1Door4Care - CHEO Integrated Treatment Centre: 1Door4Care

ISSUED FOR SITE PLAN CONTROL
2024-08-23

VOLUME 2 - CIVIL

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SHEET LIST - CIVIL

Sheet Number	Sheet Title
C0006	SHEET LIST
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C0009	TYPICAL DETAILS AND NOTES PLAN
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C1101	PROPOSED GRADING PLAN
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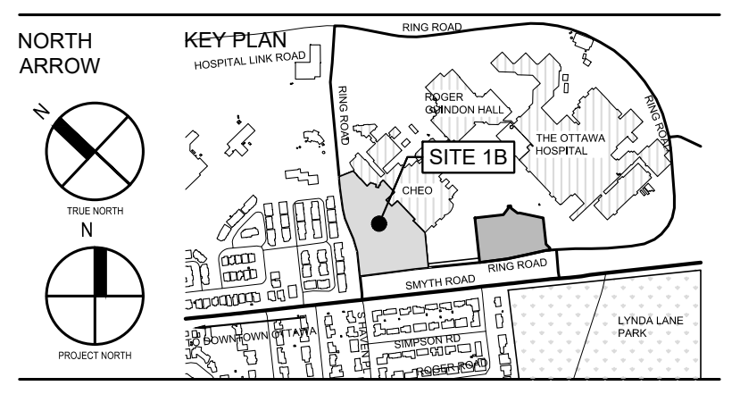

#	DATE:	REVISION:
9	24/08/23	ISSUED FOR BUILDING PERMIT
8	24/08/23	ISSUED FOR SITE PLAN CONTROL
7	24/08/07	ISSUED FOR 50% CD SUBMISSION
6	24/06/03	ISSUED FOR 100% DD SUBMISSION R2
5	24/05/10	ISSUED FOR FOUNDATION PERMIT
4	24/04/19	ISSUED FOR 100% DD SUBMISSION
3	24/01/24	RE-ISSUED FOR BUILDING PERMIT (TUNNEL)
2	23/12/20	ISSUED FOR BUILDING PERMIT (TUNNEL)
1	23/12/15	RE-ISSUED FOR 50% DD SUBMISSION
0	23/12/15	ISSUED FOR 50% DD SUBMISSION

REVISIONS

LICENSED PROFESSIONAL ENGINEER
S. L. FORWELL
7670557
2024-08-22
PROVINCE OF ONTARIO

REPRODUCTION OR DISTRIBUTION FOR PURPOSES OTHER THAN AUTHORIZED BY WALTERFEDY IS FORBIDDEN. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS TO WALTERFEDY.
DO NOT SCALE THIS DRAWING.

CLIENT

1DOOR4CARE: CHEO INTEGRATED
TREATMENT CENTRE: 1DOOR4CARE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

SHEET LIST

SCALE:
DRAWN BY: DL, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2024.08.19

DRAWING NUMBER:
C0006

PLAN #: 18912
DEVELOPMENT #: D07-12-22-0170

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GENERAL NOTES

1. 1D4C LEGAL BOUNDARY AND TOPOGRAPHICAL INFORMATION FROM SURVEY BY FAIRHALL MOFFATT & WOODLAND LIMITED DATED SEPTEMBER 17, 2018.
2. 1D4C GEOTECHNICAL DESIGN REPORT BY THURBER ENGINEERING LTD. DATED NOVEMBER 3, 2023. REFER TO REPORT FOR FURTHER SITE SPECIFIC REQUIREMENTS DUE TO EXPANSIVE SHALE AND POTENTIAL FOR SULPHATE ATTACK.
3. THIS SET OF PLANS SHALL NOT BE USED FOR CONSTRUCTION UNTIL STAMPED BY THE DESIGN ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.
4. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE DESIGN ENGINEER.
5. THIS PLAN NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF WALTERFEDY.
6. THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS, AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM THEMSELVES OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM AND THOSE NOT LOCATED PRIOR TO CONSTRUCTION.
7. ANY AREA DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE CONSULTANT AND AUTHORITY HAVING JURISDICTION. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY TO MUNICIPAL STANDARDS.
8. ALL HEALTH AND SAFETY RELATED SIGNAGE MUST BE POSTED AT THE SITE AS REQUIRED BY APPLICABLE LAW AND BEST MANAGEMENT PRACTICES.
9. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE CONSULTANT WITH A DIGITAL FILE OF AS-CONSTRUCTED DRAWINGS. THE DRAWINGS MUST REFLECT THE CONSTRUCTED STATE OF THE WORK. SUBMISSION OF UNALTERED DESIGN DRAWINGS AND CONTRACT CHANGES WILL NOT BE ACCEPTED.

EROSION CONTROL NOTES

1. ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED TO THE SATISFACTION OF THE ENGINEER AND THE CITY OF OTTAWA. THEY ARE TO BE APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION. THESE PRACTICES ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL AND SHOULD INCLUDE AS A MINIMUM THOSE MEASURES INDICATED ON THE PLAN.
2. EROSION AND SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED DURING CONSTRUCTION IN ACCORDANCE WITH THE "GUIDELINES ON EROSION AND SEDIMENT CONTROL FOR URBAN CONSTRUCTION SITES" (GOVERNMENT OF ONTARIO, MAY 1987). THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEETING ALL REGULATORY AGENCY REQUIREMENTS.
3. TO PREVENT SURFACE EROSION FROM ENTERING ANY STORM SEWER SYSTEM DURING CONSTRUCTION, FILTER CLOTH WILL BE PLACED UNDER GRATES OF NEARBY CATCHBASINS AND STRUCTURES. A LIGHT DUTY SILT FENCE BARRIER WILL ALSO BE INSTALLED AROUND THE CONSTRUCTION AREA (WHERE APPLICABLE). THESE CONTROL MEASURES WILL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
4. TO LIMIT EROSION: MINIMIZE THE AMOUNT OF EXPOSED SOILS AT ANY GIVEN TIME, RE-VEGETATE EXPOSED AREAS AND SLOPES AS SOON AS POSSIBLE AND PROTECT EXPOSED SLOPES WITH NATURAL OR SYNTHETIC MULCHES.
5. FOR MATERIAL STOCKPILING: MINIMIZE THE AMOUNT OF EXPOSED MATERIALS AT ANY GIVEN TIME; APPLY TEMPORARY SEEDING, TARPS, COMPACTION AND/OR SURFACE ROUGHENING AS REQUIRED TO STABILIZE STOCKPILED MATERIALS THAT WILL NOT BE USED WITHIN 14 DAYS.
6. THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE ENGINEER, THE MEASURES ARE NO LONGER REQUIRED. NO CONTROL MEASURES MAY BE PERMANENTLY REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
7. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER ANY ACCIDENTAL DISCHARGES OF SEDIMENT MATERIAL INTO ANY STORM SEWER SYSTEM. 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.
8. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
9. ROADWAYS ARE TO BE SWEPT AS REQUIRED OR AS DIRECTED BY THE ENGINEER AND/OR THE MUNICIPALITY.
10. THE CONTRACTOR SHALL ENSURE PROPER DUST CONTROL IS PROVIDED WITH THE APPLICATION OF WATER (AND IF REQUIRED, CALCIUM CHLORIDE) DURING DRY PERIODS. MONITOR DUST LEVELS DURING SITE PREPARATION/EXCAVATION, AND CONSTRUCTION ACTIVITIES, AND WHEN DUST LEVELS BECOME VISUALLY APPARENT SPRAY WATER TO MINIMIZE THE RELEASE OF DUST FROM GRAVEL, PAVED AREAS AND EXPOSED SOILS. USE CHEMICAL DUST SUPPRESSANTS ONLY WHERE NECESSARY ON PROBLEM AREAS.

GRADING NOTES

1. MATCH EXISTING GRADES AT ALL PROPERTY LINES AND/OR LIMITS OF CONSTRUCTION EXCEPT WHERE PROPOSED GRADES ARE NOTED.
2. MANAGEMENT OF EXCESS MATERIALS SHALL BE IN ACCORDANCE WITH OPSS 180. ENVIRONMENTALLY IMPACTED SOILS, WHERE AND WHEN ENCOUNTERED, SHALL BE MANAGED ON SITE AS REQUIRED UNTIL SUCH TIME THAT LABORATORY TESTING RESULTS HAVE CONFIRMED THE NATURE OF THE IMPACTS AND A SUITABLE DISPOSAL METHOD.
3. SURPLUS MATERIAL OF ALL TYPES NOT REQUIRED FOR BACKFILL, GRADING OR LANDSCAPING SHALL BECOME THE PROPERTY OF THE OWNER AND BE REMOVED FROM THE SITE AS DIRECTED BY THE CONSULTANT. THE COSTS OF ALL OFFSITE DISPOSAL SHALL BE BORNE BY THE CONTRACTOR UNLESS A SPECIFIC PROVISION IS MADE IN THE CONTRACT DOCUMENTS FOR PAYMENT FROM DISPOSAL OF A SPECIFIC SURPLUS MATERIAL.
4. A QUALIFIED PERSON SHALL BE RETAINED TO PREPARE AND SIGN OFF ON A SOIL MANAGEMENT PLAN (SMP). THE SMP SHALL INCLUDE THE MANAGEMENT OF EXCESS SOIL EXCAVATED FROM THE SITE INCLUDING THE MANAGEMENT OF THE SOIL FROM THE BASEMENT EXCAVATION IN ACCORDANCE WITH ONTARIO REGULATION 406/19 AND WITH MANAGEMENT OF EXCESS SOIL – A GUIDE FOR BEST MANAGEMENT PRACTICES. A SMP SHALL BE IMPLEMENTED FOR THE SITE PRIOR TO ANY EXCAVATION WORKS BEING DONE. THE MAIN ELEMENTS REQUIRED FROM THE SOIL MANAGEMENT PLAN INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   - 4.1. THE SMP SHALL MAXIMIZE THE RE-USE OF ALL SOILS ON SITE AND INCORPORATION INTO LANDSCAPE FEATURES OR USE UNDER ROADWAYS AND WALKWAYS IN ACCORDANCE WITH THE GEOTECHNICAL REPORTS PROVIDED IN THE BACKGROUND DOCUMENTS.
   - 4.2. THE SMP SHALL PROVIDE A FRAMEWORK FOR THE HANDLING AND DISPOSAL OF EXCESS SOILS IN ACCORDANCE WITH ALL PERTINENT PROVINCIAL REGULATIONS AND REQUIREMENTS AND REFERENCE DOCUMENTS.
   - 4.3. THE SMP SHALL PROVIDE SAFE WORKING PRACTICES AND PROCEDURES THAT SHOULD BE FOLLOWED DURING SUBSURFACE WORK.
   - 4.4. THE SMP SHALL INFORM WORKERS AND CONTRACTORS WHO MAY COME INTO CONTACT WITH IMPACTED SOILS IF ANY, ABOUT THE POTENTIAL HEALTH AND SAFETY HAZARDS ASSOCIATED WITH ANY KNOWN CONTAMINATIONS WITHIN THE GROUNDWATER AND IMPACTED SOILS AND OTHER HAZARDS THAT MAY BE ENCOUNTERED.
5. MATERIALS TO BE REMOVED SHALL BE NEATLY SAW-CUT ALONG ITS LIMITS, IN ADVANCE OF THE REMOVAL. THE LIMITS OF REMOVAL SHALL BE AS NOTED ON THE PLANS UNLESS AN EXTENSION OR REDUCTION OF THE MATERIAL TO BE REMOVED IS APPROVED IN ADVANCE BY THE CONSULTANT. AS SUCH, THE COSTS OF ANY OVER-EXCAVATION NOT APPROVED IN ADVANCE SHALL BE THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR. THIS RESPONSIBILITY SHALL ALSO EXTEND TO RESTORATION OR REPLACEMENT OF DISTURBED FEATURES AND SURFACES DUE TO UNAUTHORIZED EXCAVATION.
6. ALL FILL PLACED ON SITE SHALL BE COMPACTED TO A MINIMUM 95% SPMDD (UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER OR ON THE DRAWINGS AND IN THE SPECIFICATIONS). ALL MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 300mm LIFTS EXCEPT WHERE UNDER PAVING, AND WALKS WHEN LAYERS SHALL BE 150mm MAX.
7. MAXIMUM SLOPE IN GRASSED AREAS TO BE 3:1. SLOPES GREATER THAN 3:1 TO BE LANDSCAPED WITH LOW MAINTENANCE GROUND COVER. MINIMUM SLOPE IN GRASSED AREAS TO BE 1%. GRASS SWALES WITH A SLOPE LESS THAN 1% TO BE UNDERLAIN WITH A FRENCH DRAIN.
8. FINISH GRADE AT FOUNDATION WALLS TO BE MINIMUM 150mm BELOW THE TOP OF FOUNDATION WALL/BRICK LINE UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS.
9. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE ON ALL SURFACES TO THE APPROPRIATE OUTLET STRUCTURE. AREAS OF PONDING CAUSED BY CONSTRUCTION ERROR WILL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE CONSULTANT AT THE CONTRACTORS EXPENSE.
10. SHOULD THE NATURE OF THE SOIL AT THE DEPTH INDICATED PROVE UNSATISFACTORY AS DETERMINED BY THE GEOTECHNICAL ENGINEER, THE EXCAVATION SHALL BE CARRIED DOWN TO SUCH A DEEPER LEVEL AS THE GEOTECHNICAL ENGINEER MAY REQUIRE UNTIL A SATISFACTORY BEARING STRATUM IS REACHED.
    - 10.1. THIS CONTRACTOR SHALL BE PAID THE COST OF SUCH EXTRA EXCAVATION AT THE UNIT PRICE ESTABLISHED IN THE CONTRACT.
    - 10.2. ALL EXTRA DEPTHS OF EXCAVATION AND FILLING MUST HAVE THEIR AREA AND VOLUME DOCUMENTED BY AN INDEPENDENT INSPECTION AND TESTING COMPANY OR THE CONSULTANT TO QUALIFY FOR PAYMENT.
    - 10.3. QUANTITIES USED FOR PAYMENT OF EXCAVATION AND FILLING AT EXTRA DEPTHS TO BE DETERMINED BY THE CONSULTANT.

GENERAL SERVICING

1. ALL WORK TO BE COMPLETED IN ACCORDANCE WITH THE REGULATIONS SET OUT BY THE MUNICIPALITY HAVING JURISDICTION.
2. RIGID PIPE BEDDING: CLASS 'B' AS PER OPSD 802.030 (EARTH EXCAVATION, TYPE 1 OR 2 SOIL), OPSD 802.031 (EARTH EXCAVATION, TYPE 3 SOIL), OPSD 802.032 (EARTH EXCAVATION, TYPE 4 SOIL).
3. FLEXIBLE PIPE BEDDING: AS PER OPSD 802.010 (EARTH)
4. GRANULAR FILL SHALL BE DEPOSITED IN THE TRENCH, FOR THE FULL WIDTH OF THE TRENCH, COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY IN LAYERS NOT OVER 300mm DEPTH, EXCEPT WHERE UNDER PAVING, AND WALKS WHEN LAYERS SHALL BE 150mm MAX.
5. SITE SERVICING CONTRACTOR TO TERMINATE ALL SERVICES 1.0m FROM FOUNDATION WALL AND COORDINATE WITH THE GENERAL OR MECHANICAL CONTRACTOR AS REQUIRED TO FACILITATE THE CONNECTION.
6. WHEN BELL AND SPIGOT PIPE IS LAID, THE BELL END OF THE PIPE SHALL BE LAID UPGRADE.
7. PIPE SHALL BE KEPT CLEAN AND DRY AS WORK PROGRESSES. THE TRENCH SHALL BE KEPT DRY.
8. A REMOVABLE WATERTIGHT BULKHEAD SHALL BE INSTALLED DAILY AT THE OPEN END OF THE LAST PIPE LAID.
9. PIPE SHALL NOT BE LAID UNTIL THE PRECEDING PIPE JOINT HAS BEEN COMPLETED AND THE PIPE IS BEDDED AND SECURED IN PLACE.
10. ALL PIPE ENDS SHALL BE THOROUGHLY CLEANED PRIOR TO THE INSTALLATION OF GASKETS. ALL GASKETS TO BE LUBRICATED PRIOR TO BEING INSTALLED OR AS RECOMMENDED BY THE PIPE MANUFACTURER.
11. A TEMPORARY LOCATION MARKER 50x75mm SHALL BE PLACED AT THE END OF ALL CAPPED SERVICE CONNECTIONS. THE MARKER SHALL BE PLACED 300mm ABOVE THE PLUGGED END OF THE SERVICE PIPE, CUT AT LEAST 500mm ABOVE THE FINISHED GRADE, AND MARKED WITH BRIGHT PAINT.
12. ALL MANHOLES, BASINS, CHAMBERS ETC. TO BE INSTALLED LEVEL AND PLUMB TO THE SATISFACTION OF THE CONSULTANT.

STORM AND SANITARY SEWER

1. ALL SEWER MATERIALS TO COMPLY WITH CITY OF OTTAWA MS-22.15 REQUIREMENTS.
2. THE SITE SERVICING CONTRACTOR SHALL PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410.07.01.15 AND 407.07.25 AND IN ACCORDANCE WITH THE PLUMBING CODE. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS TO THE CITY OF OTTAWA. CONTRACTOR TO PROVIDE CONSULTANT MINIMUM 1 WEEK NOTICE OF SCHEDULING PRIOR TO COMPLETING TESTING ON SITE.
3. POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS: SMOOTH PROFILES, TO OPSS 1841 AND CSA B182.2, WITH SEPARATE GASKET AND INTEGRAL BELL SYSTEM, IN 6.0m NOMINAL LENGTHS AS FOLLOWS:
   - 3.1. 200mm OD AND LARGER: SDR35 PVC WITH 320 kPa STIFFNESS.
4. SUBSURFACE DRAINAGE PIPE AND FITTINGS: TO OPSS 405, PERFORATED PVC PIPE TO OPSS 1841 OR PE PIPE TO OPSS.MUNI 1840, TO CAN/CSA-B182.1; COMPLETE WITH KNITTED SOCK GEOTEXTILE AS REQUIRED (TERRAFIX 270R OR EQUIVALENT).
5. MANHOLES AND CATCHBASIN MANHOLES TO BE PRECAST 1200mm DIAMETER WITH ALUMINUM STEPS AT 300mm SPACING AS PER OPSD 701.010 UNLESS SPECIFIED OTHERWISE.
6. CATCHBASINS TO BE 600mm SQUARE PRECAST AS PER OPSD 705.010. DOUBLE CATCHBASINS TO BE 600x1450mm PRECAST AS PER OPSD 705.020.
7. CATCHBASIN MANHOLES, CATCHBASINS, AND DOUBLE CATCHBASINS TO HAVE A MINIMUM 600mm DEEP SUMP.
8. STORM MANHOLES TO HAVE MINIMUM 300mm DEEP SUMP.
9. MANHOLE AND CATCHBASIN, FRAMES, GRATES, CASTINGS, LIDS TO BE AS PER OPSS 1850.
10. CAST IRON FRAMES AND COVERS OR GRATES- STORM SEWERS: TO OPSS 1850 AND OPSD 400.020, OPSD 401.010 (B, OPEN).
11. CAST IRON FRAMES AND COVERS OR GRATES - SANITARY SEWERS: TO OPSS 1850, OPSD 401.010 (A, CLOSED).
12. ALL SANITARY MANHOLES LOCATED IN STORM WATER PONDING AREAS TO HAVE WATERTIGHT FRAME AND COVERS AS PER OPSD 401.030
13. STORM SEWERS AND SERVICES TO HAVE MINIMUM 2.0m COVER TO TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED SEWER PIPE IN ACCORDANCE WITH APPLICABLE 'SEWER PIPE INSULATION DETAIL' INDICATED IN DRAWING DETAILS.
14. SANITARY SEWERS AND SERVICES TO HAVE A MINIMUM 2.0m COVER TO TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED SEWER PIPE IN ACCORDANCE WITH APPLICABLE 'SEWER PIPE INSULATION DETAIL' INDICATED IN DRAWING DETAILS.
15. ALL PIPES, TO BE INSTALLED FLUSH WITH THE INSIDE WALLS OF THE STRUCTURE AND PARGED TO A SMOOTH FINISH.
16. ALL SANITARY MANHOLES TO BE PRE-BENCHED OR BENCHED WITH 30MPa CONCRETE AS PER OPSD 701.021. BENCHING SHALL EXTEND TO THE SPRING LINE OF LARGEST PIPE IN THE MANHOLE AND SHALL HAVE A SLOPE OF 1:8.
17. CONTRACTOR TO SUPPLY AND PAY FOR CCTV INSPECTION OF ALL SEWER LINES AND STRUCTURES.
18. ACCEPTANCE OF SEWER LINES AND STRUCTURES SHALL BE MADE AFTER THE CONSULTANT HAS REVIEWED THE CCTV DOCUMENTATION AND VIDEOS, AND EXPRESSED IN WRITING THAT THE SEWER LINES AND STRUCTURES ARE ACCEPTABLE.
19. IF CCTV INSPECTIONS SHOW ADDITIONAL CLEANING IS REQUIRED, CLEAN AND RE-INSPECT THE SEWER UNTIL ACCEPTED BY THE CONSULTANT.
20. A MINIMUM OF ONE (1) AND MAXIMUM OF THREE (3) ADJUSTMENT UNITS SHALL BE INSTALLED ON EACH STRUCTURE TO A MINIMUM HEIGHT OF 75mm AND MAXIMUM OF 300mm. THE FIRST ADJUSTMENT UNIT SHALL BE LAID IN A FULL BED OF MORTAR AND ALIGNED WITH THE OPENING IN THE STRUCTURE. SUCCESSIVE ADJUSTMENT UNITS SHALL BE LAID PLUMB TO THE FIRST ADJUSTMENT UNIT AND SEALED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. FRAMES WITH GRATES OR COVERS SHALL BE SET IN A FULL BED OF MORTAR ON THE ADJUSTMENT UNITS AND SUPPORTED USING SHIMS. ROCKS, STONES AND DEBRIS WILL NOT BE PERMITTED FOR USE AS SHIMS.

WATERMAINS

1. ALL WATERMAIN MATERIALS TO COMPLY WITH CITY OF OTTAWA MS-19.15 REQUIREMENTS.
2. POLYVINYL CHLORIDE (PVC) PIPE: MANUFACTURED TO CAST IRON OD (CIOD); COLOUR CODED BLUE, WITH INTEGRAL WALL THICKENED BELL DESIGNED FOR JOINT ASSEMBLY USING AN ELASTOMERIC GASKET CONFORMING TO ASTM D3139 AND CSA B137.3., TO CSA B137.3, COMPLETE WITH TRACER WIRE.
   - 2.1. 100 TO 300mm: TO AWWA C900, DR 18, IPEX OR APPROVED EQUAL.
3. MOLECULARLY ORIENTED POLYVINYL CHLORIDE (PVCO) PIPE: MANUFACTURED TO CIOD; COLOUR CODED BLUE, BIAXIALLY ORIENTED, WITH INTEGRAL WALL THICKENED BELL DESIGNED FOR JOINT ASSEMBLY USING AN ELASTOMERIC GASKET CONFORMING TO ASTM D3139 AND CSA B137.3.1, COMPLETE WITH TRACER WIRE.
   - 3.1. 100 TO 300mm: TO AWWA C909, PC 1620 kPa, BIONAX OR APPROVED EQUAL.
4. ALL WATER SERVICING TO HAVE MINIMUM 2.4m COVER.
5. ALL WATER SERVICING PROVIDING FIRE FLOWS MUST BE PRESSURE TESTED TO 200 PSI AS PER THE OBC PLUMBING CODE.
6. FITTINGS: FOR POLYVINYL CHLORIDE (PVC) AND MOLECULARLY ORIENTED POLYVINYL CHLORIDE (PVCO) PIPE SHALL BE EITHER:
   - 6.1. GRAY IRON ACCORDING TO AWWA C110/A21.10.
   - 6.2. DUCTILE IRON ACCORDING TO C110/A21.10 OR AWWA C153 AND SHALL BE CEMENT LINED ACCORDING TO AWWA C104/A21.4.
   - 6.3. INJECTION MOULDED POLYVINYL CHLORIDE, BLUE IN COLOUR AND ACCORDING TO AWWA C907 AND CSA B137.2.
   - 6.4. PREFABRICATED POLYVINYL CHLORIDE, BLUE IN COLOUR AND ACCORDING TO AWWA C905 AND CSA B137.3.
7. JOINT RESTRAINTS:
   - 7.1. FOR PVC PIPE AND FITTINGS: TO ASTM F1674 AND AWWA C111, SERRATED RING TYPE; FOR PUSH ON JOINTS UNIFLANGE (SERIES 1300, 1350 & 1360), EBAA (SERIES 1600, 2500 & 2800) OR CLOW (SERIES 300 & 350); OR WEDGE ACTION TYPE AS MANUFACTURED BY EBAA (SERIES 2000PV), OR UNIFLANGE (SERIES 1500) AND STAR STARGRIP 4000, 4100P.
   - 7.2. FOR PVCO PIPE (AWWA C909) AND FITTINGS: SERRATED RING TYPE; FOR PUSH ON JOINTS UNIFLANGE (SERIES 1360), EBAA (SERIES 2500); WEDGE ACTION TYPE AS MANUFACTURED BY CLOW (SERIES 2000 TUF GRIP), STAR (STARGRIP 3500).
   - 7.3. ALL MECHANICAL JOINTS IN TEMPORARY AND PERMANENT CONNECTIONS TO INCLUDE MECHANICAL JOINT RESTRAINTS.
   - 7.4. WATERMAIN FITTINGS WHICH CHANGE DIRECTIONS VERTICALLY OR HORIZONTALLY TO BE FULLY RESTRAINED BY MECHANICAL JOINT RESTRAINT OR THRUST BLOCKS (OPSD 1103.01 AND 1103.02). THREADED ROD WILL NOT BE PERMITTED.
   - 7.5. WATERMAIN FITTINGS TO BE SUPPLIED WITH MECHANICAL JOINT RESTRAINTS. FOR WATERMAIN PIPE SIZES 150mmØ OR LESS ALL PIPE JOINTS TO BE RESTRAINED WITHIN 5.0m FROM ALL FITTINGS, IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. FOR WATERMAIN PIPE SIZES GREATER THAN 150mmØ ALL PIPE JOINTS TO BE RESTRAINED WITHIN 10.0m FROM ALL FITTING, IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. ALL TEES TO HAVE MINIMUM 2.0m SOLID PIPE LENGTH ON EACH RUN OF THE TEE, OR PROVIDE A THRUST BLOCK PER OPSD 1103.010.
8. TRACER WIRE:
   - 8.1. T.W.U. OR R.W.U #10 GAUGE MIN. 7 STRANDS COPPER WIRE, MIN 60°C OR HIGHER, 600v OR APPROVED EQUIVALENT.
   - 8.2. PVC WATERMAIN SHALL HAVE TRACER WIRE STRAPPED TO TOP AT 5.0m INTERVALS. TRACER WIRE SHALL BE BROUGHT TO THE SURFACE AT ALL HYDRANTS AND CONNECTED TO THE LOWER FLANGE OF THE HYDRANT.
   - 8.3. DO NOT CONNECT THE TRACER WIRE ON NON-METALLIC SYSTEMS TO NEW OR EXISTING METALLIC WATERMAIN PIPING AND/OR ASSOCIATED FITTINGS.
9. WATERMAIN VALVES, 100mm AND LARGER, SHALL BE AS PER AWWA C509-MUELLER A2362 OR APPROVED EQUIVALENT (OPEN LEFT) INCLUDING VALVE BOX AND CATHODIC PROTECTION.
10. HYDRANTS: CONFORM TO AWWA C502 FOR DRY-BARREL HYDRANTS, WITH TWO 63.5mm HOSE NOZZLES AT 180 DEGREES AND A 114.3mm PUMPER NOZZLE WITH A 100mm ULC APPROVED STORTZ CONNECTION; 32mm SQUARE OPERATING NUT, OPEN COUNTER-CLOCKWISE AND HAVE MECHANICAL JOINT END; COMPLETE WITH 150mm LEAD, 150mm GATE VALVE, ANCHOR TEE, VALVE AND BOX PROVIDED IN ACCORDANCE WITH THE CITY OF OTTAWA.
11. ANODES TO BE PROVIDED AS REQUIRED BY THE CITY OF OTTAWA MS-19.15 REQUIREMENTS.
12. CHAMBERS FOR VALVES AND METERS TO BE PROVIDED IN ACCORDANCE WITH OPSS 407 AND 408.
    - 12.1. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR CHAMBER AND METER ASSEMBLY TO THE CONSULTANT FOR REVIEW.
    - 12.2. COMPLETE WITH FACTORY INSTALLED GALVANIZED OR ALUMINUM MANHOLE LADDER RUNGS.
    - 12.3. PROVIDE AND INSTALL ACCESS HATCH FRAME AND COVERS TO OPSD 402.030, CAST IN PLACE. ACCESS HATCH SHALL BE LOCKABLE.
13. PETROLATUM TAPE SYSTEMS: TO BE COMPRISED OF THREE COMPONENTS; PASTE, MASTIC, AND TAPE THAT MEET AWWA C217-09, SUPPLIED BY DENSO NORTH AMERICA INC. OR PETRO COATING SYSTEMS LTD. OR RUSTROL SYSTEMS (INTERPROVINCIAL CORROSION CONTROL COMPANY LTD.). ONLY MATERIAL FROM SUPPLIERS LISTED SHALL BE USED. AT NO TIME SHALL MATERIALS FROM EITHER SYSTEM BE UTILISED WITH ONE AND OTHER.
    - 13.1. ALL MECHANICAL JOINT RESTRAINTS TO BE WRAPPED WITH APPROVED PETROLEUM TAPE SYSTEM.
14. PROVIDE ADEQUATE SUMP BELOW CONNECTION, AND PUMPING IF REQUIRED, TO PREVENT CONTAMINATION OF NEW WATERMAIN WITH TRENCH GROUND WATER OR ANY OTHER FOREIGN MATTER.
15. ALL WATERMAIN AND SERVICE COMMISSIONING, PRESSURE/LEAKAGE TESTING, DISINFECTION, BACTERIOLOGICAL ANALYSIS AND FLUSHING TO BE SUCCESSFULLY COMPLETED BY THE CONTRACTOR AND ACCEPTED BY THE CITY OF OTTAWA AND THE CONSULTANT PRIOR TO PERMANENT CONNECTION TO WATER DISTRIBUTION SYSTEM. REFER TO CONTRACT SPECIFICATIONS FOR REQUIREMENTS.
    - 15.1. CONTRACTOR TO SUBMIT A WATERMAIN COMMISSIONING PLAN TO THE CITY OF OTTAWA AND CONSULTANT AT LEAST TWO WEEKS PRIOR TO CHLORINE RESIDUAL & BACTERIOLOGICAL TESTING.

CONSTRUCTION NOTES

GENERAL

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST:
   - 1.1. CHECK AND VERIFY ALL DIMENSIONS AND EXISTING ELEVATIONS WHICH INCLUDES, BUT IS NOT LIMITED TO, THE BENCHMARK ELEVATIONS, EXISTING SERVICE CONNECTIONS AND EXISTING INVERTS.
   - 1.2. OBTAIN ALL UTILITY LOCATES AND REQUIRED PERMITS AND LICENSES.
   - 1.3. VERIFY THAT THE FINISHED FLOOR ELEVATIONS AND EXISTING FLOOR ELEVATIONS (WHICH MAY APPEAR ON THIS PLAN) COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.
   - 1.4. CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE OF THE MOST RECENT REVISION.
   - 1.5. REPORT DISCREPANCIES IN EXISTING CONDITION INFORMATION IMMEDIATELY TO THE CONSULTANT.
2. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR DAMAGE TO EXISTING WORKS. DAMAGE SHALL BE RECTIFIED TO THE SATISFACTION OF THE CONSULTANT AND OWNER.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT AND/OR RELOCATION OF EXISTING UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE AND COMPLY WITH THE REQUIREMENTS OF ALL UTILITY COMPANIES WHEN CROSSING OR WORKING NEAR THEIR PLANT.
4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL TEMPORARY BENCHMARKS ESTABLISHED FOR DESIGN PURPOSES, PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE COMMENCING WORK.
5. THE CONTRACTOR SHALL CONTACT THE CONSULTANT 48 HOURS PRIOR TO COMMENCING WORK TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION.
6. THE RIGHT-OF-WAY (INCLUDING THE BOULEVARD) IS NOT TO BE USED FOR ANY CONSTRUCTION ACTIVITY UNTIL A WORK PERMIT HAS BEEN OBTAINED AS PER THE CITY OF OTTAWA REQUIREMENTS.
7. ALL WORK ON THE MUNICIPAL RIGHT-OF-WAY WILL BE INSTALLED BY THE SITE CONTRACTOR UPON SUCCESSFUL APPLICATION FOR A WORK PERMIT BY THE CONTRACTOR.
8. LIMIT CONSTRUCTION TO ACCEPTABLE TIMES WITHIN THE CITY OF OTTAWA NOISE BYLAW. CONSTRUCTION HOURS ARE 6AM TO 10PM MONDAY TO SUNDAY WITHOUT EXCEPTION.
9. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR THEIR REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, THEY MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO CITY OF OTTAWA ENGINEERING DEVELOPMENT DIVISION, PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNER'S & CONTRACTOR'S OWN RISK.

TRAFFIC, ACCESS, SAFETY

1. PEDESTRIANS MUST BE ASSURED SAFE PASSAGE ALONG LANCASTER ROAD AT ALL TIMES. ALL PEDESTRIAN WALKWAYS MUST BE MAINTAINED AS LONG AS POSSIBLE AFTER WHICH TIME IT IS TEMPORARILY REPLACED BY A SUITABLE GRANULAR MATERIAL TO THE SATISFACTION OF THE CONSULTANT AND/OR CITY OF OTTAWA.
2. ON STREET PARKING WILL NOT BE PERMITTED FOR ANY CONSTRUCTION VEHICLES OR CONSTRUCTION STAFF. THE CONTRACTOR SHALL PROVIDE ADEQUATE PARKING FACILITIES ON SITE TO SUIT THE NATURE AND LOCATION OF THE WORK.
3. FOR EMERGENCY RESPONSE, CONTRACTOR MUST MAINTAIN CONSTRUCTION ACCESS FREE AND CLEAR OF DEBRIS, MATERIALS, VEHICLES, AND EQUIPMENT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNALS, DELINEATORS, MARKERS, AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS OF THE CITY OF OTTAWA AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

REMOVALS

1. ALL REMOVALS TO BE IN ACCORDANCE WITH OPSS.MUNI 510.

ASPHALT

1. ASPHALT MATERIAL TO BE PROVIDED AS PER OPSS 1150 AND INSTALLED AS PER OPSS 310.
2. WHERE NEW ASPHALT ABUTS EXISTING ASPHALT, EXISTING ASPHALT SHALL BE SAW CUT AND HAVE TACK COAT APPLIED AS PER OPSS 308 TO A CLEAN DRY FACE BEFORE NEW ASPHALT IS PLACED.
3. SUBMIT ONE COPY OF THE PROPOSED ASPHALT MIX DESIGN FOR ANY PAVING MATERIALS DIRECTLY TO THE CONSULTANT A MINIMUM OF TWO WEEKS IN ADVANCE OF SCHEDULED ASPHALT PAVING.

CONCRETE

1. EXISTING SIDEWALK ON THE RIGHT OF WAY IS NOT TO BE REMOVED UNTIL THE CONTRACTOR IS READY TO REPLACE SIDEWALKS.
2. CONCRETE SIDEWALK WITHIN THE RIGHT OF WAY SHALL BE AS PER OPSD 310.010 AND 310.030.
3. CONCRETE BARRIER CURB TO BE AS PER OPSD 600.110 - 32MPa @ 28 DAYS CONCRETE TO OPSS 353, 7±1.5% AIR ENTRAINMENT, 19mm MAX COURSE AGGREGATE, 60mm MAX SLUMP.
4. CONCRETE SIDEWALK TO BE AS PER DETAIL ON THIS SHEET - 32MPa @ 28 DAYS CONCRETE TO OPSS 351, 7±1.5% AIR ENTRAINMENT, 19mm MAX COURSE AGGREGATE, 70±20mm SLUMP.
5. UNSHRINKABLE FILL: TO OPSS 1359, 28-DAY COMPRESSIVE STRENGTH: 0.4 - 0.7 MPa, MAXIMUM 25mm COURSE AGGREGATE SIZE.
6. SUBMIT ONE COPY OF ALL PROPOSED CONCRETE MIX DESIGNS DIRECTLY TO THE CONSULTANT A MINIMUM OF TWO WEEKS IN ADVANCE OF SCHEDULED CONCRETE POURING.

GRANULAR

1. ALL GRANULAR BASE, SUBBASE, SUBGRADE AND BACKFILL TO BE PROVIDED AS PER OPSS.MUNI 1010 AND INSTALLED AS PER OPSS.MUNI 314.
2. COARSE GRANULAR FILL: MATERIAL AS SPECIFIED BELOW; COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY, UNLESS SPECIFIED OTHERWISE, IN LIFTS NOT EXCEEDING 300mm IN COMPACTED THICKNESS; MOISTURE CONTENT WITHIN PLUS OR MINUS 2% OF THE REQUIREMENTS OF ASTM D698.
   - 2.1. GRANULAR 'B', TYPE 2 TO OPSS.MUNI 1010.
3. FINE GRANULAR FILL: MATERIAL AS SPECIFIED BELOW; COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY, UNLESS SPECIFIED OTHERWISE, IN LIFTS NOT EXCEEDING 150mm IN COMPACTED THICKNESS; MOISTURE CONTENT WITHIN PLUS OR MINUS 2% OF THE REQUIREMENTS OF ASTM D698.
   - 3.1. GRANULAR 'A' TO OPSS.MUNI 1010.

EARTHWORK

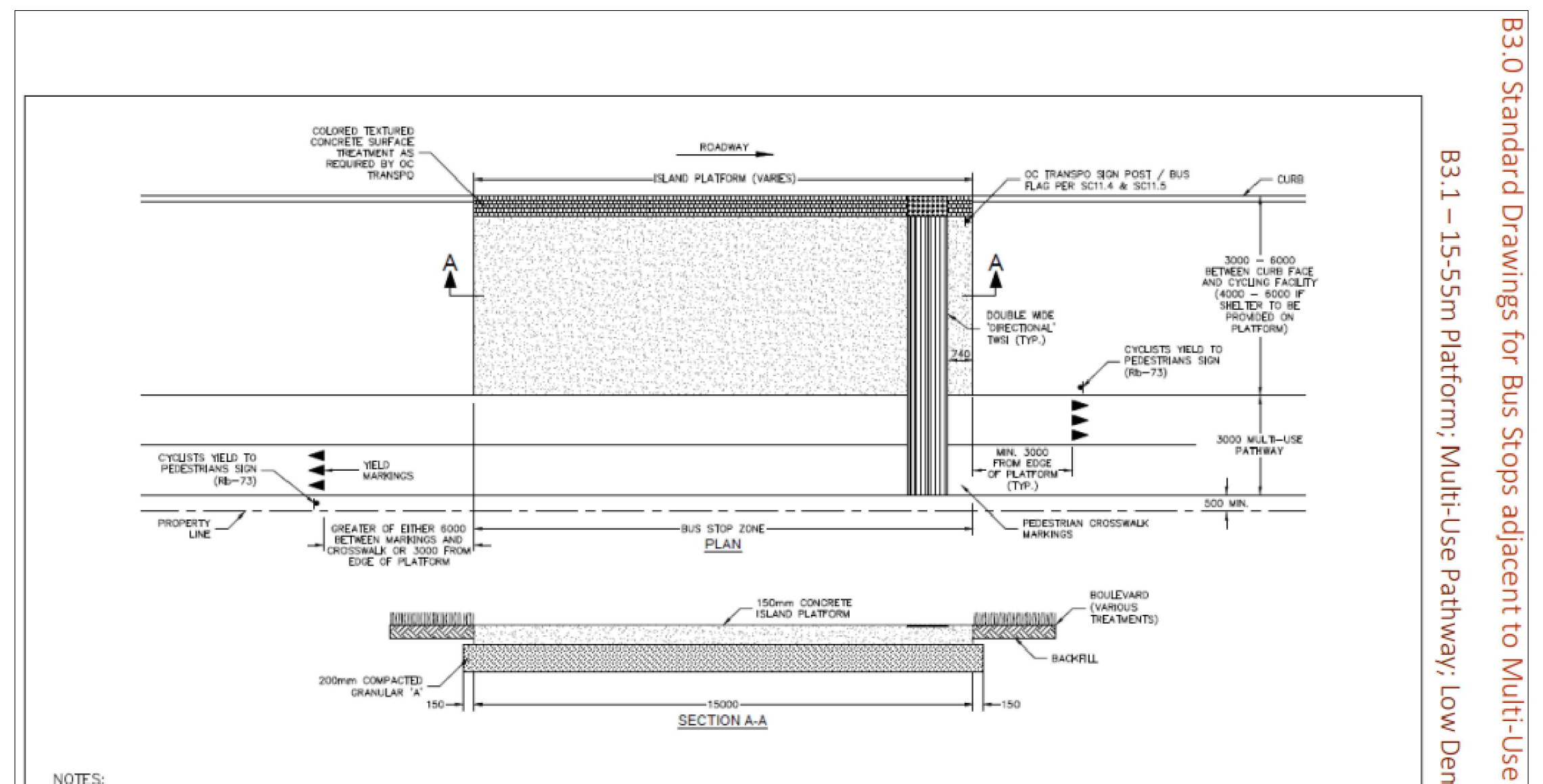
1. IN ACCORDANCE WITH THE CITY OF OTTAWA SITE ALTERATION BY-LAW; NO FILLING, PRE-GRADING OR TREE REMOVAL SHALL OCCUR, IN ADVANCE OF THE FINAL SITE PLAN ENGINEERING ACCEPTANCE, WITHOUT PERMIT. SHOULD THE DEVELOPER OR CONTRACTOR WISH TO PREPARE THE SITE FOR CONSTRUCTION PRIOR TO ENGINEERING ACCEPTANCE, AN APPLICATION FOR A SITE ALTERATION PERMIT MUST BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEERING AND CONSTRUCTION DIVISION FOR REVIEW AND APPROVAL.
2. ANY AREAS WHICH REQUIRE FILL IN EXCESS OF 0.30m ARE SUBJECT TO COMPACTION TESTS AND SUCH TESTS MUST SHOW A MINIMUM COMPACTION OF 95% SPMDD AT ALL DEPTHS.
3. RETAINING WALLS TO BE DESIGNED BY OTHERS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PROPOSED RETAINING WALLS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER CERTIFIED IN THE PROVINCE OF ONTARIO TO THE CONSULTANT, PRIOR TO CONSTRUCTION. SHOP DRAWINGS TO BE APPROVED BY CONSULTANT IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE A CERTIFICATE OF COMPLETION COMPLETED BY THE RETAINING WALL DESIGN ENGINEER BEFORE ACCEPTANCE OF THE WORK.

TOPSOIL/SOD

1. TOPSOIL TO BE PROVIDED AND INSTALLED AS PER OPSS 802. SOD TO BE PROVIDED AND INSTALLED AS PER OPSS 803.

PAVEMENT MARKING & SIGNS

1. PAVEMENT MARKINGS TO BE LAID OUT AS PER THE DRAWINGS AND CONTRACTOR TO CONTACT CONSULTANT TO REVIEW LAYOUT PRIOR TO PAINTING. ALL PAINT LINES TO BE OF UNIFORM COLOR AND DENSITY WITH SHARP EDGES TO THE SATISFACTION OF THE CONSULTANT.
2. PAVEMENT MARKINGS TO BE
   - 2.1. THERMOPLASTIC PAVEMENT MARKING MATERIAL TO CONFORM TO OPSS 1713 AND APPLIED AS PER OPSS 710
     - 2.1.1. WHITE - CGSB 1-GP-12C WHITE 513-301.
     - 2.1.2. YELLOW - SHALL MATCH EITHER THE YELLOW COLOUR CHIP OF THE MINISTRY OF TRANSPORTATION ONTARIO OR U.S. FEDERAL 595B, YELLOW 33538
3. ALL EXISTING SIGNS, MAIL BOXES, POSTS, ETC., WHICH MUST BE REMOVED TO ACCOMMODATE CONSTRUCTION SHALL BE SALVAGED AND REINSTATED AS DIRECTED BY THE CONTRACT ADMINISTRATOR IN EQUAL OR BETTER CONDITION. THE CONTRACTOR SHALL MAKE GOOD ANY DAMAGE CAUSED TO SUCH FACILITIES AT HIS OWN EXPENSE. ALL EXISTING TRAFFIC CONTROL SIGNS MUST BE REINSTATED BY THE END OF EACH WORKING DAY. EXISTING STOP CONTROL SIGNS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION TO THE SATISFACTION OF THE ROAD AUTHORITY AND THE CONTRACT ADMINISTRATOR.



NOTES:

1. ALL CONCRETE PADS, BUS SHELTERS, PLATFORM AMENITIES, LANDSCAPING FEATURES, AND TWSIS TO BE IN ACCORDANCE WITH OPSS AND CITY OF OTTAWA STANDARDS.
2. ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS TO BE IN ACCORDANCE WITH OTM AND CITY OF OTTAWA STANDARDS.
3. ALL PADS TO BE SLOPED 2% MAX. TOWARDS THE ROAD UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR.
4. THE SURFACE ELEVATION OF THE PAD SHALL BE FLUSH TO THE SURFACE ELEVATION OF ADJACENT GRADES (BOULEVARD, PEDESTRIAN AND CYCLING FACILITIES).
5. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
6. ALL BUS STOP ZONE(S) AND PLATFORM(S) SHALL BE AODA COMPLIANT.
7. BUS SHELTERS SHALL ONLY BE LOCATED ON THE ISLAND PLATFORM BETWEEN THE ROADWAY AND MULTI-USE PATHWAY.

N.T.S.

Ottawa	TYPICAL BUS STOP WITH ISLAND PLATFORM AND MULTI-USE PATHWAY (LOW DEMAND)	DATE: JAN 2020 REV DATE: DWG. NO:

B3.0 Standard Drawings for Bus Stops adjacent to Multi-Use Pathways (MUPs)

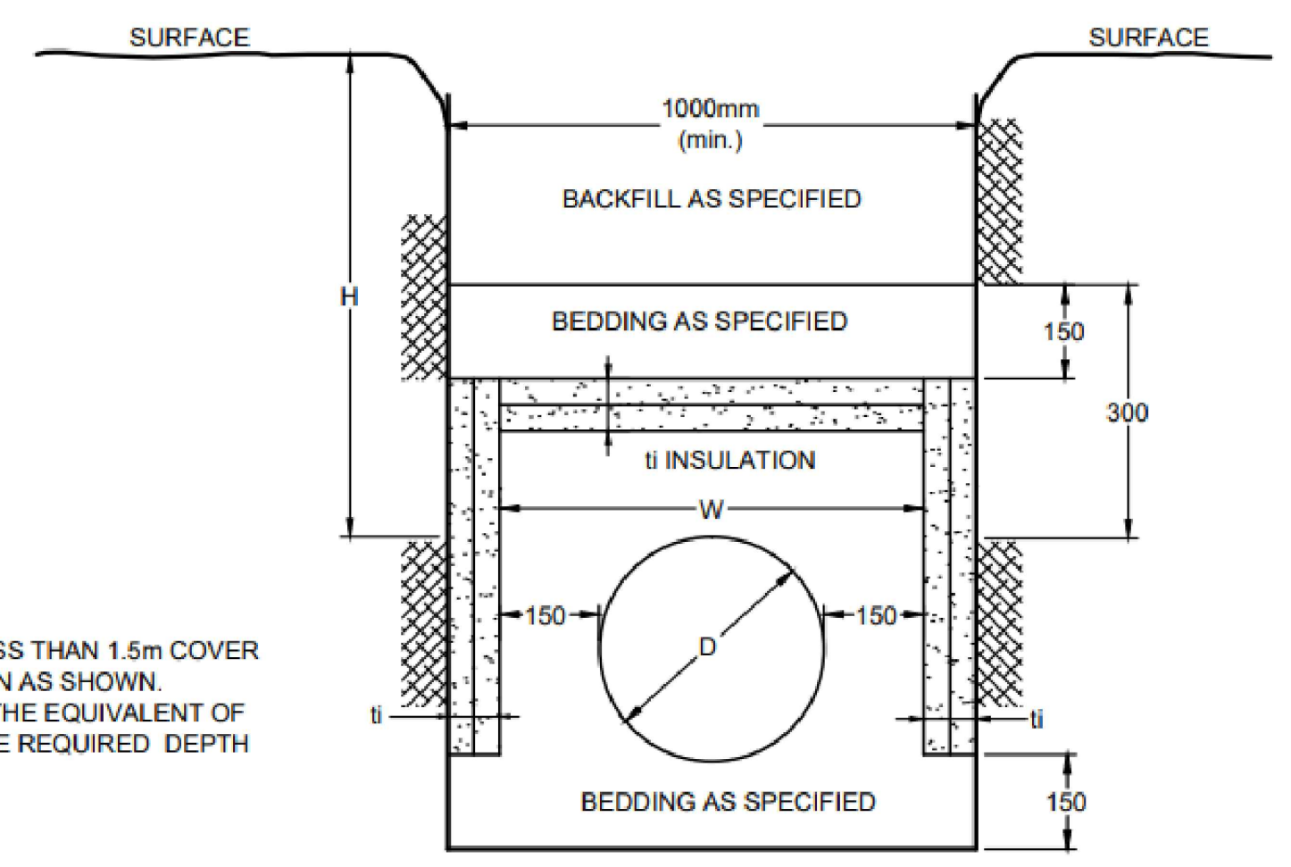
B3.1 – 15.5m Platform, Multi-Use Pathway, Low Demand across MUP

ti = THICKNESS OF INSULATION (mm)
h = DEPTH OF COVER
W = D + 300 (1000 min.)
W = WIDTH OF INSULATION (mm)
D = O.D OF PIPE (mm)

COVER (mm)	INSULATION THICKNESS (mm)
1500-1200	50
1200-900	75
900-600	100

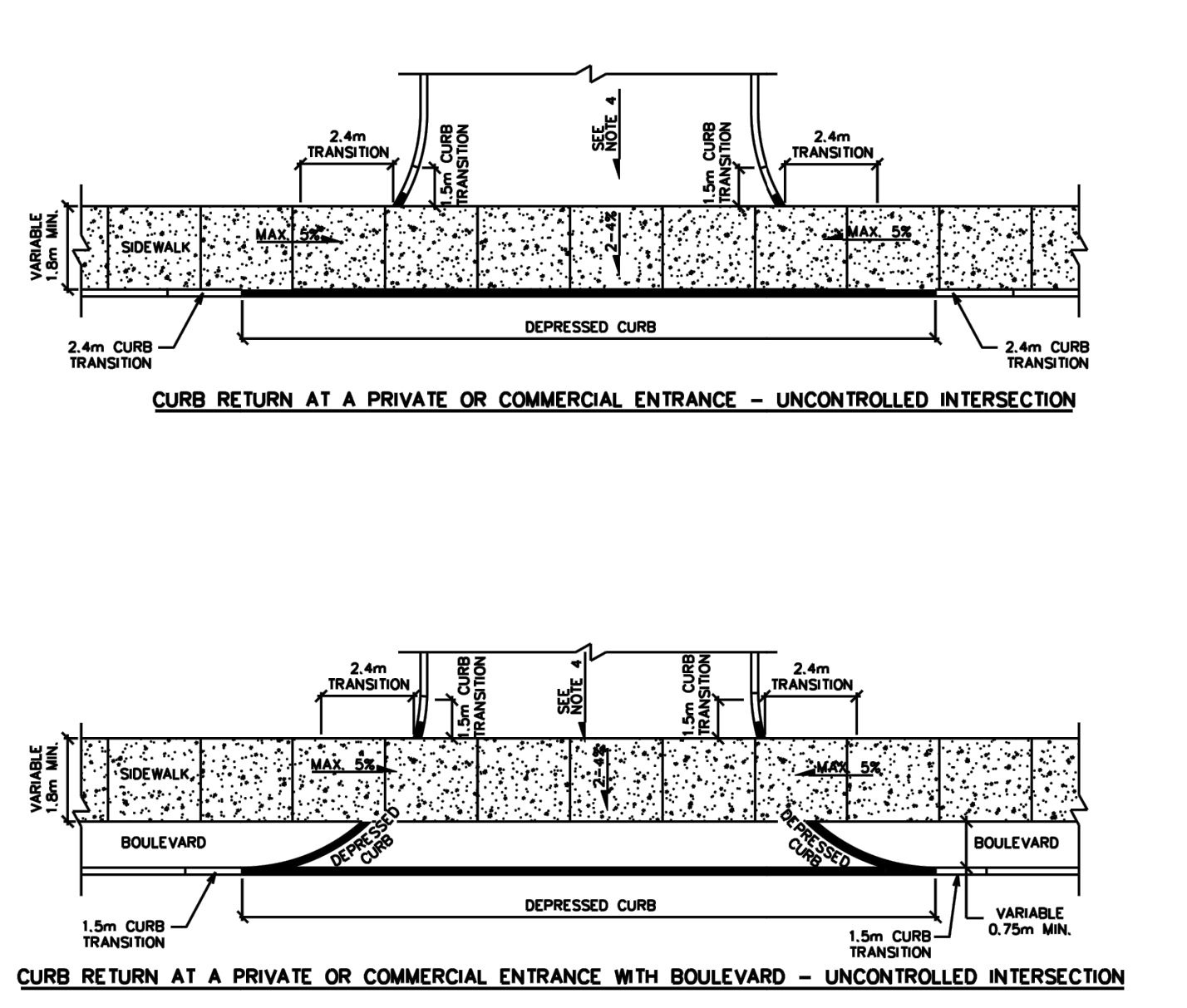
NOTES:

1. INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 1.5m COVER WITH EXPANDED POLYSTYRENE INSULATION AS SHOWN.
2. THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER (SEE TABLE)



TYPICAL INSULATION DETAIL (SHALLOW SEWERS ONLY)

NOT TO SCALE



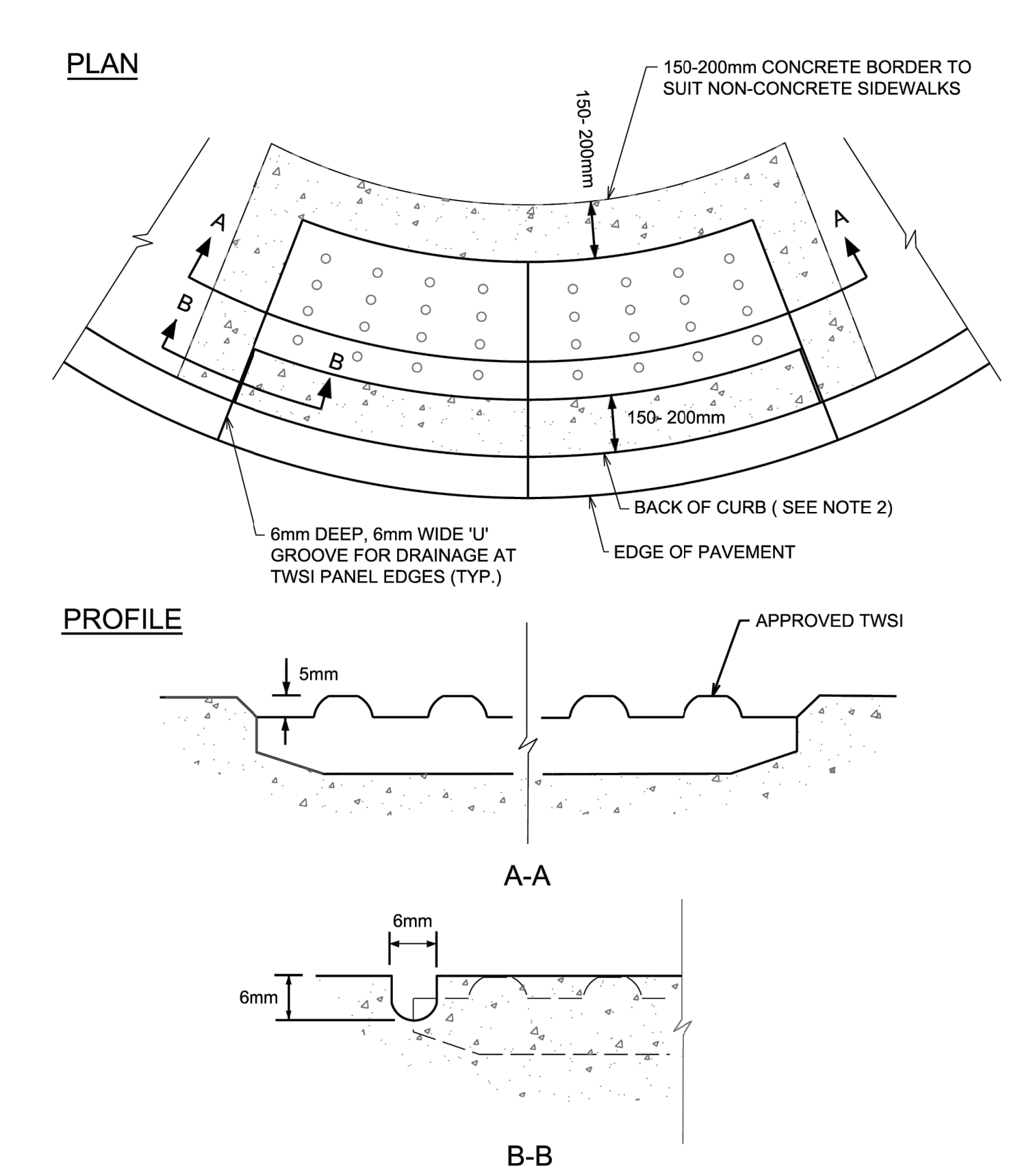
CURB RETURN AT A PRIVATE OR COMMERCIAL ENTRANCE - UNCONTROLLED INTERSECTION

CURB RETURN AT A PRIVATE OR COMMERCIAL ENTRANCE WITH BOULEVARD - UNCONTROLLED INTERSECTION

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
2. CURB DETAILS SEE SC1.1, SC1.2 AND SC1.3.
3. SIDEWALK DETAILS SEE SC2 AND SC3.
4. MAXIMUM SLOPE VARIES, SEE PRIVATE APPROACH BYLAW.
5. UNCONTROLLED INTERSECTION MEANS AN ENTRANCE NOT LOCATED AT A TRAFFIC SIGNAL OR ALL-WAY STOP CONTROL.

Ottawa	CURB RETURN ENTRANCES - UNCONTROLLED INTERSECTIONS	DATE: MARCH 2007 REV. DATE: MARCH 2021 DWG. No.: SC7.1

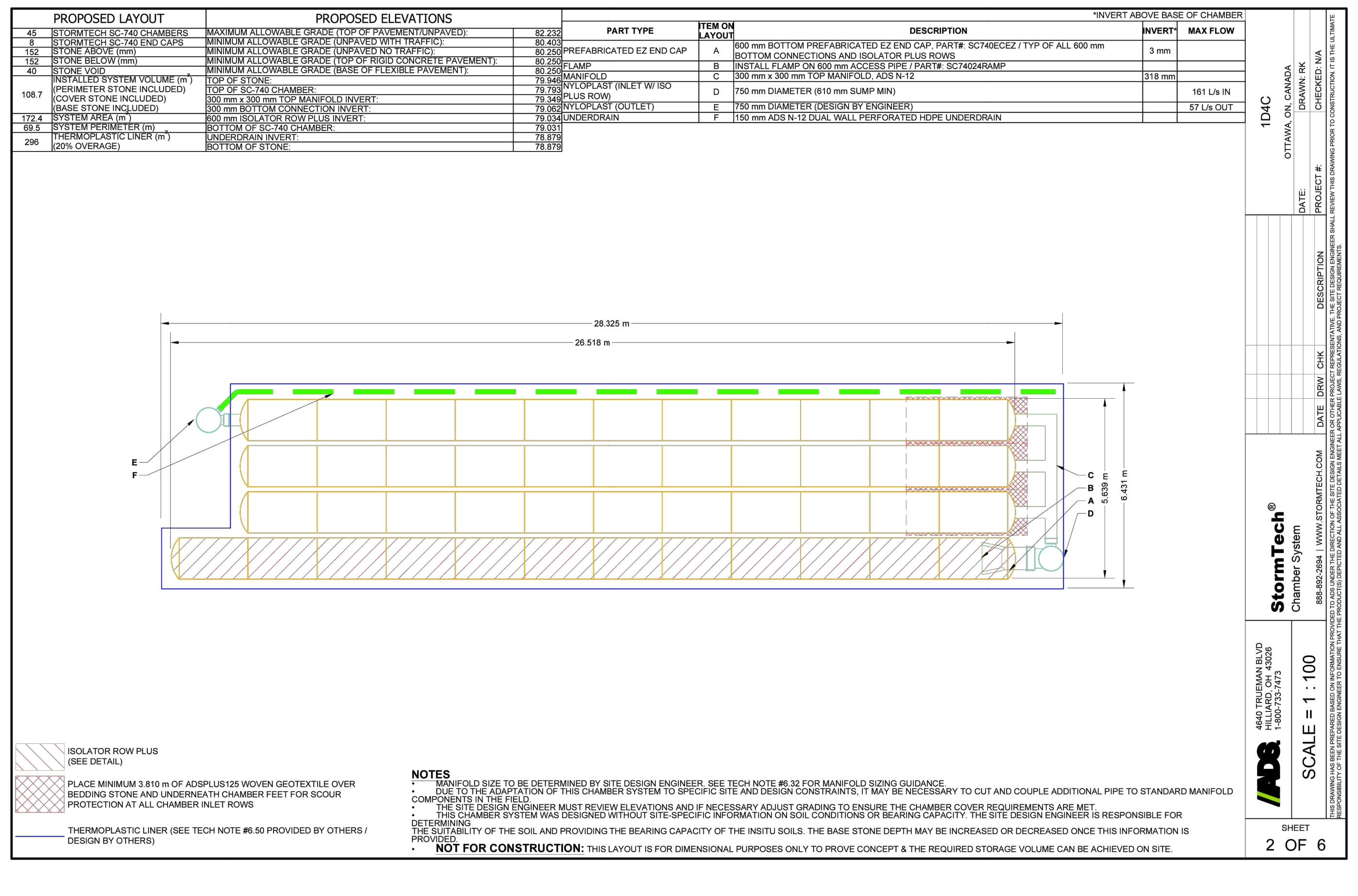


NOTES:

1. TOPS OF TWSI'S (TACTILE WALKING SURFACE INDICATOR) SHALL BE ALIGNED & LEVEL WITH THE ADJACENT CONCRETE SURFACE & INSTALLATION IN WET CONCRETE SHALL BE EFFECTIVE IN PERMANENTLY SECURING THE TWSI IN PLACE ONCE DRY.
2. FOR MONOLITHIC SIDEWALKS, TWSI SHALL BE 300 TO 350mm BACK FROM THE CURB FACE.

N.T.S.

Ottawa	TWSI DETAIL	DATE: MARCH 2015 REV. DATE: MARCH 2016 DWG. No.: SC7.3



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 3.810 m OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

THERMOPLASTIC LINER (SEE TECH NOTE #6.50 PROVIDED BY OTHERS / DESIGN BY OTHERS)

NOTES
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

SCALE = 1 : 100

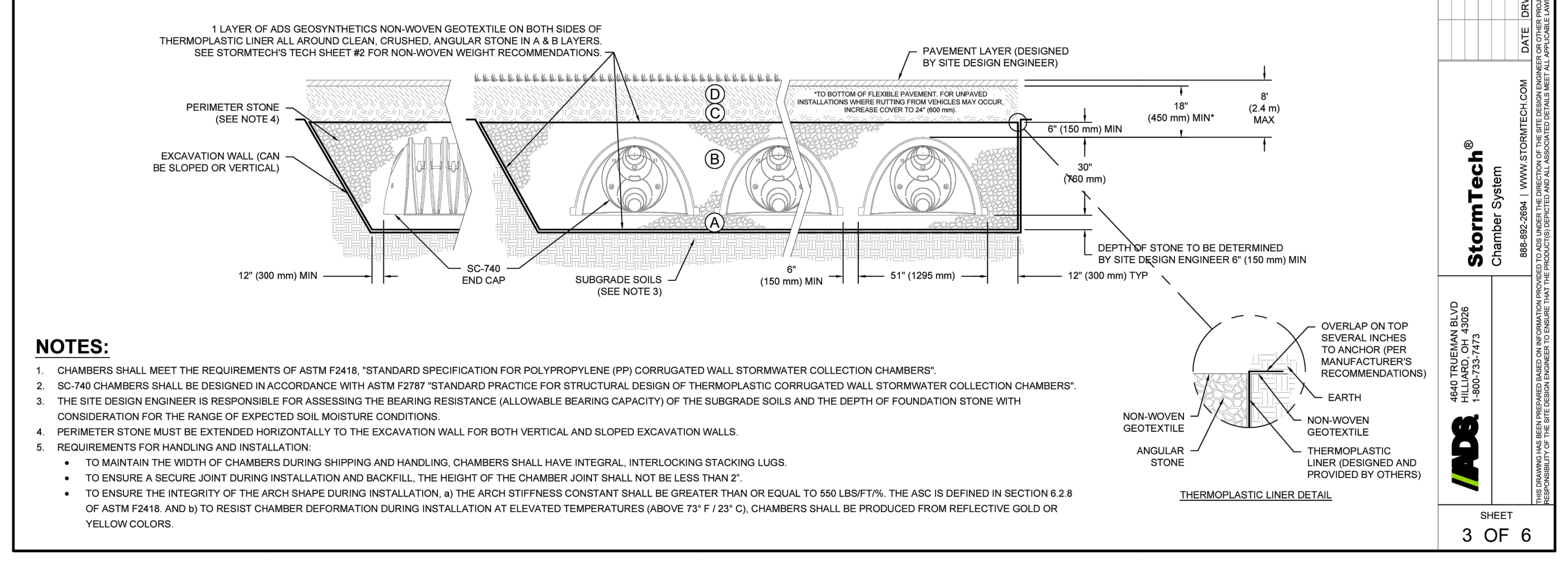
SHEET 2 OF 6

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

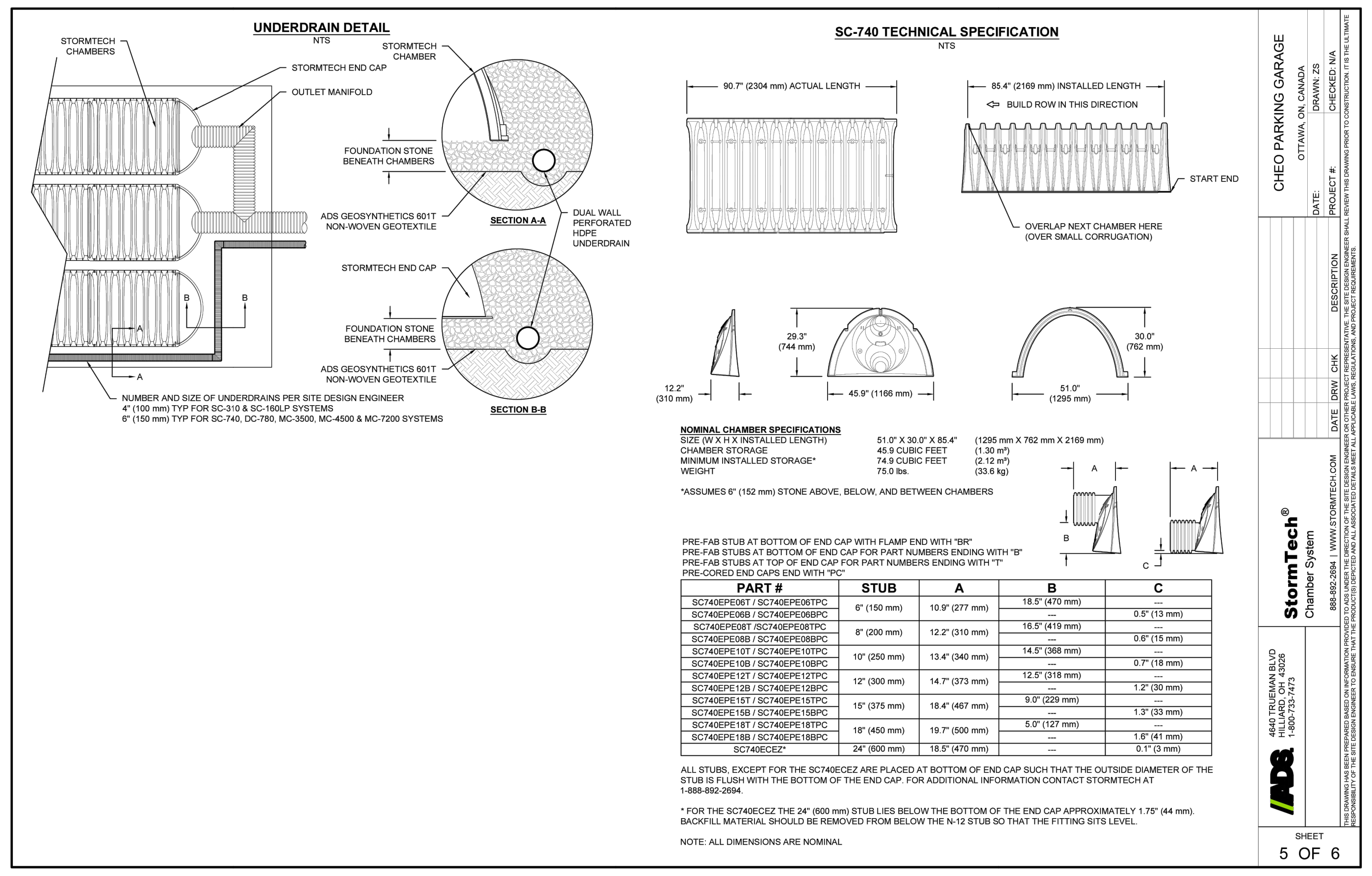
PLEASE NOTE:

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

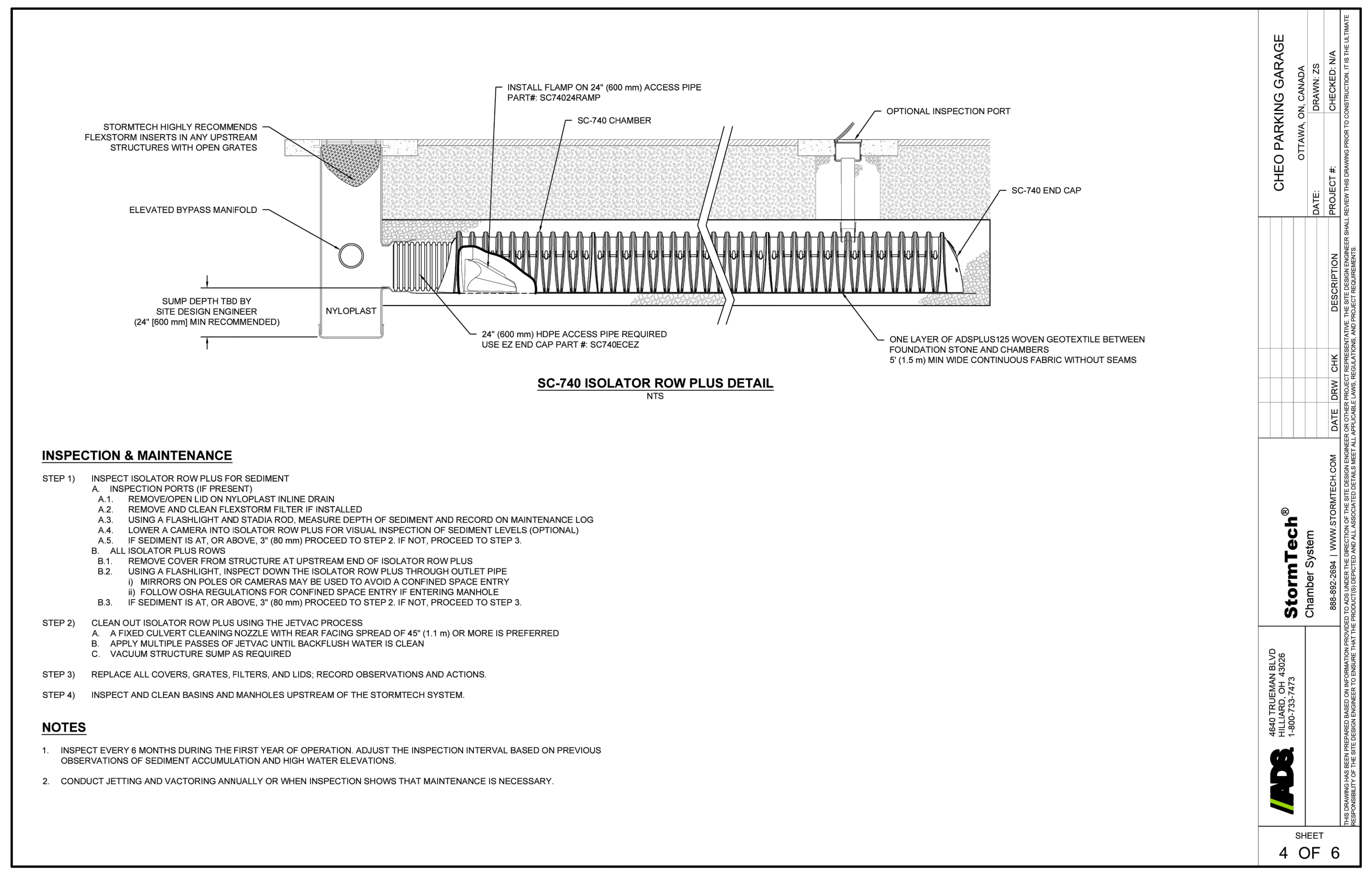


CHEO PARKING GARAGE
OTTAWA, ON, CANADA
DRAWN: ZS
CHECKED: N/A

SHEET 3 OF 6



SHEET 5 OF 6



SHEET 4 OF 6

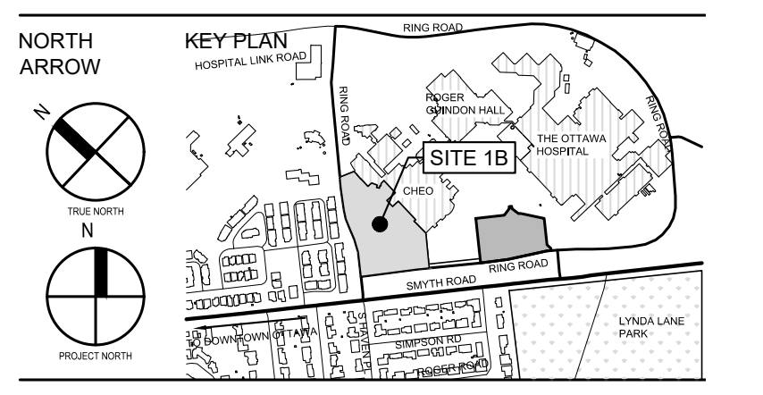
CHEO
1Door4Care

Infrastructure Ontario

EllisDon
INFRASTRUCTURE Healthcare

WALTERFEDY
KITCHENER OFFICE
675 Queen Street South, Suite 111, Kitchener, Ontario N2M 1A1
T: 519.576.2150 F: 519.576.5499 walterfedy.com

NORTH ARROW



#	DATE:	REVISION:
9	24/08/23	ISSUED FOR BUILDING PERMIT
8	24/08/23	ISSUED FOR SITE PLAN CONTROL
7	24/08/07	ISSUED FOR 50% CD SUBMISSION
6	24/06/03	ISSUED FOR 100% DD SUBMISSION R2
5	24/05/10	ISSUED FOR FOUNDATION PERMIT
4	24/04/19	ISSUED FOR 100% DD SUBMISSION
3	24/01/24	RE–ISSUED FOR BUILDING PERMIT (TUNNEL)
2	23/12/20	ISSUED FOR BUILDING PERMIT (TUNNEL)
1	23/12/15	RE–ISSUED FOR 50% DD SUBMISSION
0	23/12/15	ISSUED FOR 50% DD SUBMISSION

REVISIONS

S. L. FORWELL
7670557
2024-08-22

REPRODUCTION OR DISTRIBUTION FOR PURPOSES OTHER THAN AUTHORIZED BY WALTERFEDY IS FORBIDDEN. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS TO WALTERFEDY. DO NOT SCALE THIS DRAWING.

CLIENT

1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: 1DOOR4CARE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

TYPICAL DETAILS AND NOTES PLAN

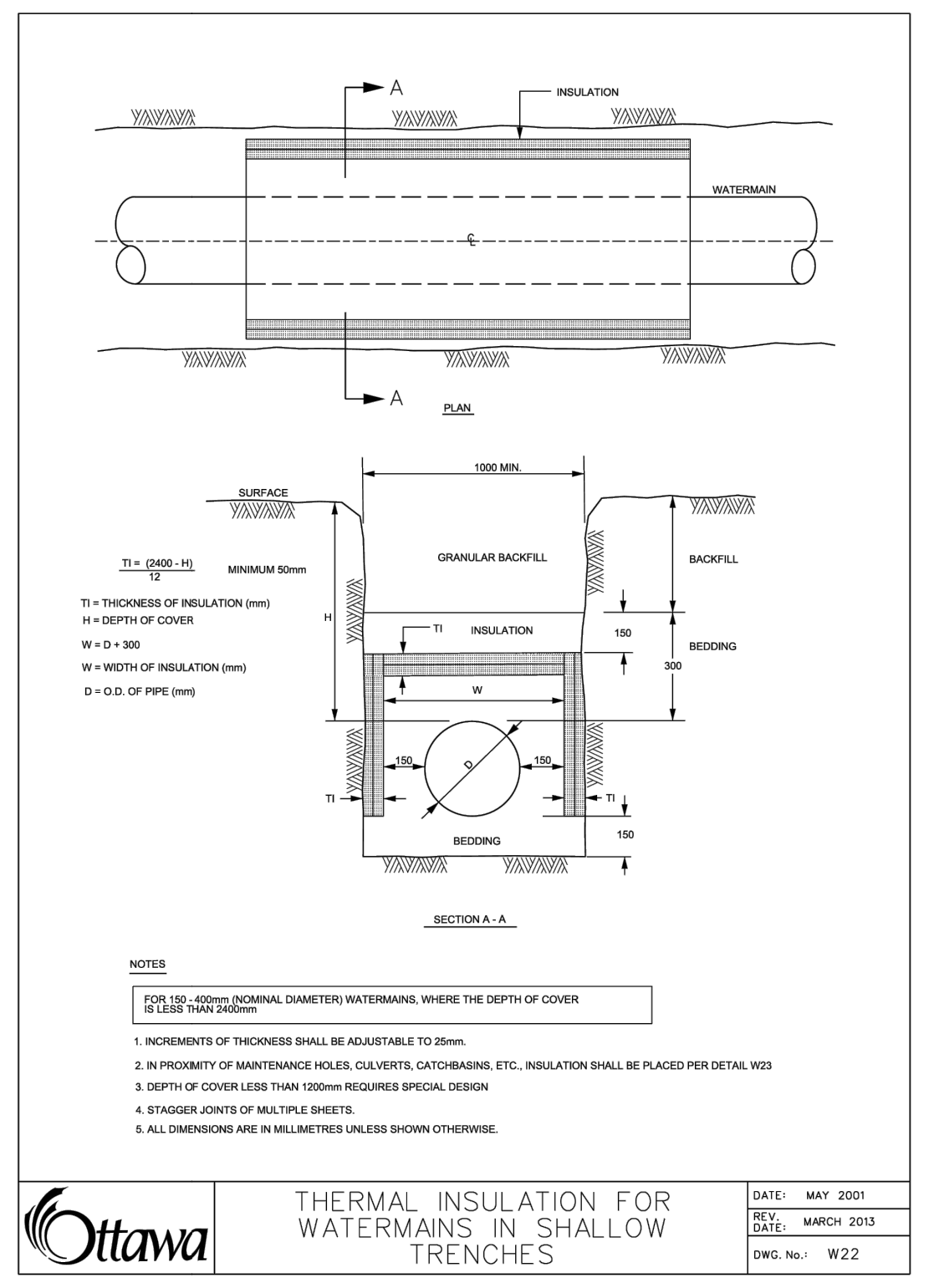
SCALE: AS NOTED
DRAWN BY: DL, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2024.08.19

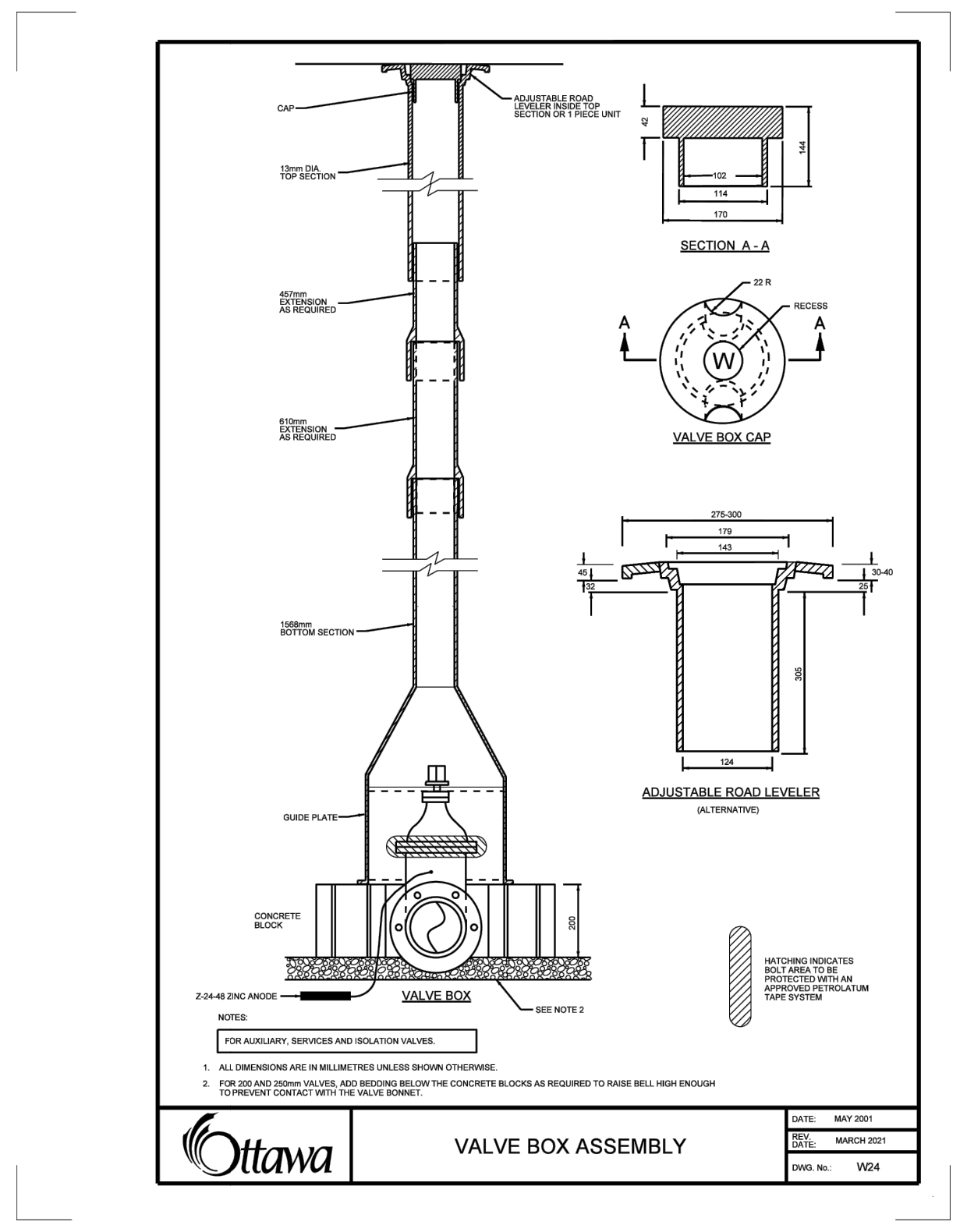
DRAWING NUMBER:

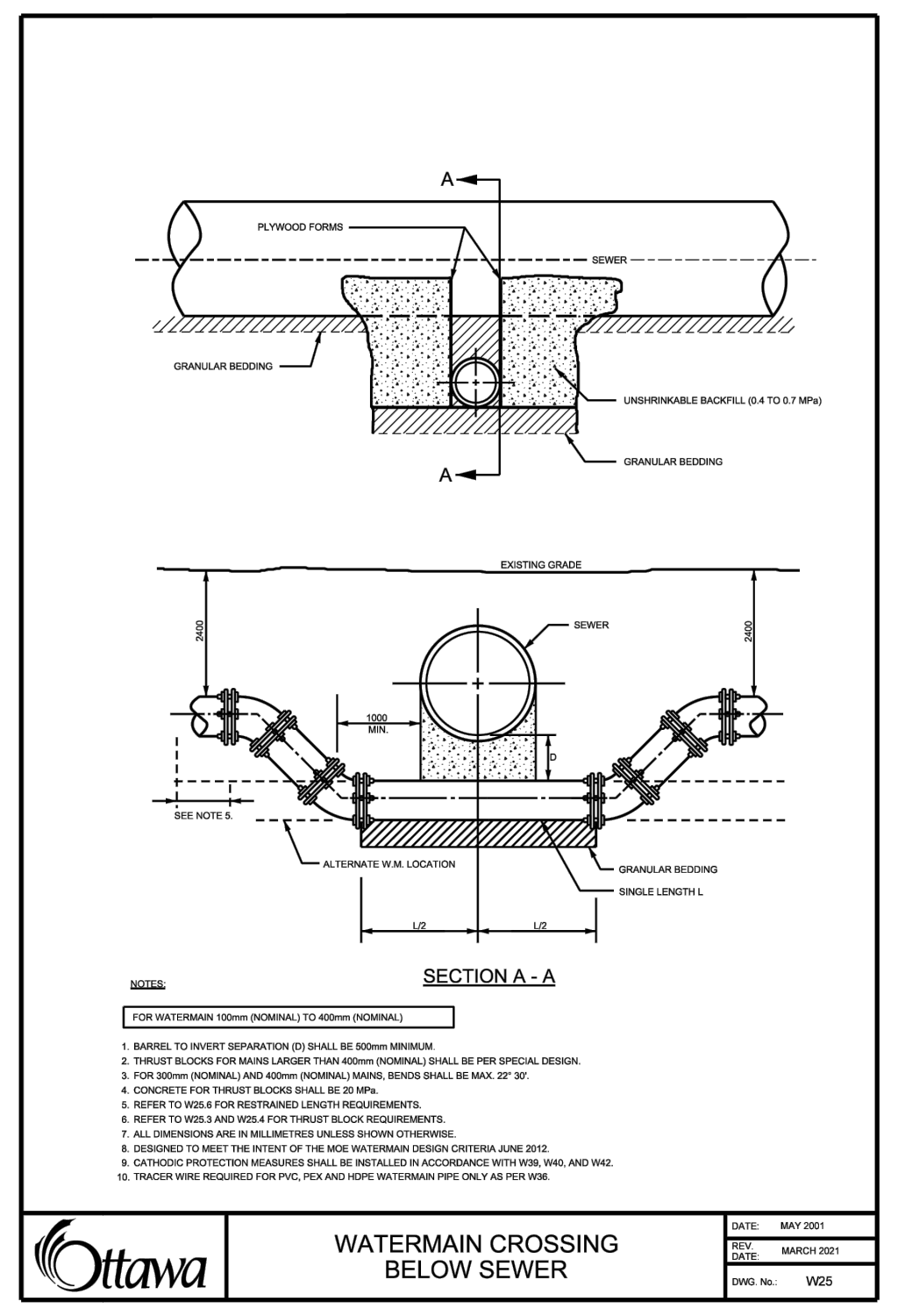
C0007

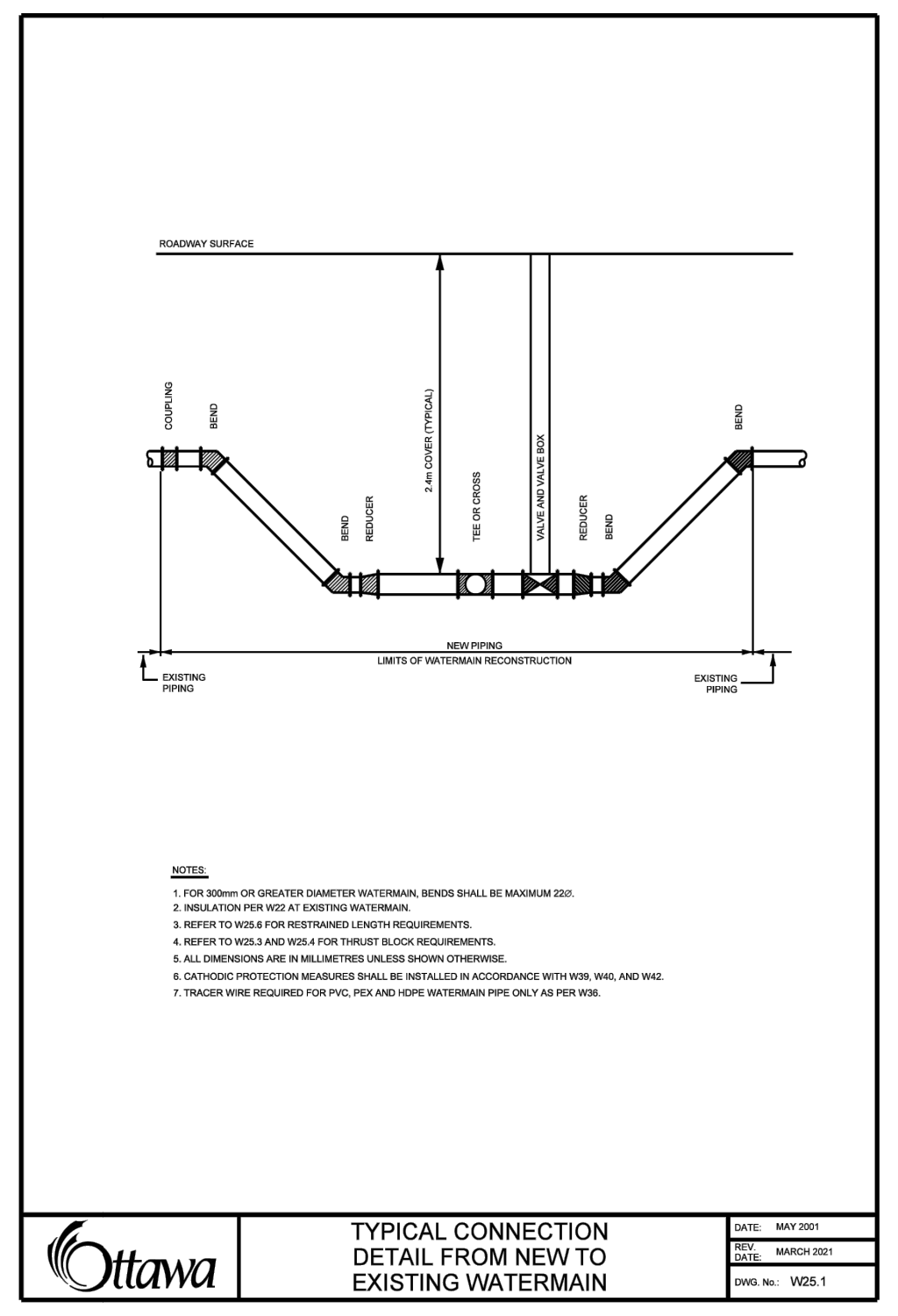
PLAN #: 18912
DEVELOPMENT #: D07-12-22-0170

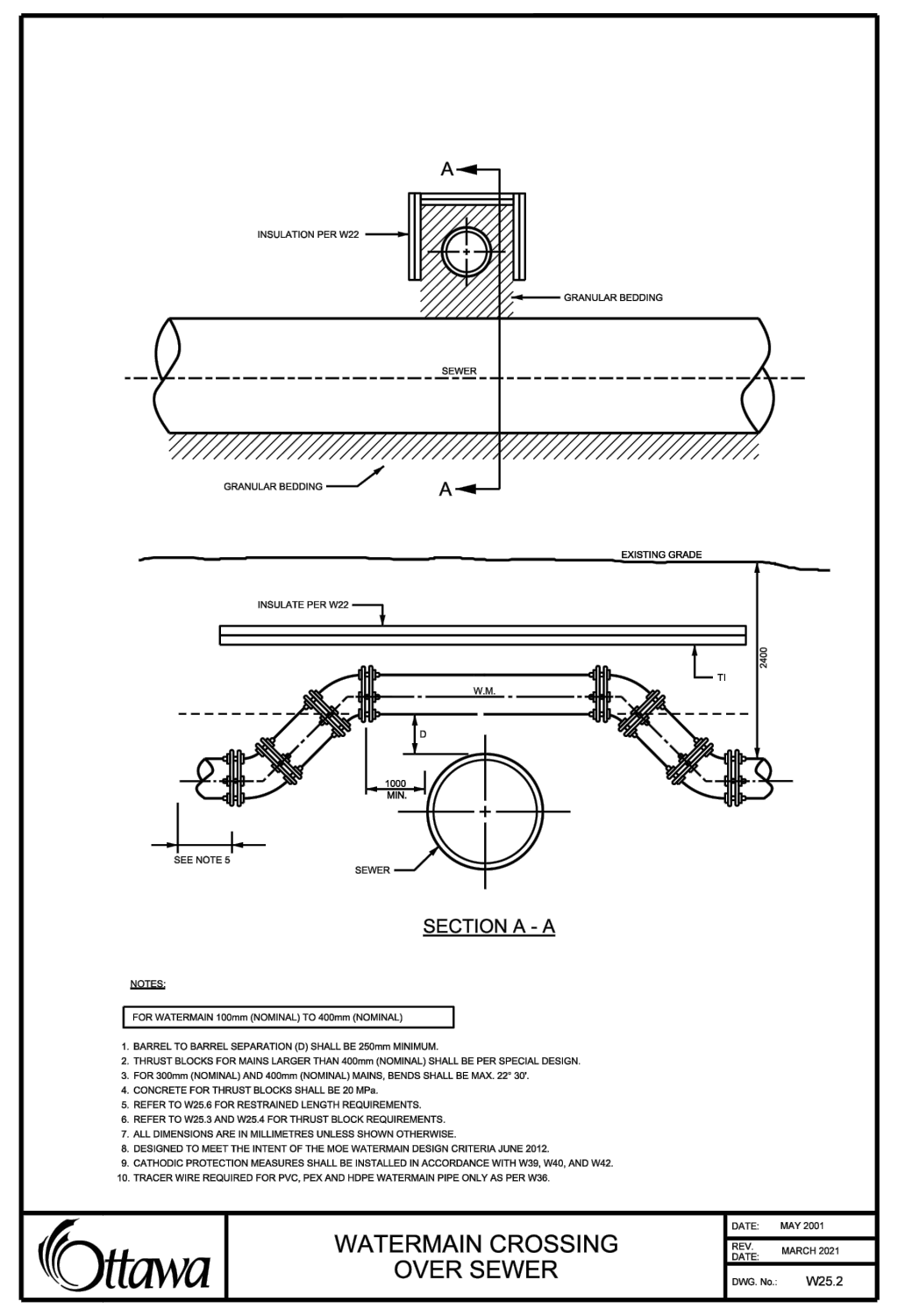
P:\2021\0821-10\06-DWGS\CIVIL\Plot Files\2021-0821-10 DET_PLT _1B; C0007; None; Zack Schnurr; 2024-08-19 11:05:41 AM

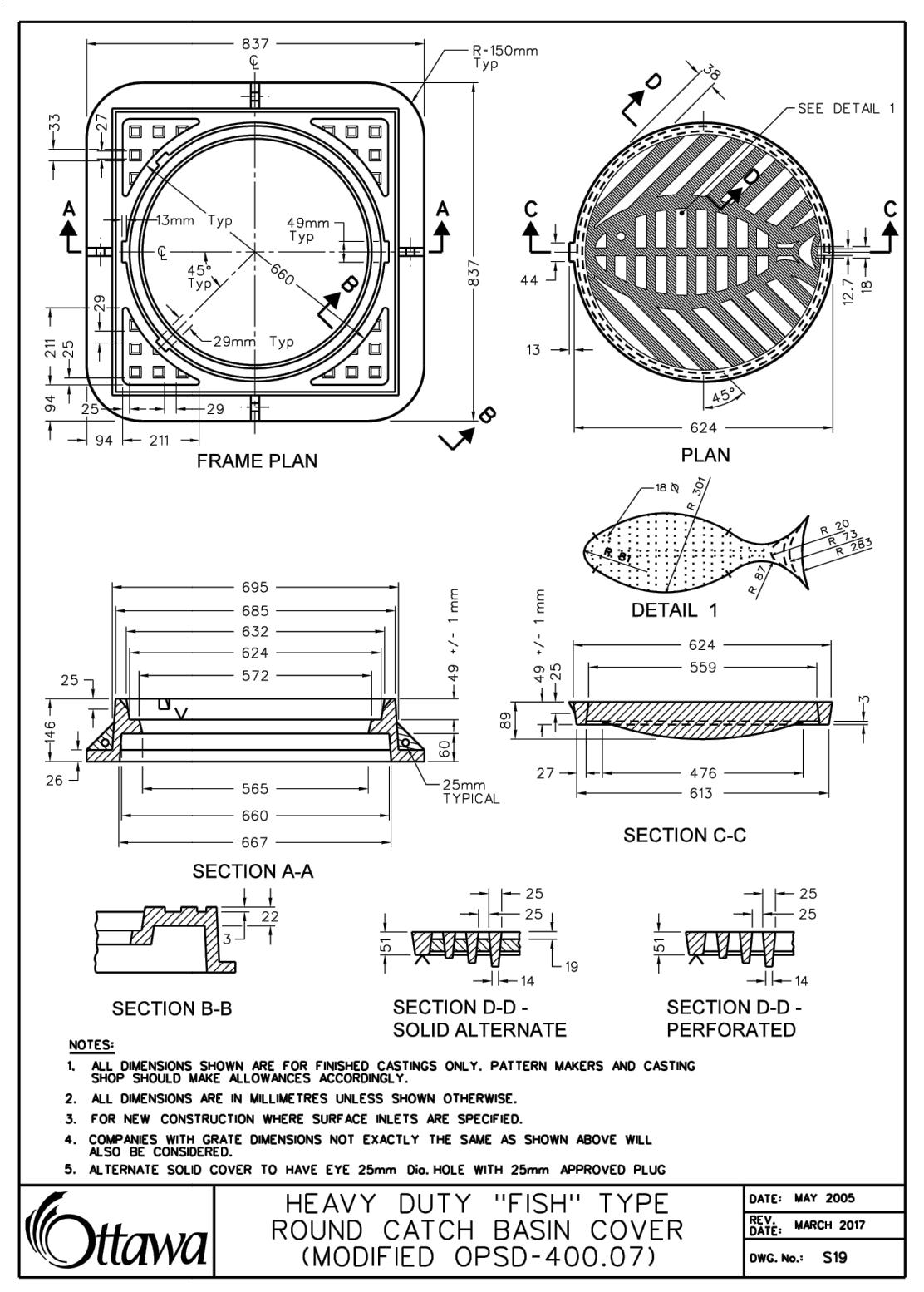


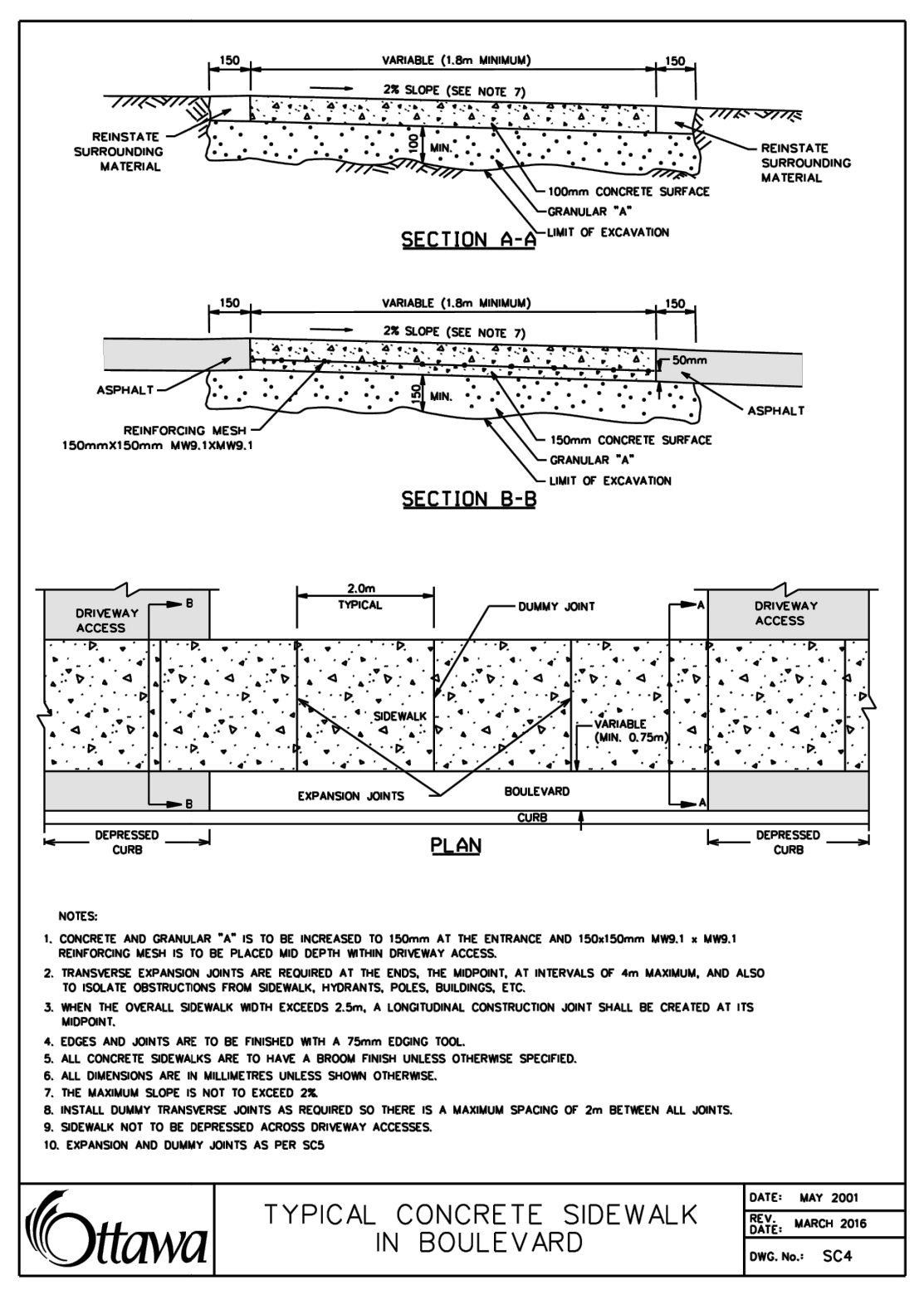


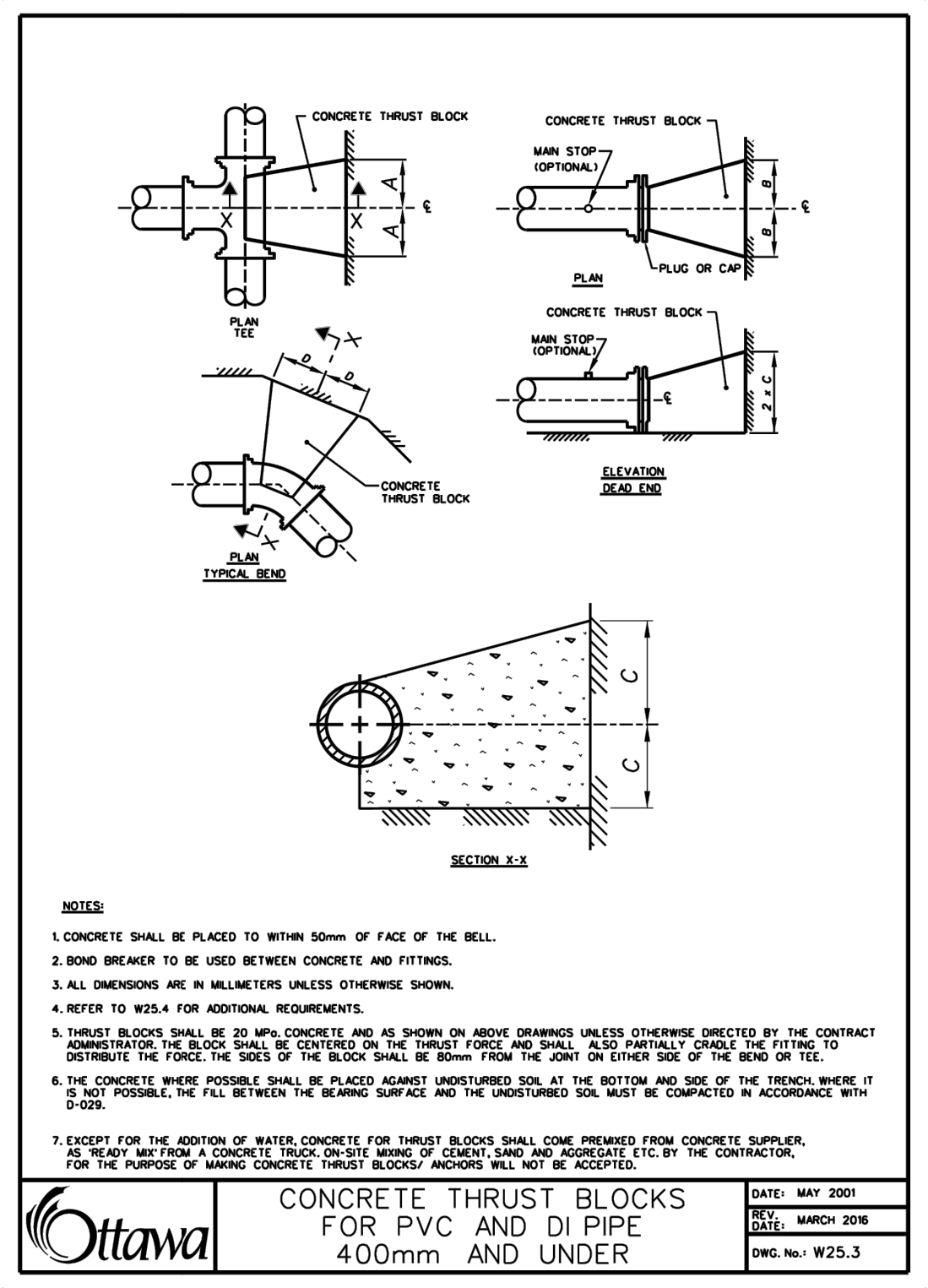


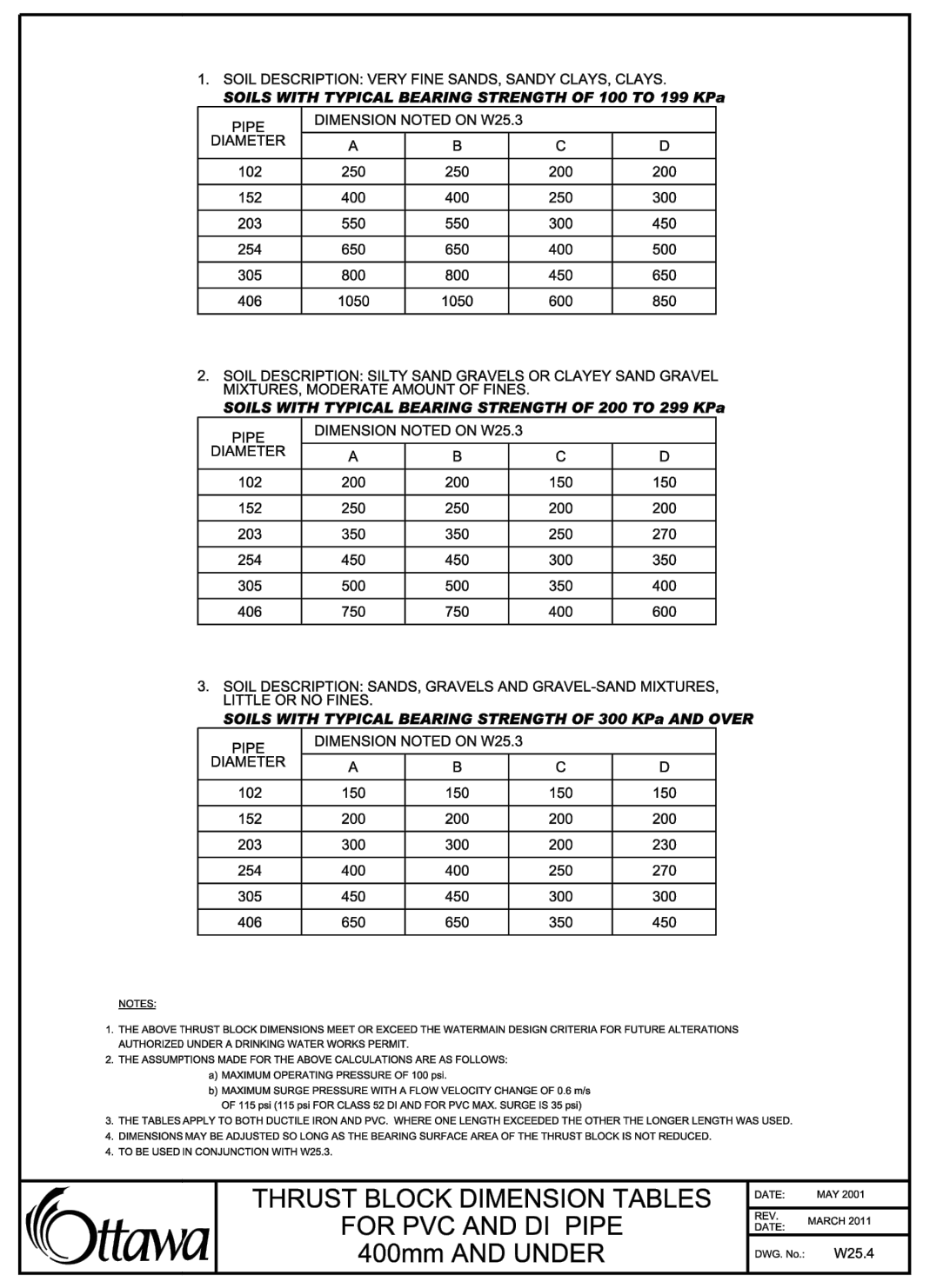


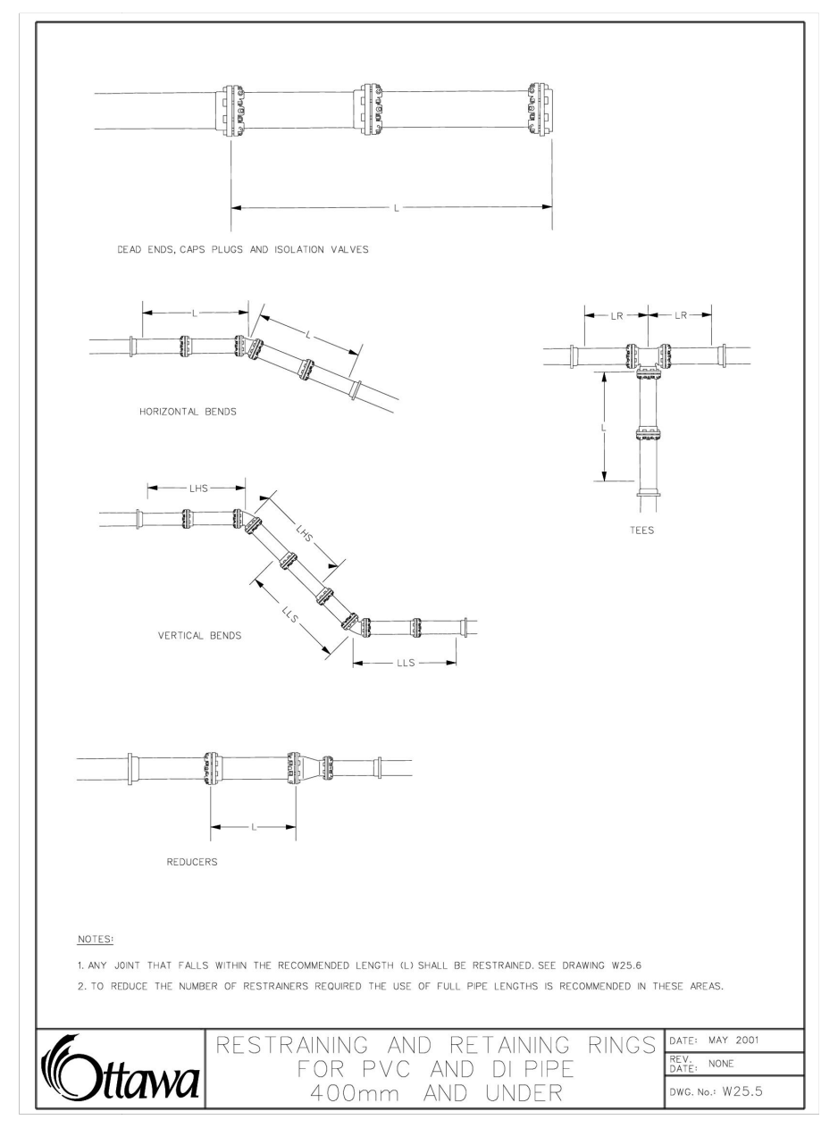


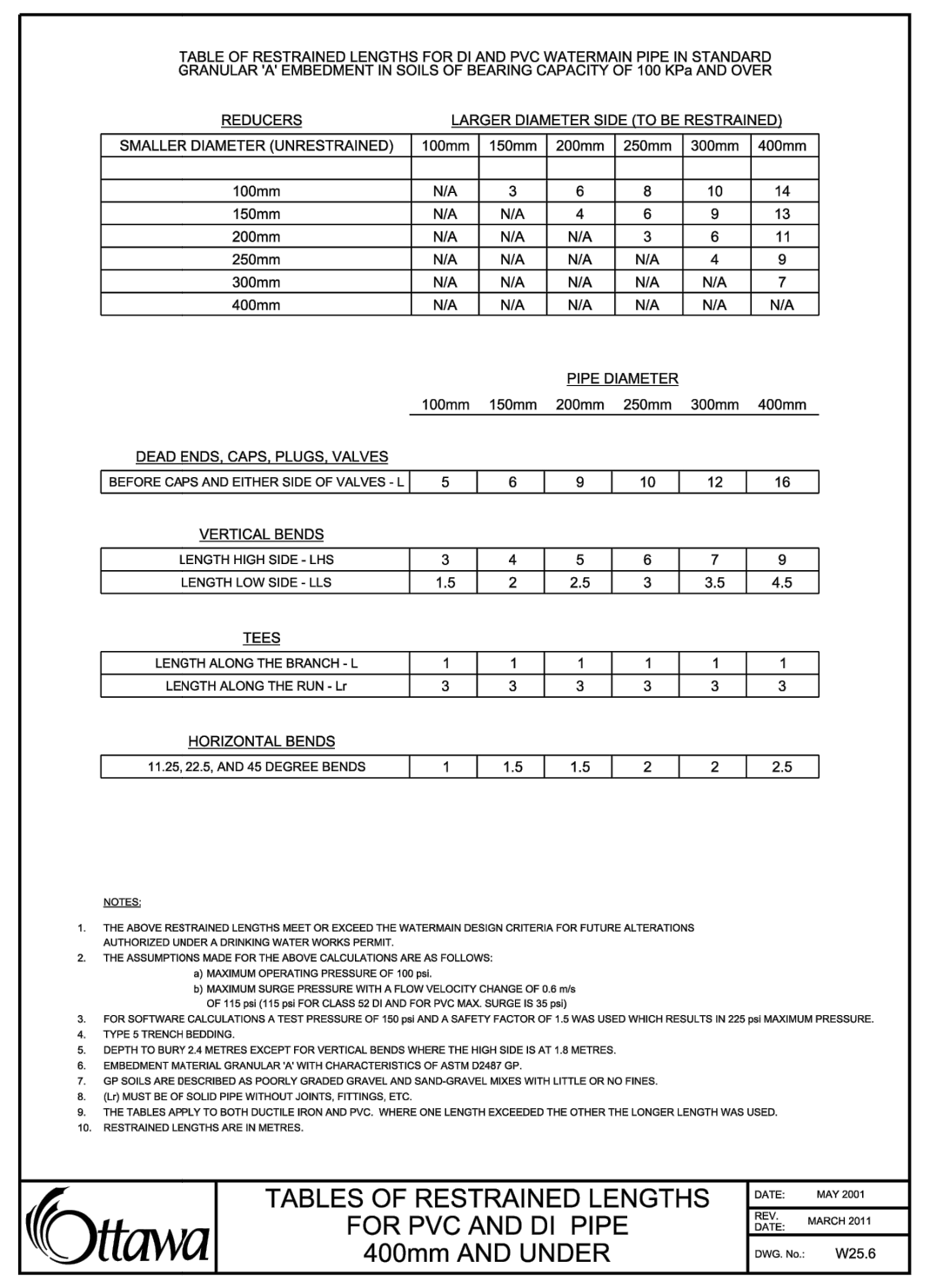


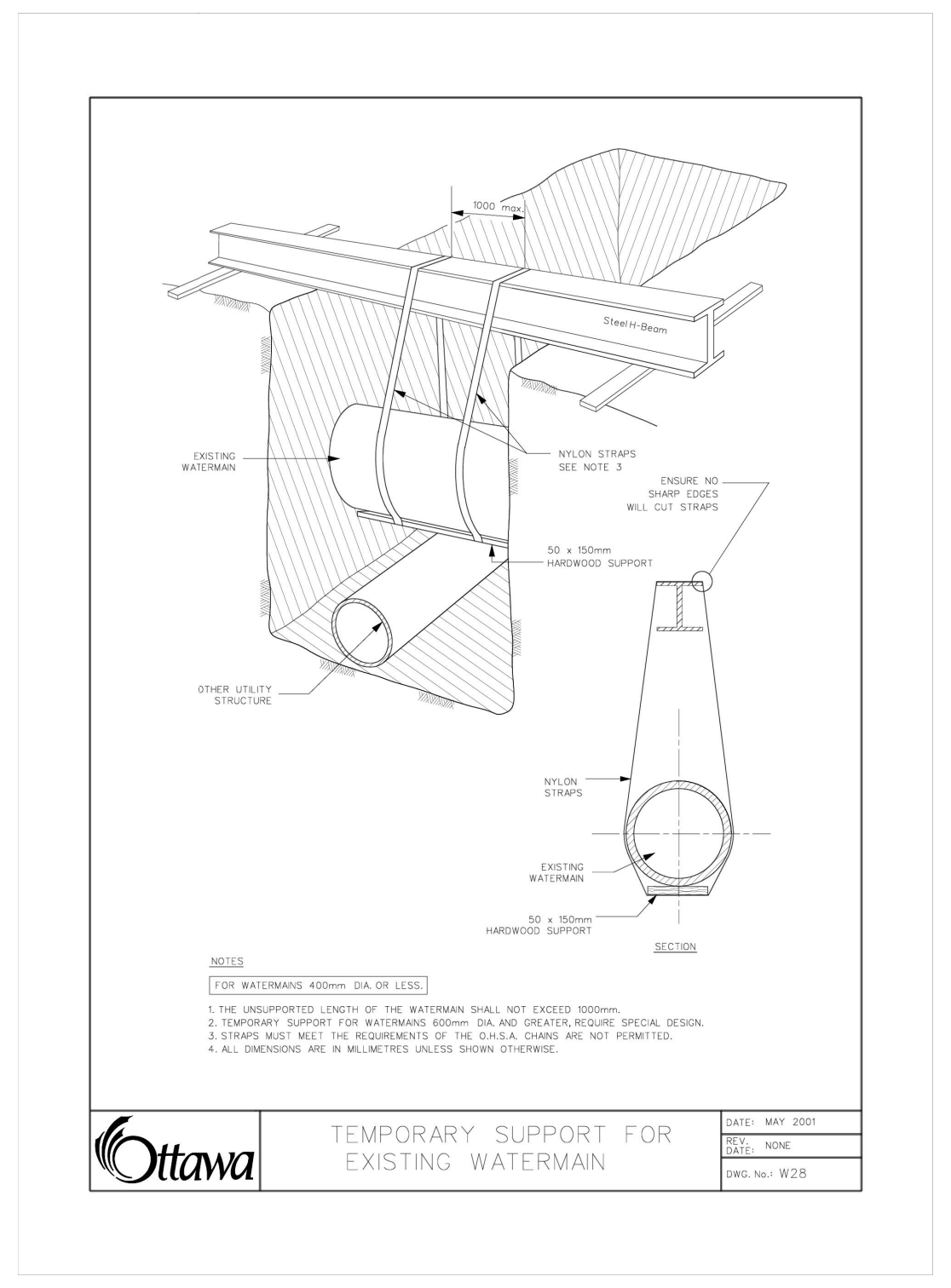


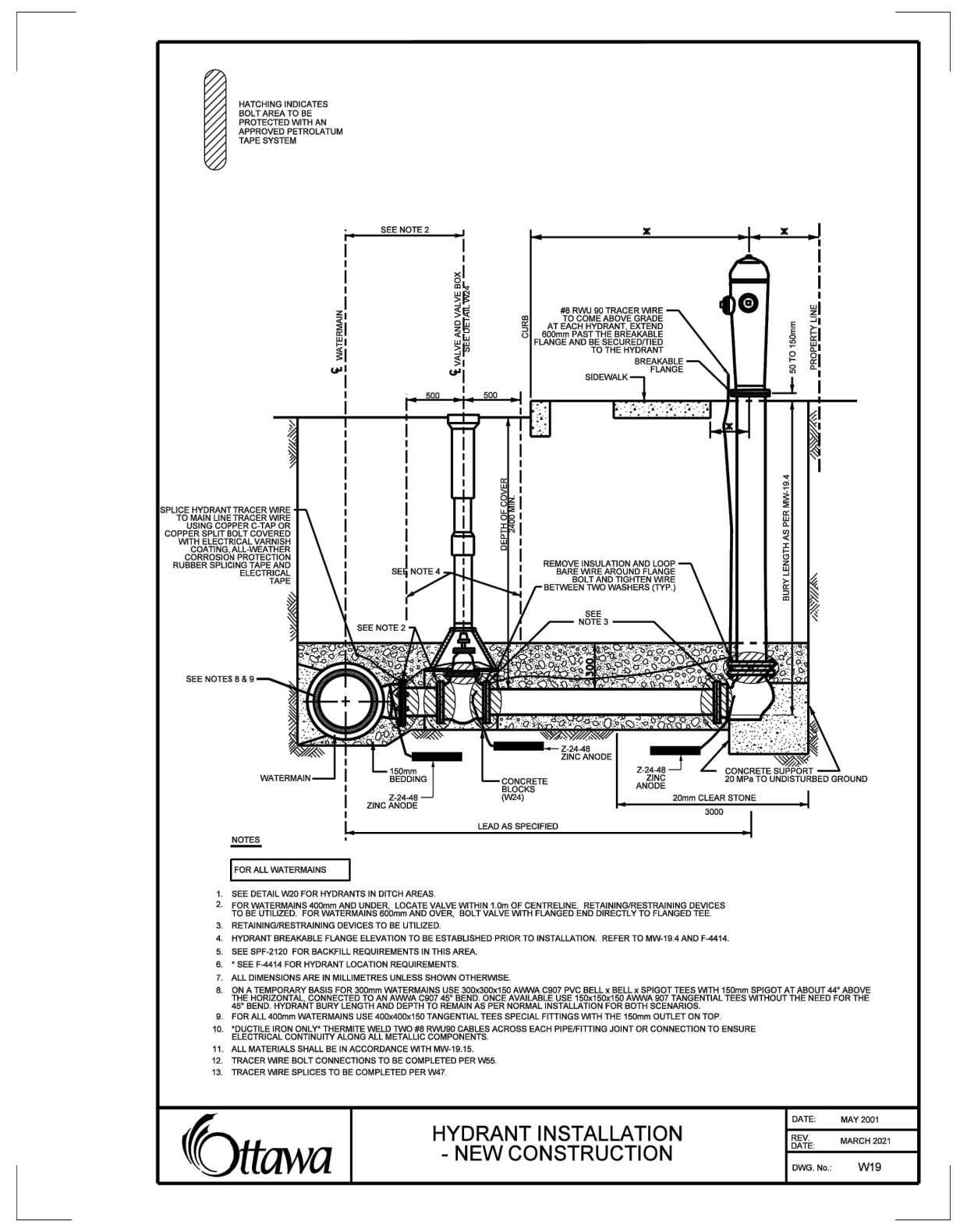


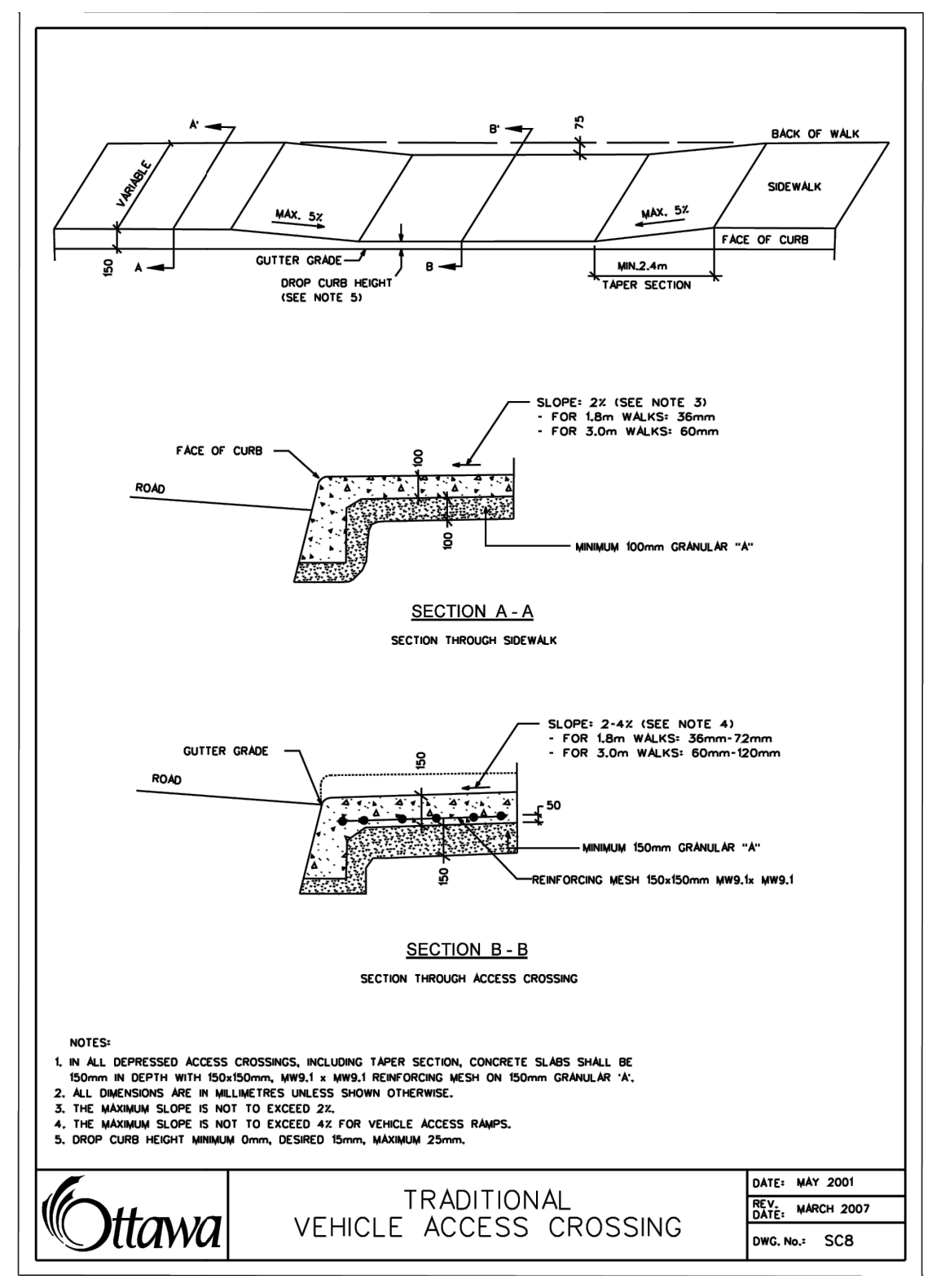


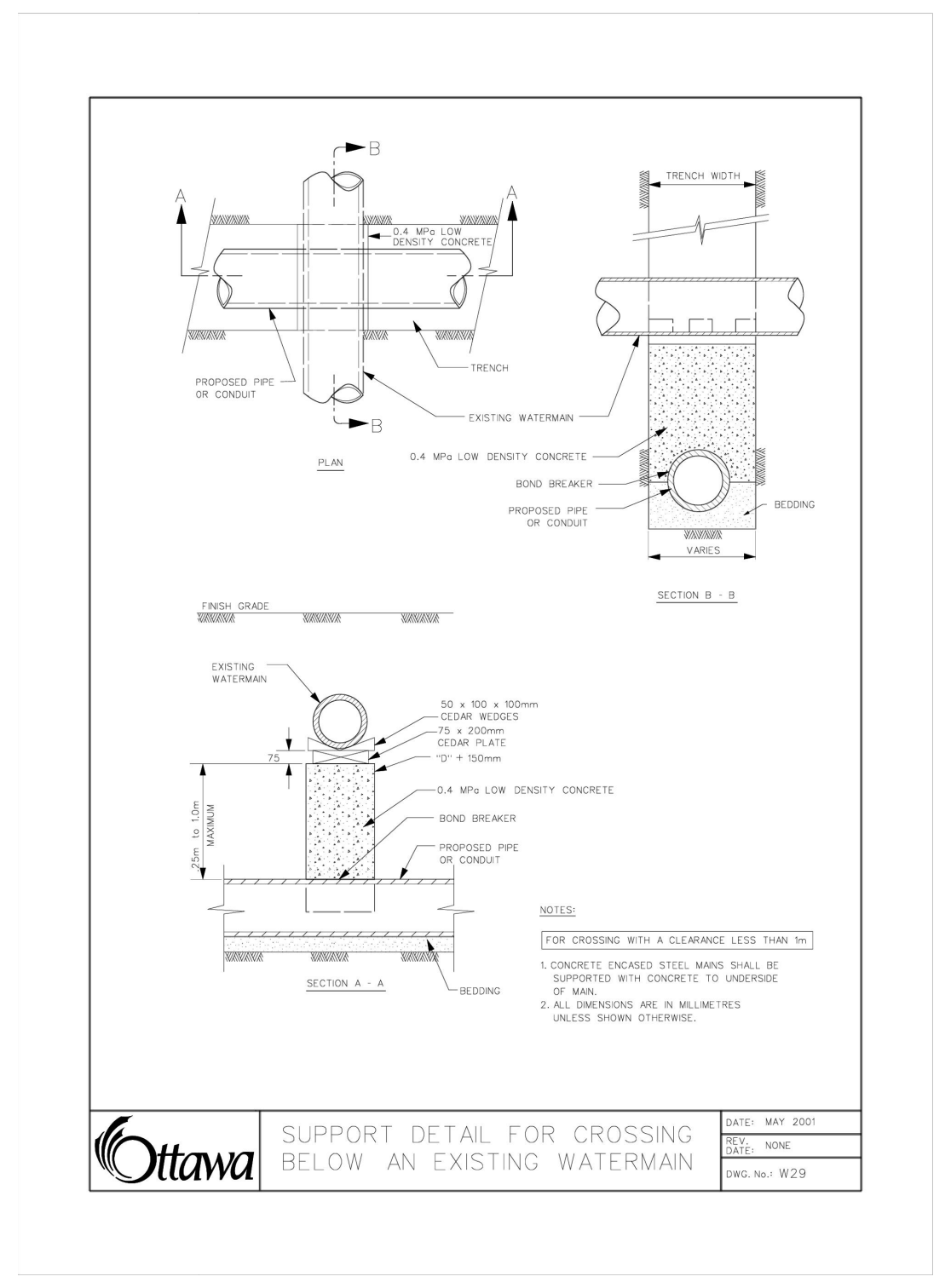


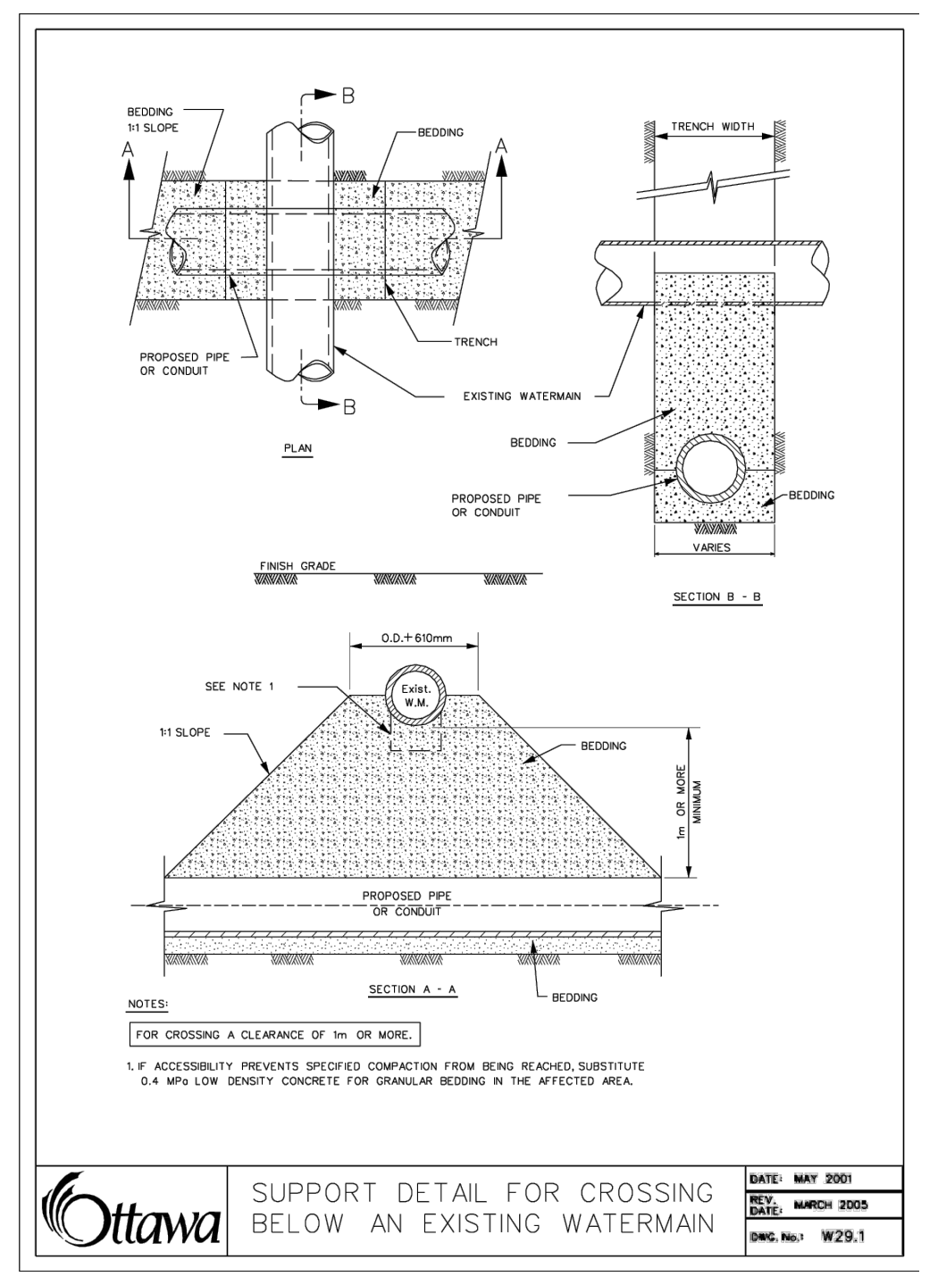


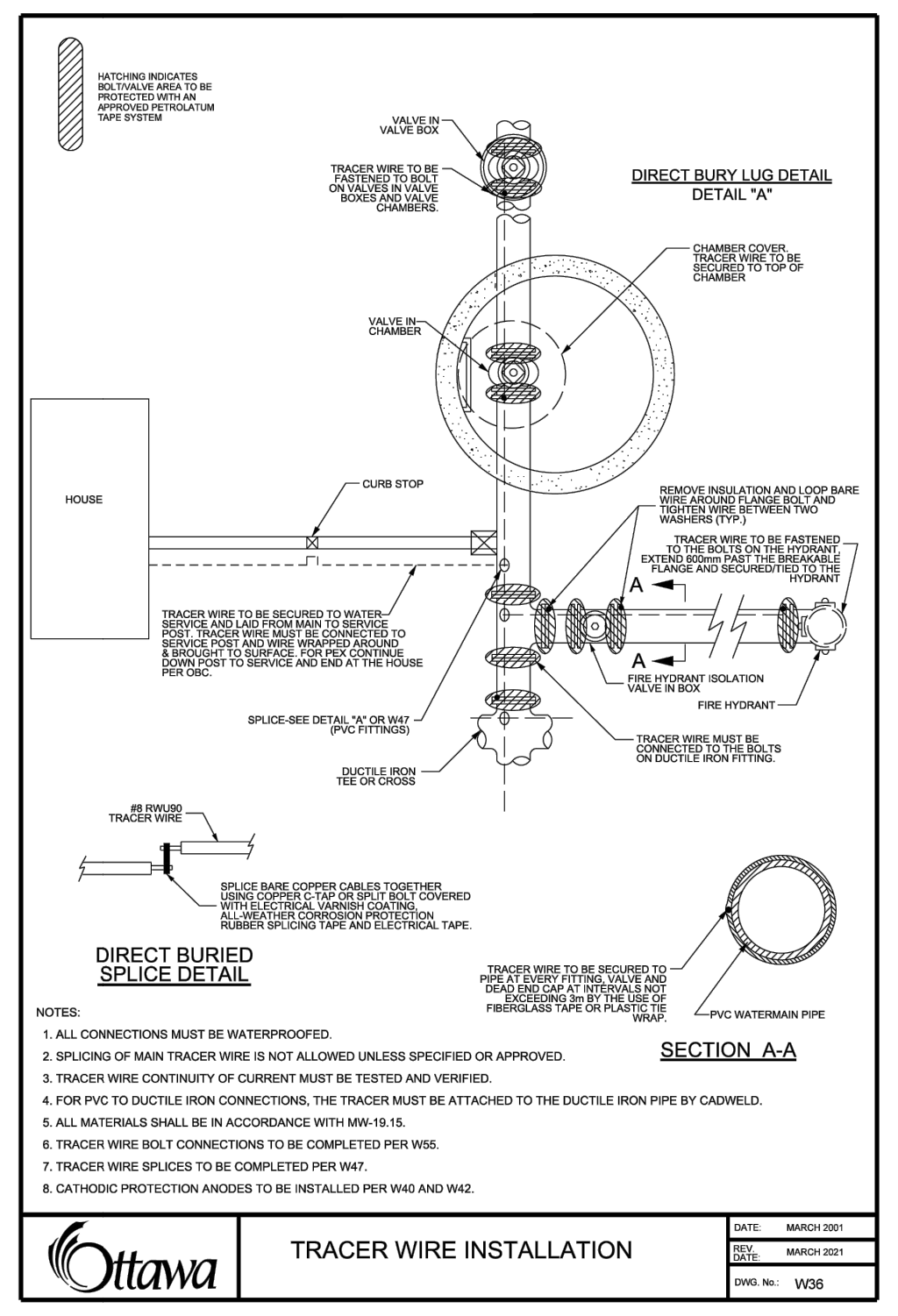


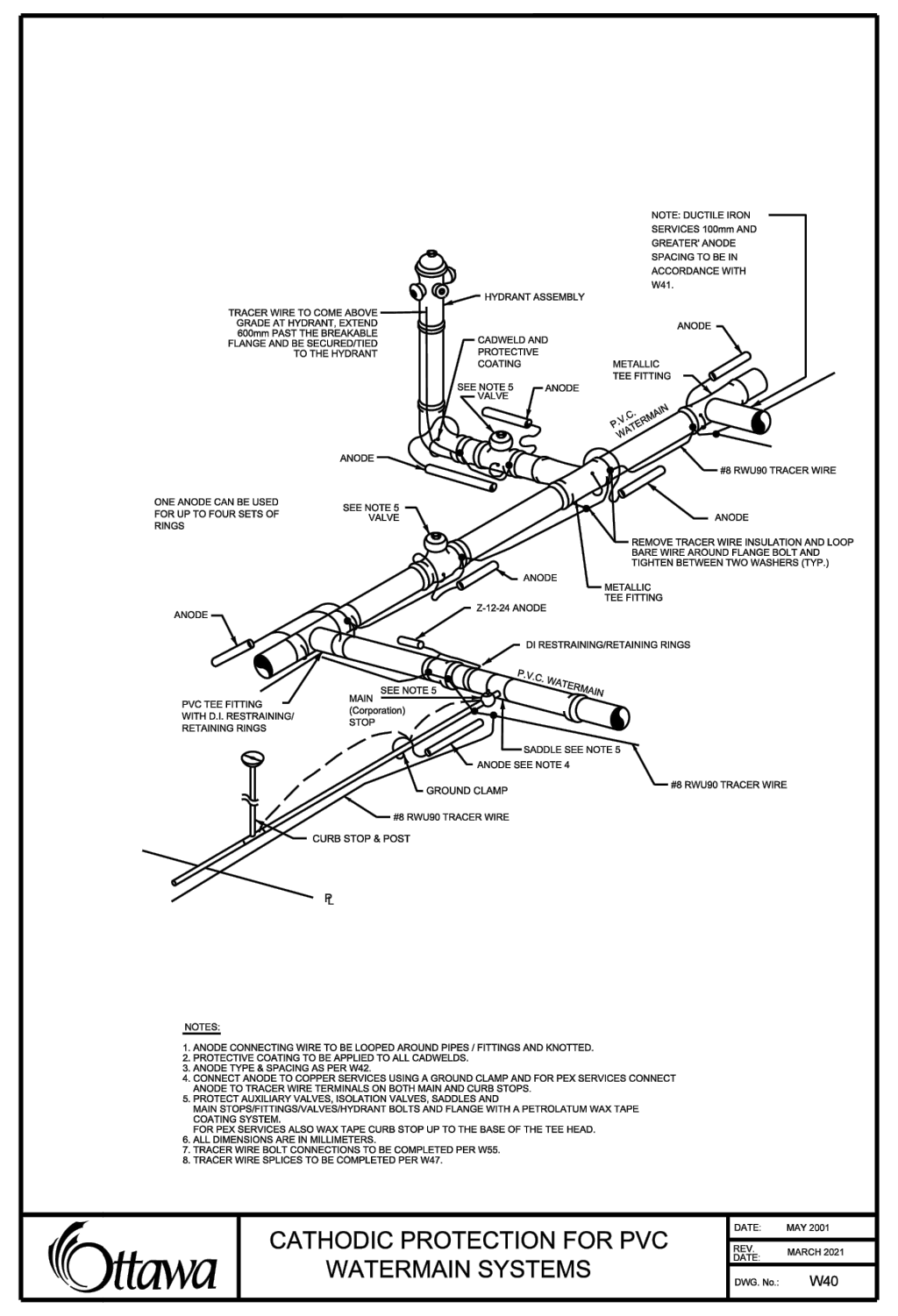


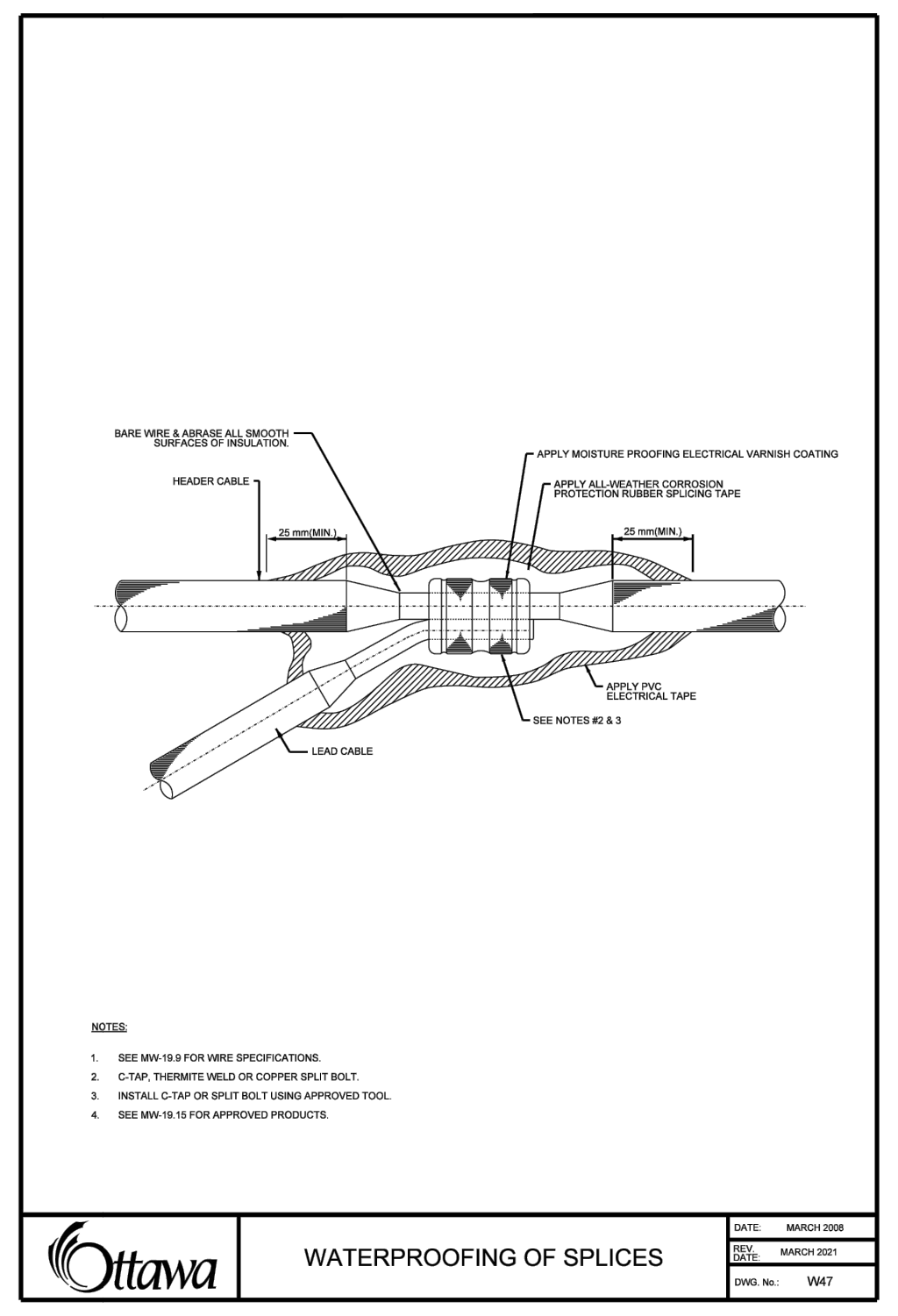


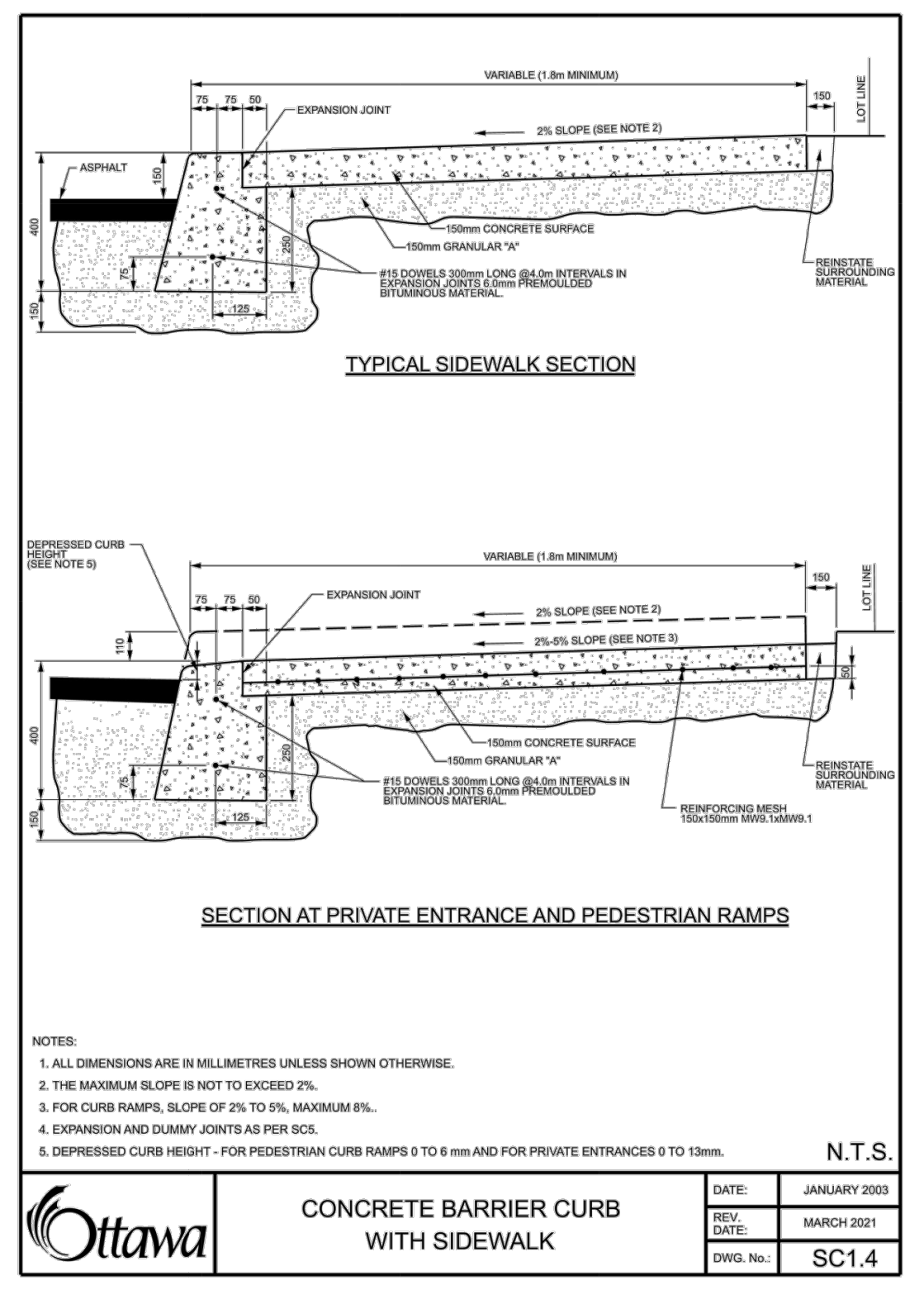


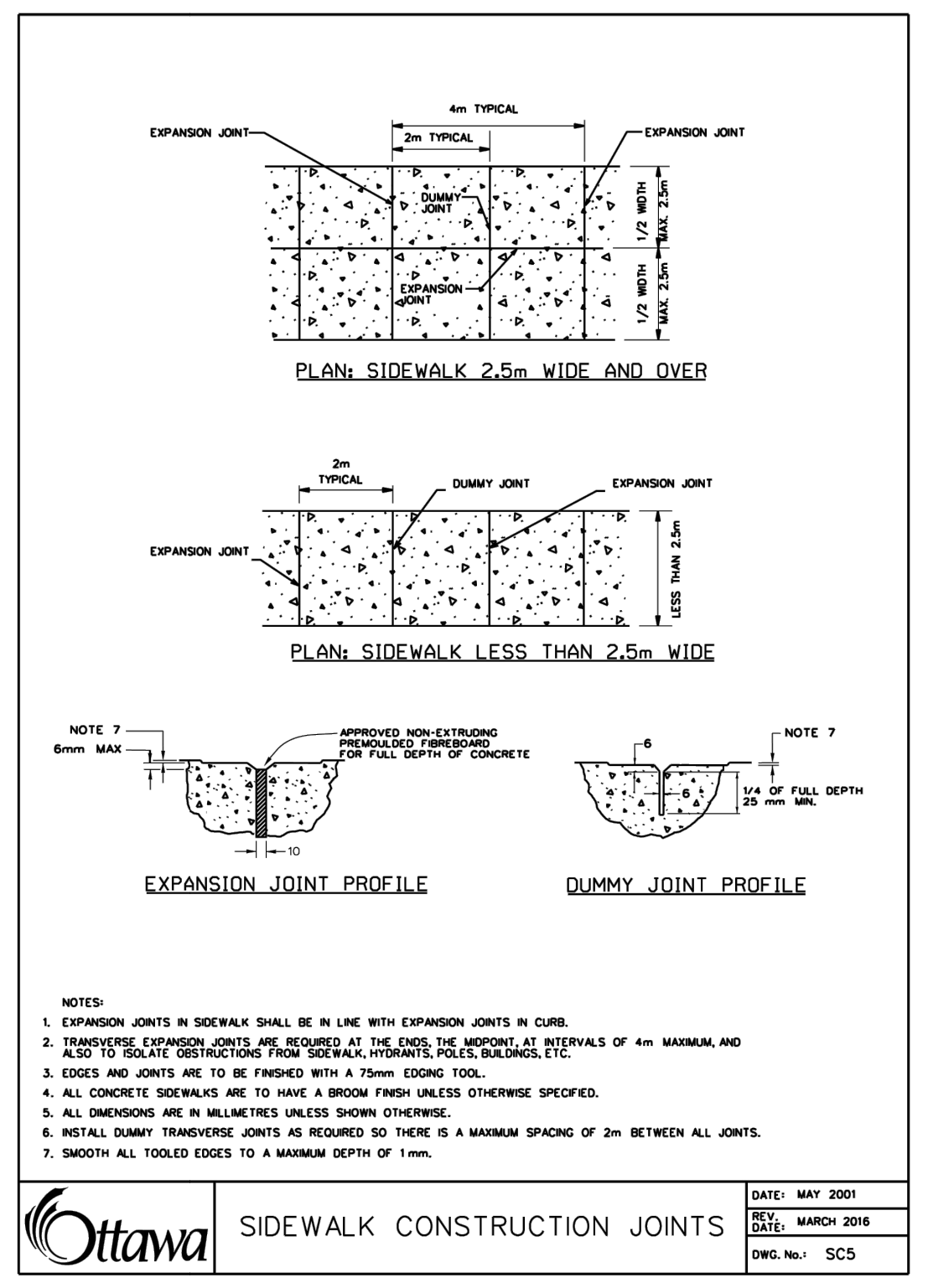


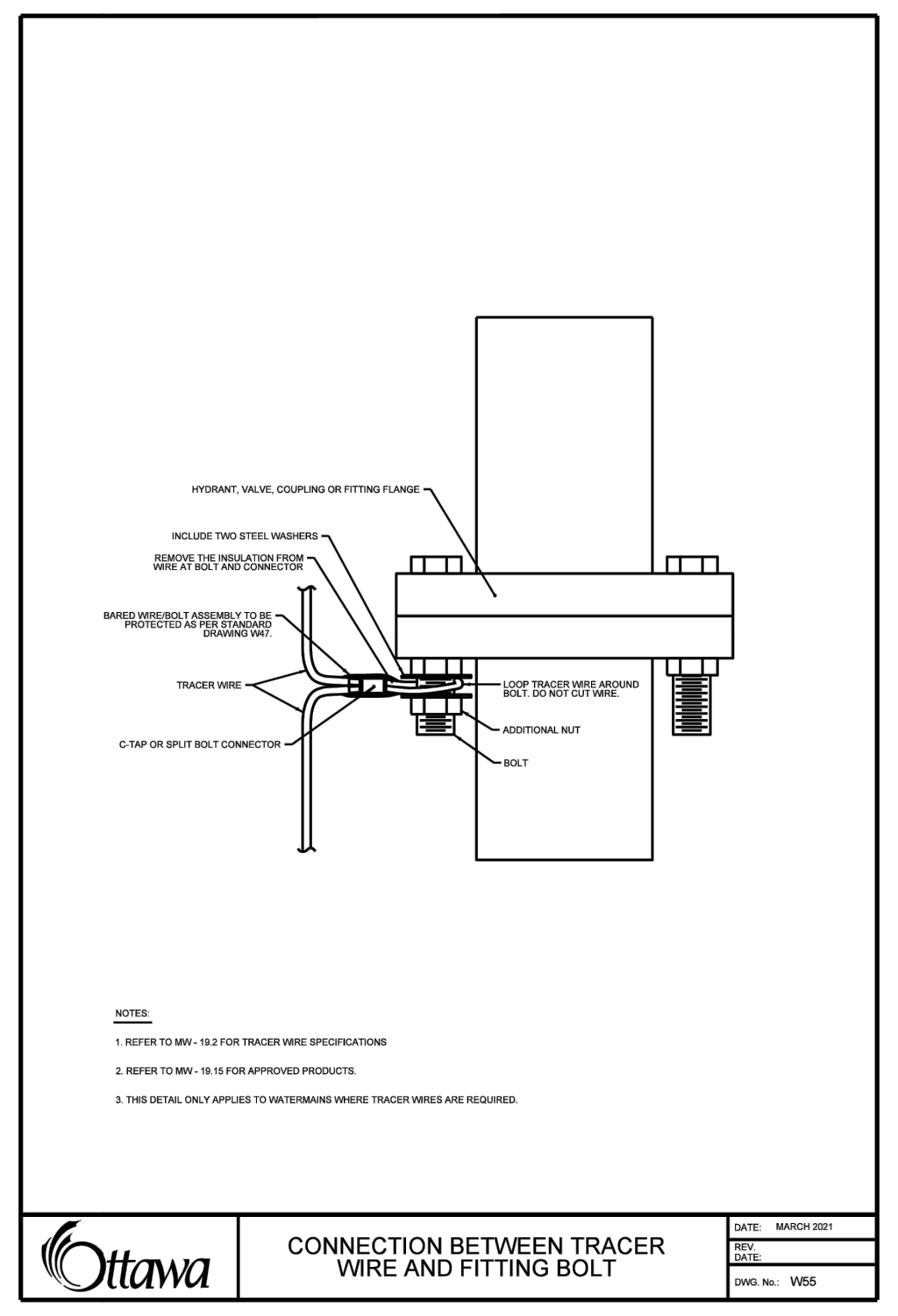


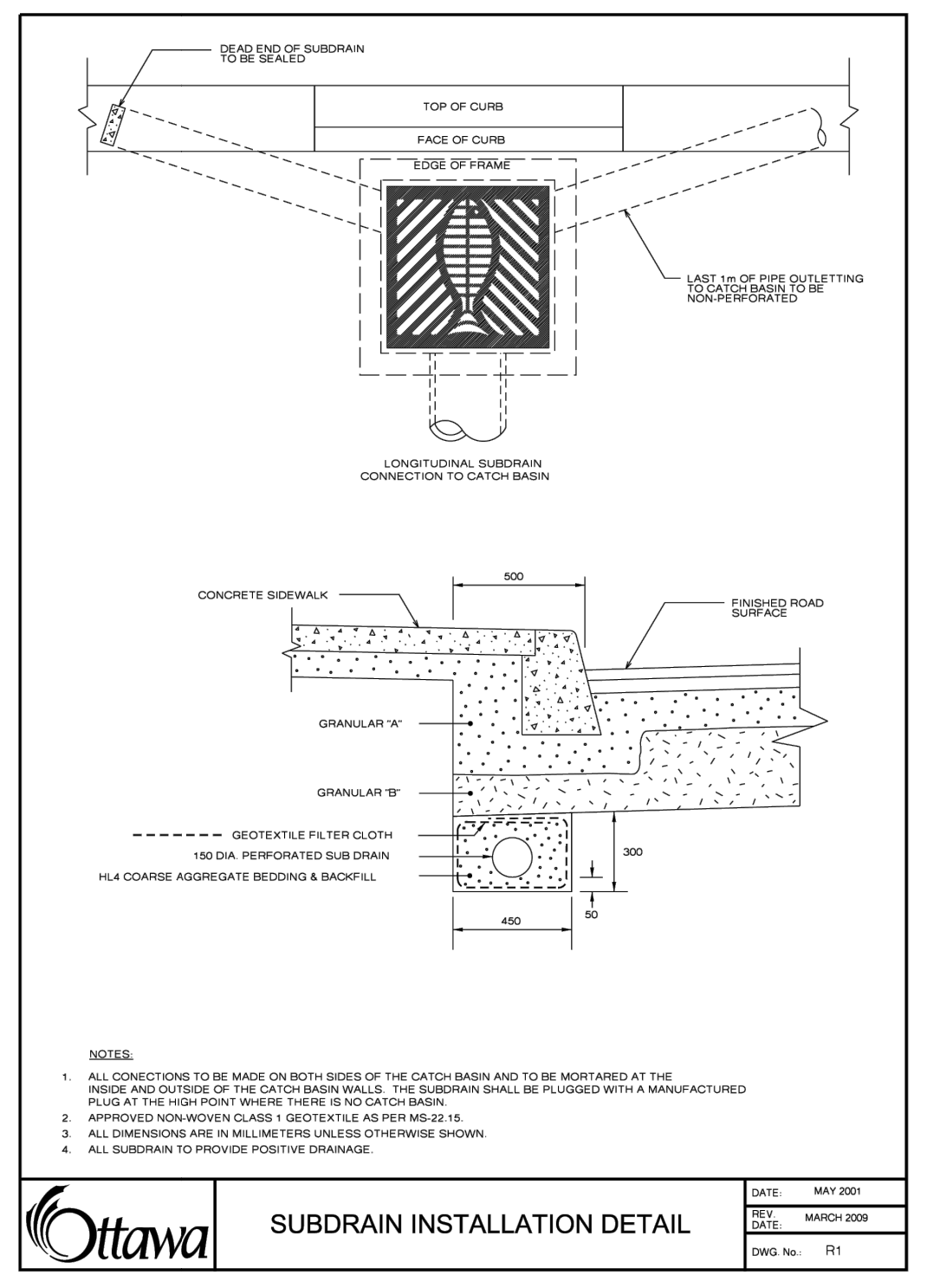


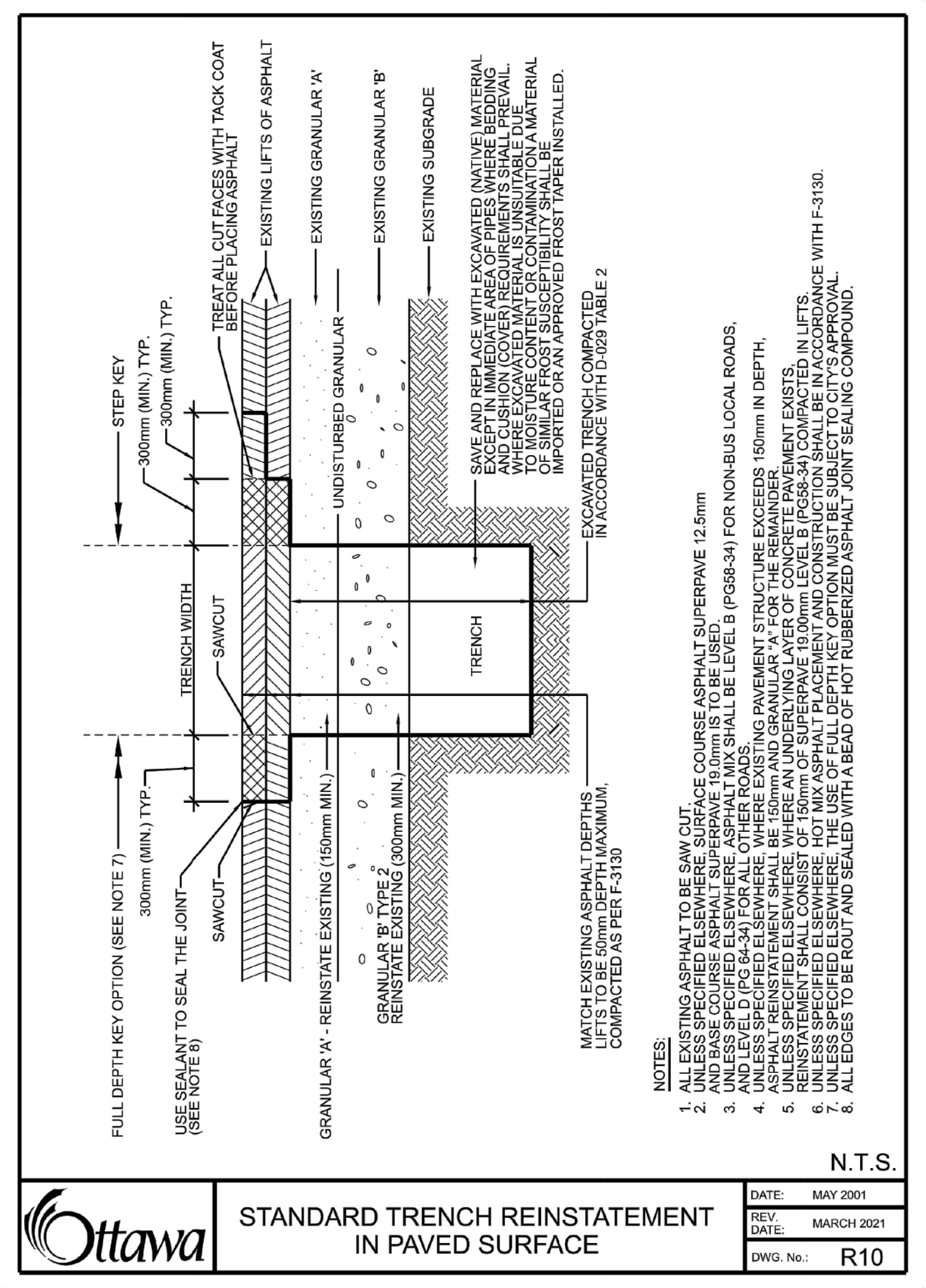


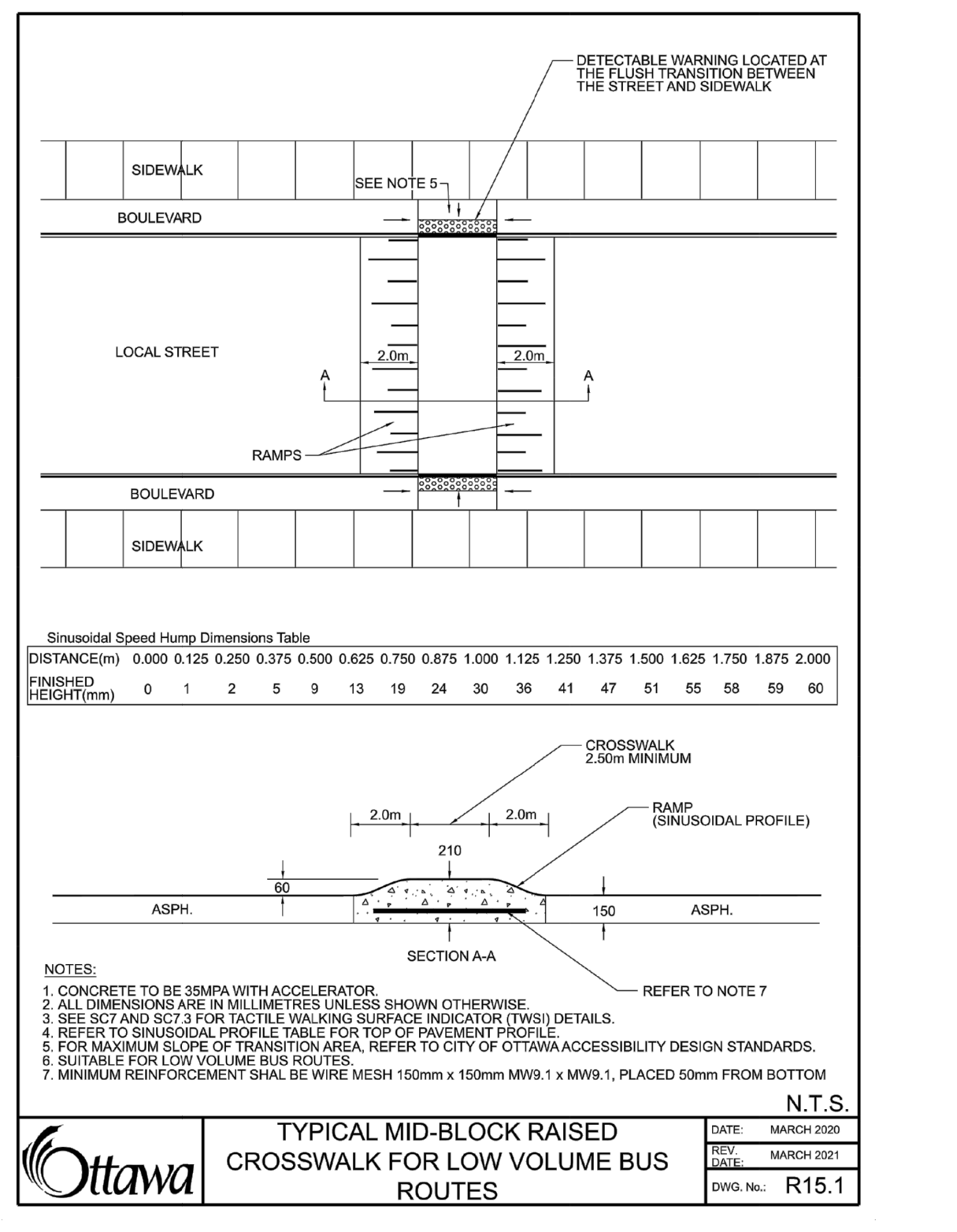


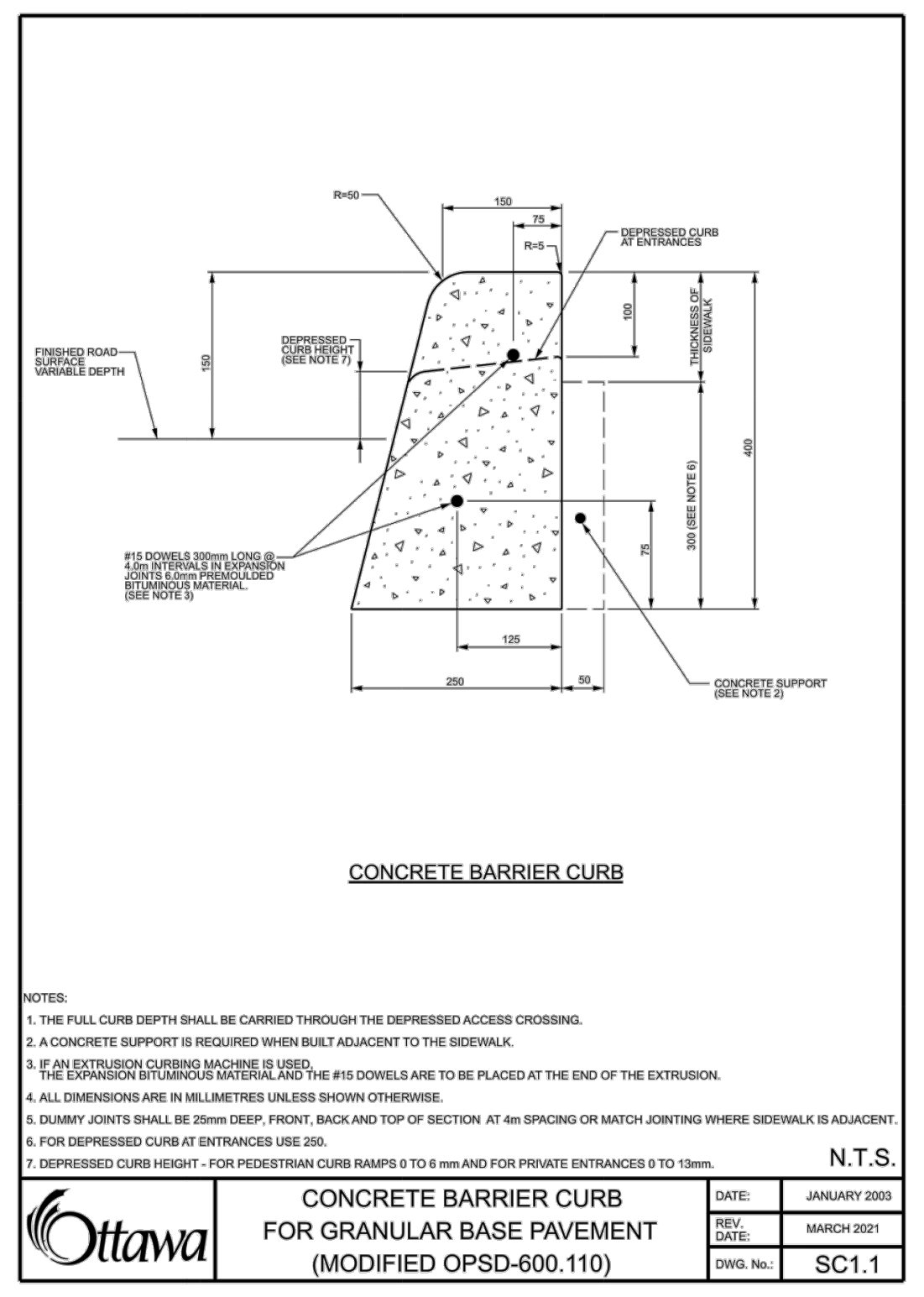


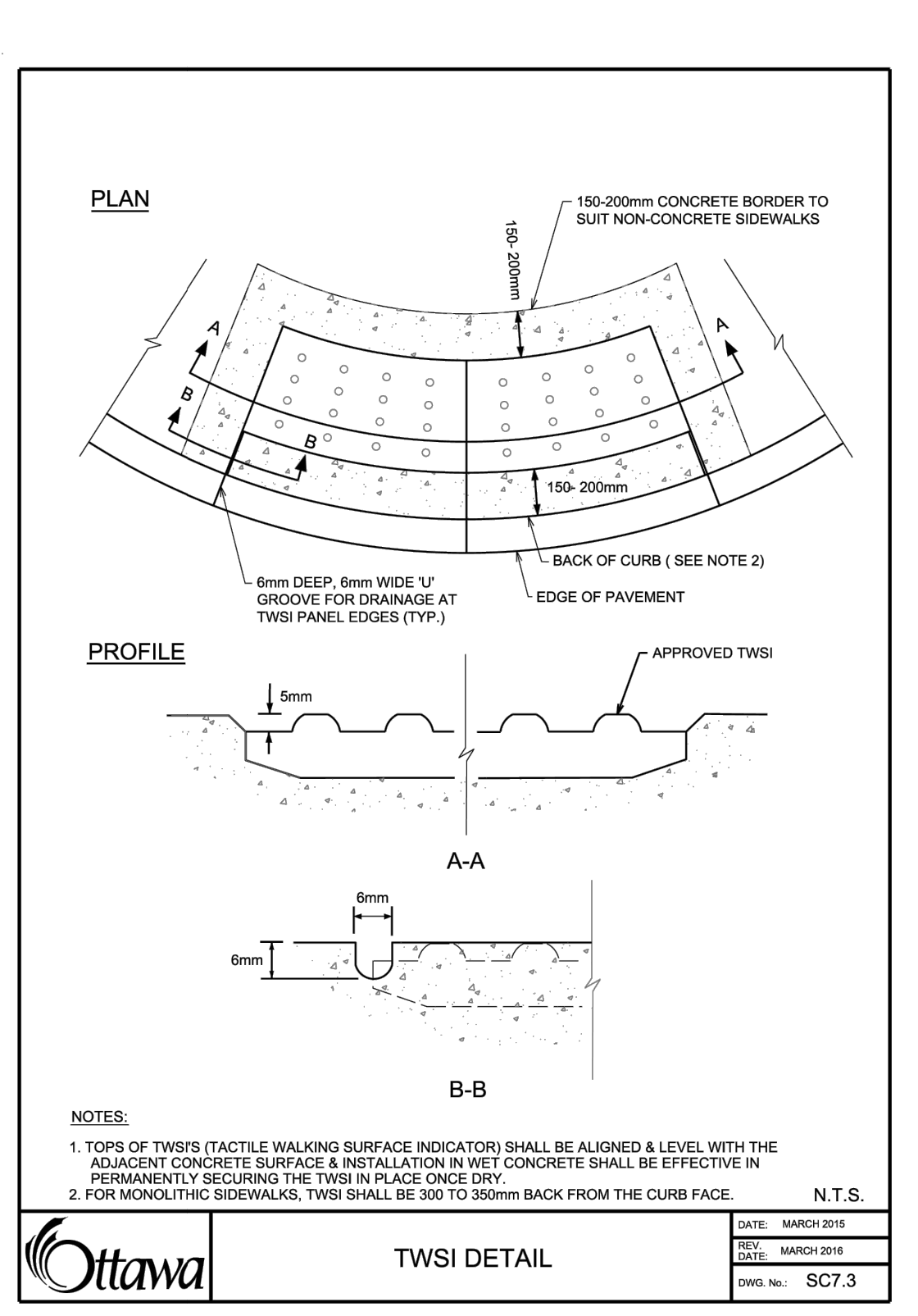


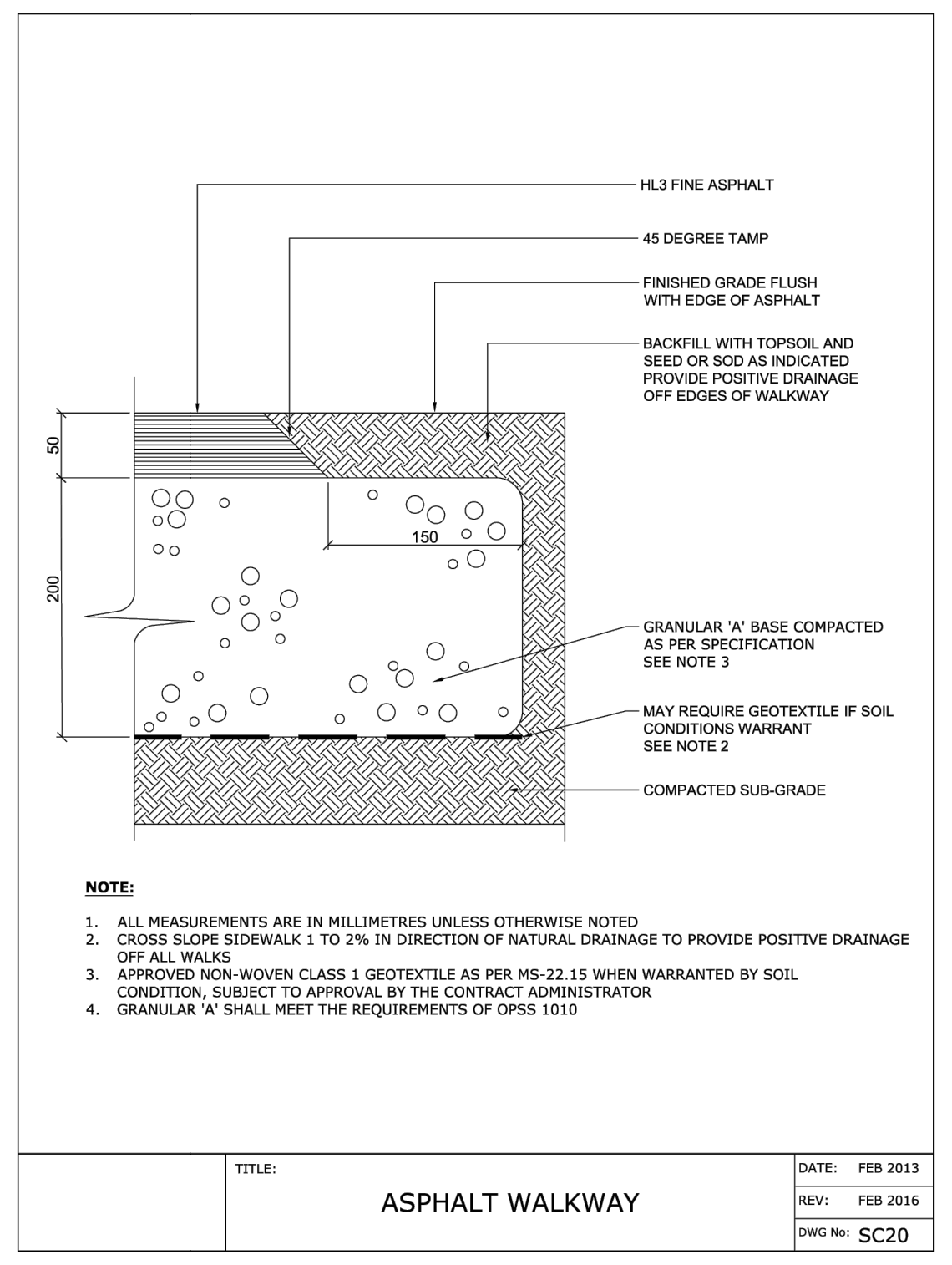












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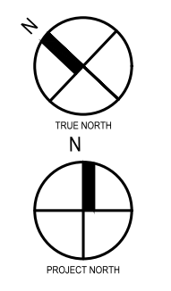
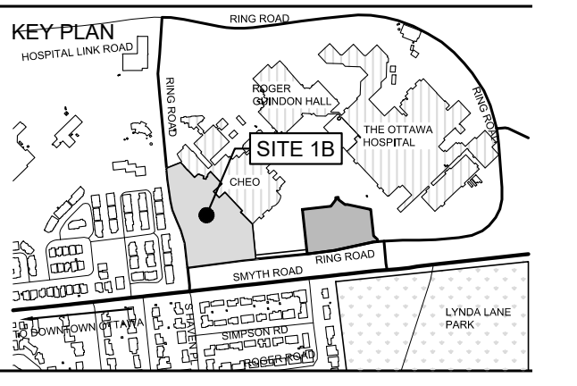
675 Queen Street South, Suite 111, Kitchener, Ontario N2M 1A1
T: 519.576.2150 F: 519.576.5499 walterfedy.com

NORTH ARROW



KEY PLAN



#	DATE:	REVISION:
9	24/08/23	ISSUED FOR BUILDING PERMIT
8	24/08/23	ISSUED FOR SITE PLAN CONTROL
7	24/08/07	ISSUED FOR 50% CD SUBMISSION
6	24/06/03	ISSUED FOR 100% DD SUBMISSION R2
5	24/05/10	ISSUED FOR FOUNDATION PERMIT
4	24/04/19	ISSUED FOR 100% DD SUBMISSION
3	24/01/24	RE-ISSUED FOR BUILDING PERMIT (TUNNEL)
2	23/12/20	ISSUED FOR BUILDING PERMIT (TUNNEL)
1	23/12/15	RE-ISSUED FOR 50% DD SUBMISSION
0	23/12/15	ISSUED FOR 50% DD SUBMISSION

REVISIONS

LICENSED PROFESSIONAL ENGINEER
S. L. FORWELL
7670557
2024-08-22
PROVINCE OF ONTARIO

REPRODUCTION OR DISTRIBUTION FOR PURPOSES OTHER THAN AUTHORIZED BY WALTERFEDY IS FORBIDDEN. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS TO WALTERFEDY.
DO NOT SCALE THIS DRAWING.

CLIENT

1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: 1DOOR4CARE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

TYPICAL DETAILS AND NOTES PLAN

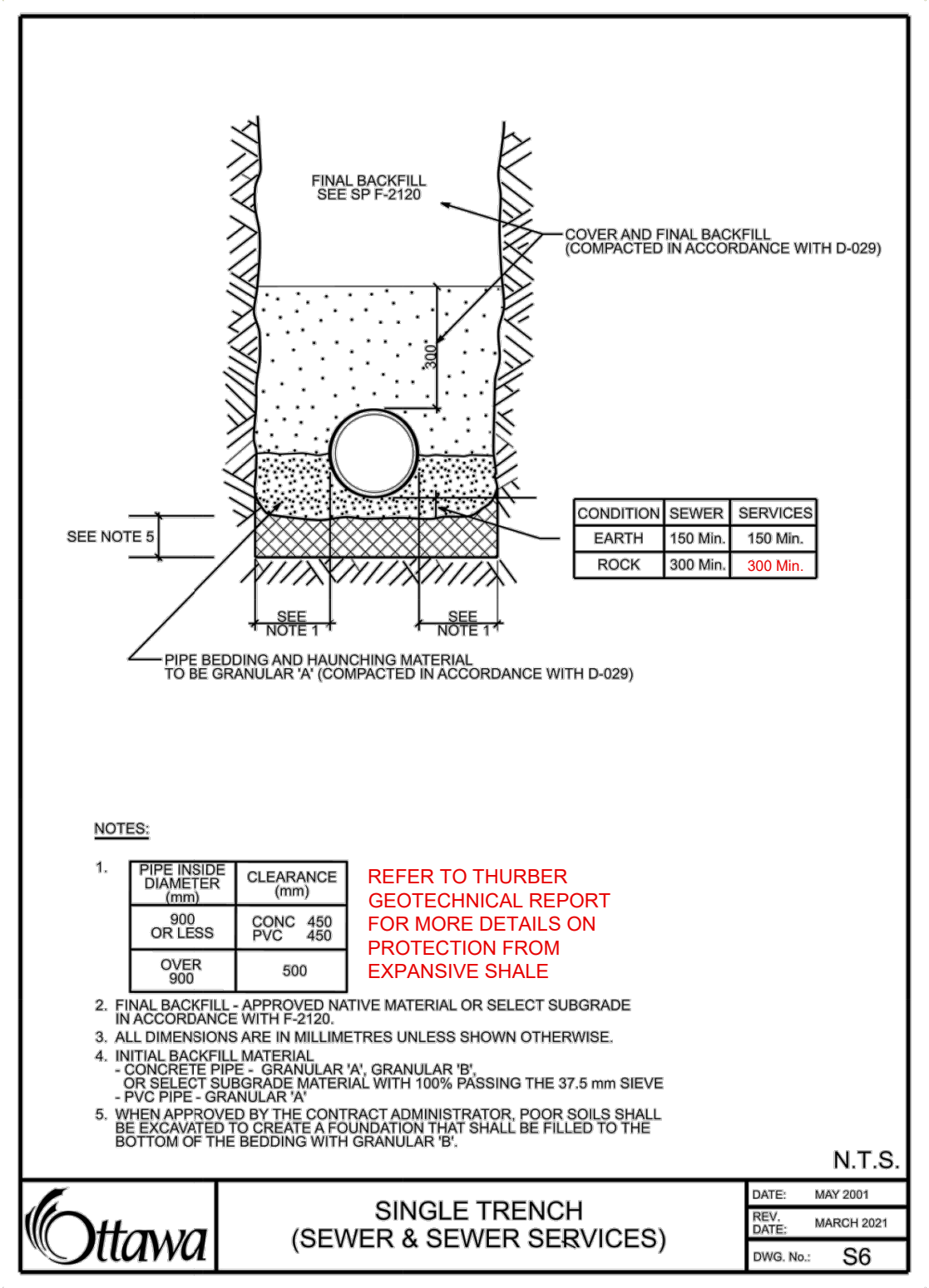
SCALE: AS NOTED
DRAWN BY: DL, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2024.08.19

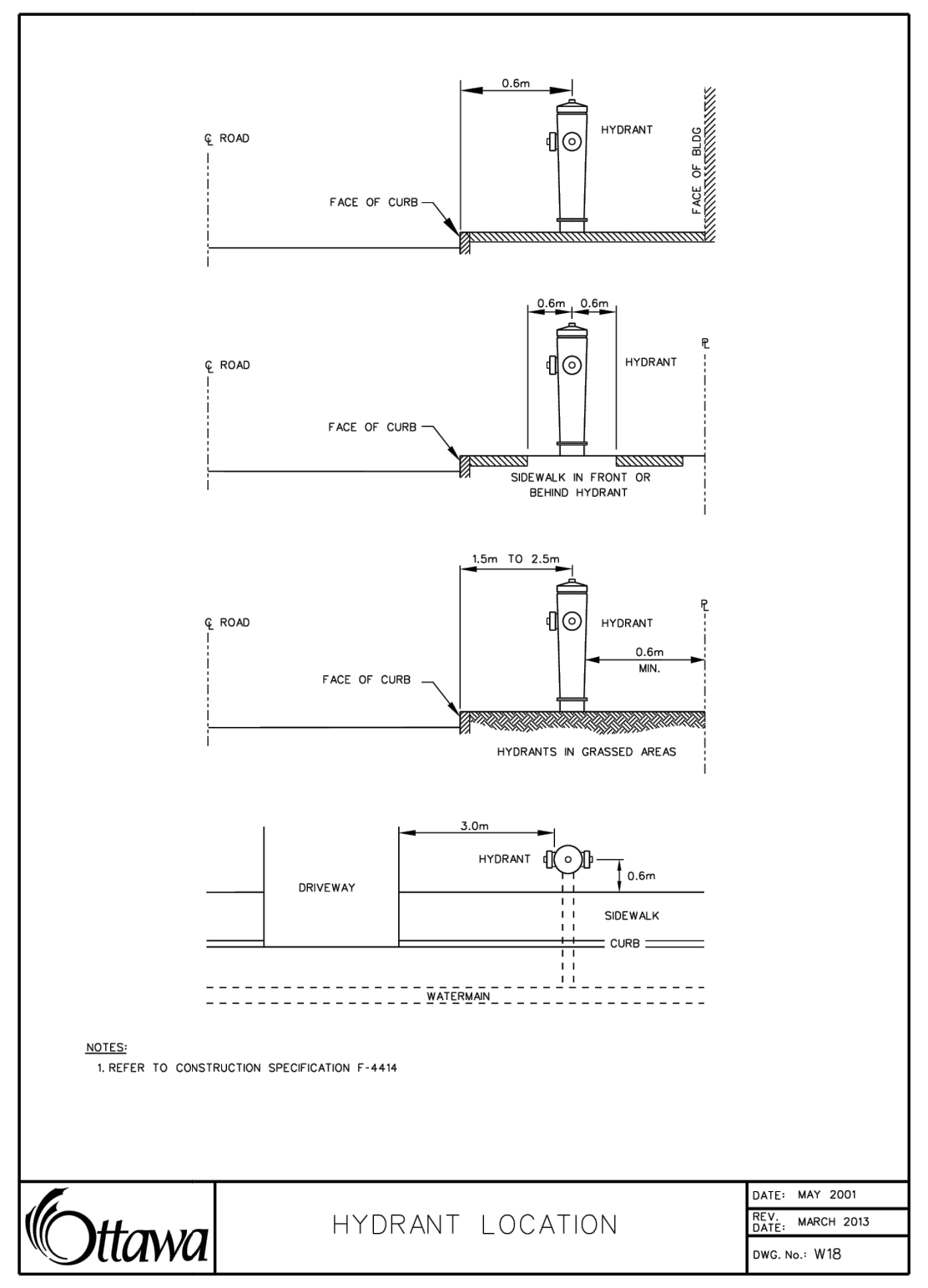
DRAWING NUMBER:

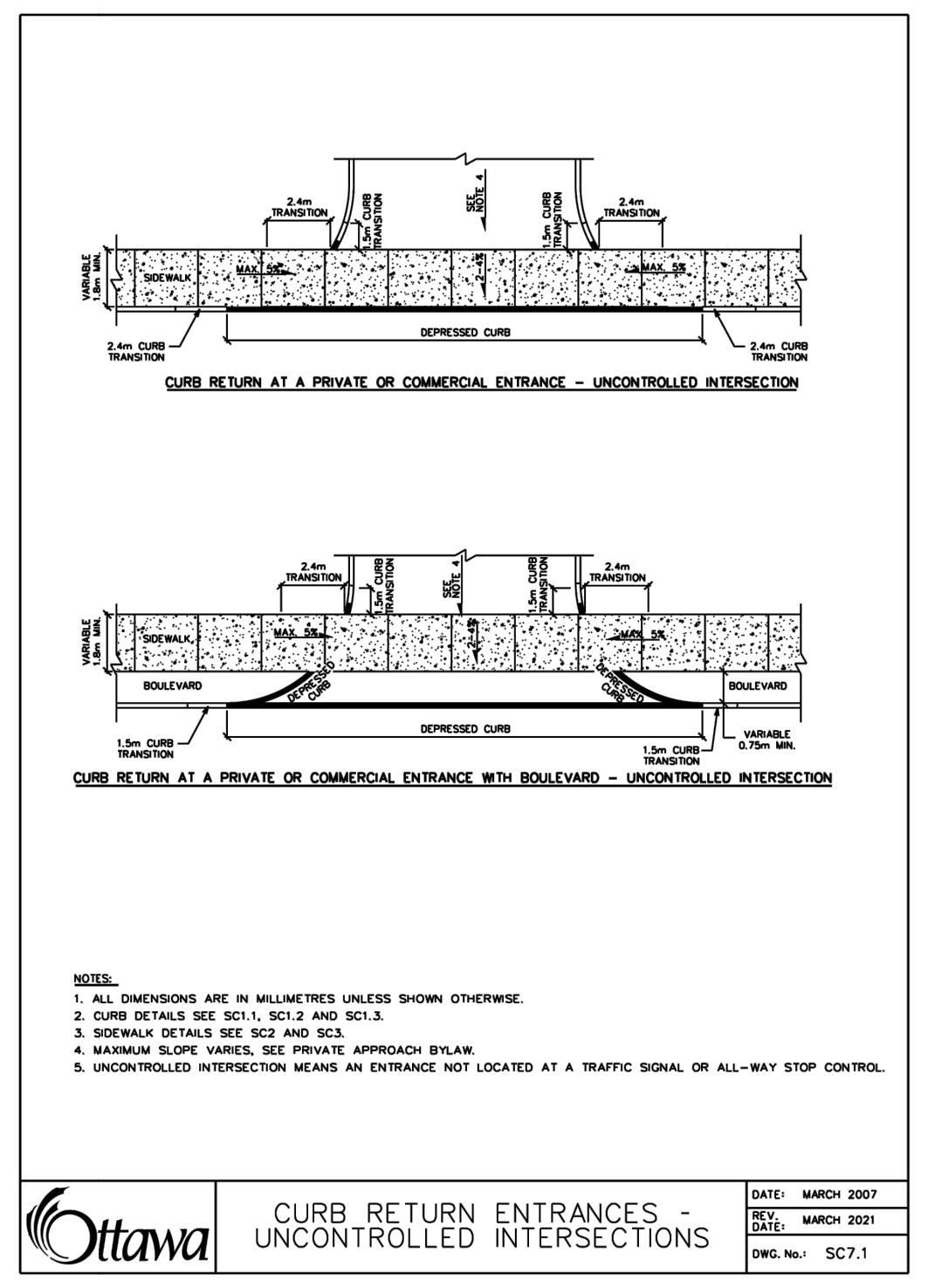
C0008

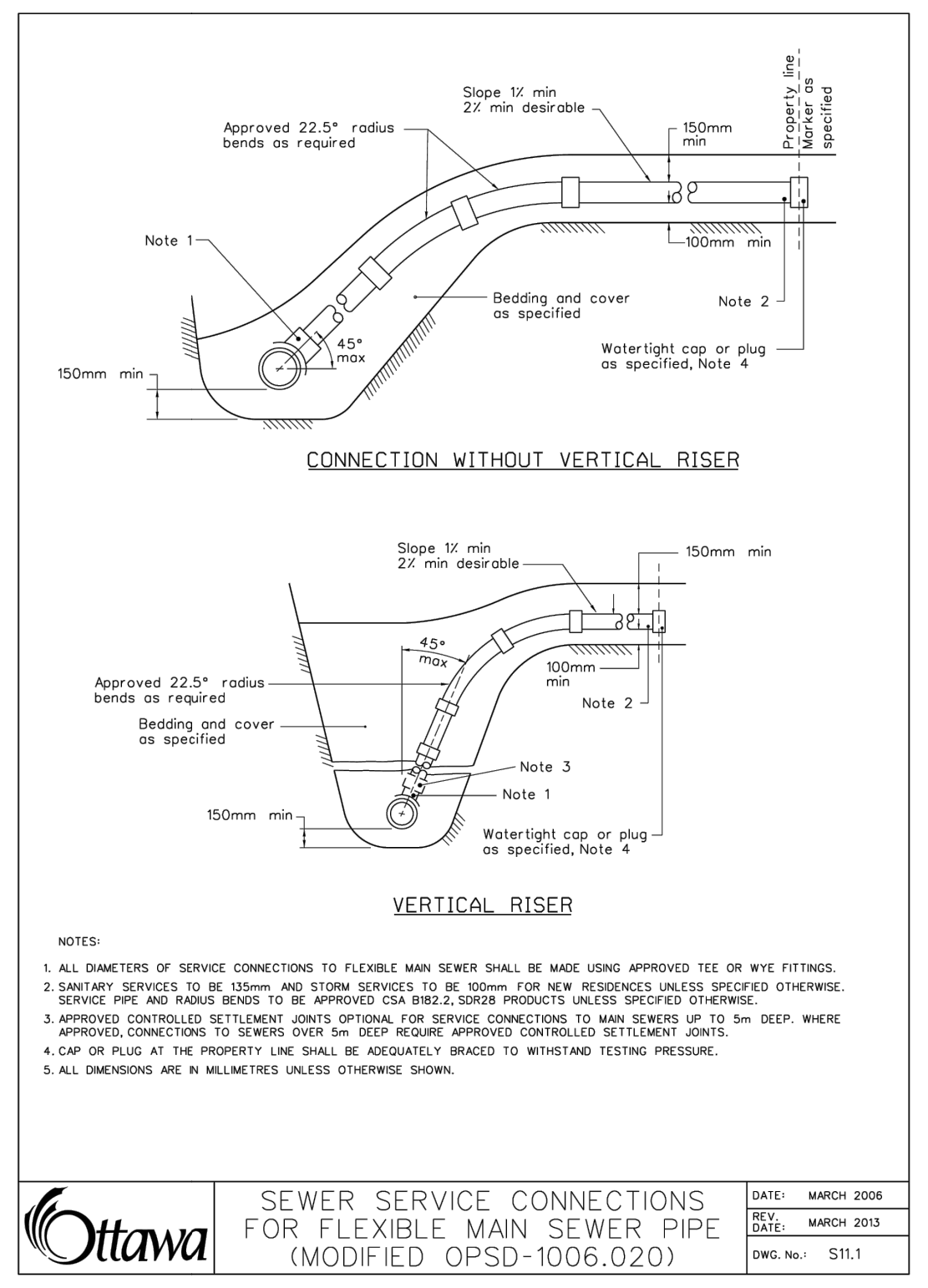
PLAN #: 18912
DEVELOPMENT #: D07-12-22-0170

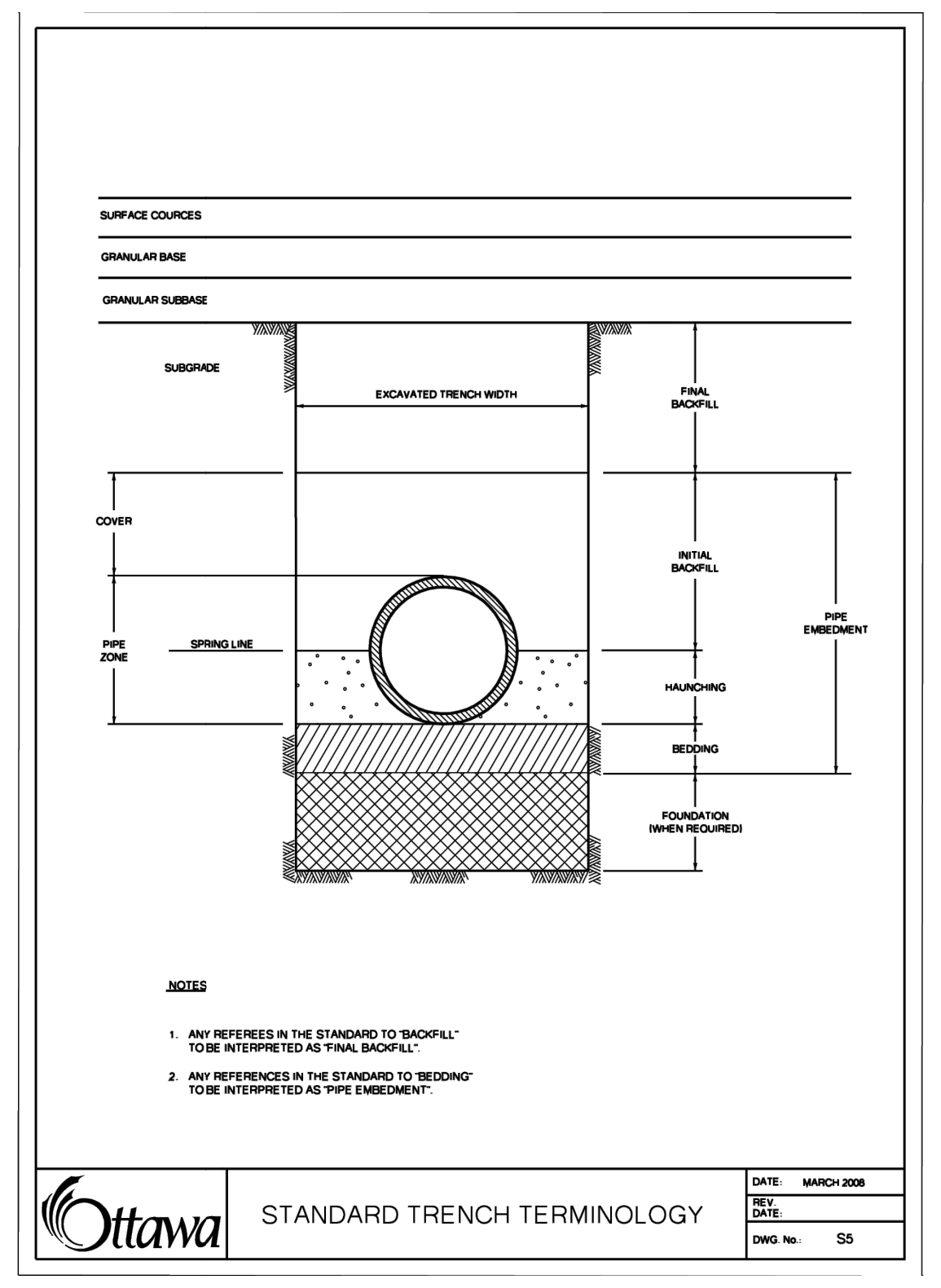
\2021-0821-10 DET_PLT _1B; C0008; None; Zack Schnurr; 2024-08-19 11:05:55 AM

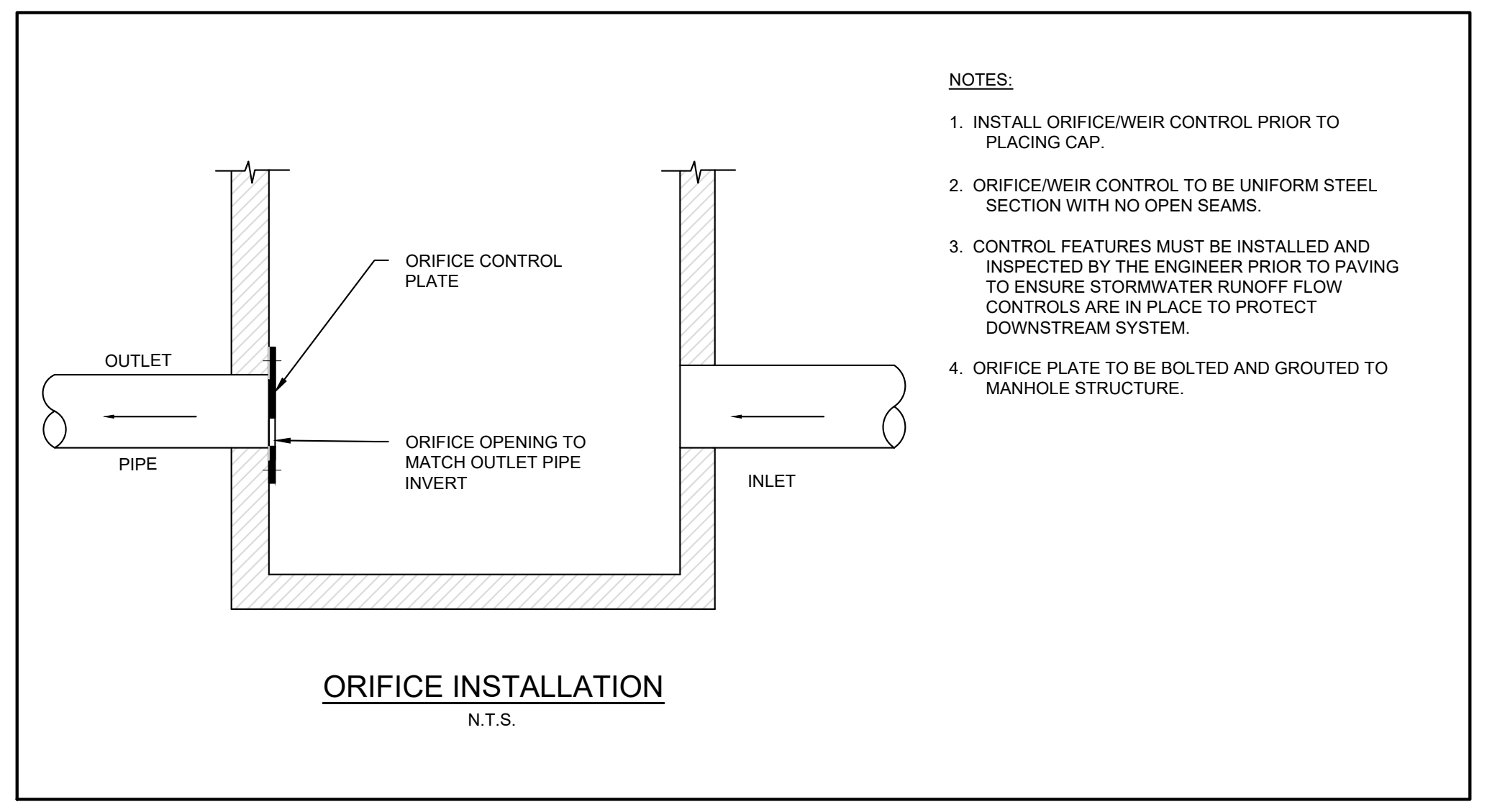








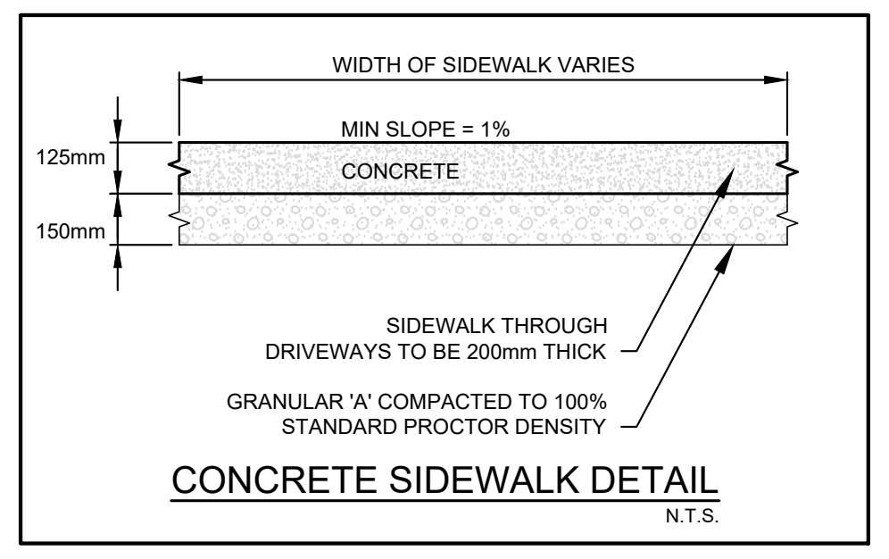




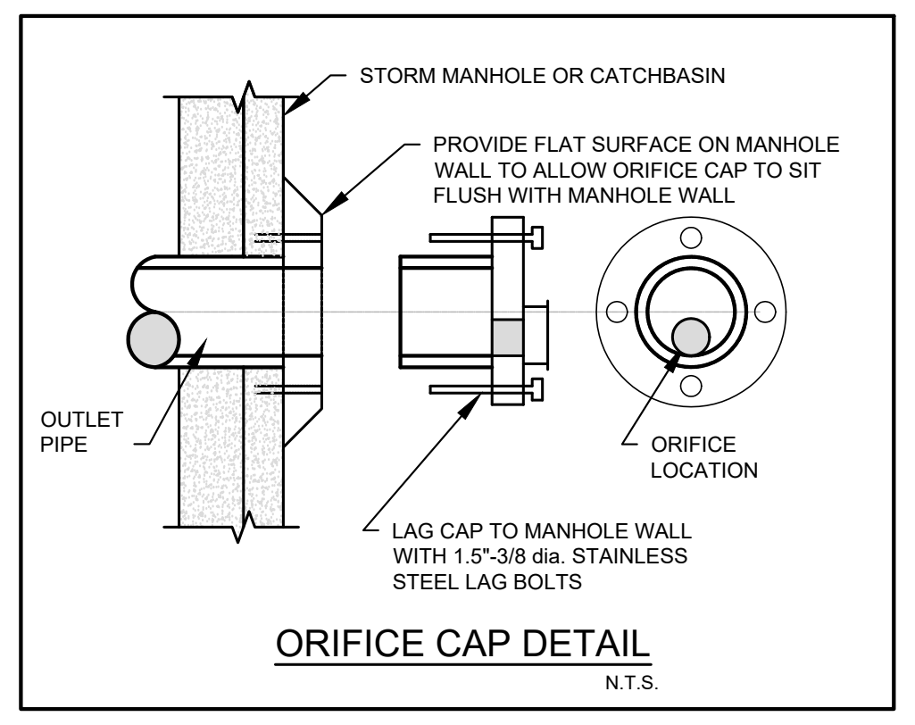
NOTES:

1. INSTALL ORIFICE/WEIR CONTROL PRIOR TO PLACING CAP.
2. ORIFICE/WEIR CONTROL TO BE UNIFORM STEEL SECTION WITH NO OPEN SEAMS.
3. CONTROL FEATURES MUST BE INSTALLED AND INSPECTED BY THE ENGINEER PRIOR TO PAVING TO ENSURE STORMWATER RUNOFF FLOW CONTROLS ARE IN PLACE TO PROTECT DOWNSTREAM SYSTEM.
4. ORIFICE PLATE TO BE BOLTED AND GROUTED TO MANHOLE STRUCTURE.

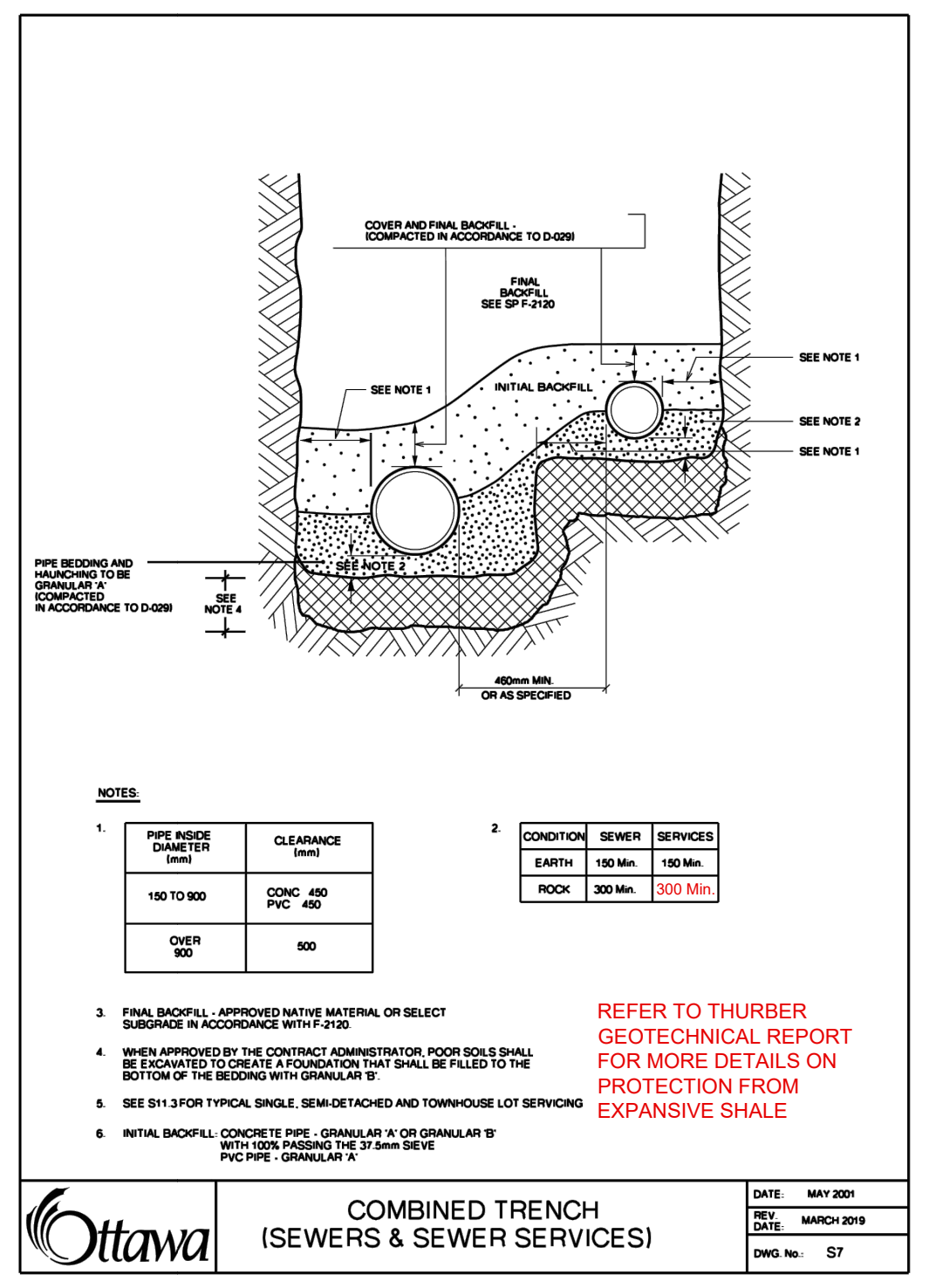
ORIFICE INSTALLATION
N.T.S.

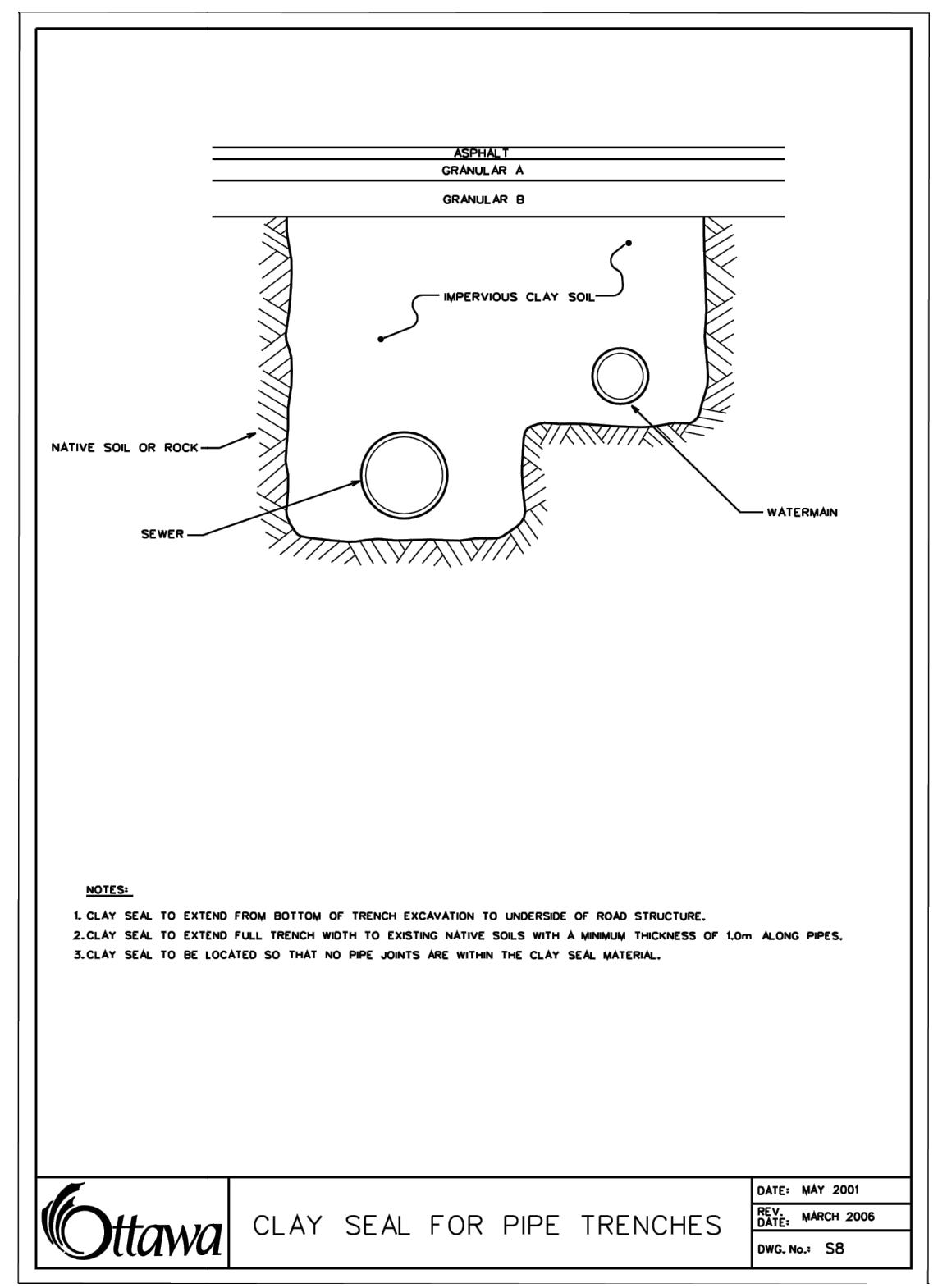


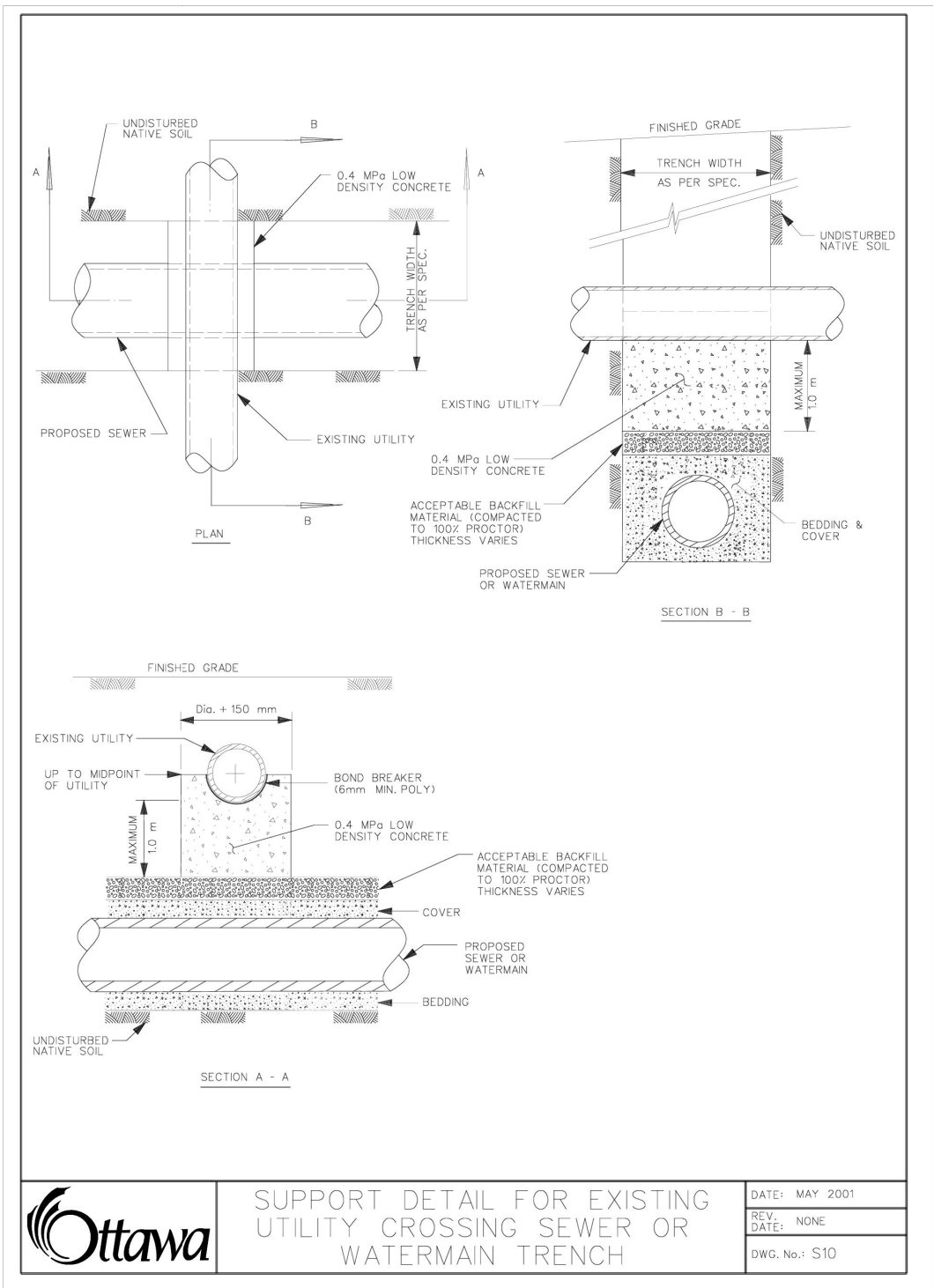
CONCRETE SIDEWALK DETAIL
N.T.S.

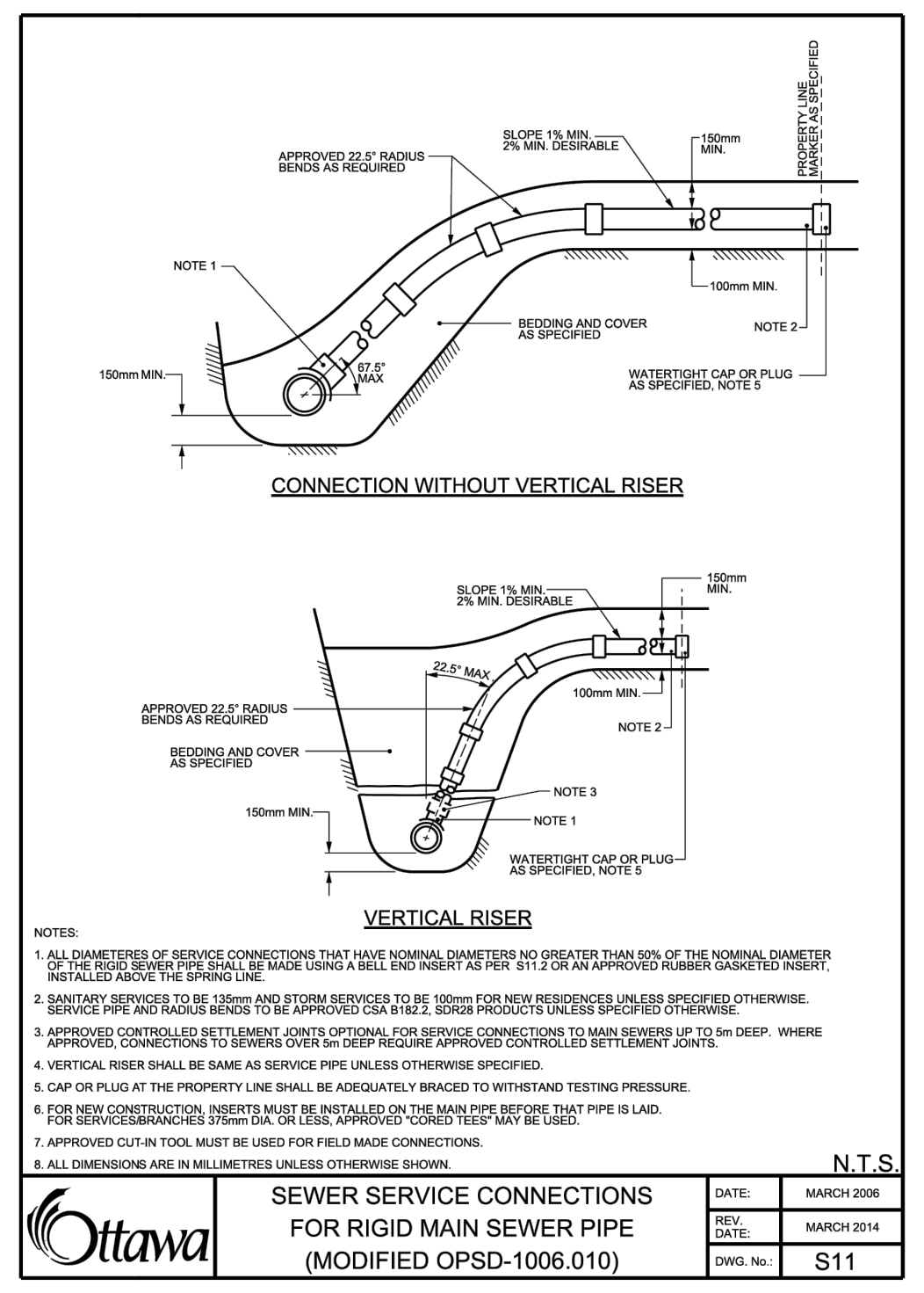


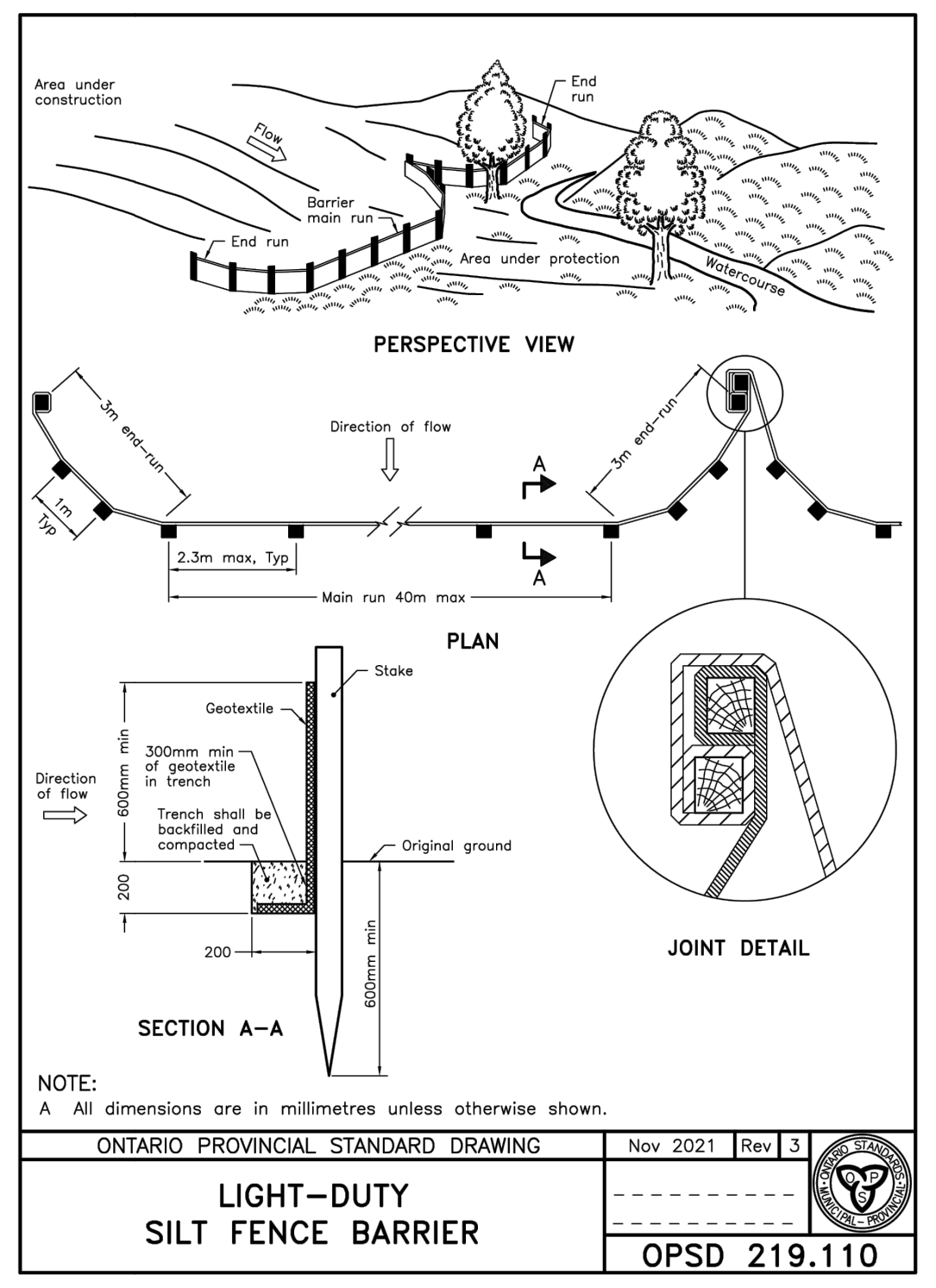
ORIFICE CAP DETAIL
N.T.S.

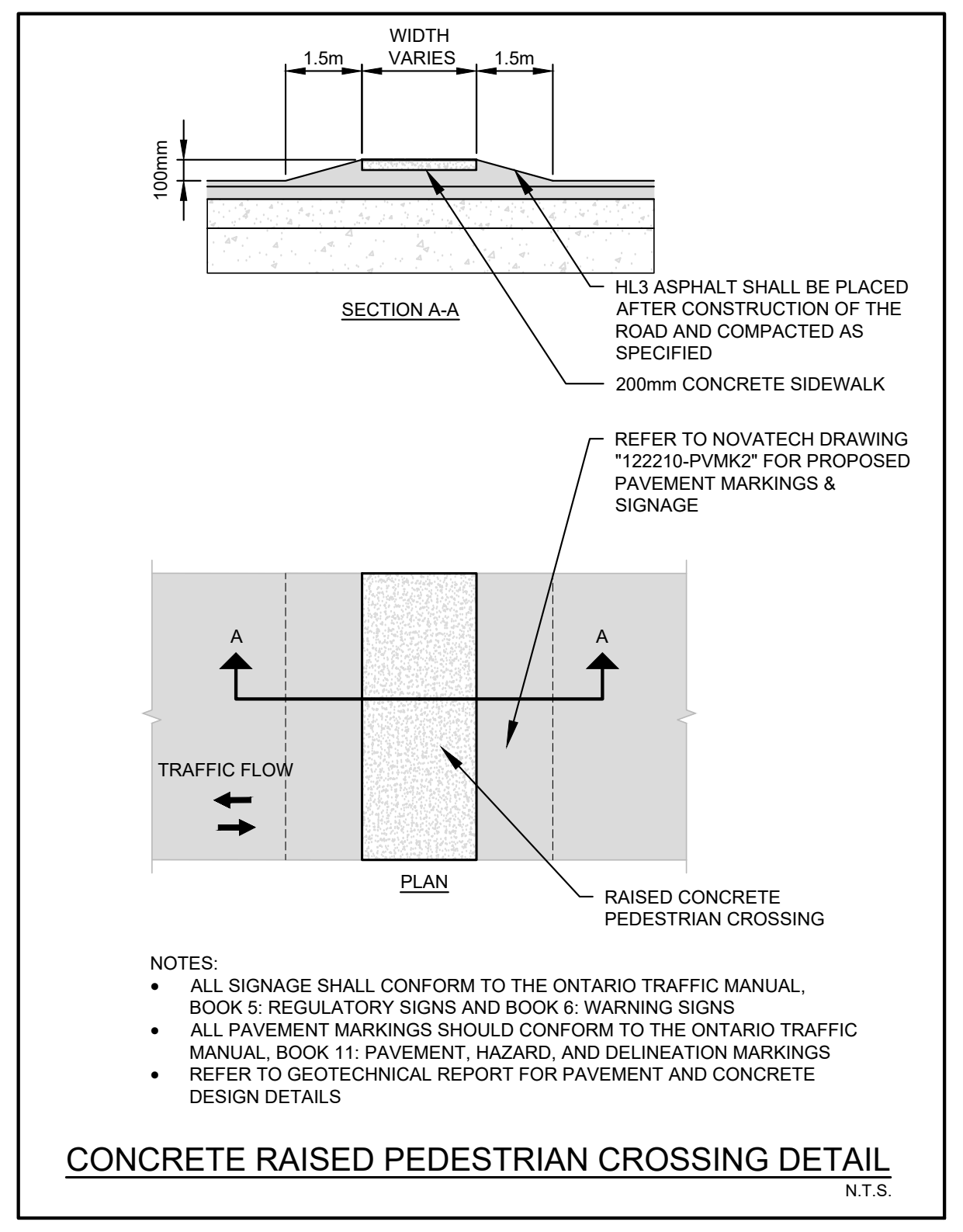








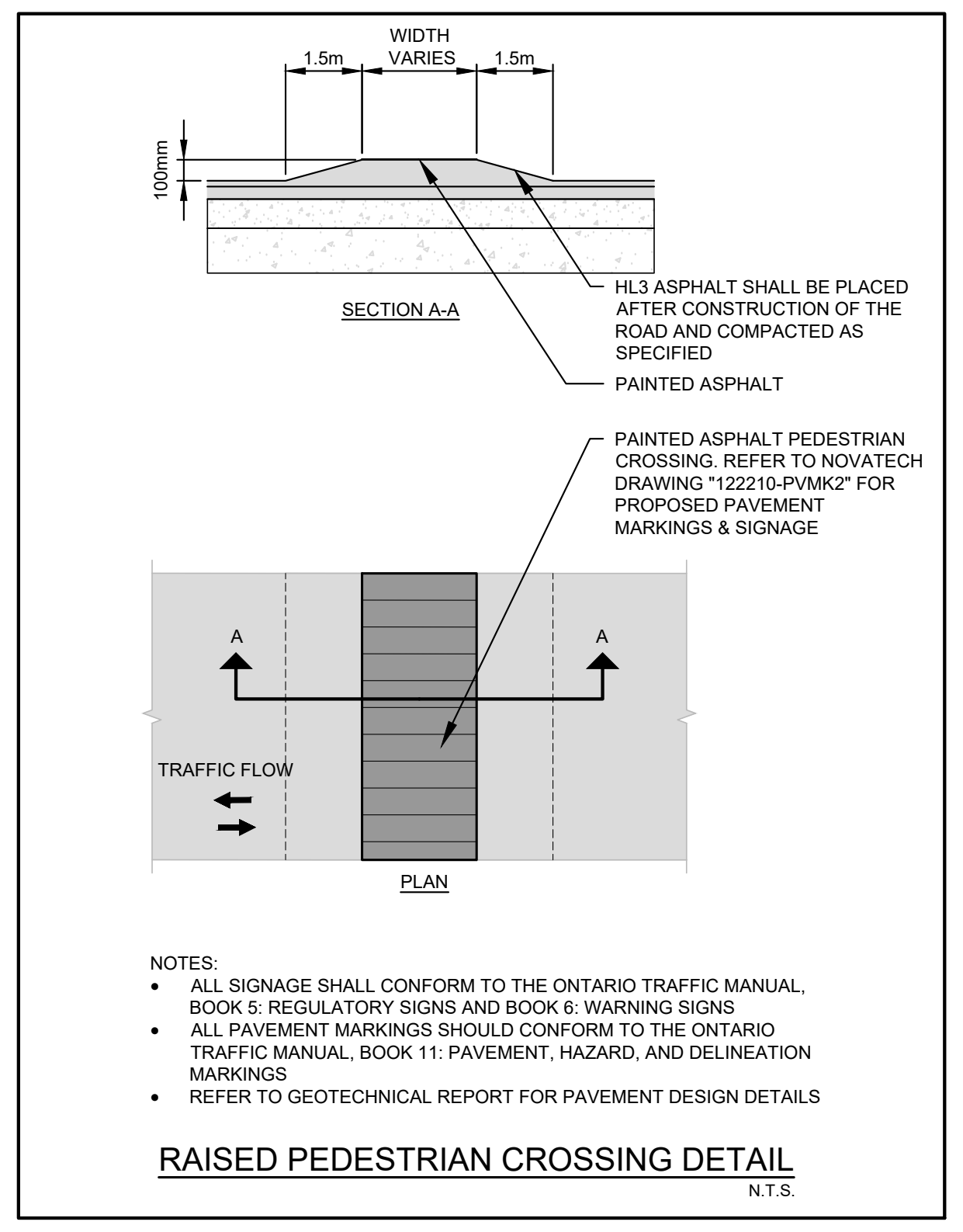




NOTES:

- ALL SIGNAGE SHALL CONFORM TO THE ONTARIO TRAFFIC MANUAL, BOOK 5: REGULATORY SIGNS AND BOOK 6: WARNING SIGNS
- ALL PAVEMENT MARKINGS SHOULD CONFORM TO THE ONTARIO TRAFFIC MANUAL, BOOK 11: PAVEMENT, HAZARD, AND DELINEATION MARKINGS
- REFER TO GEOTECHNICAL REPORT FOR PAVEMENT AND CONCRETE DESIGN DETAILS

CONCRETE RAISED PEDESTRIAN CROSSING DETAIL
N.T.S.



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RAISED PEDESTRIAN CROSSING DETAIL
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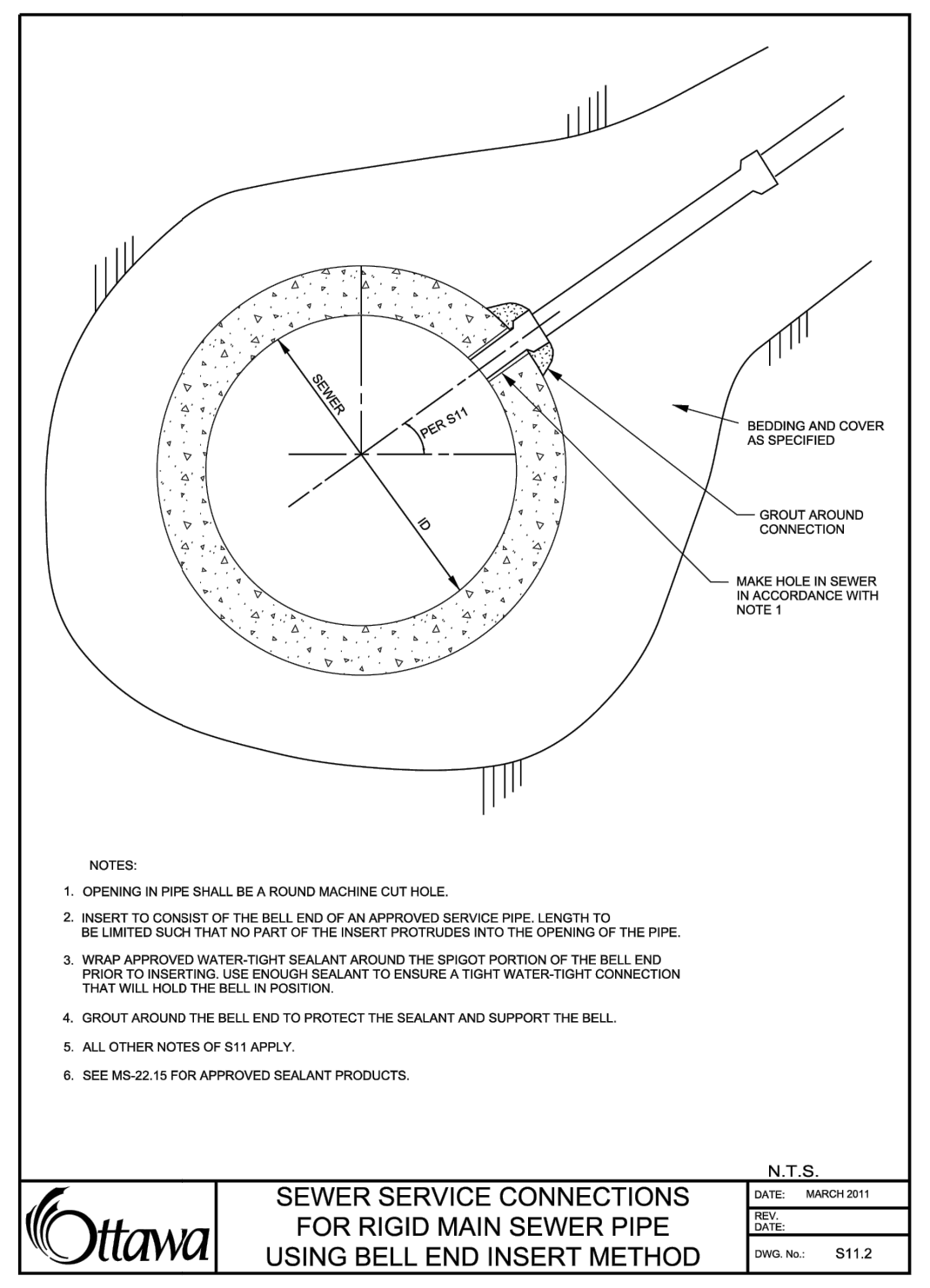
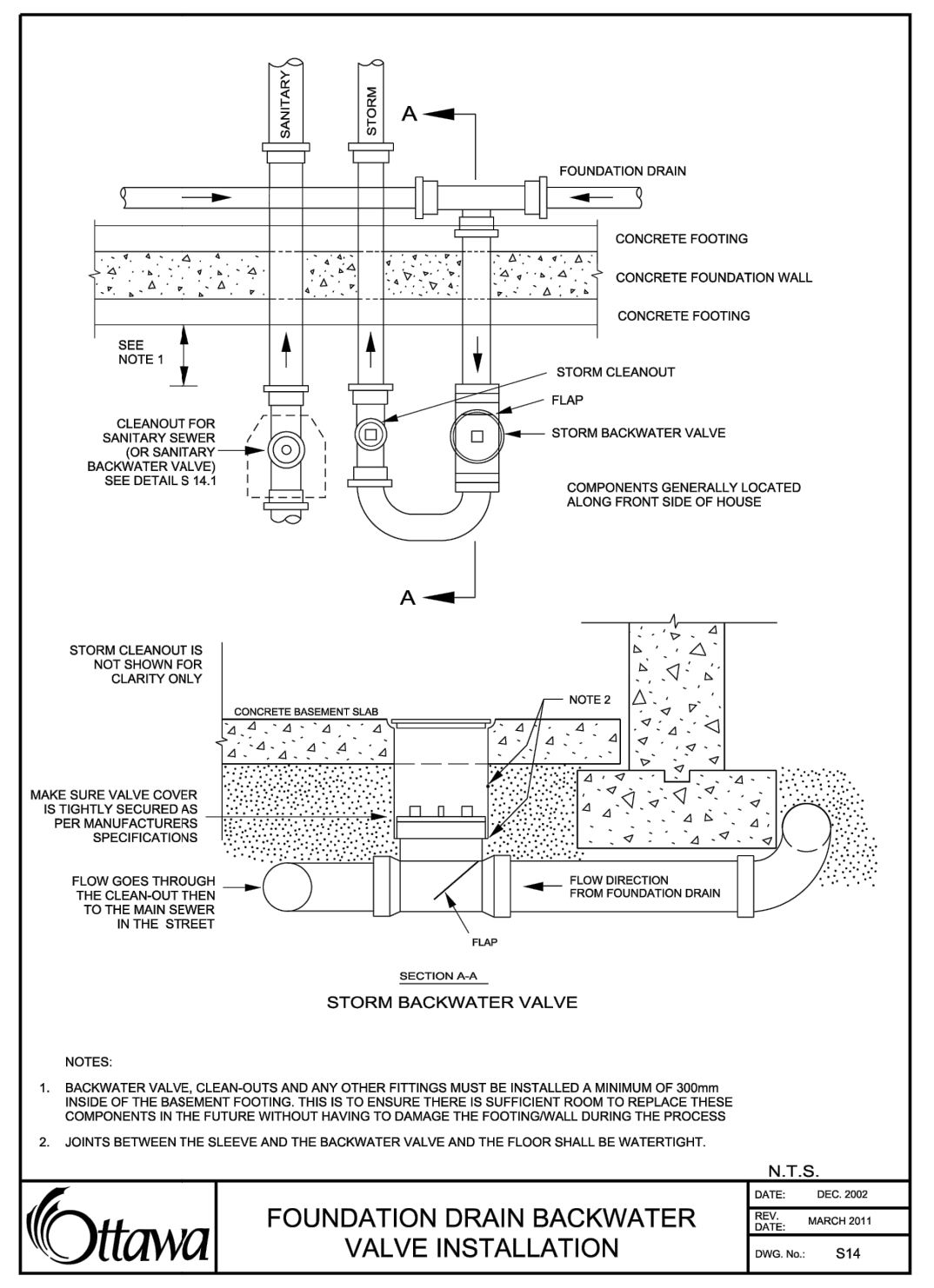
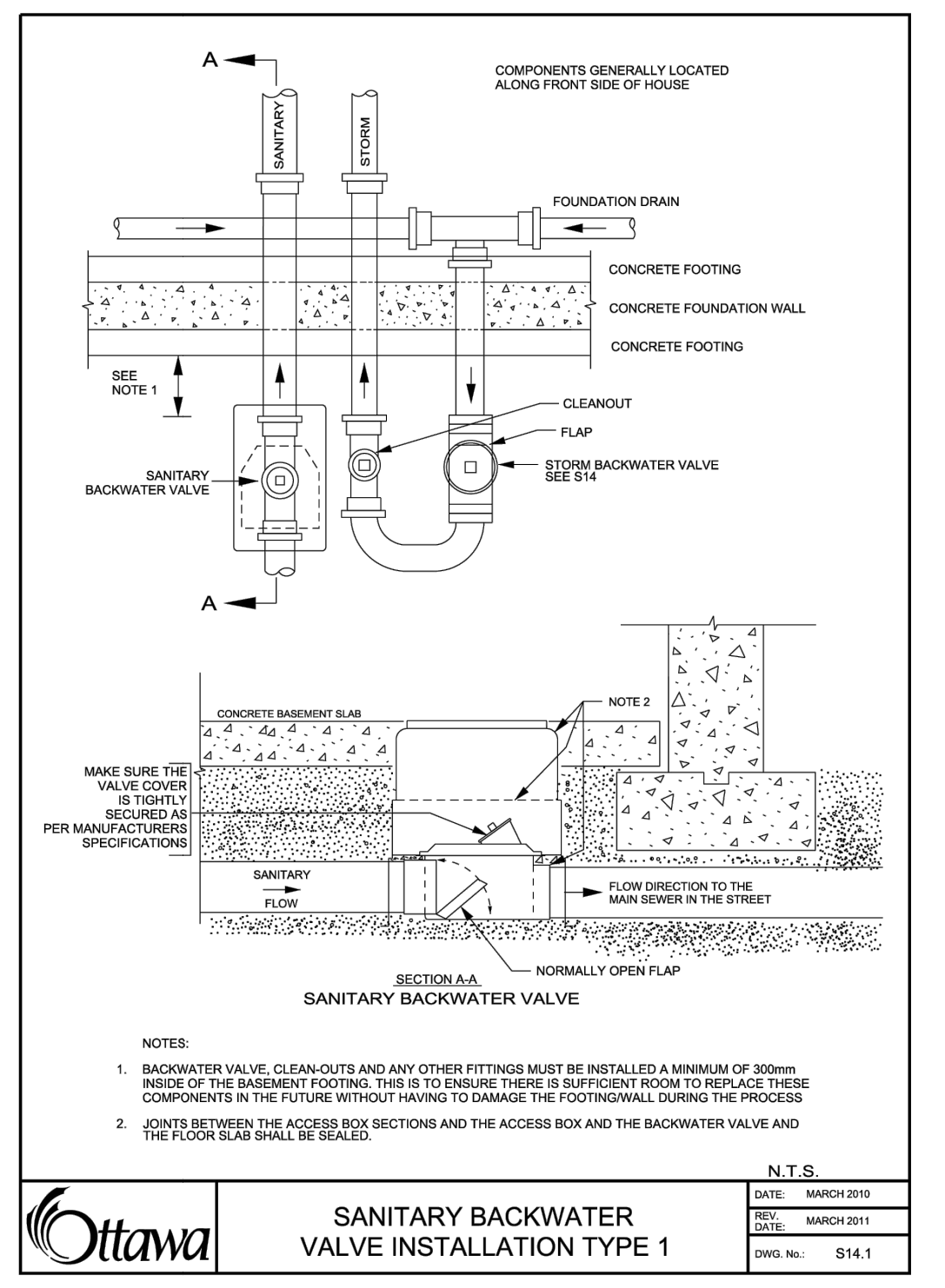
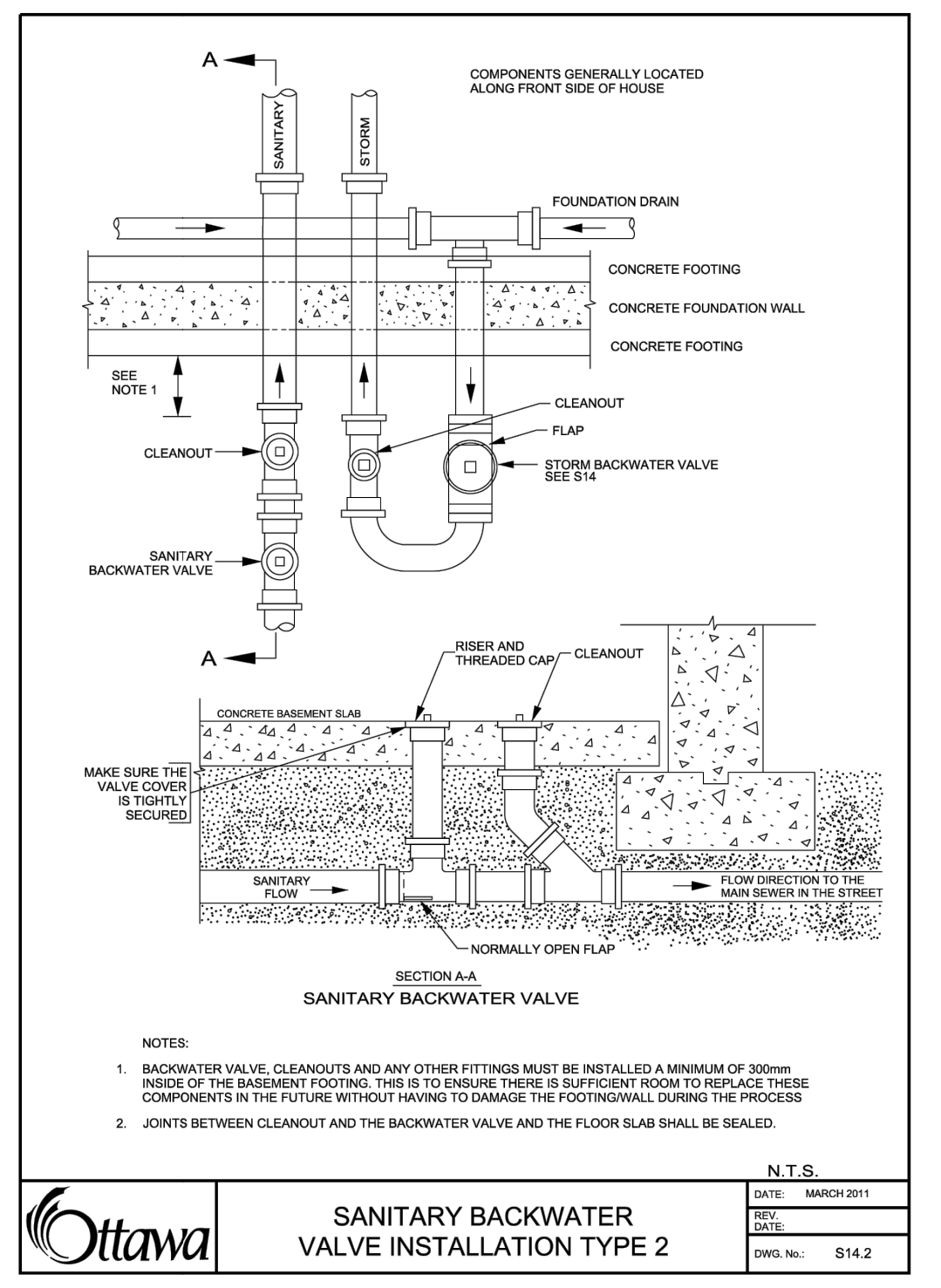
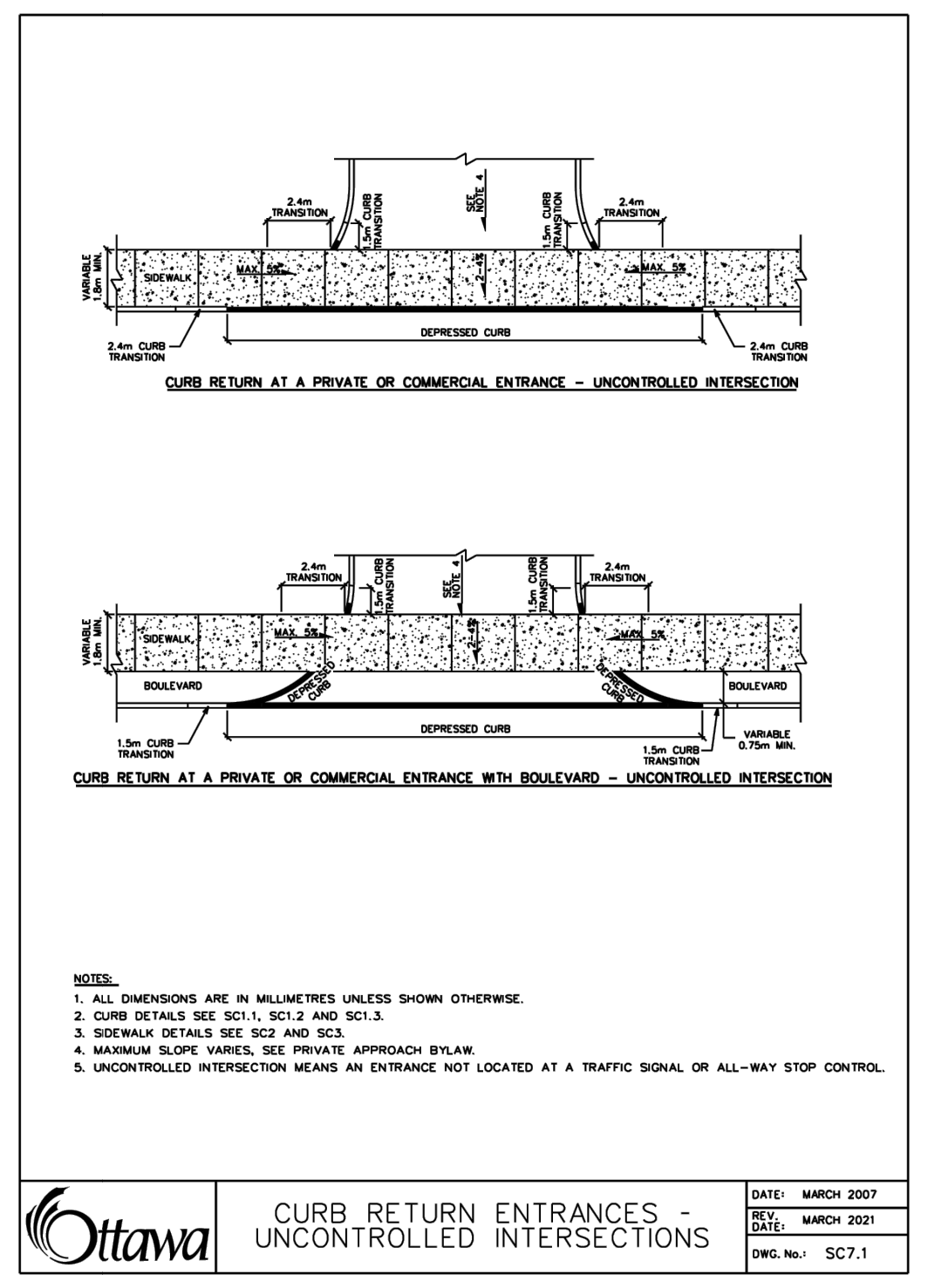
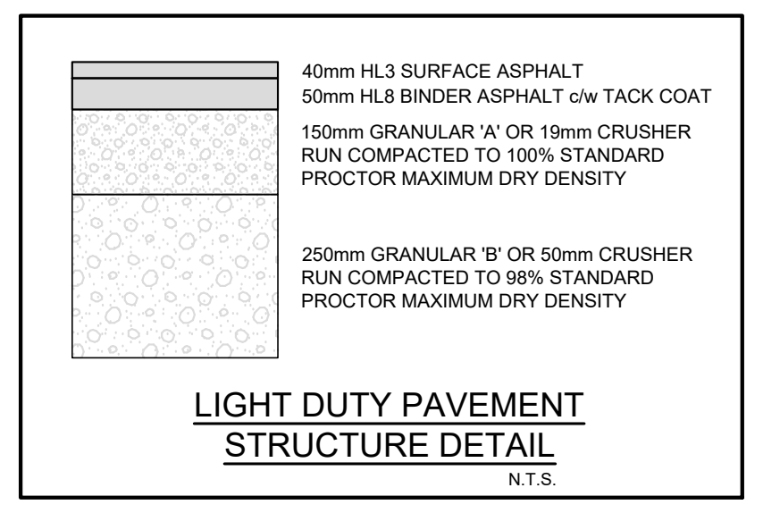




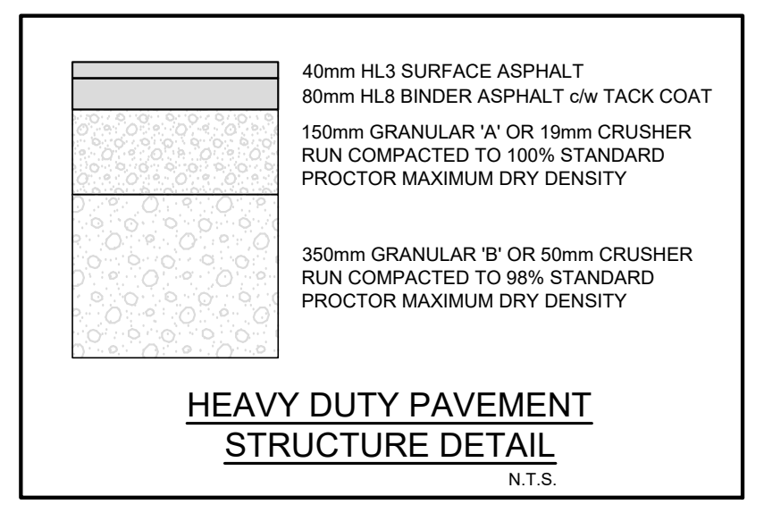








LIGHT DUTY PAVEMENT STRUCTURE DETAIL
N.T.S.



HEAVY DUTY PAVEMENT STRUCTURE DETAIL
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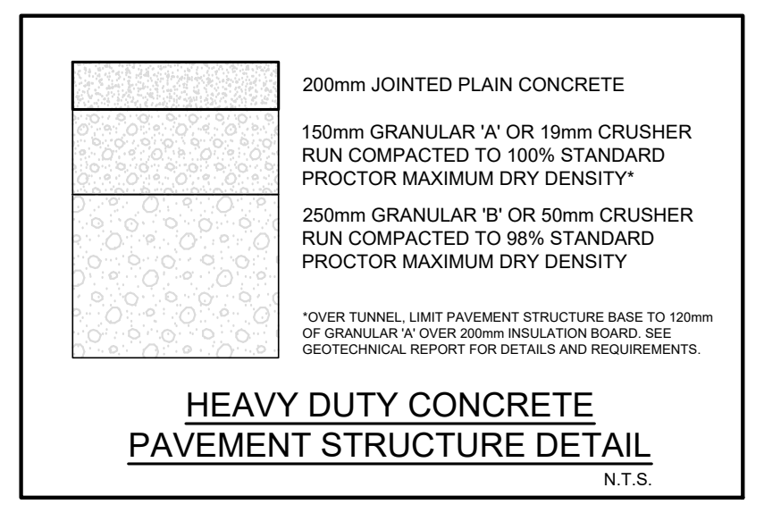
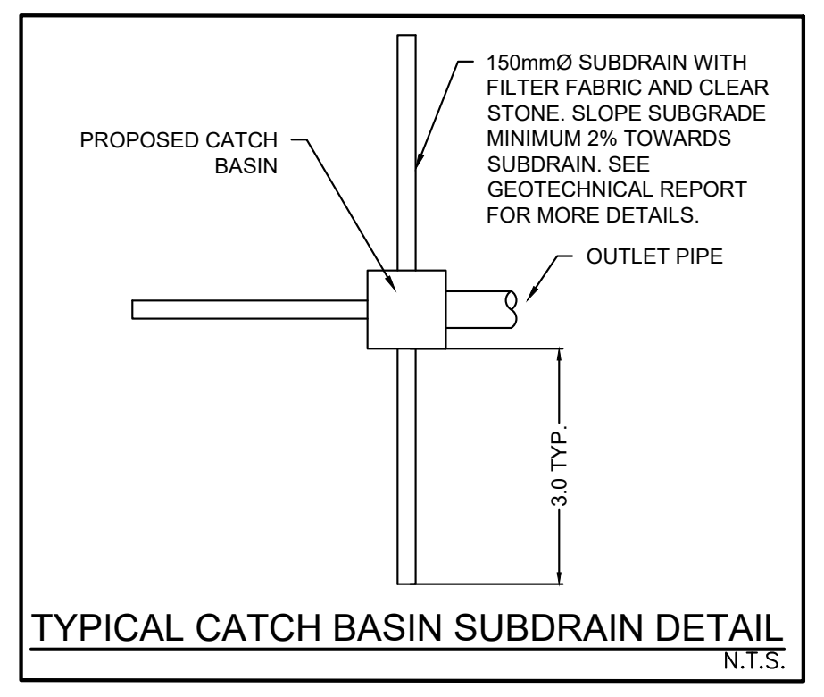
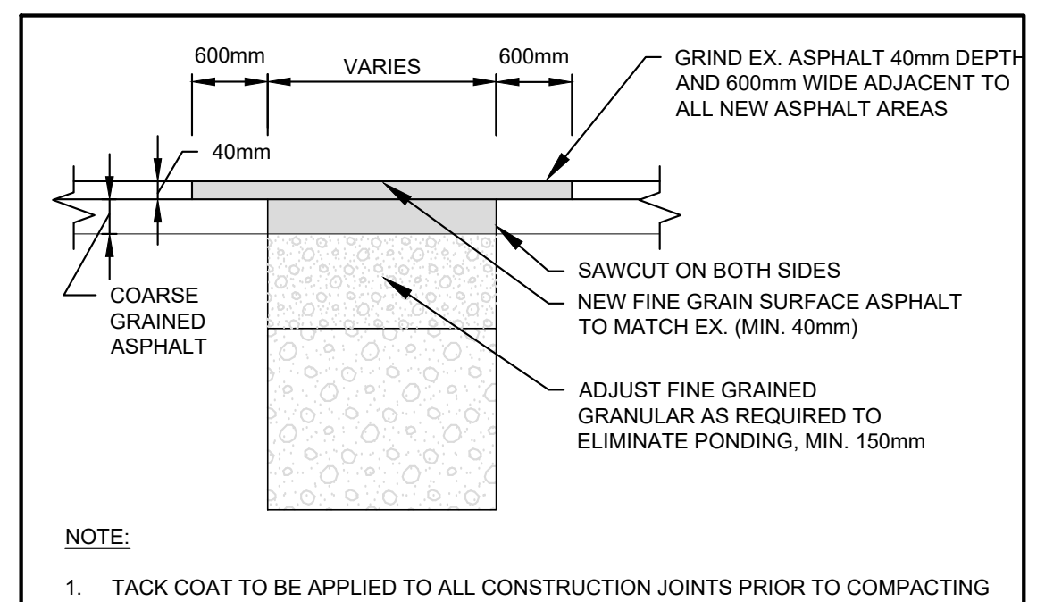


*OVER TUNNEL, LIMIT PAVEMENT STRUCTURE BASE TO 120mm OF GRANULAR 'A' OVER 200mm INSULATION BOARD. SEE GEOTECHNICAL REPORT FOR DETAILS AND REQUIREMENTS.

HEAVY DUTY CONCRETE PAVEMENT STRUCTURE DETAIL
N.T.S.



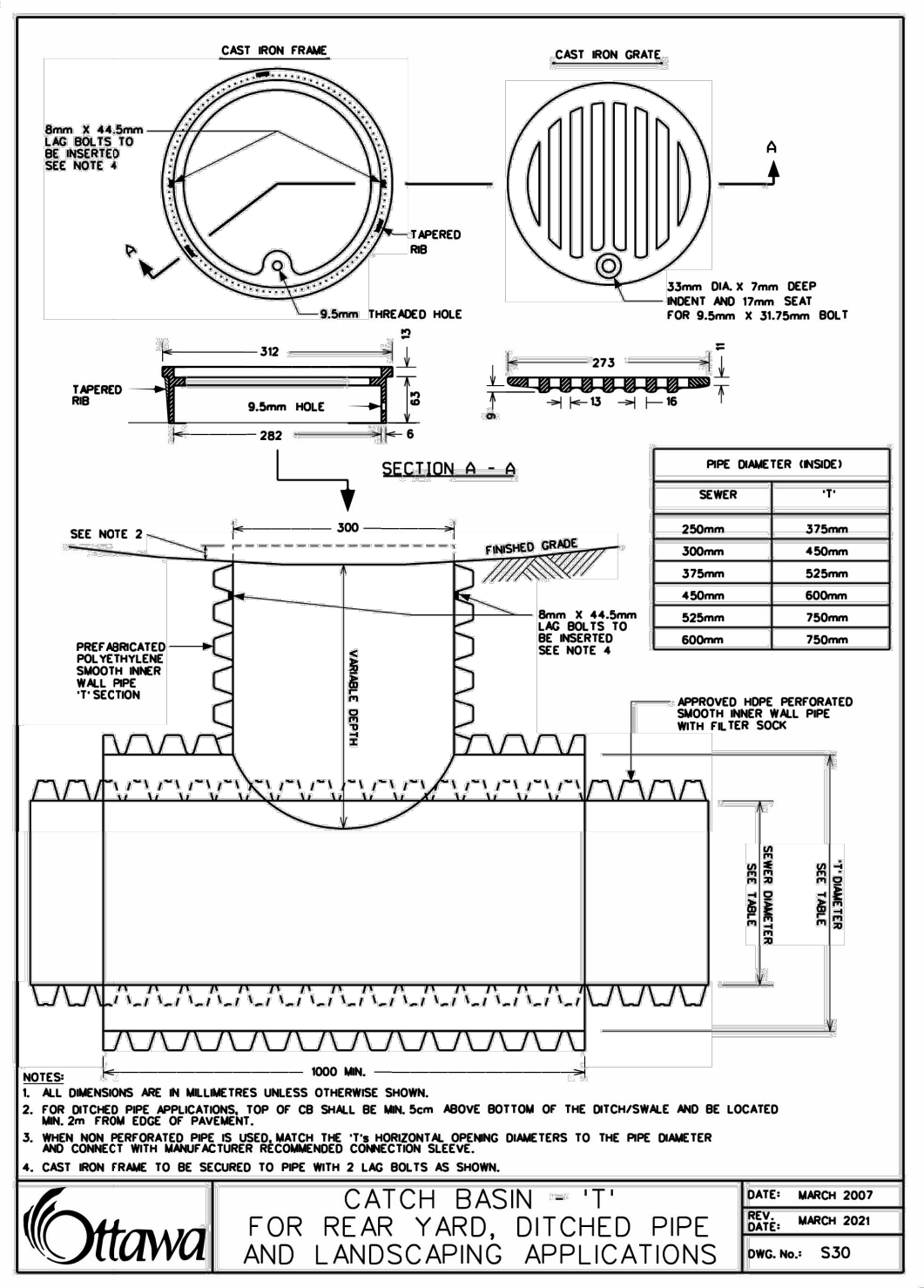
TYPICAL CATCH BASIN SUBDRAIN DETAIL
N.T.S.

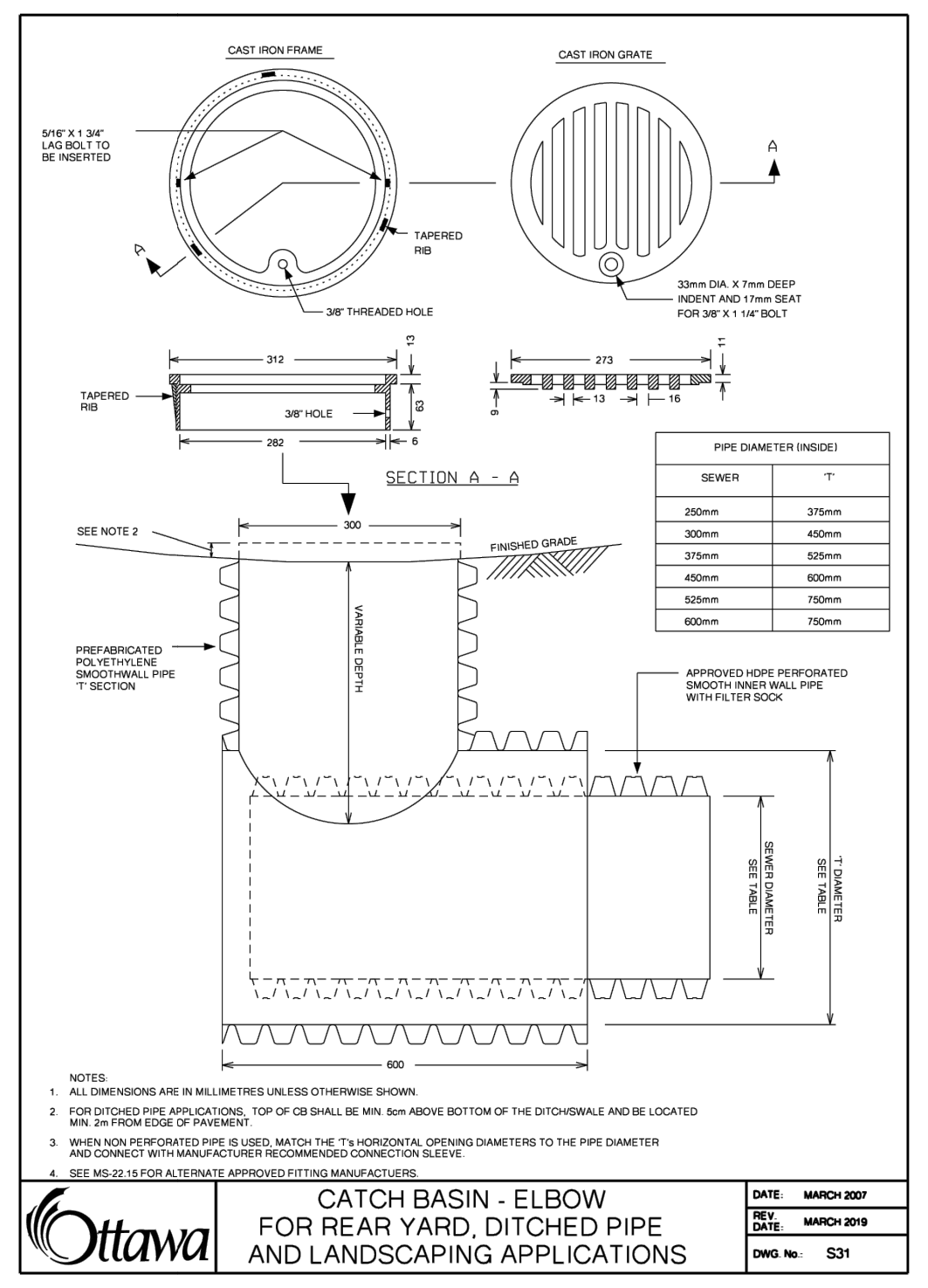


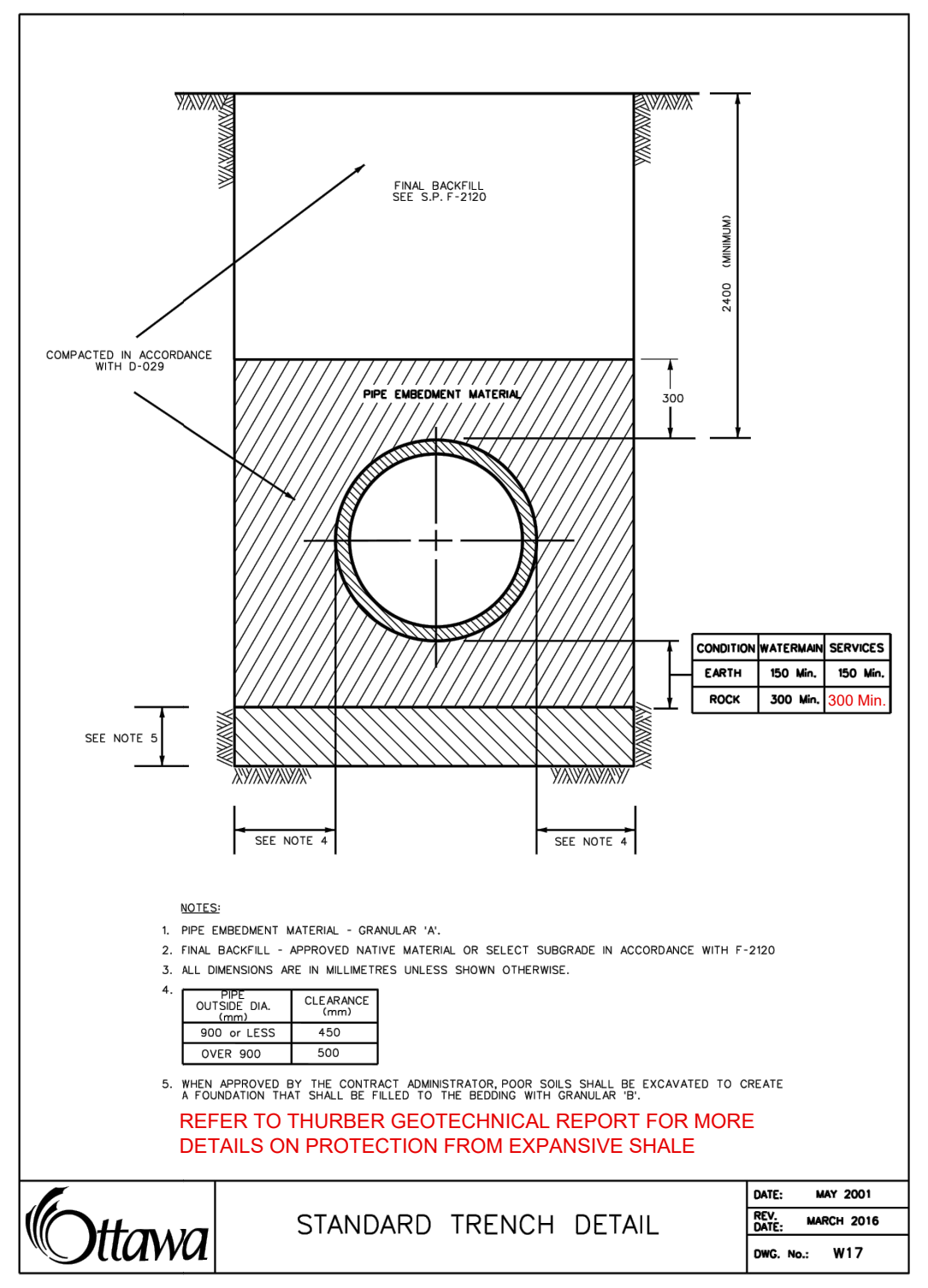
NOTE:

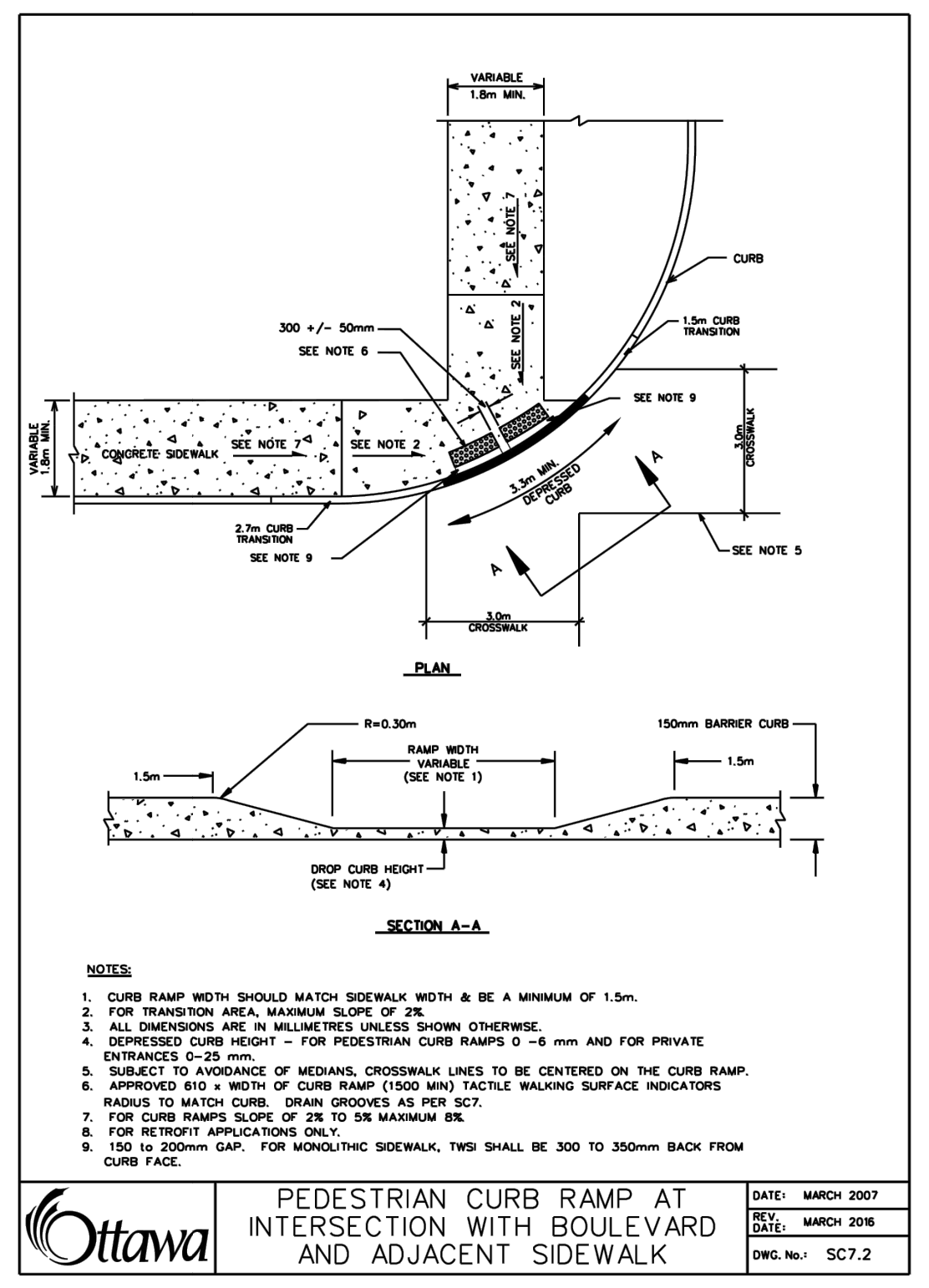
1. TACK COAT TO BE APPLIED TO ALL CONSTRUCTION JOINTS PRIOR TO COMPACTING ASPHALT

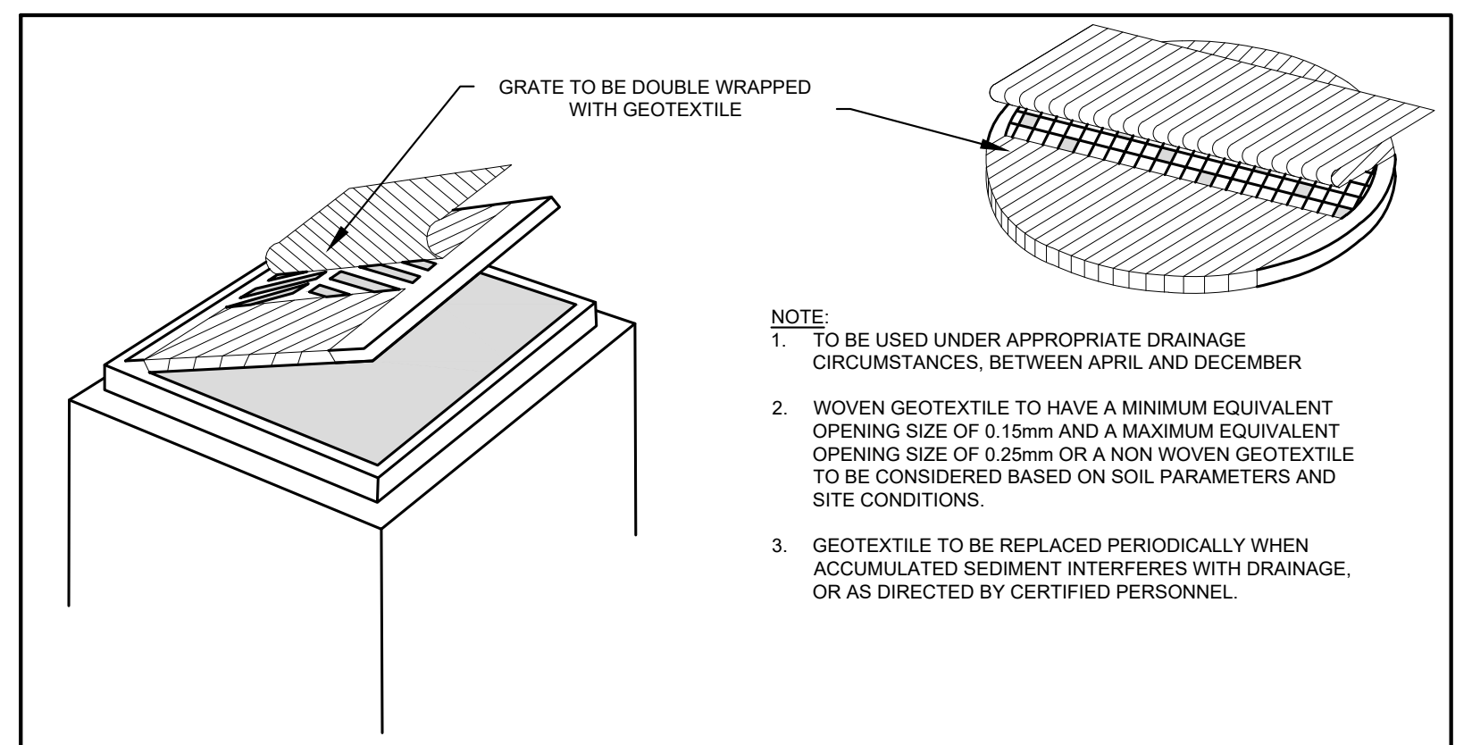
ASPHALT RESTORATION DETAIL
N.T.S.







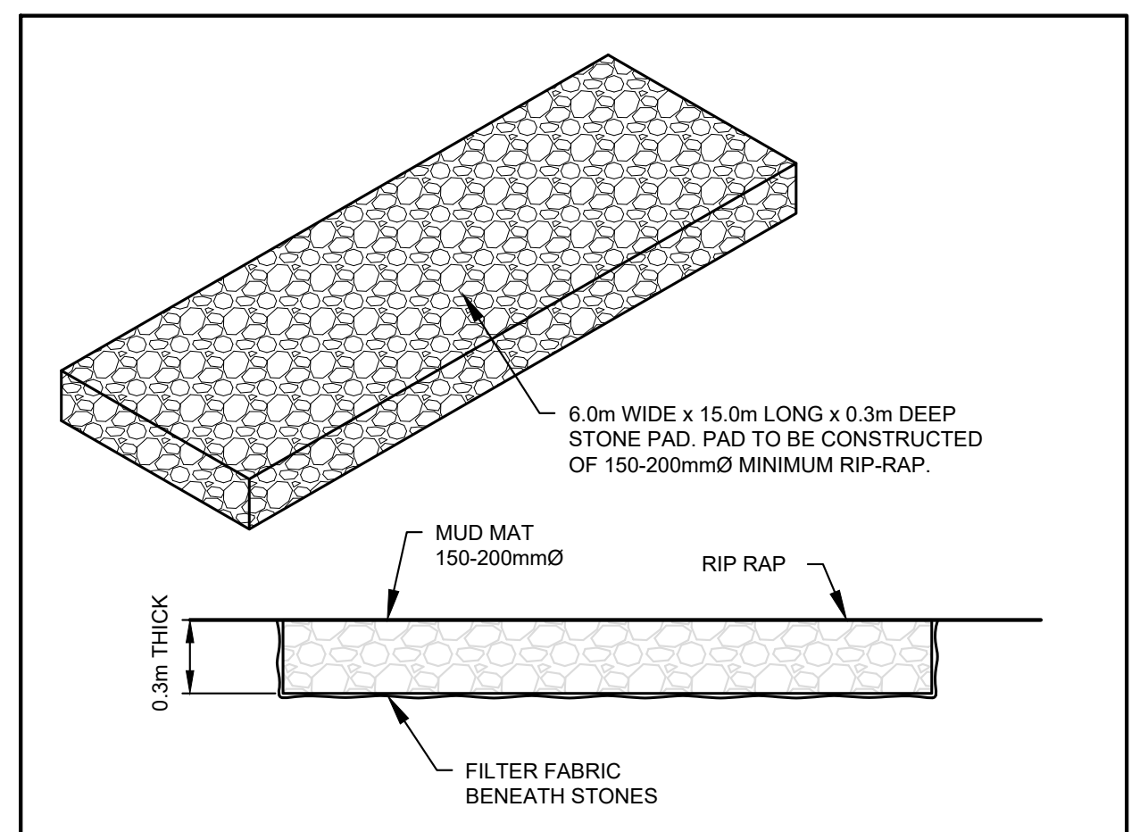




NOTE:

1. TO BE USED UNDER APPROPRIATE DRAINAGE CIRCUMSTANCES, BETWEEN APRIL AND DECEMBER
2. WOVEN GEOTEXTILE TO HAVE A MINIMUM EQUIVALENT OPENING SIZE OF 0.15mm AND A MAXIMUM EQUIVALENT OPENING SIZE OF 0.25mm OR A NON WOVEN GEOTEXTILE TO BE CONSIDERED BASED ON SOIL PARAMETERS AND SITE CONDITIONS.
3. GEOTEXTILE TO BE REPLACED PERIODICALLY WHEN ACCUMULATED SEDIMENT INTERFERES WITH DRAINAGE, OR AS DIRECTED BY CERTIFIED PERSONNEL.

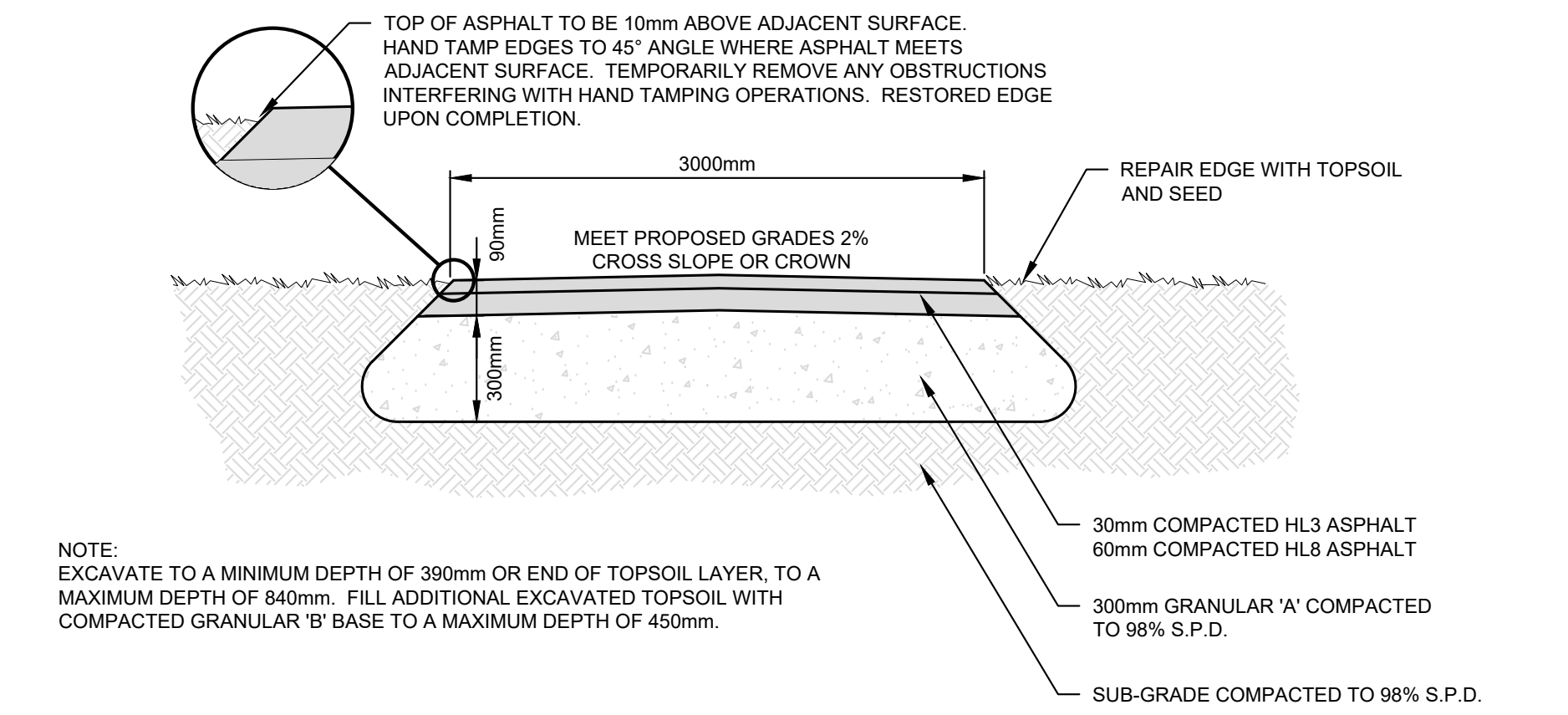
STRUCTURE INLET SILTATION CONTROL DETAIL
N.T.S.



NOTE:

1. MUD MAT TO BE CONSTRUCTED PRIOR TO ANY SITE WORKS AND TO BE THE DESIGNATED ACCESS FOR ALL CONSTRUCTION TRAFFIC.
2. CONTRACTOR TO CLEAN MUD MAT DAILY. MAT TO BE MAINTAINED IN GOOD WORKING ORDER UNTIL GRADING WORKS ARE COMPLETED AND GRANULAR "A" & "B" HAVE BEEN PLACED.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ANY MUD/SEDIMENT TRACKED ON TO MUNICIPAL ROADS.

CONSTRUCTION MUD MAT DETAIL
N.T.S.



NOTE:
EXCAVATE TO A MINIMUM DEPTH OF 390mm OR END OF TOPSOIL LAYER, TO A MAXIMUM DEPTH OF 840mm. FILL ADDITIONAL EXCAVATED TOPSOIL WITH COMPACTED GRANULAR 'B' BASE TO A MAXIMUM DEPTH OF 450mm.

ASPHALT TRAIL DETAIL
N.T.S.

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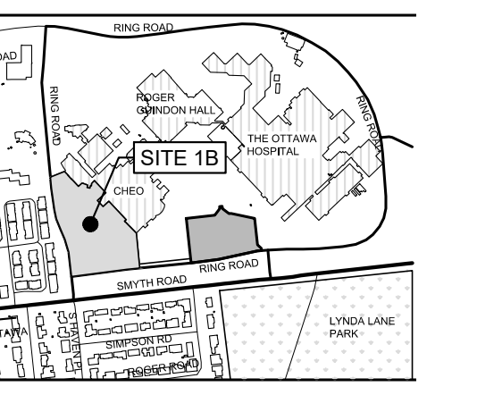
T: 519.576.2150 F: 519.576.5499 walterfedy.com

NORTH ARROW
TRUE NORTH
PROJECT NORTH

KEY PLAN



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4	24/04/19	ISSUED FOR 100% DD SUBMISSION
3	24/01/24	RE-ISSUED FOR BUILDING PERMIT (TUNNEL)
2	23/12/20	ISSUED FOR BUILDING PERMIT (TUNNEL)
1	23/12/15	RE-ISSUED FOR 50% DD SUBMISSION
0	23/12/15	ISSUED FOR 50% DD SUBMISSION

REVISIONS

S. L. FORWELL
7670557
2024-08-22

REPRODUCTION OR DISTRIBUTION FOR PURPOSES OTHER THAN AUTHORIZED BY WALTERFEDY IS FORBIDDEN. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS TO WALTERFEDY.
DO NOT SCALE THIS DRAWING.

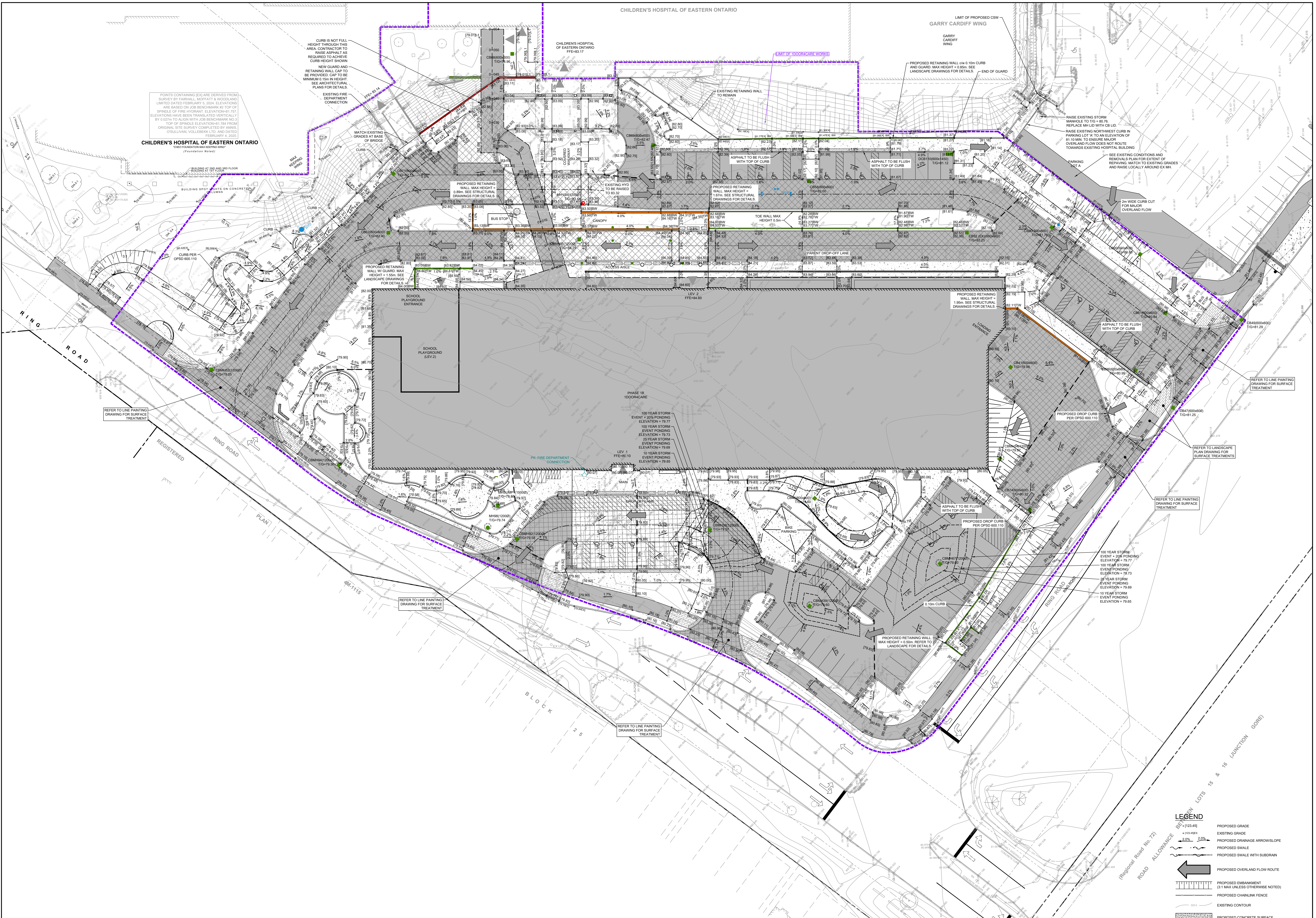
CLIENT
1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: 1DOOR4CARE
401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE
TYPICAL DETAILS AND NOTES PLAN

SCALE: AS NOTED
DRAWN BY: DL, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2024.08.19

DRAWING NUMBER:
C0009

PLAN #: 18912
DEVELOPMENT #: D07-12-22-0170



LEGEND

∘ [123.45]	PROPOSED GRADE
∘ [123.45]EX	EXISTING GRADE
← 2.0% → 2.0%	PROPOSED DRAINAGE ARROW/SLOPE
~→	PROPOSED SWALE
~···→	PROPOSED SWALE WITH SUBDRAIN
⇦	PROPOSED OVERLAND FLOW ROUTE
┬┬┬	PROPOSED EMBANKMENT (3:1 MAX UNLESS OTHERWISE NOTED)
—x—x—x—	PROPOSED CHAINLINK FENCE
325.0	EXISTING CONTOUR
▨	PROPOSED CONCRETE SURFACE
▨	PROPOSED GRAVEL SURFACE
▨	PROPOSED RIPRAP
▭	PROPOSED LIGHT DUTY ASPHALT SURFACE
▨	PROPOSED HEAVY DUTY ASPHALT SURFACE
▨	PROPOSED HEAVY DUTY MODIFIED CONCRETE SURFACE
🟧	PROPOSED RETAINING WALL (SEE STRUCUTRAL DRAWINGS FOR MORE DETAILS)
🟩	PROPOSED RETAINING WALL (SEE LANDSCAPE DRAWINGS FOR MORE DETAILS)
🟥	PROPOSED RETAINING WALL (SEE ARCHITECTURAL DRAWINGS FOR MORE DETAILS)
▦	PROPOSED UNIT PAVING
═	PROPOSED DIRECTIONAL TACTILE PLATE

PONDING SUMMARY TABLE

STORM EVENT	MAXIMUM PONDING DEPTH (m)	MAXIMUM PONDING ELEVATION (m)	MAXIMUM VOLUME UTILIZED (m^3)
2 YEAR	0.00	N/A	N/A
5 YEAR	0.00	N/A	N/A
10 YEAR	0.10	79.70	38.56
25 YEAR	0.13	79.73	50.45
50 YEAR	0.16	79.76	62.35
100 YEAR	0.18	79.78	70.28
100 YEAR + 20%	0.19	79.79	84.33

P:\2021\0821\10\06-DWGS\CIVIL\Plot Files\2021-0821-10 GRD_PLT_1B; C1101; None; Zack Schnurr; 2024-08-19 11:08:34 AM

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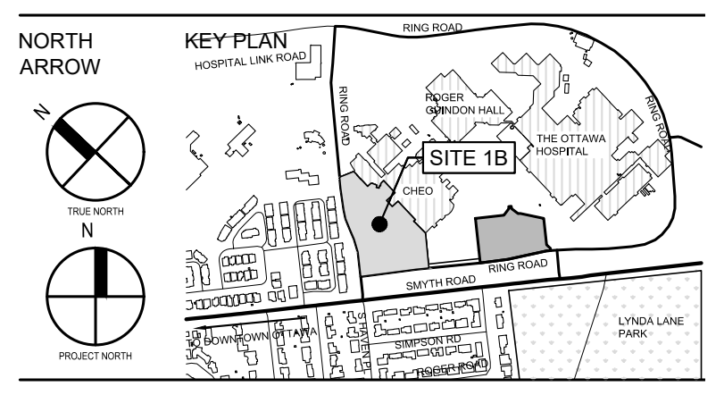
NORTH ARROW

KEY PLAN



GENERAL NOTES

1. THIS SET OF PLANS SHALL NOT BE USED FOR CONSTRUCTION UNTIL STAMPED BY THE DESIGN ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.
2. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE DESIGN ENGINEER.
3. THIS PLAN NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF WALTERFEDY.
4. THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS, AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM THEMSELVES OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM AND THOSE NOT LOCATED PRIOR TO CONSTRUCTION.
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7. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE CONSULTANT WITH A DIGITAL FILE OF AS-CONSTRUCTED DRAWINGS. THE DRAWINGS MUST REFLECT THE CONSTRUCTED STATE OF THE WORK. SUBMISSION OF UNALTERED DESIGN DRAWINGS AND CONTRACT CHANGES WILL NOT BE ACCEPTED.

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8	24/08/23	ISSUED FOR SITE PLAN CONTROL
7	24/08/07	ISSUED FOR 50% CD SUBMISSION
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1	23/12/15	RE-ISSUED FOR 50% DD SUBMISSION
0	23/12/15	ISSUED FOR 50% DD SUBMISSION

REVISIONS

LICENSED PROFESSIONAL ENGINEER
S. L. FORWELL
7670557
2024-08-22
PROVINCE OF ONTARIO

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CLIENT

1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: 1DOOR4CARE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

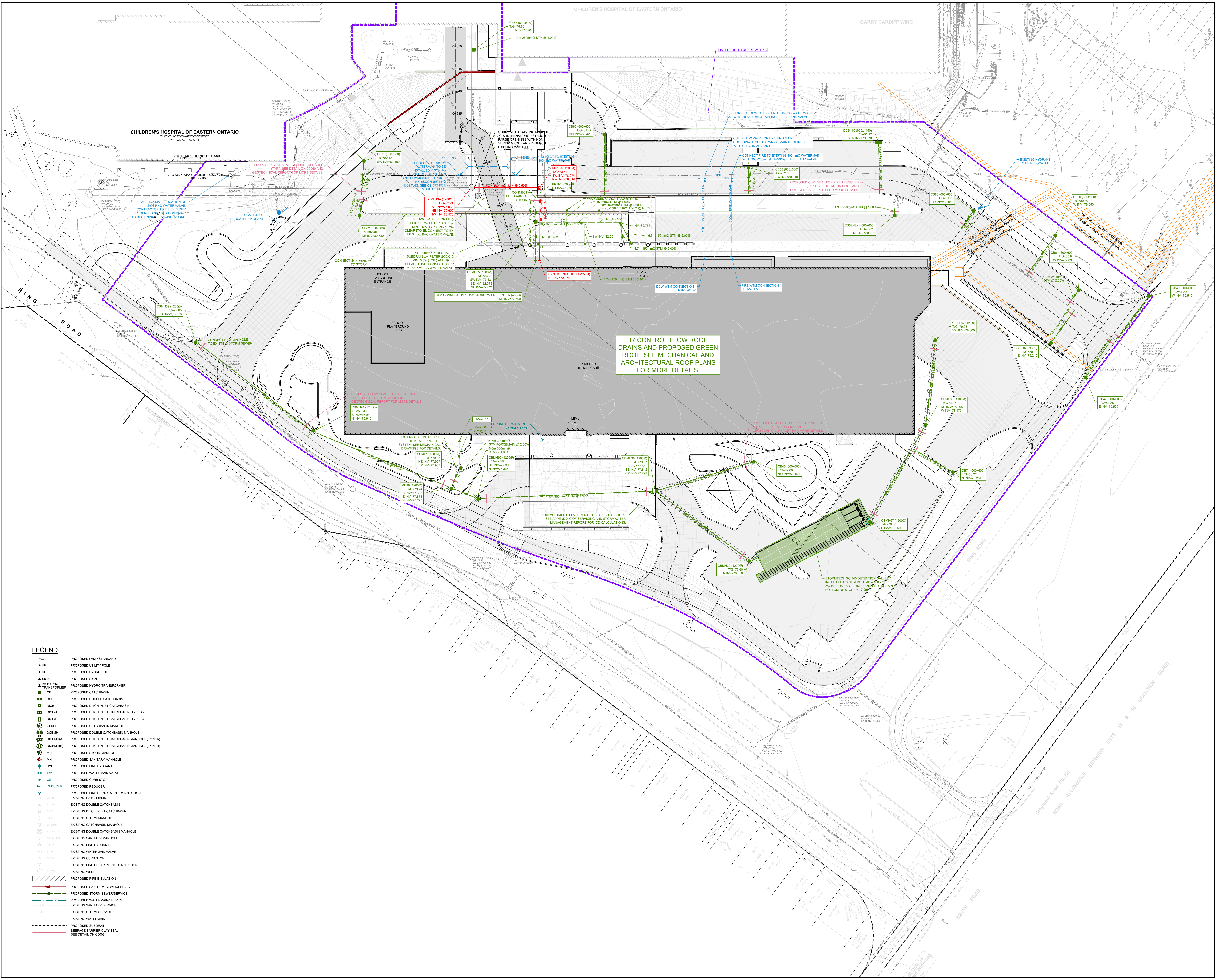
PROPOSED GRADING PLAN

SCALE: 1:250
DRAWN BY: DL, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2024.08.19

DRAWING NUMBER:

C1101

PLAN #: 18912
DEVELOPMENT #: D07-12-22-0170



LEGEND

	PROPOSED LAMP STANDARD
● UP	PROPOSED UTILITY POLE
● HP	PROPOSED HYDRO POLE
SIGN	PROPOSED SIGN
PR HYDRO TRANSFORMER	PROPOSED HYDRO TRANSFORMER
CB	PROPOSED CATCHBASIN
DCB	PROPOSED DOUBLE CATCHBASIN
DICB	PROPOSED DITCH INLET CATCHBASIN
DICB(A)	PROPOSED DITCH INLET CATCHBASIN (TYPE A)
DICB(B)	PROPOSED DITCH INLET CATCHBASIN (TYPE B)
CBMH	PROPOSED CATCHBASIN MANHOLE
DCBMH	PROPOSED DOUBLE CATCHBASIN MANHOLE
DICBMH(A)	PROPOSED DITCH INLET CATCHBASIN MANHOLE (TYPE A)
DICBMH(B)	PROPOSED DITCH INLET CATCHBASIN MANHOLE (TYPE B)
MH	PROPOSED STORM MANHOLE
MH	PROPOSED SANITARY MANHOLE
HYD	PROPOSED FIRE HYDRANT
WV	PROPOSED WATERMAIN VALVE
CS	PROPOSED CURB STOP
REDUCER	PROPOSED REDUCER
	PROPOSED FIRE DEPARTMENT CONNECTION
EX CB	EXISTING CATCHBASIN
EX DCB	EXISTING DOUBLE CATCHBASIN
EX DI	EXISTING DITCH INLET CATCHBASIN
EX MH	EXISTING STORM MANHOLE
EX CBMH	EXISTING CATCHBASIN MANHOLE
EX DCBMH	EXISTING DOUBLE CATCHBASIN MANHOLE
EX SAN MH	EXISTING SANITARY MANHOLE
EX HYD	EXISTING FIRE HYDRANT
EX WV	EXISTING WATERMAIN VALVE
EX CS	EXISTING CURB STOP
	EXISTING FIRE DEPARTMENT CONNECTION
EX WELL	EXISTING WELL
▨	PROPOSED PIPE INSULATION
	PROPOSED SANITARY SEWER/SERVICE
	PROPOSED STORM SEWER/SERVICE
	PROPOSED WATERMAIN/SERVICE
	EXISTING SANITARY SERVICE
	EXISTING STORM SERVICE
	EXISTING WATERMAIN
	PROPOSED SUBDRAIN
	SEEPAGE BARRIER CLAY SEAL. SEE DETAIL ON C0009.

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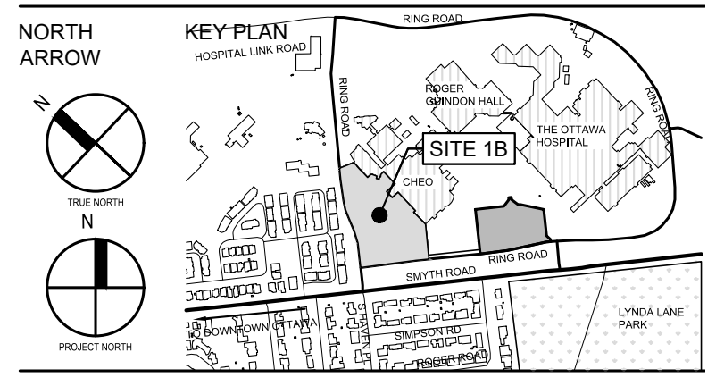

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REVISIONS

LICENSED PROFESSIONAL ENGINEER
S. L. FORWELL
7670557
2024-08-22
PROVINCE OF ONTARIO

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CLIENT

1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: 1DOOR4CARE

401 SMYTH RD. OTTAWA, ON K1H8L1

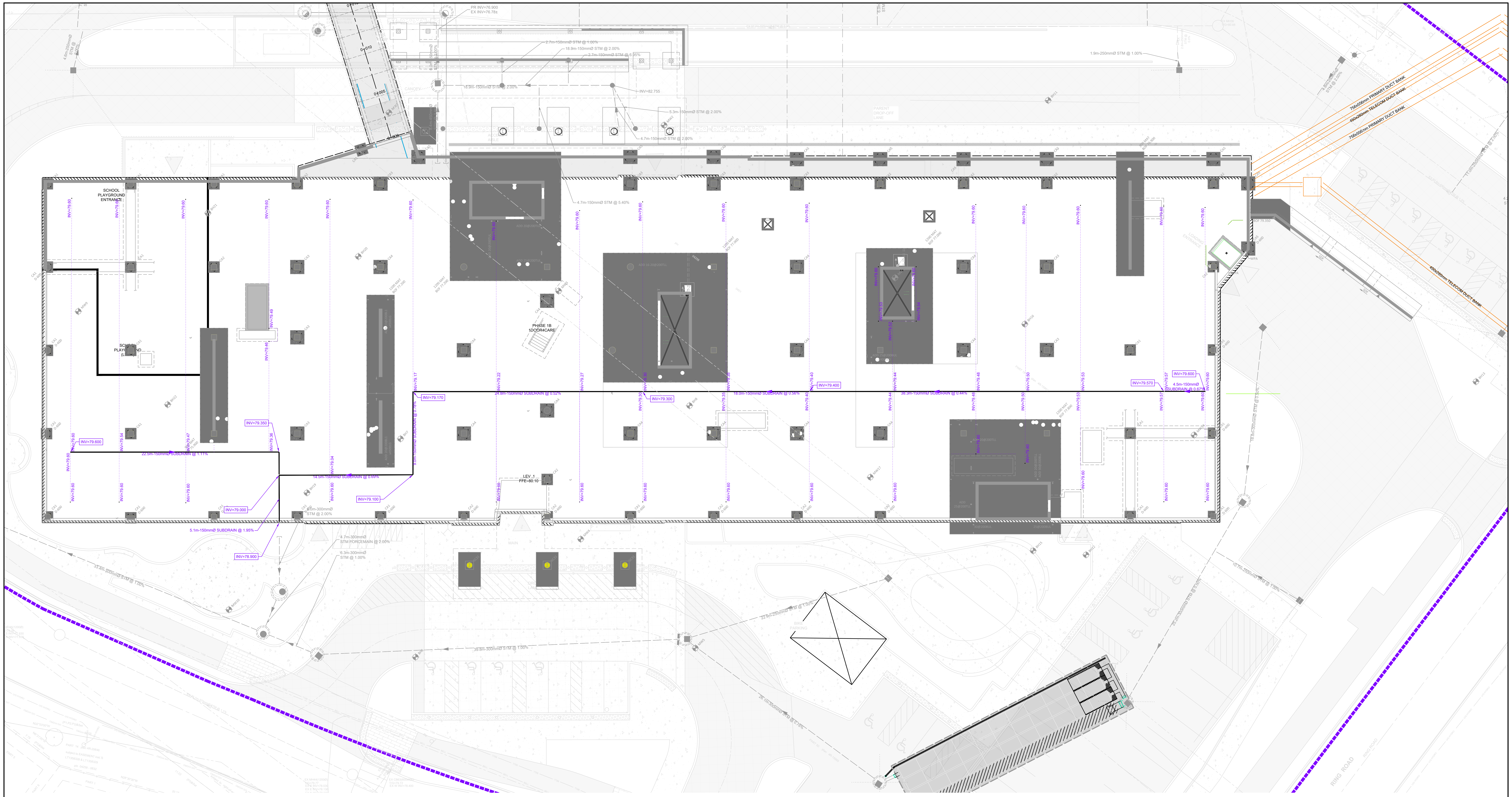
TITLE

PROPOSED SERVICING PLAN

SCALE: 1:250
DRAWN BY: DL, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2024.08.21

DRAWING NUMBER:
C1201

PLAN #: 18912
DEVELOPMENT #: D07-12-22-0170



LEGEND

▭		PROPOSED LAMP STANDARD
●	UP	PROPOSED UTILITY POLE
●	HP	PROPOSED HYDRO POLE
	SIGN	PROPOSED SIGN
	PR HYDRO TRANSFORMER	PROPOSED HYDRO TRANSFORMER
■	CB	PROPOSED CATCHBASIN
■■	DCB	PROPOSED DOUBLE CATCHBASIN
	DICB	PROPOSED DITCH INLET CATCHBASIN
	DICB(A)	PROPOSED DITCH INLET CATCHBASIN (TYPE A)
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	DICBMH(A)	PROPOSED DITCH INLET CATCHBASIN MANHOLE (TYPE A)
	DICBMH(B)	PROPOSED DITCH INLET CATCHBASIN MANHOLE (TYPE B)
	MH	PROPOSED STORM MANHOLE
	MH	PROPOSED SANITARY MANHOLE
	HYD	PROPOSED FIRE HYDRANT
⋈	WV	PROPOSED WATERMAIN VALVE
●	CS	PROPOSED CURB STOP
▶	REDUCER	PROPOSED REDUCER
		PROPOSED FIRE DEPARTMENT CONNECTION
□	EX CB	EXISTING CATCHBASIN
	EX DCB	EXISTING DOUBLE CATCHBASIN
	EX DI	EXISTING DITCH INLET CATCHBASIN
○	EX MH	EXISTING STORM MANHOLE
	EX CBMH	EXISTING CATCHBASIN MANHOLE
	EX DCBMH	EXISTING DOUBLE CATCHBASIN MANHOLE
⊘	EX SAN MH	EXISTING SANITARY MANHOLE
	EX HYD	EXISTING FIRE HYDRANT
⋈	EX WV	EXISTING WATERMAIN VALVE
○	EX CS	EXISTING CURB STOP
		EXISTING FIRE DEPARTMENT CONNECTION
○	EX WELL	EXISTING WELL
▨		PROPOSED PIPE INSULATION
		PROPOSED SANITARY SEWER/SERVICE
		PROPOSED STORM SEWER/SERVICE
		PROPOSED WATERMAIN/SERVICE
		EXISTING SANITARY SERVICE
		EXISTING STORM SERVICE
		EXISTING WATERMAIN
		PROPOSED SUBDRAIN

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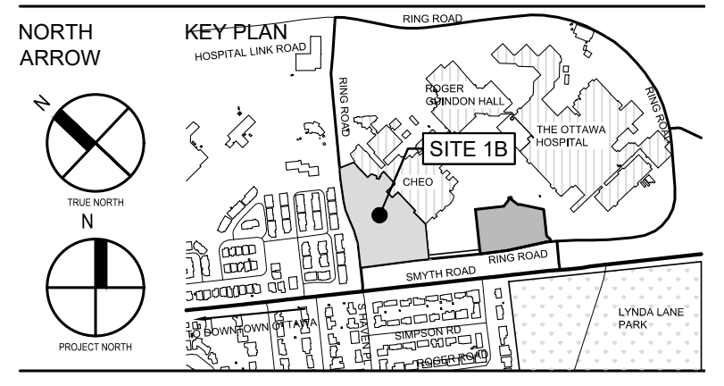
KITCHENER OFFICE
675 Queen Street South, Suite 111, Kitchener, Ontario N2M 1A1
T: 519.576.2150 F: 519.576.5499 walterfedy.com

NORTH ARROW

TRUE NORTH

PROJECT NORTH

KEY PLAN



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REVISIONS

S. L. FORWELL
7670557
2024-08-22

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CLIENT

1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: 1DOOR4CARE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

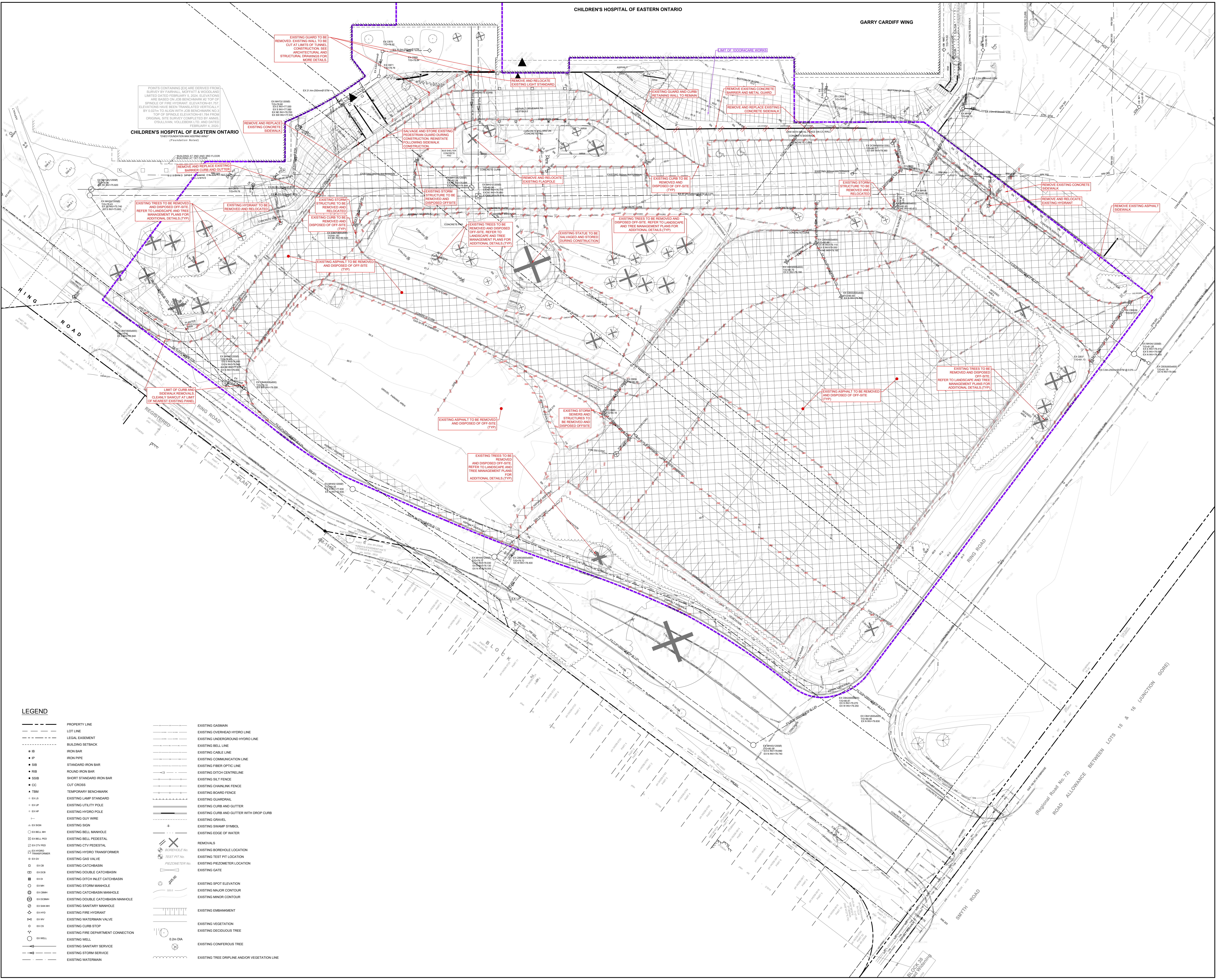
PROPOSED BUILDING SUBDRAIN PLAN

SCALE: 1:150
DRAWN BY: DL, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2024.08.21

DRAWING NUMBER:

C1202

PLAN #: 18912
DEVELOPMENT #: D07-12-22-0170



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LEGEND

▬ ▬ ▬	PROPERTY LINE
— — —	LOT LINE
— - - —	LEGAL EASEMENT
- - - - -	BUILDING SETBACK
◘ IB	IRON BAR
● IP	IRON PIPE
■ SIB	STANDARD IRON BAR
● RIB	ROUND IRON BAR
■ SSIB	SHORT STANDARD IRON BAR
✖ CC	CUT CROSS
▲ TBM	TEMPORARY BENCHMARK
○ EX LS	EXISTING LAMP STANDARD
○ EX UP	EXISTING UTILITY POLE
○ EX HP	EXISTING HYDRO POLE
⟵	EXISTING GUY WIRE
EX SIGN	EXISTING SIGN
○ EX BELL MH	EXISTING BELL MANHOLE
☒ EX BELL PED	EXISTING BELL PEDESTAL
◪ EX CTV PED	EXISTING CTV PEDESTAL
EX HYDRO TRANSFORMER	EXISTING HYDRO TRANSFORMER
⊗ EX GV	EXISTING GAS VALVE
□ EX CB	EXISTING CATCHBASIN
EX DCB	EXISTING DOUBLE CATCHBASIN
EX DI	EXISTING DITCH INLET CATCHBASIN
○ EX MH	EXISTING STORM MANHOLE
EX CBMH	EXISTING CATCHBASIN MANHOLE
EX DCBMH	EXISTING DOUBLE CATCHBASIN MANHOLE
⊘ EX SAN MH	EXISTING SANITARY MANHOLE
EX HYD	EXISTING FIRE HYDRANT
⋈ EX WV	EXISTING WATERMAIN VALVE
○ EX CS	EXISTING CURB STOP
	EXISTING FIRE DEPARTMENT CONNECTION
○ EX WELL	EXISTING WELL
	EXISTING SANITARY SERVICE
	EXISTING STORM SERVICE
	EXISTING WATERMAIN
— GAS — GAS — GAS —	EXISTING GASMAIN
— O/H HYDRO — O/H HYDRO —	EXISTING OVERHEAD HYDRO LINE
— U/G HYDRO — U/G HYDRO —	EXISTING UNDERGROUND HYDRO LINE
— BELL — BELL — BELL —	EXISTING BELL LINE
— CTV — CTV — CTV —	EXISTING CABLE LINE
— COMM — COMM — COMM —	EXISTING COMMUNICATION LINE
— F/O — F/O — F/O —	EXISTING FIBER OPTIC LINE
	EXISTING DITCH CENTRELINE
—□—□—□—	EXISTING SILT FENCE
—x—x—x—	EXISTING CHAINLINK FENCE
—o—o—o—	EXISTING BOARD FENCE
o o o o o o	EXISTING GUARDRAIL
	EXISTING CURB AND GUTTER
	EXISTING CURB AND GUTTER WITH DROP CURB
- - - - -	EXISTING GRAVEL
	EXISTING SWAMP SYMBOL
— · · · —	EXISTING EDGE OF WATER
// ✕	REMOVALS
BOREHOLE No.	EXISTING BOREHOLE LOCATION
TEST PIT No.	EXISTING TEST PIT LOCATION
PIEZOMETER No.	EXISTING PIEZOMETER LOCATION
	EXISTING GATE
×325.00	EXISTING SPOT ELEVATION
325.0	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING EMBANKMENT
	EXISTING VEGETATION
0.2m DIA	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	EXISTING TREE DRIPLINE AND/OR VEGETATION LINE

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WALTERFEDY
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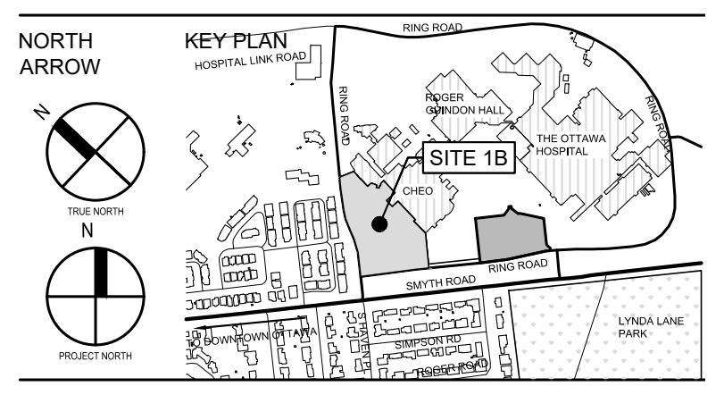
T: 519.576.2150 F: 519.576.5499 walterfedy.com

NORTH ARROW



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REVISIONS

S. L. FORWELL
7670557
2024-08-22

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DO NOT SCALE THIS DRAWING.

CLIENT

1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: 1DOOR4CARE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

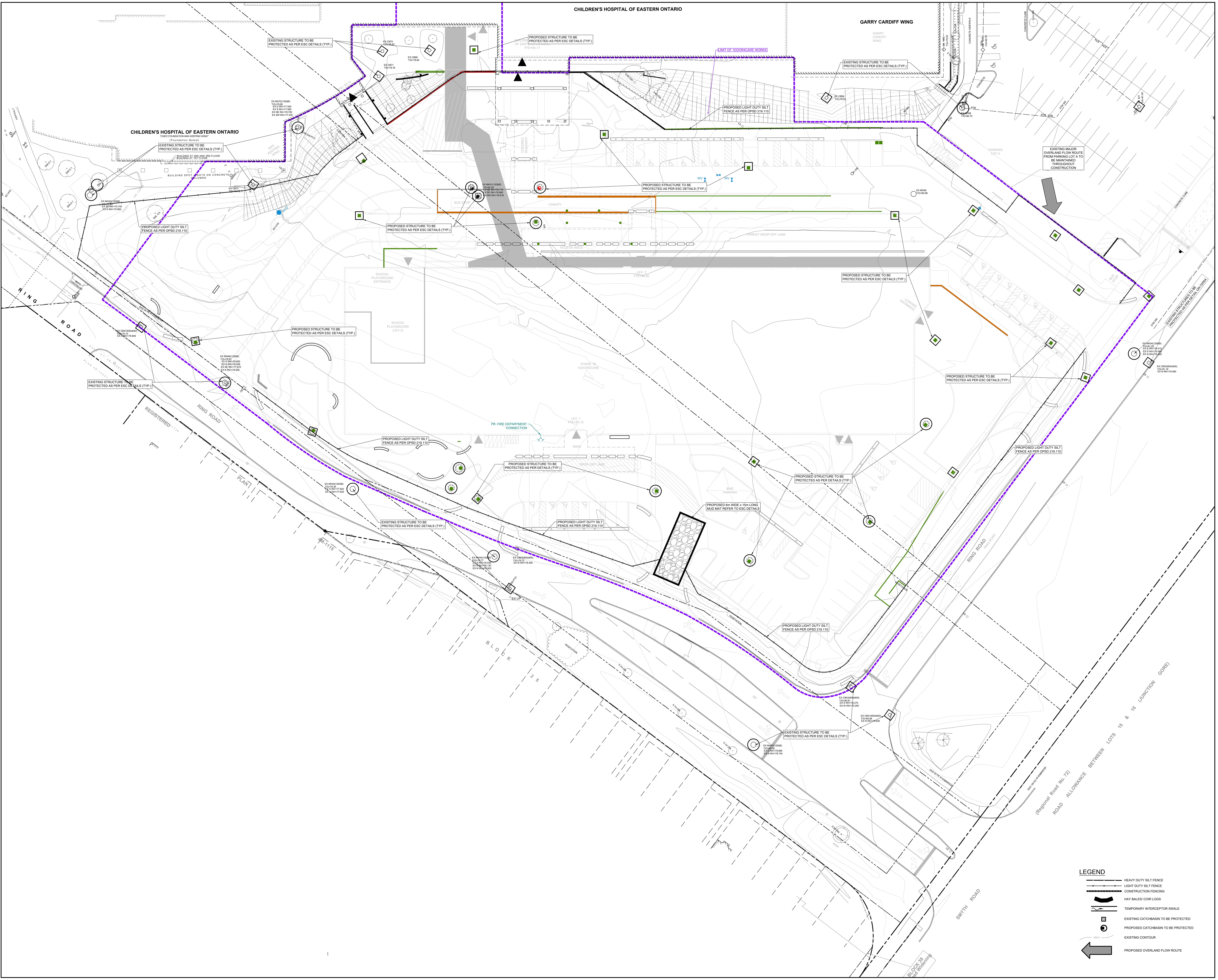
EXISTING CONDITIONS AND REMOVALS PLAN

SCALE: 1:250
DRAWN BY: DL, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2024.08.21

DRAWING NUMBER:

C1501

PLAN #: 18912
DEVELOPMENT #: D07-12-22-0170



LEGEND

- HEAVY DUTY SILT FENCE
- LIGHT DUTY SILT FENCE
- CONSTRUCTION FENCING
- HAY BALES/ COIR LOGS
- TEMPORARY INTERCEPTOR SWALE
- ▣ EXISTING CATCHBASIN TO BE PROTECTED
- ◙ PROPOSED CATCHBASIN TO BE PROTECTED
- 325.0 EXISTING CONTOUR
- ⇦ PROPOSED OVERLAND FLOW ROUTE

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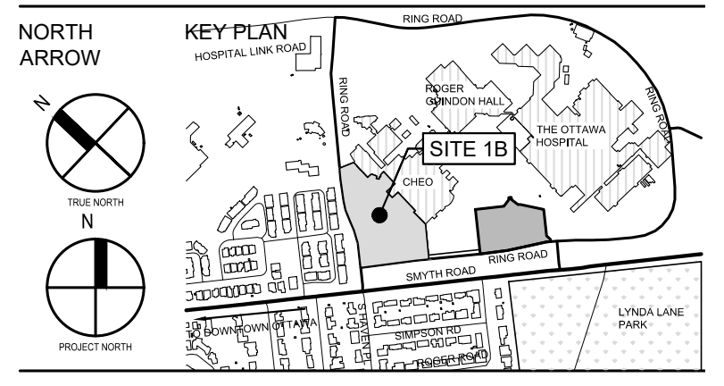
NORTH ARROW



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9	24/08/23	ISSUED FOR BUILDING PERMIT
8	24/08/23	ISSUED FOR SITE PLAN CONTROL
7	24/08/07	ISSUED FOR 50% CD SUBMISSION
6	24/06/03	ISSUED FOR 100% DD SUBMISSION R2
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4	24/04/19	ISSUED FOR 100% DD SUBMISSION
3	24/01/24	RE-ISSUED FOR BUILDING PERMIT (TUNNEL)
2	23/12/20	ISSUED FOR BUILDING PERMIT (TUNNEL)
1	23/12/15	RE-ISSUED FOR 50% DD SUBMISSION
0	23/12/15	ISSUED FOR 50% DD SUBMISSION

REVISIONS

LICENSED PROFESSIONAL ENGINEER
S. L. FORWELL
7670557
2024-08-22
PROVINCE OF ONTARIO

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DO NOT SCALE THIS DRAWING.

CLIENT

1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: 1DOOR4CARE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

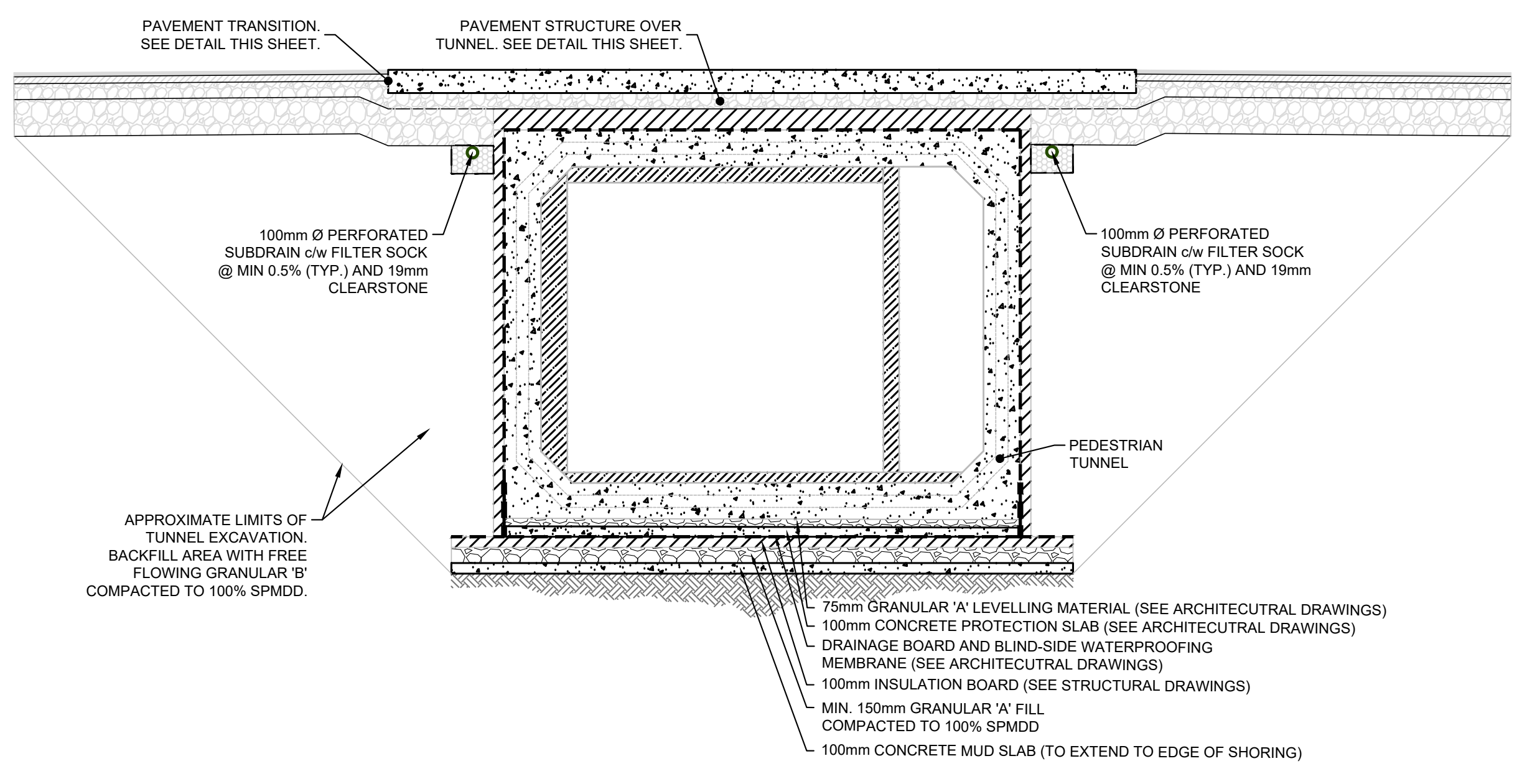
EROSION AND SEDIMENT CONTROL

SCALE: 1:250
DRAWN BY: DL, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2024.08.19

DRAWING NUMBER:

C1601

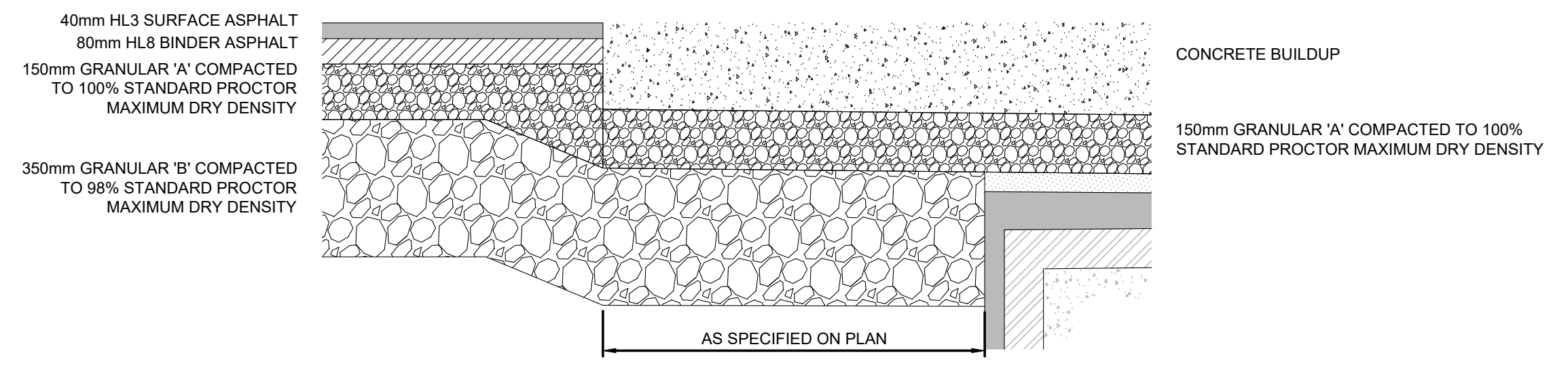
PLAN #: 18912
DEVELOPMENT #: D07-12-22-0170



TUNNEL BETWEEN 1D4C & CHEO - CROSS SECTION BELOW GRADE
REFER TO ARCHITECTURAL DRAWINGS FOR MORE DETAILS 1:50

NOTES:

1. THURBER TO BE PRESENT ON-SITE DURING CONSTRUCTION TO CONFIRM MUD SLAB REQUIREMENTS ARE MET.



NOTES:

1. SURFACE TREATMENT OVER TUNNEL VARIES. SEE GRADING PLAN FOR SURFACE TREATMENT AND DETAILS AND NOTES PLANS FOR PAVEMENT STRUCTURES.
2. PAVEMENT DESIGN RECOMMENDATIONS PER THURBER ENGINEERING LTD.
3. FLEXIBLE PAVEMENTS APPROACHING THE SLAB FROM EITHER SIDE SHOULD ENSURE STRINGENT COMPACTION OF BASE MATERIALS TO LIMIT DIFFERENTIAL SETTLEMENT.

PAVEMENT TRANSITION DETAIL

N.T.S.

GENERAL NOTES

1. 1D4C LEGAL BOUNDARY AND TOPOGRAPHICAL INFORMATION FROM SURVEY BY FAIRHALL MOFFATT & WOODLAND LIMITED DATED SEPTEMBER 17, 2018.
2. 1D4C GEOTECHNICAL DESIGN REPORT BY THURBER ENGINEERING LTD. DATED NOVEMBER 3, 2023. REFER TO REPORT FOR FURTHER SITE SPECIFIC REQUIREMENTS DUE TO EXPANSIVE SHALE AND POTENTIAL FOR SULPHATE ATTACK.
3. THIS SET OF PLANS SHALL NOT BE USED FOR CONSTRUCTION UNTIL STAMPED BY THE DESIGN ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.
4. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE DESIGN ENGINEER.
5. THIS PLAN NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF WALTERFEDY.
6. THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS, AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM THEMSELVES OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM AND THOSE NOT LOCATED PRIOR TO CONSTRUCTION.
7. ANY AREA DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE CONSULTANT AND AUTHORITY HAVING JURISDICTION. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY TO MUNICIPAL STANDARDS.
8. ALL HEALTH AND SAFETY RELATED SIGNAGE MUST BE POSTED AT THE SITE AS REQUIRED BY APPLICABLE LAW AND BEST MANAGEMENT PRACTICES.
9. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE CONSULTANT WITH A DIGITAL FILE OF AS-CONSTRUCTED DRAWINGS. THE DRAWINGS MUST REFLECT THE CONSTRUCTED STATE OF THE WORK. SUBMISSION OF UNALTERED DESIGN DRAWINGS AND CONTRACT CHANGES WILL NOT BE ACCEPTED.

CONSTRUCTION NOTES

GENERAL

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST:
   - 1.1. CHECK AND VERIFY ALL DIMENSIONS AND EXISTING ELEVATIONS WHICH INCLUDES, BUT IS NOT LIMITED TO, THE BENCHMARK ELEVATIONS, EXISTING SERVICE CONNECTIONS AND EXISTING INVERTS.
   - 1.2. OBTAIN ALL UTILITY LOCATES AND REQUIRED PERMITS AND LICENSES.
   - 1.3. VERIFY THAT THE FINISHED FLOOR ELEVATIONS AND EXISTING FLOOR ELEVATIONS (WHICH MAY APPEAR ON THIS PLAN) COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.
   - 1.4. CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE OF THE MOST RECENT REVISION.
   - 1.5. REPORT DISCREPANCIES IN EXISTING CONDITION INFORMATION IMMEDIATELY TO THE CONSULTANT.
2. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR DAMAGE TO EXISTING WORKS. DAMAGE SHALL BE RECTIFIED TO THE SATISFACTION OF THE CONSULTANT AND OWNER.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT AND/OR RELOCATION OF EXISTING UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE AND COMPLY WITH THE REQUIREMENTS OF ALL UTILITY COMPANIES WHEN CROSSING OR WORKING NEAR THEIR PLANT.
4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL TEMPORARY BENCHMARKS ESTABLISHED FOR DESIGN PURPOSES, PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE COMMENCING WORK.
5. THE CONTRACTOR SHALL CONTACT THE CONSULTANT 48 HOURS PRIOR TO COMMENCING WORK TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION.
6. THE RIGHT-OF-WAY (INCLUDING THE BOULEVARD) IS NOT TO BE USED FOR ANY CONSTRUCTION ACTIVITY UNTIL A WORK PERMIT HAS BEEN OBTAINED AS PER THE CITY OF OTTAWA REQUIREMENTS.
7. ALL WORK ON THE MUNICIPAL RIGHT-OF-WAY WILL BE INSTALLED BY THE SITE CONTRACTOR UPON SUCCESSFUL APPLICATION FOR A WORK PERMIT BY THE CONTRACTOR.
8. LIMIT CONSTRUCTION TO ACCEPTABLE TIMES WITHIN THE CITY OF OTTAWA NOISE BYLAW. CONSTRUCTION HOURS ARE 6AM TO 10PM MONDAY TO SUNDAY WITHOUT EXCEPTION.
9. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR THEIR REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, THEY MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO CITY OF OTTAWA ENGINEERING DEVELOPMENT DIVISION, PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNER'S & CONTRACTOR'S OWN RISK.

TRAFFIC, ACCESS, SAFETY

1. PEDESTRIANS MUST BE ASSURED SAFE PASSAGE ALONG LANCASTER ROAD AT ALL TIMES. ALL PEDESTRIAN WALKWAYS MUST BE MAINTAINED AS LONG AS POSSIBLE AFTER WHICH TIME IT IS TEMPORARILY REPLACED BY A SUITABLE GRANULAR MATERIAL TO THE SATISFACTION OF THE CONSULTANT AND/OR CITY OF OTTAWA.
2. ON STREET PARKING WILL NOT BE PERMITTED FOR ANY CONSTRUCTION VEHICLES OR CONSTRUCTION STAFF. THE CONTRACTOR SHALL PROVIDE ADEQUATE PARKING FACILITIES ON SITE TO SUIT THE NATURE AND LOCATION OF THE WORK.
3. FOR EMERGENCY RESPONSE, CONTRACTOR MUST MAINTAIN CONSTRUCTION ACCESS FREE AND CLEAR OF DEBRIS, MATERIALS, VEHICLES, AND EQUIPMENT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNALS, DELINEATORS, MARKERS, AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS OF THE CITY OF OTTAWA AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

REMOVALS

1. ALL REMOVALS TO BE IN ACCORDANCE WITH OPSS.MUNI 510.

ASPHALT

1. ASPHALT MATERIAL TO BE PROVIDED AS PER OPSS 1150 AND INSTALLED AS PER OPSS 310.
2. WHERE NEW ASPHALT ABUTS EXISTING ASPHALT, EXISTING ASPHALT SHALL BE SAW CUT AND HAVE TACK COAT APPLIED AS PER OPSS 308 TO A CLEAN DRY FACE BEFORE NEW ASPHALT IS PLACED.
3. SUBMIT ONE COPY OF THE PROPOSED ASPHALT MIX DESIGN FOR ANY PAVING MATERIALS DIRECTLY TO THE CONSULTANT A MINIMUM OF TWO WEEKS IN ADVANCE OF SCHEDULED ASPHALT PAVING.

CONCRETE

1. EXISTING SIDEWALK ON THE RIGHT OF WAY IS NOT TO BE REMOVED UNTIL THE CONTRACTOR IS READY TO REPLACE SIDEWALKS.
2. CONCRETE SIDEWALK WITHIN THE RIGHT OF WAY SHALL BE AS PER OPSD 310.010 AND 310.030.
3. CONCRETE BARRIER CURB TO BE AS PER OPSD 600.110 - 32MPa @ 28 DAYS CONCRETE TO OPSS 353, 7±1.5% AIR ENTRAINMENT, 19mm MAX COURSE AGGREGATE, 60mm MAX SLUMP.
4. CONCRETE SIDEWALK TO BE AS PER DETAIL ON THIS SHEET - 32MPa @ 28 DAYS CONCRETE TO OPSS 351, 7±1.5% AIR ENTRAINMENT, 19mm MAX COURSE AGGREGATE, 70±20mm SLUMP.
5. UNSHRINKABLE FILL: TO OPSS 1359, 28-DAY COMPRESSIVE STRENGTH: 0.4 - 0.7 MPa, MAXIMUM 25mm COURSE AGGREGATE SIZE.
6. SUBMIT ONE COPY OF ALL PROPOSED CONCRETE MIX DESIGNS DIRECTLY TO THE CONSULTANT A MINIMUM OF TWO WEEKS IN ADVANCE OF SCHEDULED CONCRETE POURING.

GRANULAR

1. ALL GRANULAR BASE, SUBBASE, SUBGRADE AND BACKFILL TO BE PROVIDED AS PER OPSS.MUNI 1010 AND INSTALLED AS PER OPSS.MUNI 314.
2. COARSE GRANULAR FILL: MATERIAL AS SPECIFIED BELOW; COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY, UNLESS SPECIFIED OTHERWISE, IN LIFTS NOT EXCEEDING 300mm IN COMPACTED THICKNESS; MOISTURE CONTENT WITHIN PLUS OR MINUS 2% OF THE REQUIREMENTS OF ASTM D698.
   - 2.1. GRANULAR 'B', TYPE 2 TO OPSS.MUNI 1010.
3. FINE GRANULAR FILL: MATERIAL AS SPECIFIED BELOW; COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY, UNLESS SPECIFIED OTHERWISE, IN LIFTS NOT EXCEEDING 150mm IN COMPACTED THICKNESS; MOISTURE CONTENT WITHIN PLUS OR MINUS 2% OF THE REQUIREMENTS OF ASTM D698.
   - 3.1. GRANULAR 'A' TO OPSS.MUNI 1010.

EARTHWORK

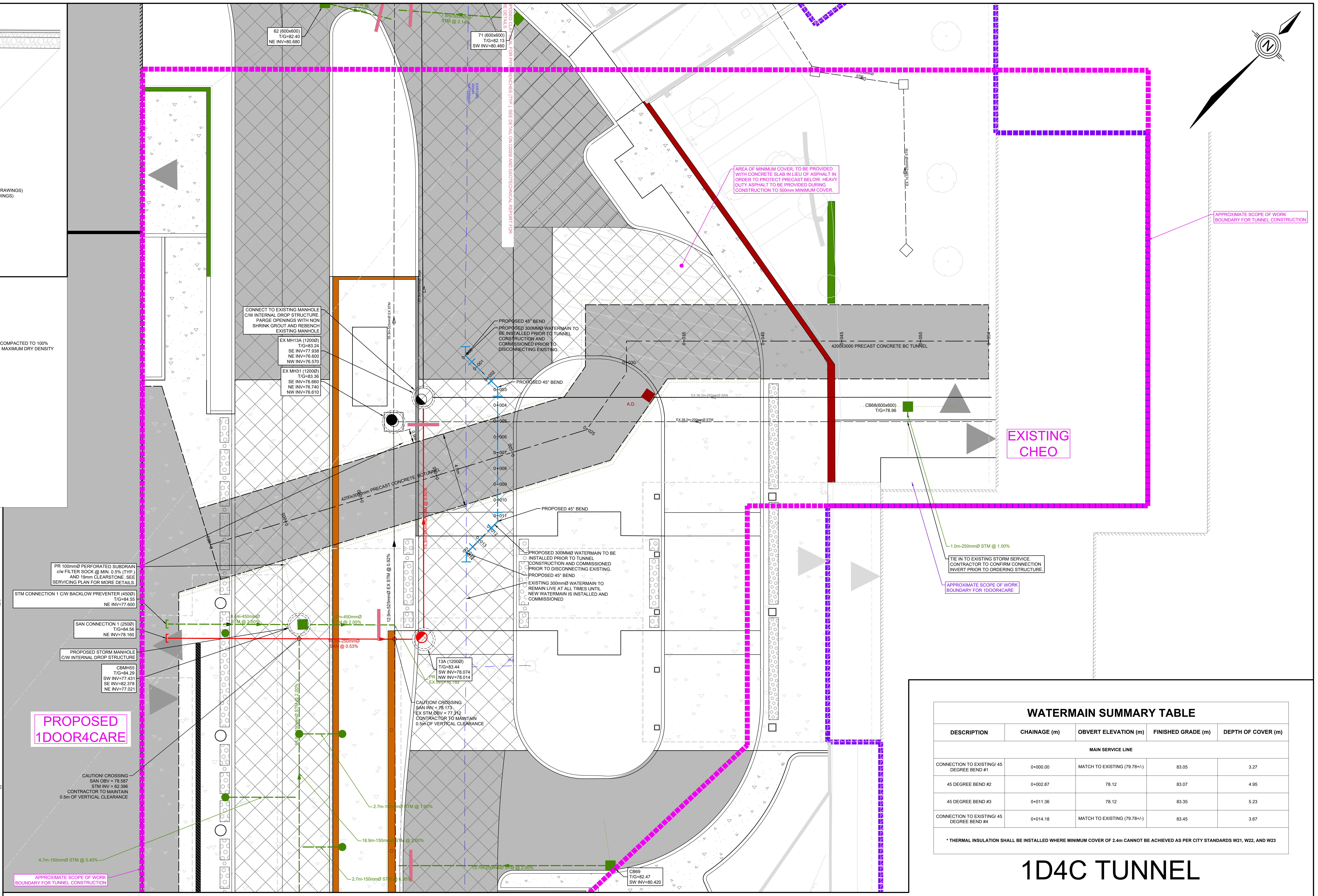
1. IN ACCORDANCE WITH THE CITY OF OTTAWA SITE ALTERATION BY-LAW; NO FILLING, PRE-GRADING OR TREE REMOVAL SHALL OCCUR, IN ADVANCE OF THE FINAL SITE PLAN ENGINEERING ACCEPTANCE, WITHOUT PERMIT. SHOULD THE DEVELOPER OR CONTRACTOR WISH TO PREPARE THE SITE FOR CONSTRUCTION PRIOR TO ENGINEERING ACCEPTANCE, AN APPLICATION FOR A SITE ALTERATION PERMIT MUST BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEERING AND CONSTRUCTION DIVISION FOR REVIEW AND APPROVAL.
2. ANY AREAS WHICH REQUIRE FILL IN EXCESS OF 0.30m ARE SUBJECT TO COMPACTION TESTS AND SUCH TESTS MUST SHOW A MINIMUM COMPACTION OF 95% SPMDD AT ALL DEPTHS.
3. RETAINING WALLS TO BE DESIGNED BY OTHERS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PROPOSED RETAINING WALLS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER CERTIFIED IN THE PROVINCE OF ONTARIO TO THE CONSULTANT, PRIOR TO CONSTRUCTION. SHOP DRAWINGS TO BE APPROVED BY CONSULTANT IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE A CERTIFICATE OF COMPLETION COMPLETED BY THE RETAINING WALL DESIGN ENGINEER BEFORE ACCEPTANCE OF THE WORK.

TOPSOIL/SOD

1. TOPSOIL TO BE PROVIDED AND INSTALLED AS PER OPSS 802. SOD TO BE PROVIDED AND INSTALLED AS PER OPSS 803.

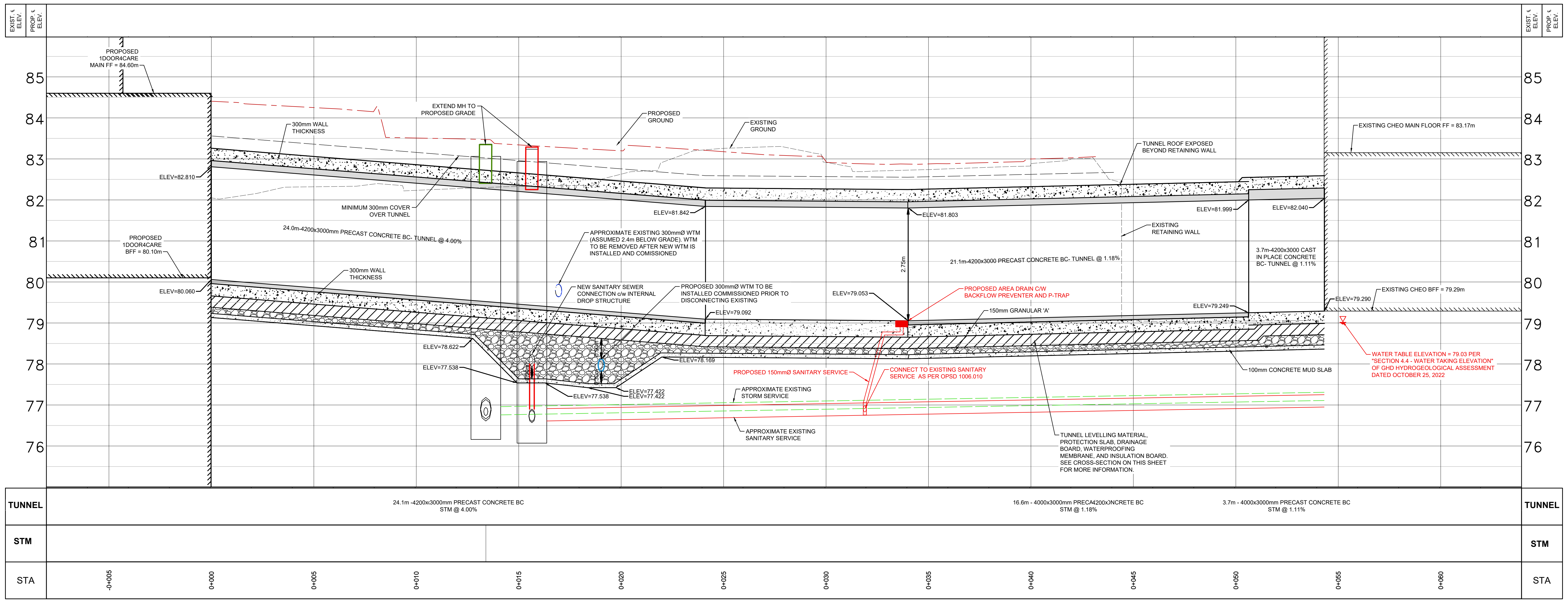
PAVEMENT MARKING & SIGNS

1. PAVEMENT MARKINGS TO BE LAID OUT AS PER THE DRAWINGS AND CONTRACTOR TO CONTACT CONSULTANT TO REVIEW LAYOUT PRIOR TO PAINTING. ALL PAINT LINES TO BE OF UNIFORM COLOR AND DENSITY WITH SHARP EDGES TO THE SATISFACTION OF THE CONSULTANT.
2. PAVEMENT MARKINGS TO BE
   - 2.1. THERMOPLASTIC PAVEMENT MARKING MATERIAL TO CONFORM TO OPSS 1713 AND APPLIED AS PER OPSS 710
     - 2.1.1. WHITE - CGSB 1-GP-12C WHITE 513-301.
     - 2.1.2. YELLOW - SHALL MATCH EITHER THE YELLOW COLOUR CHIP OF THE MINISTRY OF TRANSPORTATION ONTARIO OR U.S. FEDERAL 595B, YELLOW 33538
3. ALL EXISTING SIGNS, MAIL BOXES, POSTS, ETC., WHICH MUST BE REMOVED TO ACCOMMODATE CONSTRUCTION SHALL BE SALVAGED AND REINSTATED AS DIRECTED BY THE CONTRACT ADMINISTRATOR IN EQUAL OR BETTER CONDITION. THE CONTRACTOR SHALL MAKE GOOD ANY DAMAGE CAUSED TO SUCH FACILITIES AT HIS OWN EXPENSE. ALL EXISTING TRAFFIC CONTROL SIGNS MUST BE REINSTATED BY THE END OF EACH WORKING DAY. EXISTING STOP CONTROL SIGNS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION TO THE SATISFACTION OF THE ROAD AUTHORITY AND THE CONTRACT ADMINISTRATOR.



WATERMAIN SUMMARY TABLE				
DESCRIPTION	CHAINAGE (m)	OBVERT ELEVATION (m)	FINISHED GRADE (m)	DEPTH OF COVER (m)
MAIN SERVICE LINE				
CONNECTION TO EXISTING/ 45 DEGREE BEND #1	0+000.00	MATCH TO EXISTING (79.78+/-)	83.05	3.27
45 DEGREE BEND #2	0+002.87	78.12	83.07	4.95
45 DEGREE BEND #3	0+011.36	78.12	83.35	5.23
CONNECTION TO EXISTING/ 45 DEGREE BEND #4	0+014.18	MATCH TO EXISTING (79.78+/-)	83.45	3.67
* THERMAL INSULATION SHALL BE INSTALLED WHERE MINIMUM COVER OF 2.4m CANNOT BE ACHIEVED AS PER CITY STANDARDS W21, W22, AND W23				

1D4C TUNNEL



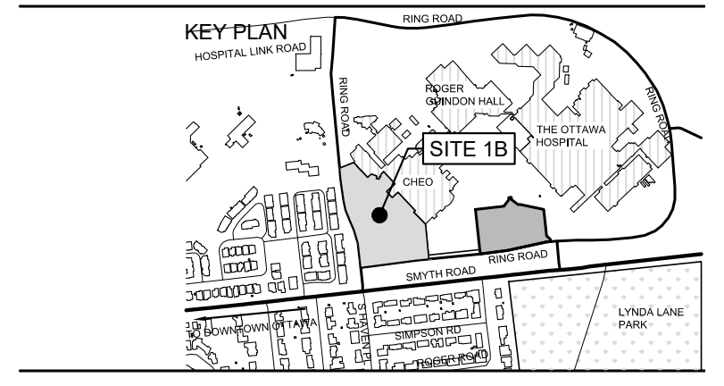
CHEO
1Door4Care

Infrastructure Ontario

EllisDon
INFRASTRUCTURE Healthcare

WALTERFEDY
KITCHENER OFFICE
675 Queen Street South, Suite 111, Kitchener, Ontario N2M 1A1
T: 519.576.2150 F: 519.576.5499 walterfedy.com

KEY PLAN



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REVISIONS

S. L. FORWELL
7670557
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TITLE
TUNNEL PROFILE

SCALE: H=1:100 V=1:50
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