENT LAWN CB19
100 YEAR STORMPONDING EXTENT (HWL = 87.10)
PONDING DEPTH = 0.90m ; STORAGE = 150.00m³
PROP STM LAWN CB19
T/G = 86.20
PROP STM MH20
T/G = 87.23
PROPOSED OVERLAND STORAGE EXTENT LAWN CB21
100 YEAR STORMPONDING EXTENT (HWL = 87.10)
PONDING DEPTH = 0.60m ; STORAGE = 35.17m³
PROP STM LAWN CB21
T/G = 86.50
PROPOSED OVERLAND STORAGE EXTENT CB105
100 YEAR STORMPONDING EXTENT (HWL = 87.10)
PONDING DEPTH = 0.10m ; STORAGE = 3.15m³
PROP STM CBMH18
T/G = 87.09
BUILDING 1
12 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 87.90
U.S.F. = 85.00
PROP STM LAWN CB22
T/G = 87.10
PROPOSED OVERLAND STORAGE EXTENT CB102
100 YEAR STORMPONDING EXTENT (HWL = 87.10)
PONDING DEPTH = 0.30m ; STORAGE = 27.35m³
PROP STM LAWN CB16
T/G = 87.00
PROPOSED OVERLAND STORAGE EXTENT CB16
100 YEAR STORMPONDING EXTENT (HWL = 87.10)
PONDING DEPTH = 0.10m ; STORAGE = 2.32m³
PROP STM LAWN CB26
T/G = 87.25
PROP STM CBMH02
T/G = 87.00
BUILDING 7
12 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.10
U.S.F. = 85.20
PROP STM LAWN CB25
T/G = 87.15
PROP STM CB01
T/G = 87.15
PROP STM LAWN CB24
T/G = 87.15
PROPOSED OVERLAND STORAGE EXTENT LAWN CBMH02
100 YEAR STORMPONDING EXTENT (HWL = 87.10)
PONDING DEPTH = 0.10m ; STORAGE = 2.47m³
PROPOSED OVERLAND STORAGE EXTENT LAWN CB01
100 YEAR STORMPONDING EXTENT (HWL = 87.10)
PONDING DEPTH = 0.10m ; STORAGE = 1.01m³
BUILDING 4
8 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.10
U.S.F. = 85.20
PROP STM LAWN CB06
T/G = 87.30
BUILDING 3
12 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.20
U.S.F. = 85.30
PROP STM LAWN CB11
T/G = 87.45
PROP STM CBMH14
T/G = 87.15
PROP STM CBMH13
T/G = 87.45
BUILDING 2
12 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.20
U.S.F. = 85.30
1500 TYP
STM
RENAUD ROAD
COMPASS ROAD
N

USE AND INTERPRETATION OF DRAWINGS

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5m 2 0 5 10m
SCALE: 1:300

LICENSED PROFESSIONAL ENGINEER
V. JOHNSON
100510576
06-26-2025
PROVINCE OF ONTARIO

NOT AUTHENTIC UNLESS SIGNED AND DATED

LRL
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No.	REVISIONS	BY	DATE
01	ISSUED FOR APPROVAL	M.L.	26 JUNE 2025

CLIENT
RICHCRAFT HOMES LTD.

DESIGNED BY:	DRAWN BY:	APPROVED BY:
M.L.	M.L.	S.G.

PROJECT
SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST
ORLEANS, ON

DRAWING TITLE
STORMWATER MANAGEMENT PLAN

PROJECT NO.
240347

DATE
JAN 2025

C601

ECA-01
1.301
N/A
BLOCK
REGISTERED PLAN 4M-1545
BLOCK 121
SITE OFFICE
MELODIE STREET
COMPASS STREET
RENAUD ROAD
ROAD ALLOWANCE BETWEEN CONCESSIONS 3 AND 4 (Ottawa Front)
LOT 4 CONCESSION 3 (OTTAWA FRONT) (GLOUCESTER)
N

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PROJECT
SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST
ORLEANS, ON

DRAWING TITLE
PRE-DEVELOPMENT
WATERSHED PLAN

PROJECT NO.
240347

DATE
JAN 2025

C701

BUILDING 6
12 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.10
U.S.F. = 85.20
BUILDING 5
8 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.10
U.S.F. = 85.20
BUILDING 7
12 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.10
U.S.F. = 85.20
BUILDING 4
8 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.10
U.S.F. = 85.20
BUILDING 3
12 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.20
U.S.F. = 85.30
BUILDING 2
12 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.20
U.S.F. = 85.30
BUILDING 1
12 UNIT
BACK TO BACK
TOWNHOMES
F.F.E. = 88.10
U.S.F. = 85.20
CA-03 CONTROLLED 0.066 0.29
CA-04 CONTROLLED 0.058 0.85
CA-05 CONTROLLED 0.097 0.73
CA-30 UN-CONTROLLED 0.017 0.20
CA-16 CONTROLLED 0.054 0.30
CA-18 CONTROLLED 0.037 0.43
CA-19 UN-CONTROLLED 0.017 0.65
CA-29 UN-CONTROLLED 0.022 0.20
CA-01D CONTROLLED 0.015 0.76
CA-28 UN-CONTROLLED 0.011 0.78
CA-02 CONTROLLED 0.115 0.80
CA-07 CONTROLLED 0.122 0.81
CA-13 CONTROLLED 0.153 0.74
CA-15 CONTROLLED 0.159 0.81
CA-17 CONTROLLED 0.018 0.80
CA-01C CONTROLLED 0.022 0.80
CA-27 UN-CONTROLLED 0.005 0.90
CA-01B CONTROLLED 0.011 0.70
CA-26 UN-CONTROLLED 0.010 0.33
CA-01A CONTROLLED 0.047 0.76
CA-06 CONTROLLED 0.027 0.70
CA-25 UN-CONTROLLED 0.014 0.63
CA-09 CONTROLLED 0.021 0.89
CA-24 UN-CONTROLLED 0.004 0.90
CA-23 UN-CONTROLLED 0.011 0.75
CA-12 CONTROLLED 0.066 0.62
CA-11 CONTROLLED 0.010 0.26
CA-22 UN-CONTROLLED 0.004 0.90
CA-10 CONTROLLED 0.021 0.89
CA-21 UN-CONTROLLED 0.015 0.64
CA-14 CONTROLLED 0.047 0.57
CA-20 UN-CONTROLLED 0.007 0.63
PROP STM LAWN CB26 T/G = 87.25
PROP STM LAWN CB25 T/G = 87.15
PROP STM LAWN CB24 T/G = 87.15
PROP STM CBMH02 T/G = 87.00
PROP STM CB01 T/G = 87.15
PROP STM MH15 T/G = 87.00
PROP STM CB100 T/G = 86.95
PROP STM LAWN CB19 T/G = 86.20
PROP STM CBMH18 T/G = 87.09
PROP STM CBMH14 T/G = 87.15
RENAUD ROAD
COMPASS ROAD
N

USE AND INTERPRETATION OF DRAWINGS

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THESE DRAWINGS ILLUSTRATES THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THESE DRAWINGS EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS ACKNOWLEDGEMENT OF THE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

UNAUTHORIZED CHANGES:

IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRL ASSOCIATES LTD. (LRL) WITHOUT OBTAINING LRL'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES. THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRL AND TO RELEASE LRL FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.

IN ADDITION, THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY DAMAGES, LIABILITIES OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

IN ADDITION, THE CLIENT AGREES TO INCLUDE IN ANY CONTRACTS FOR CONSTRUCTION APPROPRIATE LANGUAGE THAT PROHIBITS THE CONTRACTOR OR ANY SUBCONTRACTORS OF ANY TIER FROM MAKING ANY CHANGES OR MODIFICATIONS TO LRL'S CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN APPROVAL OF LRL AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY BOTH LRL AND THE CLIENT FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

GENERAL NOTES:

EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT MAY NOT BE COMPLETE OR TO DATE. CONTRACTOR SHALL VERIFY IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING OR PERFORMING WORK.

CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.

THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

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

5m 2 0 5 10m

SCALE: 1:300

LICENSED PROFESSIONAL ENGINEER
V. JOHNSON
100510576
06-26-2025
PROVINCE OF ONTARIO

NOT AUTHENTIC UNLESS SIGNED AND DATED

LRL
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

No.	REVISIONS	BY	DATE
01	ISSUED FOR APPROVAL	M.L.	26 JUNE 2025

CLIENT
RICHCRAFT HOMES LTD.

DESIGNED BY:	DRAWN BY:	APPROVED BY:
M.L.	M.L.	S.G.

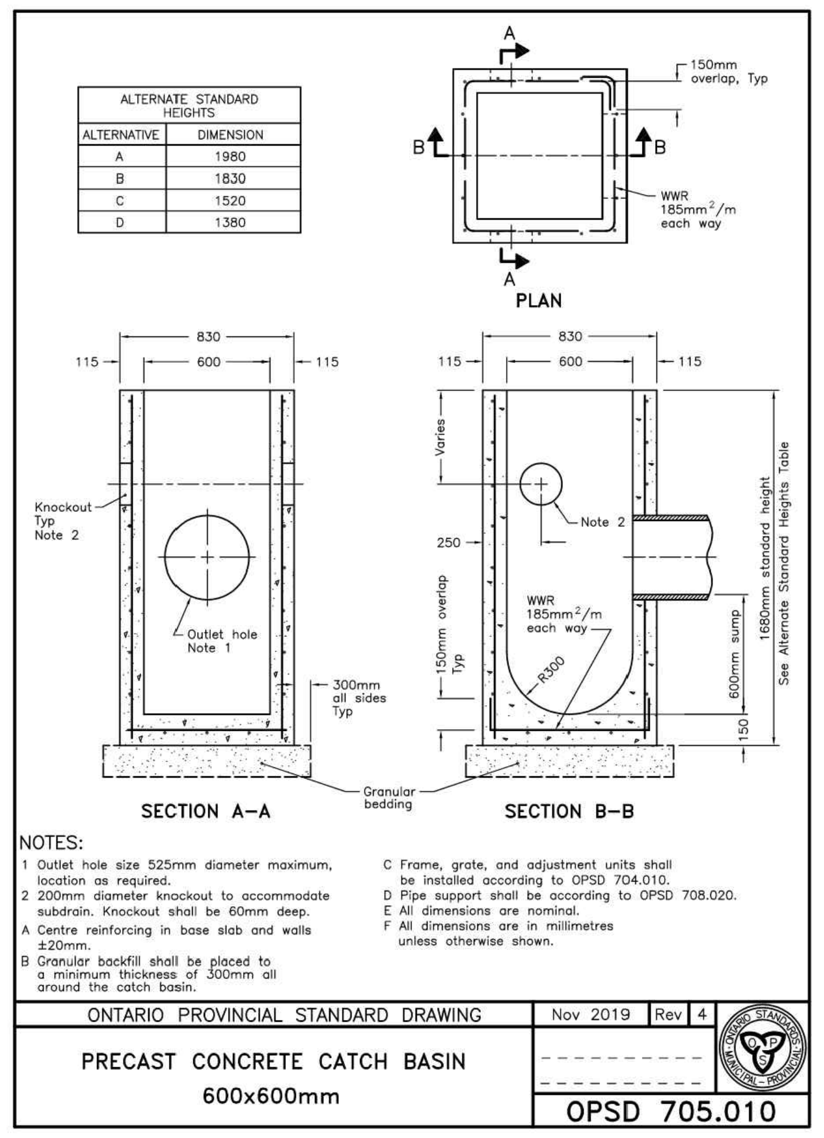
PROJECT
SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST
ORLEANS, ON

DRAWING TITLE
POST-DEVELOPMENT
WATERSHED PLAN

PROJECT NO.
240347

DATE
JAN 2025

C702

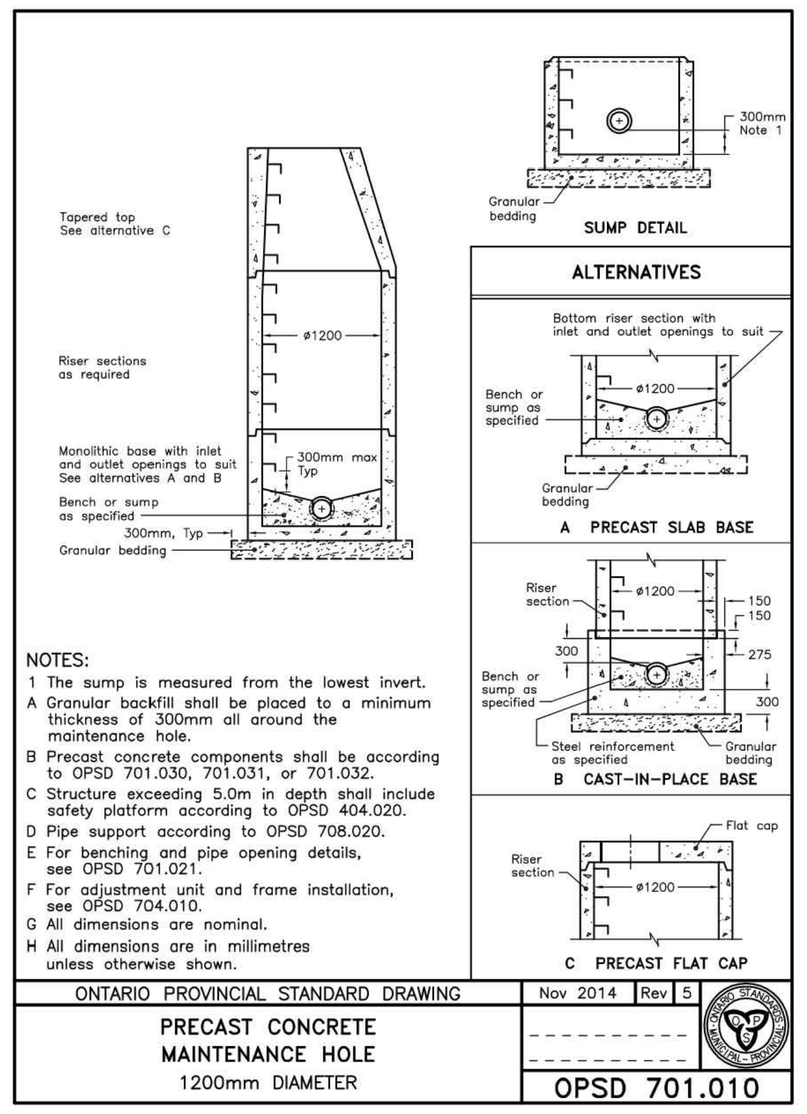


ALTERNATE STANDARD HEIGHTS	
ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1520
D	1380

NOTES:

1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.
A Centre reinforcing in base slab and walls ±20mm.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

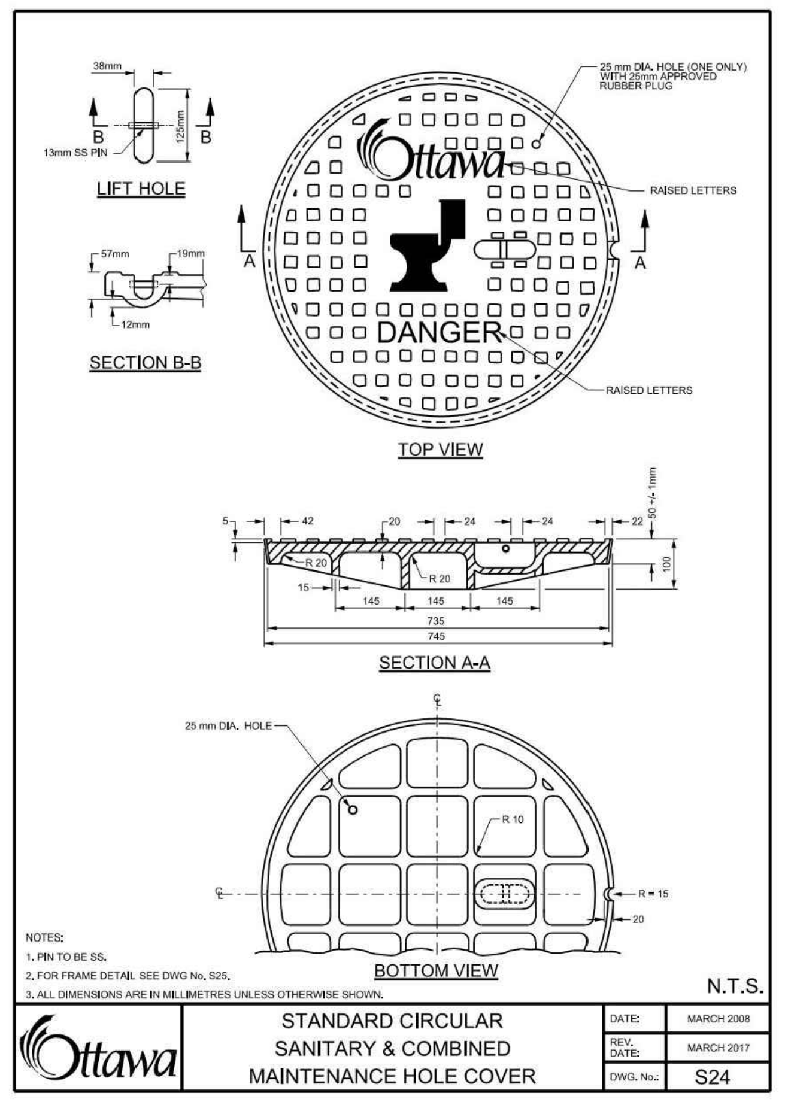
ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2019 | Rev 4
PRECAST CONCRETE CATCH BASIN 600x600mm
OPSD 705.010


Tapered top See alternative C
Riser sections as required
Monolithic base with inlet and outlet openings to suit See alternatives A and B
Bench or sump as specified
300mm, Typ
Granular bedding
ø1200
300mm max Typ
300mm Note 1
Granular bedding
SUMP DETAIL
ALTERNATIVES
Bottom riser section with inlet and outlet openings to suit
Bench or sump as specified
A PRECAST SLAB BASE
Riser section
150
275
300
Steel reinforcement as specified
B CAST–IN–PLACE BASE
Flat cap
C PRECAST FLAT CAP

NOTES:

1 The sump is measured from the lowest invert.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.
C Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

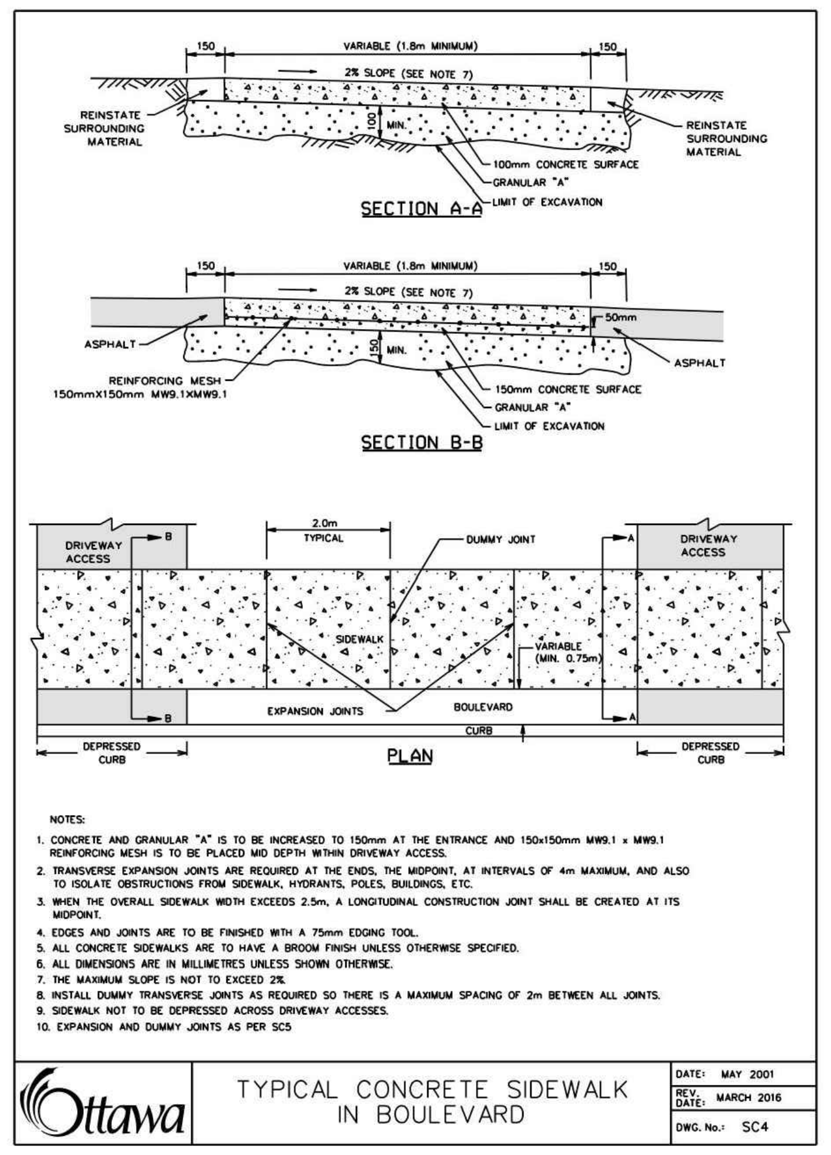
ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 5
PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER
OPSD 701.010



NOTES:
1. PIN TO BE SS.
2. FOR FRAME DETAIL SEE DWG No. S25.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

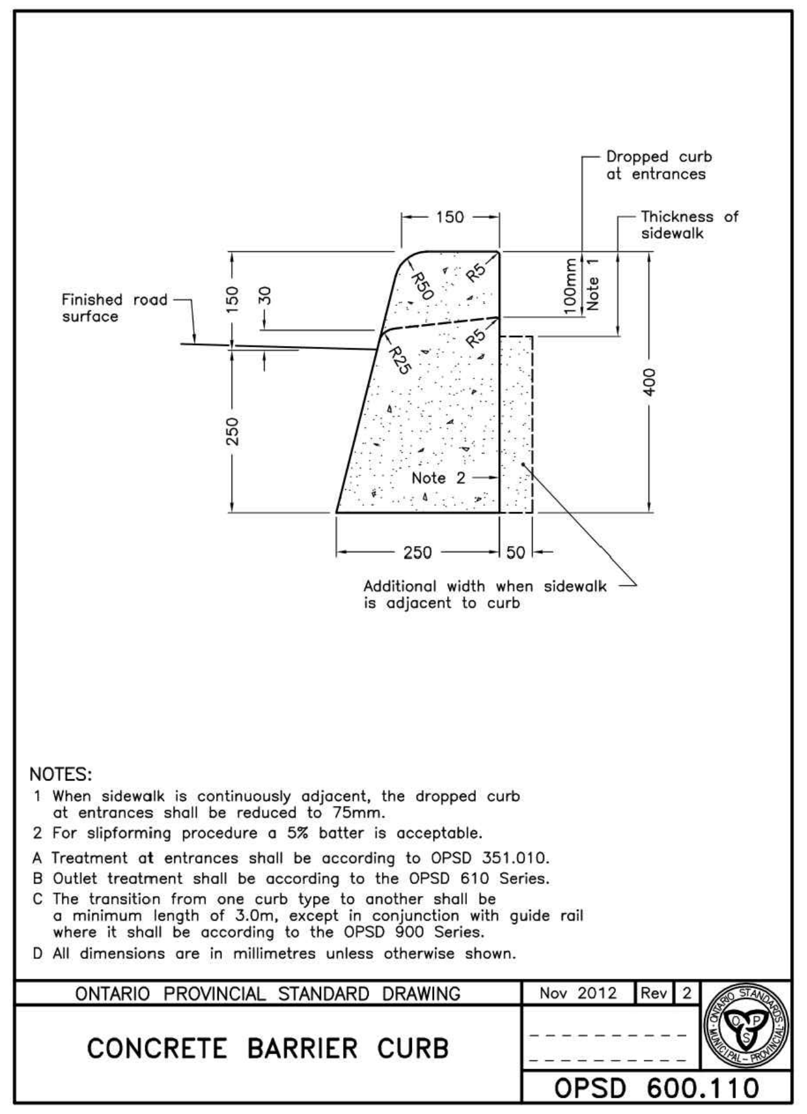
N.T.S.

STANDARD CIRCULAR SANITARY & COMBINED MAINTENANCE HOLE COVER
DATE: MARCH 2008
REV. DATE: MARCH 2017
DWG. No.: S24



NOTES:
1. CONCRETE AND GRANULAR "A" IS TO BE INCREASED TO 150mm AT THE ENTRANCE AND 150x150mm MW9.1 x MW9.1 REINFORCING MESH IS TO BE PLACED MID DEPTH WITHIN DRIVEWAY ACCESS.
2. TRANSVERSE EXPANSION JOINTS ARE REQUIRED AT THE ENDS, THE MIDPOINT, AT INTERVALS OF 4m MAXIMUM, AND ALSO TO ISOLATE OBSTRUCTIONS FROM SIDEWALK, HYDRANTS, POLES, BUILDINGS, ETC.
3. WHEN THE OVERALL SIDEWALK WIDTH EXCEEDS 2.5m, A LONGITUDINAL CONSTRUCTION JOINT SHALL BE CREATED AT ITS MIDPOINT.
4. EDGES AND JOINTS ARE TO BE FINISHED WITH A 75mm EDGING TOOL.
5. ALL CONCRETE SIDEWALKS ARE TO HAVE A BROOM FINISH UNLESS OTHERWISE SPECIFIED.
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
7. THE MAXIMUM SLOPE IS NOT TO EXCEED 2%.
8. INSTALL DUMMY TRANSVERSE JOINTS AS REQUIRED SO THERE IS A MAXIMUM SPACING OF 2m BETWEEN ALL JOINTS.
9. SIDEWALK NOT TO BE DEPRESSED ACROSS DRIVEWAY ACCESSES.
10. EXPANSION AND DUMMY JOINTS AS PER SC5

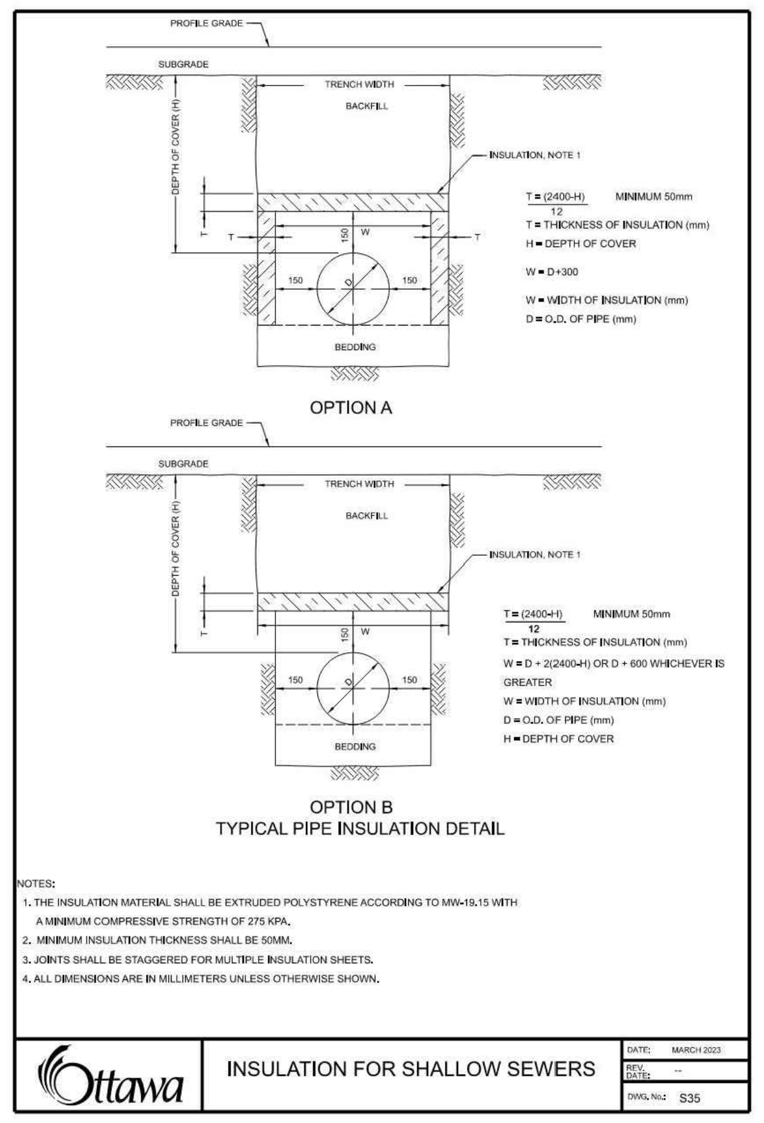
TYPICAL CONCRETE SIDEWALK IN BOULEVARD
DATE: MAY 2001
REV. DATE: MARCH 2016
DWG. No.: SC4



NOTES:

1 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
2 For slipforming procedure a 5% batter is acceptable.
A Treatment at entrances shall be according to OPSD 351.010.
B Outlet treatment shall be according to the OPSD 610 Series.
C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2012 | Rev 2
CONCRETE BARRIER CURB
OPSD 600.110

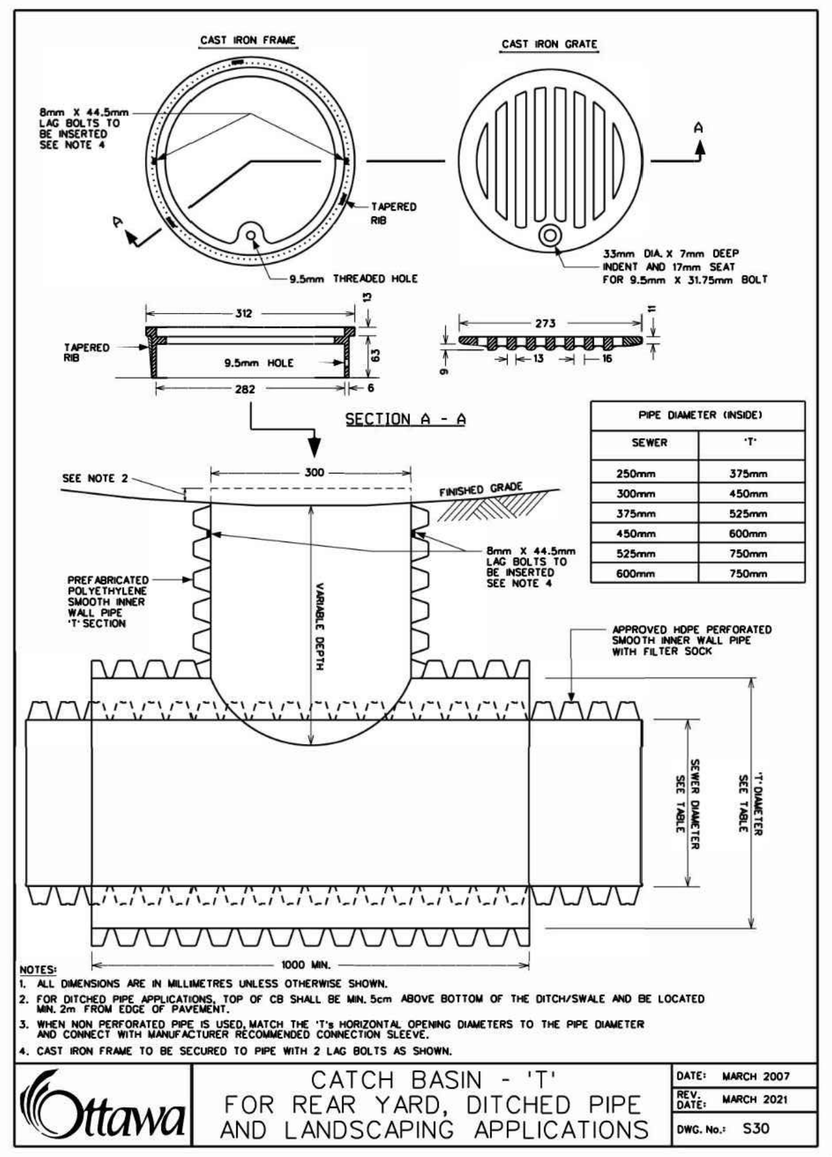


Option A:
T = (2400-H) / 12 MINIMUM 50mm
T = THICKNESS OF INSULATION (mm)
H = DEPTH OF COVER
W = D+300
W = WIDTH OF INSULATION (mm)
D = O.D. OF PIPE (mm)

Option B:
T = (2400-H) / 12 MINIMUM 50mm
T = THICKNESS OF INSULATION (mm)
W = D + 2(2400-H) OR D + 600 WHICHEVER IS GREATER
W = WIDTH OF INSULATION (mm)
D = O.D. OF PIPE (mm)
H = DEPTH OF COVER

NOTES:
1. THE INSULATION MATERIAL SHALL BE EXTRUDED POLYSTYRENE ACCORDING TO MW-19.15 WITH A MINIMUM COMPRESSIVE STRENGTH OF 275 KPA.
2. MINIMUM INSULATION THICKNESS SHALL BE 50MM.
3. JOINTS SHALL BE STAGGERED FOR MULTIPLE INSULATION SHEETS.
4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

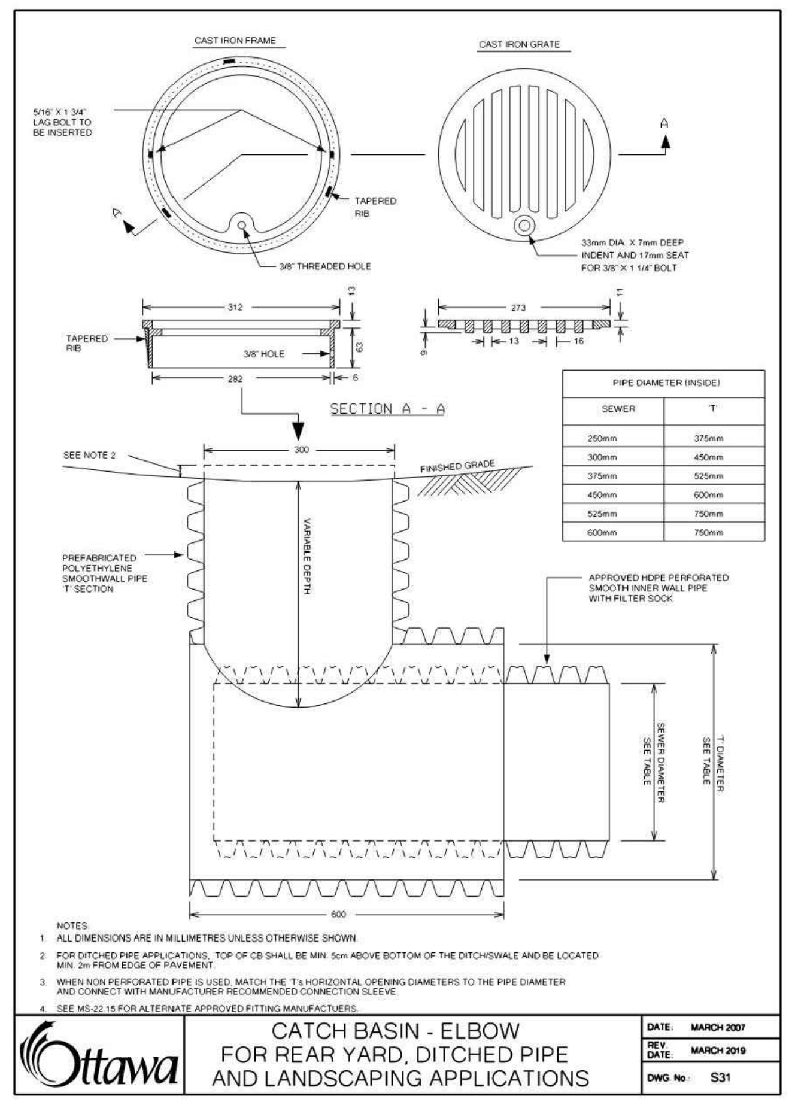
INSULATION FOR SHALLOW SEWERS
DATE: MARCH 2023
REV. DATE: --
DWG. No.: S35


CAST IRON FRAME
CAST IRON GRATE
8mm X 44.5mm LAG BOLTS TO BE INSERTED SEE NOTE 4
TAPERED RIB
9.5mm THREADED HOLE
33mm DIA. X 7mm DEEP INDENT AND 17mm SEAT FOR 9.5mm X 31.75mm BOLT
312
282
9.5mm HOLE
273
SECTION A - A
SEE NOTE 2
300
FINISHED GRADE
PREFABRICATED POLYETHYLENE SMOOTH INNER WALL PIPE 'T' SECTION
VARIABLE DEPTH
APPROVED HDPE PERFORATED SMOOTH INNER WALL PIPE WITH FILTER SOCK
SEWER DIAMETER SEE TABLE
'T' DIAMETER SEE TABLE
1000 MIN.

PIPE DIAMETER (INSIDE)	
SEWER	'T'
250mm	375mm
300mm	450mm
375mm	525mm
450mm	600mm
525mm	750mm
600mm	750mm

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
2. FOR DITCHED PIPE APPLICATIONS, TOP OF CB SHALL BE MIN. 5cm ABOVE BOTTOM OF THE DITCH/SWALE AND BE LOCATED MIN. 2m FROM EDGE OF PAVEMENT.
3. WHEN NON PERFORATED PIPE IS USED, MATCH THE 'T's HORIZONTAL OPENING DIAMETERS TO THE PIPE DIAMETER AND CONNECT WITH MANUFACTURER RECOMMENDED CONNECTION SLEEVE.
4. CAST IRON FRAME TO BE SECURED TO PIPE WITH 2 LAG BOLTS AS SHOWN.

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



NOTES:
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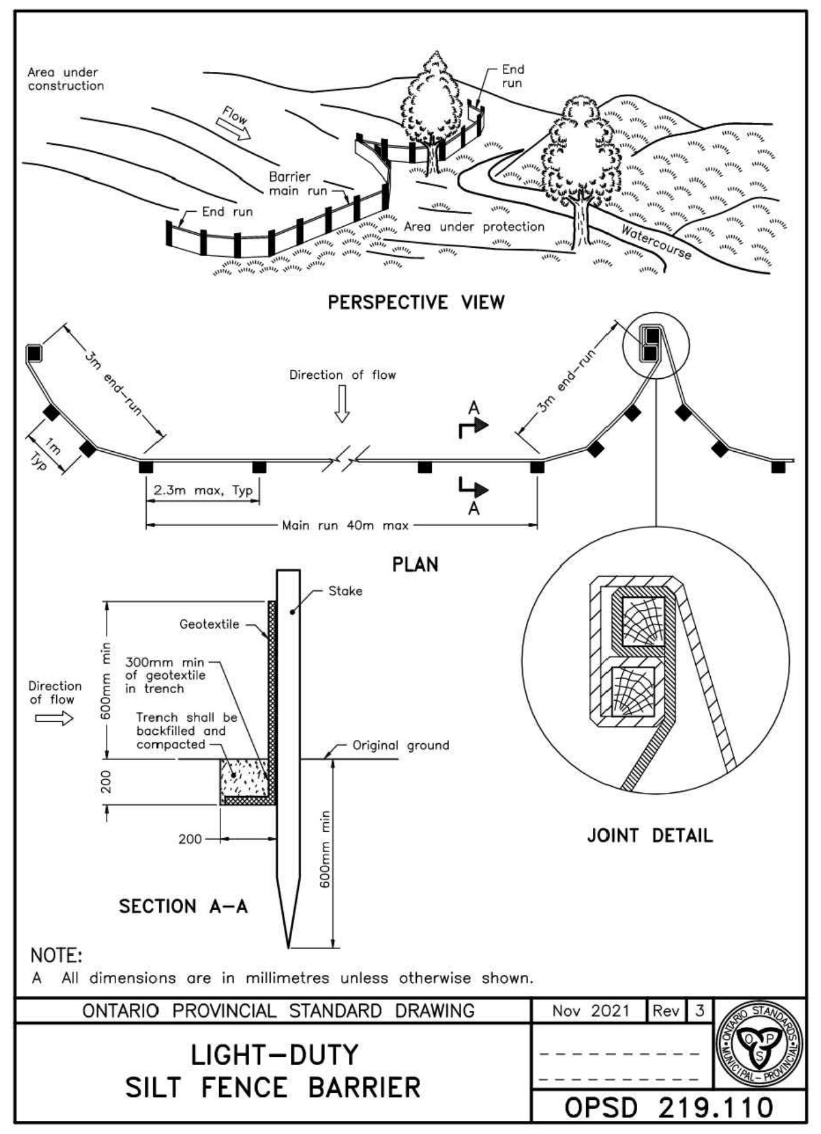
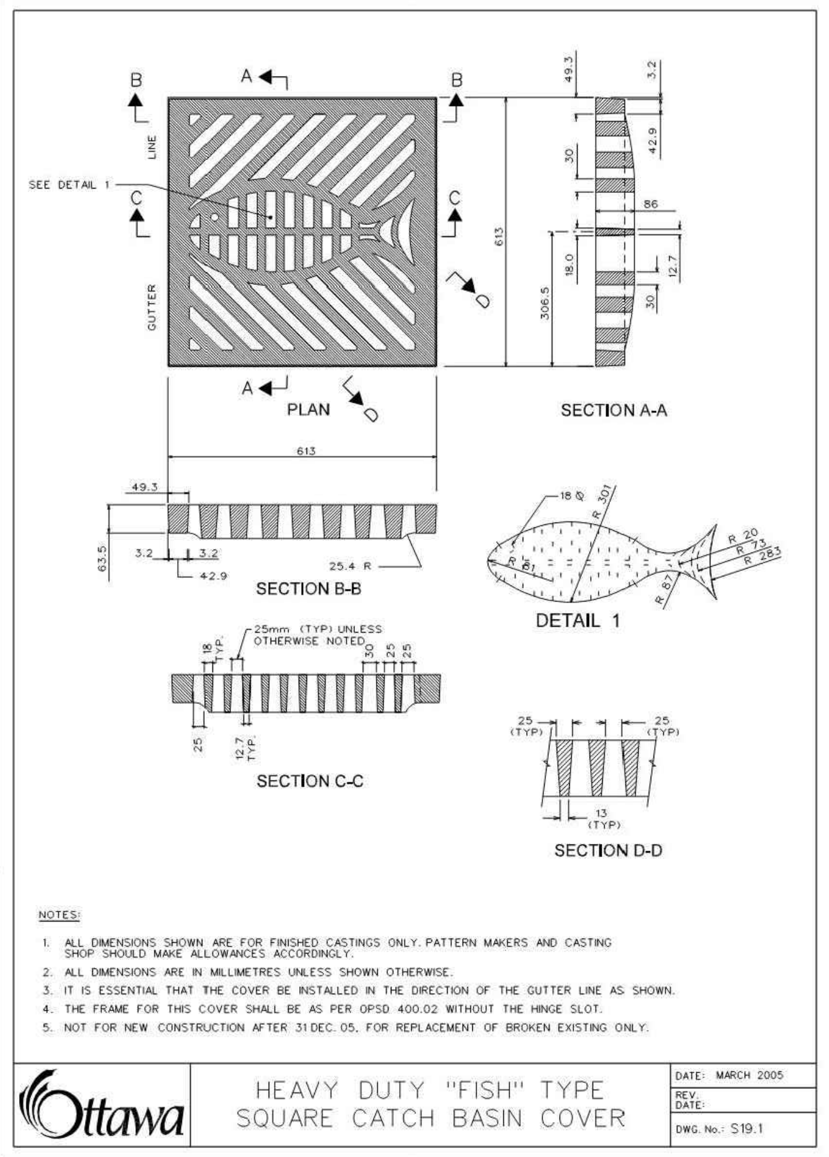
3. WHEN NON PERFORATED PIPE IS USED, MATCH THE 'T's HORIZONTAL OPENING DIAMETERS TO THE PIPE DIAMETER AND CONNECT WITH MANUFACTURER RECOMMENDED CONNECTION SLEEVE.
4. SEE MS-22.15 FOR ALTERNATE APPROVED FITTING MANUFACTUERS.

CATCH BASIN - ELBOW FOR REAR YARD, DITCHED PIPE AND LANDSCAPING APPLICATIONS
DATE: MARCH 2007
REV. DATE: MARCH 2019
DWG. No.: S31



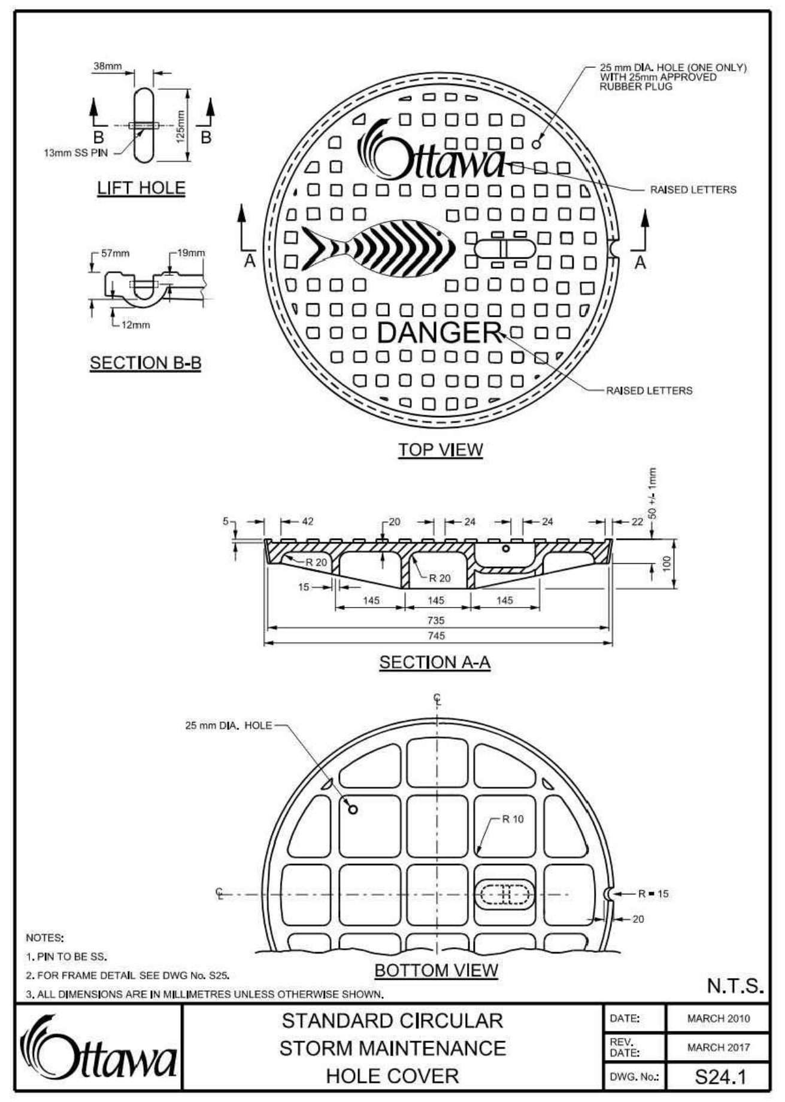
NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2021 | Rev 3
LIGHT–DUTY SILT FENCE BARRIER
OPSD 219.110



NOTES:
1. ALL DIMENSIONS SHOWN ARE FOR FINISHED CASTINGS ONLY. PATTERN MAKERS AND CASTING SHOP SHOULD MAKE ALLOWANCES ACCORDINGLY.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
3. IT IS ESSENTIAL THAT THE COVER BE INSTALLED IN THE DIRECTION OF THE GUTTER LINE AS SHOWN.
4. THE FRAME FOR THIS COVER SHALL BE AS PER OPSD 400.02 WITHOUT THE HINGE SLOT.
5. NOT FOR NEW CONSTRUCTION AFTER 31 DEC. 05. FOR REPLACEMENT OF BROKEN EXISTING ONLY.

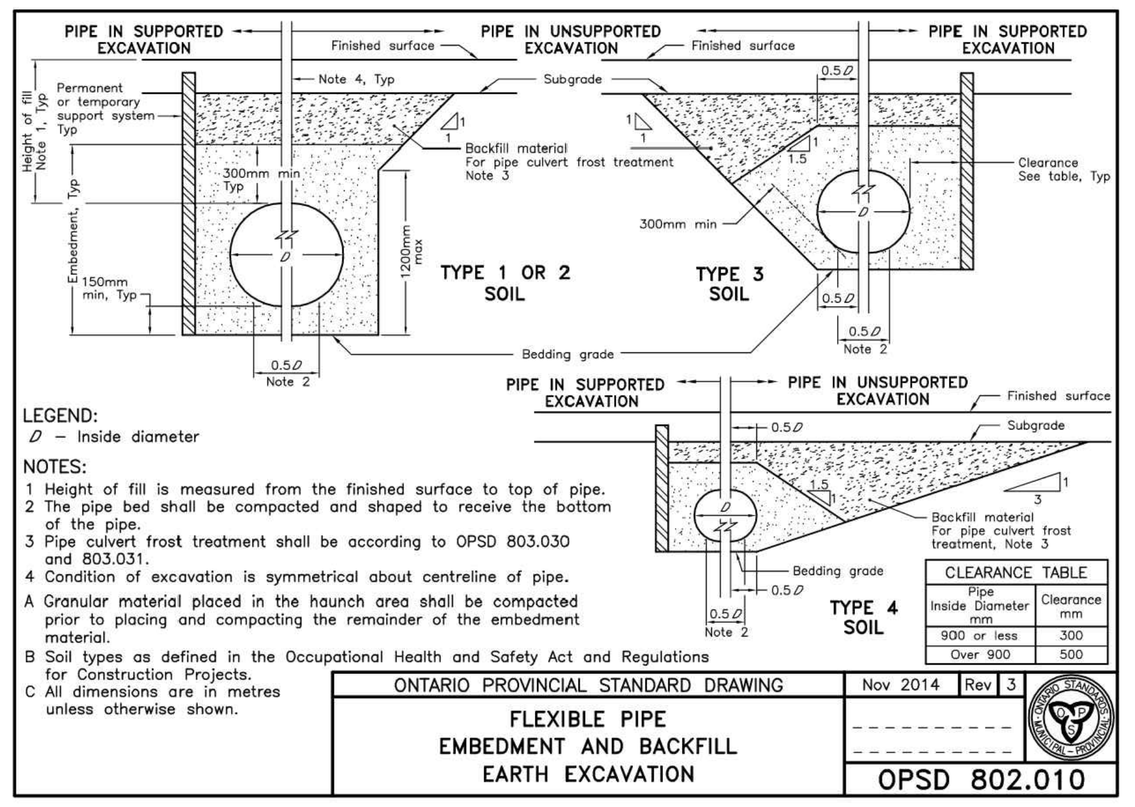
HEAVY DUTY "FISH" TYPE SQUARE CATCH BASIN COVER
DATE: MARCH 2005
REV. DATE:
DWG. No.: S19.1



NOTES:
1. PIN TO BE SS.
2. FOR FRAME DETAIL SEE DWG No. S25.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

N.T.S.

STANDARD CIRCULAR STORM MAINTENANCE HOLE COVER
DATE: MARCH 2010
REV. DATE: MARCH 2017
DWG. No.: S24.1


PIPE IN SUPPORTED EXCAVATION
PIPE IN UNSUPPORTED EXCAVATION
Finished surface
Note 4, Typ
Subgrade
Permanent or temporary support system Typ
Height of fill Note 1, Typ
Embedment, Typ
300mm min Typ
150mm min, Typ
1200mm max
Backfill material For pipe culvert frost treatment Note 3
300mm min
Clearance See table, Typ
TYPE 1 OR 2 SOIL
TYPE 3 SOIL
TYPE 4 SOIL
Bedding grade
0.5D
Note 2

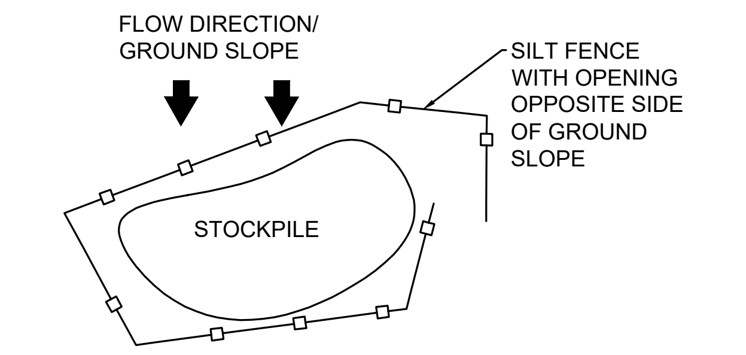
LEGEND:
D – Inside diameter

NOTES:

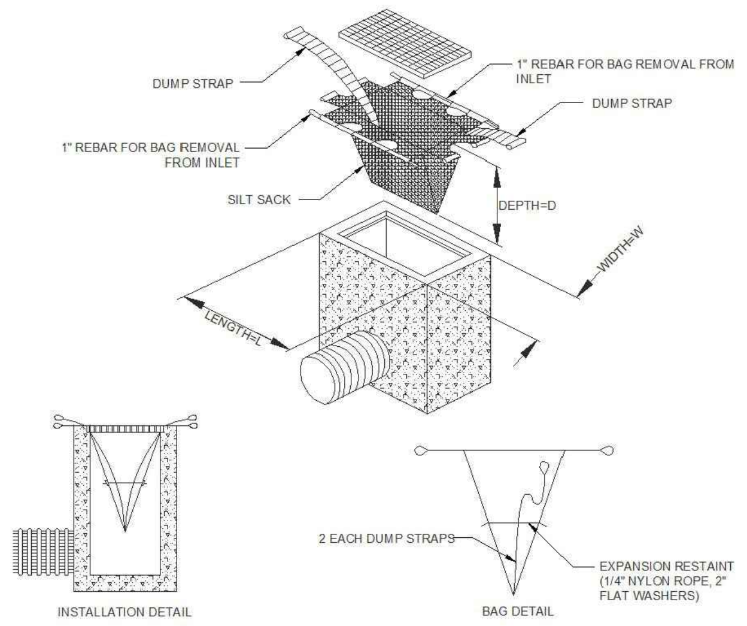
1 Height of fill is measured from the finished surface to top of pipe.
2 The pipe bed shall be compacted and shaped to receive the bottom of the pipe.
3 Pipe culvert frost treatment shall be according to OPSD 803.030 and 803.031.
4 Condition of excavation is symmetrical about centreline of pipe.
A Granular material placed in the haunch area shall be compacted prior to placing and compacting the remainder of the embedment material.
B Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.
C All dimensions are in metres unless otherwise shown.

CLEARANCE TABLE	
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

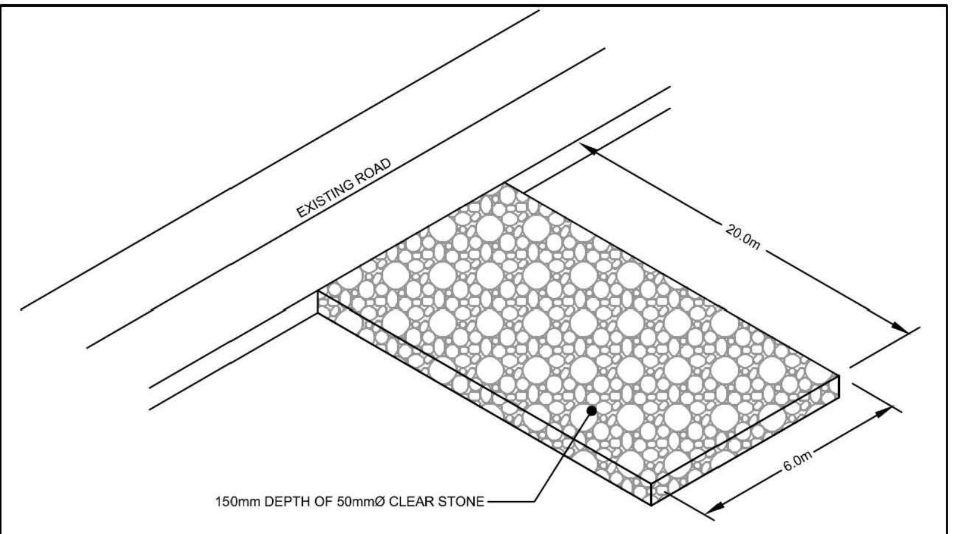
ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 3
FLEXIBLE PIPE EMBEDMENT AND BACKFILL EARTH EXCAVATION
OPSD 802.010


FLOW DIRECTION/ GROUND SLOPE
SILT FENCE WITH OPENING OPPOSITE SIDE OF GROUND SLOPE
STOCKPILE

STOCKPILE EROSION PROTECTION
N.T.S.


DUMP STRAP
1" REBAR FOR BAG REMOVAL FROM INLET
DUMP STRAP
1" REBAR FOR BAG REMOVAL FROM INLET
SILT SACK
DEPTH=D
WIDTH=W
LENGTH=L
INSTALLATION DETAIL
2 EACH DUMP STRAPS
EXPANSION RESTAINT (1/4" NYLON ROPE, 2" FLAT WASHERS)
BAG DETAIL

INLET SEDIMENT CONTROL DEVICE
N.T.S.



MUD MAT - CONSTRUCTION ACCESS
NTS

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AS INSTRUMENTS OF SERVICE, ALL DRAWINGS, SPECIFICATIONS, CADD FILES OR OTHER ELECTRONIC MEDIA AND COPIED THERE OF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT, INCLUDING REPEATS OF THE PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.

UNLESS THE REVISION TITLE IS "ISSUED FOR CONSTRUCTION", THESE DRAWINGS SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.

THESE DRAWINGS ILLUSTRATES THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THESE DRAWINGS EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS ACKNOWLEDGEMENT OF THE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

UNAUTHORIZED CHANGES:

IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRL ASSOCIATES LTD. (LRL) WITHOUT OBTAINING LRL'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES. THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRL AND TO RELEASE LRL FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.

IN ADDITION, THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY DAMAGES, LIABILITIES OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

IN ADDITION, THE CLIENT AGREES TO INCLUDE IN ANY CONTRACTS FOR CONSTRUCTION APPROPRIATE LANGUAGE THAT PROHIBITS THE CONTRACTOR OR ANY SUBCONTRACTORS OF ANY TIER FROM MAKING ANY CHANGES OR MODIFICATIONS TO LRL'S CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN APPROVAL OF LRL AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY BOTH LRL AND THE CLIENT FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

GENERAL NOTES:

EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT MAY NOT BE COMPLETE OR TO DATE. CONTRACTOR SHALL VERIFY IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING OR PERFORMING WORK.

CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.

THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

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

V. JOHNSON
100510576
06-26-2025

NOT AUTHENTIC UNLESS SIGNED AND DATED

LRL
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
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No.	REVISIONS	BY	DATE
01	ISSUED FOR APPROVAL	M.L.	26 JUNE 2025

CLIENT
RICHCRAFT HOMES LTD.

DESIGNED BY:	DRAWN BY:	APPROVED BY:
M.L.	M.L.	S.G.

PROJECT
SITE DEVELOPMENT
CORNER OF RENAUD RD & COMPASS ST
ORLEANS, ON

DRAWING TITLE
CONSTRUCTION DETAIL PLAN

PROJECT NO.
240347

DATE
JAN 2025

C901