CHEO Integrated Treatment Centre

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VOLUME 2 - CIVIL

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SHEET LIST - CIVIL

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NORTH ARROW

KEY PLAN

SITE 19
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GENERAL NOTES

1. 1D4C LEGAL BOUNDARY AND TOPOGRAPHICAL INFORMATION FROM SURVEY BY FAIRHALL MOFFATT & WOODDLAND LIMITED DATED SEPTEMBER 17, 2018.
2. 1D4C GEOTECHNICAL DESIGN REPORT BY THURBER ENGINEERING LTD. DATED NOVEMBER 1, 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 REMEDIAL 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 DEPENDED DOWN TO SUCH A DEPTHER 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 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 FRAMES AND COVERS AS PER OPSD 401.020.
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. SUBSEQUENT 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 (COD); COLOUR CODED BLUE; WITH INTEGRAL WALL THICKENED BELL; DESIGNED FOR JOINT ASSEMBLY USING AN ELASTOMERIC GASKET CONFORMING TO ASTM D3139 AND CSA B137.3.1; 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 CBC 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 350 & 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 C900) AND FITTINGS: SERRATED RING TYPE; FOR PUSH ON JOINTS UNIFLANGE (SERIES 1300), 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 406.
   - 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 C217-00, 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

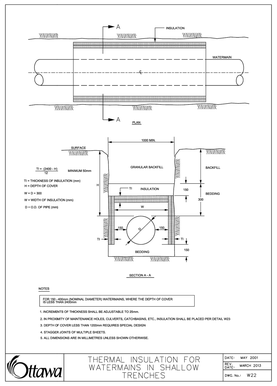
1. PEDESTRIANS MUST BE ASSURED SAFE PASSAGE ALONG LANCASTER ROAD AT ALL TIMES. ALL PEDESTRIAN WALKWAYS MUST BE MAINTAINED AS LONG AS POSSIBLE AFTER WHICH TIME IT IS TEMPORARILY REPLACED BY A SUITABLE GRANULAR MATERIAL TO THE SATISFACTION OF THE CONSULTANT AND/OR CITY OF OTTAWA.
2. ON STREET PARKING WILL 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

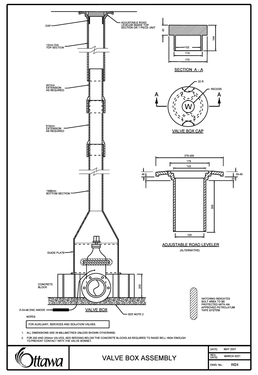
1. ALL REMOVALS TO BE IN ACCORDANCE WITH OPSS.MUNI 510.

ASPHALT

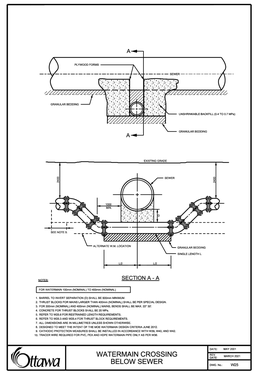
1. ASPHALT MATERIAL TO BE PROVIDED AS PER OPSS 1150 AND INSTALLED AS PER OPSS 310.
2. WHERE NEW ASPHALT ABUTS EXISTING ASPHALT, EXISTING ASPHALT SHALL BE SAW CUT AND HAVE TACK COAT APPLIED AS PER OPSS 308



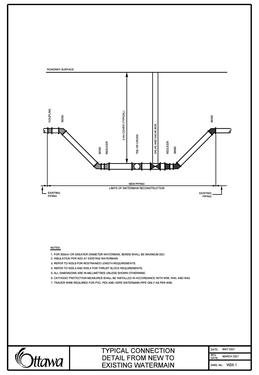
THERMAL INSULATION FOR WATERMAINS IN SHALLOW TRENCHES



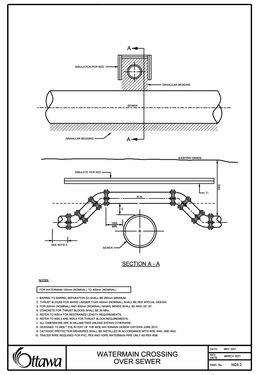
VALVE BOX ASSEMBLY



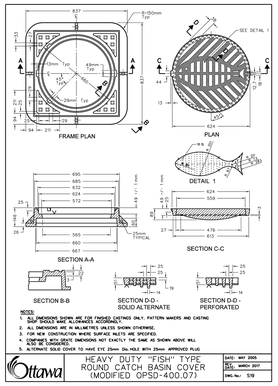
WATERMAIN CROSSING BELOW SEWER



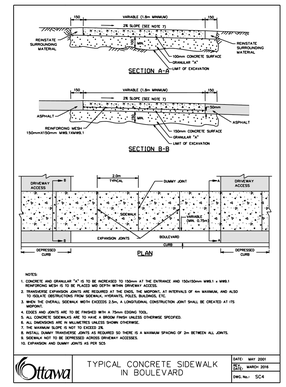
TYPICAL CONNECTION DETAIL FROM NEW TO EXISTING WATERMAIN



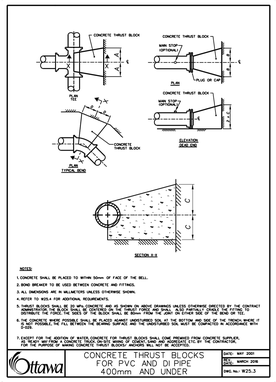
WATERMAIN CROSSING OVER SEWER



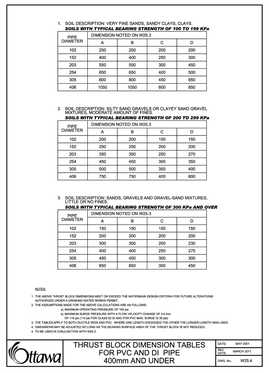
HEAVY DUTY "FISH" TYPE ROUND CATCH BASIN COVER (MODIFIED OPSD-400.07)



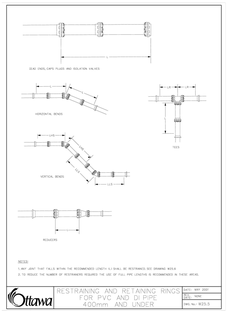
TYPICAL CONCRETE SIDEWALK IN BOULEVARD



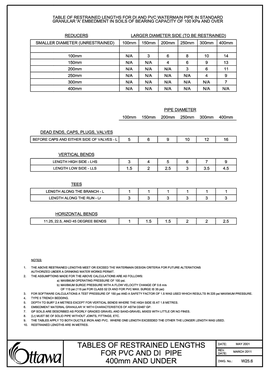
CONCRETE THRUST BLOCKS FOR PVC AND DI PIPE 400mm AND UNDER



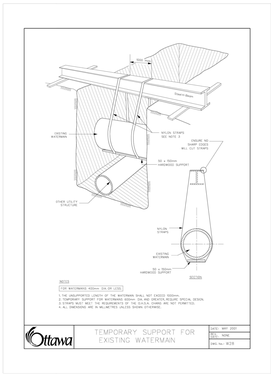
THRUST BLOCK DIMENSION TABLES FOR PVC AND DI PIPE 400mm AND UNDER



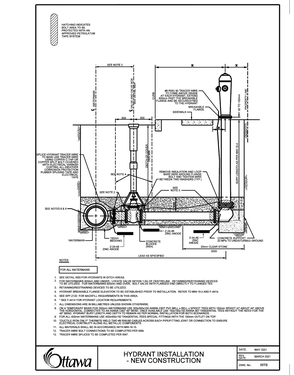
RESTRAINING AND RETAINING RINGS FOR PVC AND DI PIPE 400mm AND UNDER



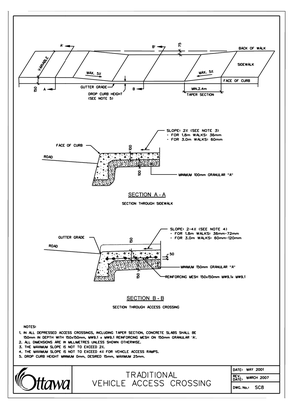
TABLES OF RESTRAINED LENGTHS FOR PVC AND DI PIPE 400mm AND UNDER



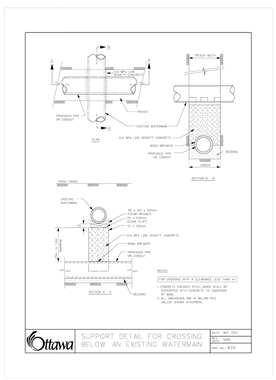
TEMPORARY SUPPORT FOR EXISTING WATERMAIN



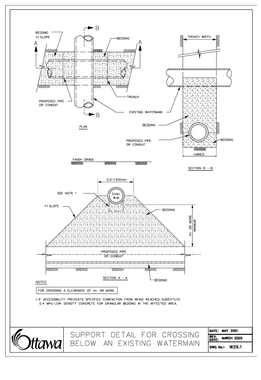
HYDRANT INSTALLATION - NEW CONSTRUCTION



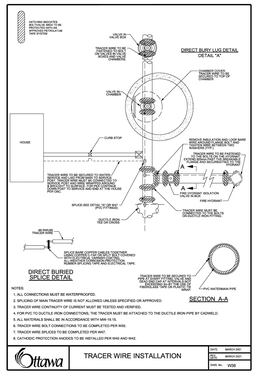
TRADITIONAL VEHICLE ACCESS CROSSING



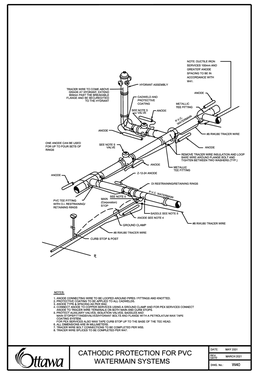
SUPPORT DETAIL FOR CROSSING BELOW AN EXISTING WATERMAIN



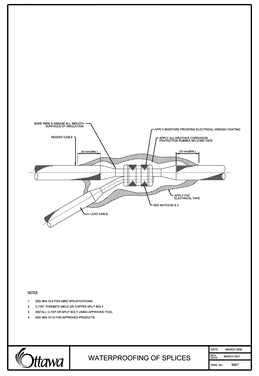
SUPPORT DETAIL FOR CROSSING BELOW AN EXISTING WATERMAIN



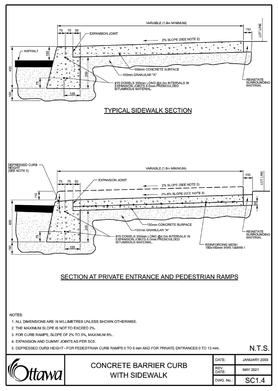
TRACER WIRE INSTALLATION



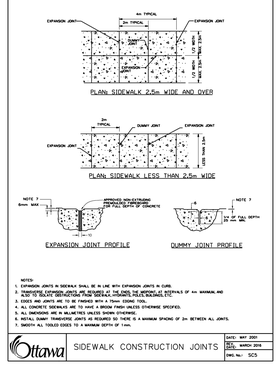
CATHODIC PROTECTION FOR PVC WATERMAIN SYSTEMS



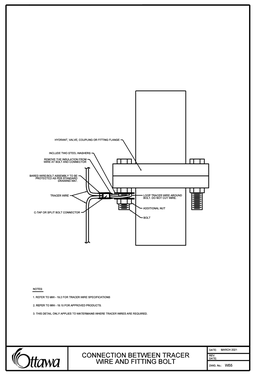
WATERPROOFING OF SPLICES



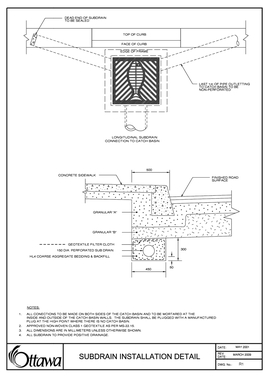
CONCRETE CURB WITH SIDEWALK



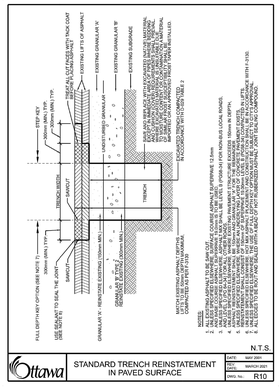
SIDEWALK CONSTRUCTION JOINTS



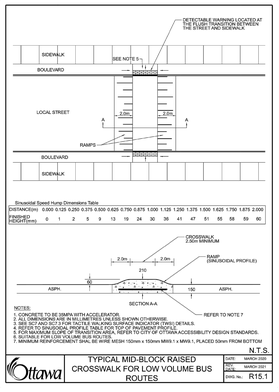
CONNECTION BETWEEN TRACER WIRE AND FITTING BOLT



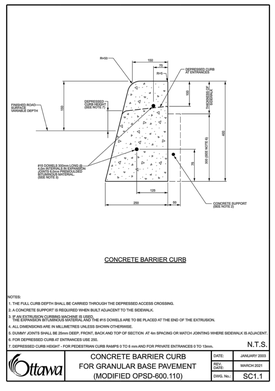
SUBDRAIN INSTALLATION DETAIL



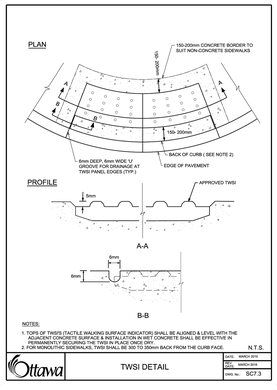
STANDARD TRENCH REINSTATEMENT IN PAVED SURFACE



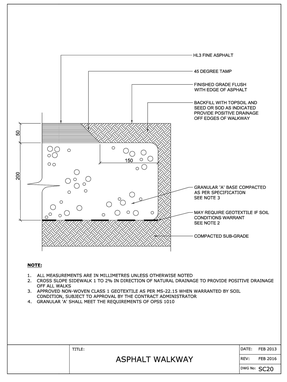
TYPICAL MID-BLOCK RAISED CROSSWALK FOR LOW VOLUME BUS ROUTES



CONCRETE BARRIER CURB FOR GRANULAR BASE PAVEMENT (MODIFIED OPSD-600.110)



TWSI DETAIL



ASPHALT WALKWAY

CHEO

Infrastructure Ontario

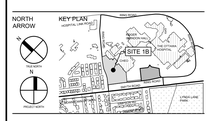
EllisDon INFRASTRUCTURE Healthcare

WALTERFEDY

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

NORTH ARROW

KEY PLAN



21	01/10/25	ISSUED FOR SPC RESUBMISSION 2
20	10/09/25	ISSUED FOR CSI-004
19	07/08/25	ISSUED FOR CSI-003
18	14/05/25	ISSUED FOR CSI-002
17	01/04/25	ISSUED FOR SPC RE-SUBMISSION
16	25/03/24	ISSUED FOR 100% CD SUBMISSION R1
15	25/02/24	ISSUED FOR 100% CD RE-SUBMISSION
14	25/01/10	ISSUED FOR 100% CD RE-SUBMISSION
13	24/12/09	ISSUED FOR SPC RE-SUBMISSION
12	24/11/27	ISSUED FOR 100% CD SUBMISSION
10	24/09/20	ISSUED FOR CSI-001 SITE CURB AT TUNNEL
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

#	DATE	REVISION

REVISIONS

LICENSED PROFESSIONAL ENGINEER S.E. TOWNELL 2025-10-01 PROVINCE OF ONTARIO

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

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CLIENT

CHEO INTEGRATED TREATMENT CENTRE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

TYPICAL DETAILS AND NOTES PLAN

SCALE: AS NOTED

DRAWN BY: DL, TK, ZS

REVIEWED BY: SF

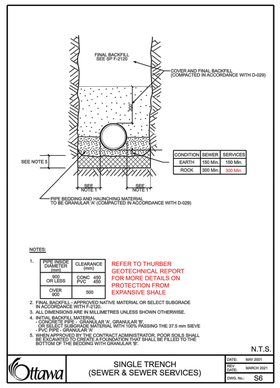
JOB NUMBER: 2021-0821-13

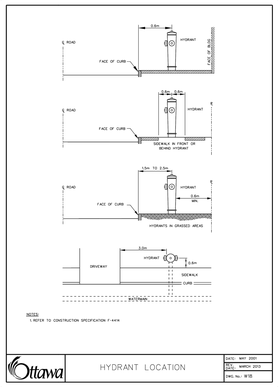
PLOT DATE: 2025.10.01

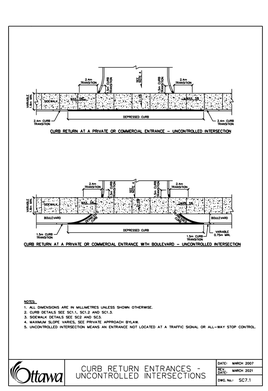
DRAWING NUMBER:

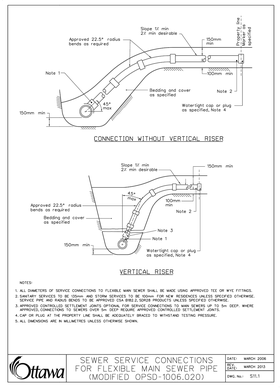
C0008

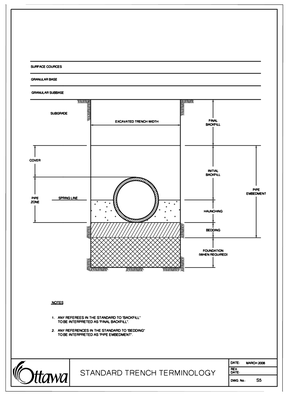
PLAN #: 19223
DEVELOPMENT #: D07-12-24-0121

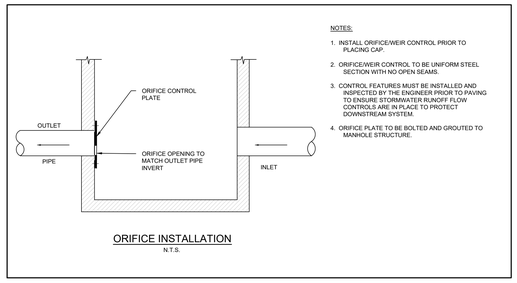

FINAL BACKFILL (SEE SP F-2139)
COVER AND FINAL BACKFILL (COMPACTED IN ACCORDANCE WITH D-029)
SEE NOTE 5
PIPE BEDDING AND HAUNCHING MATERIAL TO BE GRANULAR 'A' (COMPACTED IN ACCORDANCE WITH D-029)
NOTES:
1. PIPE INSIDE DIAMETER (mm) | CLEARANCE (mm)
300 OR LESS | CONC 400 PVC 300
OVER 300 | 600
REFER TO THURBER GEOTECHNICAL REPORT FOR MORE DETAILS ON PROTECTION FROM EXPANSIVE SHALE
2. FINAL BACKFILL - APPROVED NATIVE MATERIAL OR SELECT SUBGRADE IN ACCORDANCE WITH F-2139
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
4. INITIAL BACKFILL MATERIAL
(A) PIPE BEDDING MATERIAL - GRANULAR 'B'; GRANULAR 'B'
(B) SELECT SUBGRADE MATERIAL WITH 100% PASSING THE 37.5 mm SIEVE
(C) PIPE - GRANULAR 'A'
5. SHOULD ROCK BE ENCOUNTERED IN CONTRACT ADMINISTRATOR, ROCK SOILS SHALL BE EXCAVATED TO CREATE A FOUNDATION THAT SHALL BE FILLED TO THE BOTTOM OF THE BEDDING WITH GRANULAR 'B'.
N.T.S.
Ottawa
SINGLE TRENCH (SEWER & SEWER SERVICES)
DATE: MAY 2001
REV. DATE: MARCH 2021
DWG. No.: S6

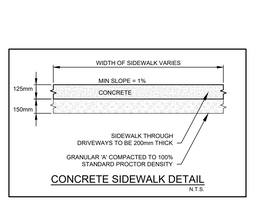

ROAD
FACE OF CURB
HYDRANT
FACE OF BOX
SIDEWALK IN FRONT OR BEHIND HYDRANT
DRIVEWAY
SIDEWALK
CURB
HYDRANTS IN GRASSED AREAS
NOTES:
1. REFER TO CONSTRUCTION SPECIFICATION F-4414
Ottawa
HYDRANT LOCATION
DATE: MAY 2001
REV. DATE: MARCH 2010
DWG. No.: W18

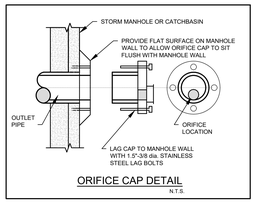

CURB RETURN AT A PRIVATE OR COMMERCIAL ENTRANCE - UNCONTROLLED INTERSECTION
BITUMEN CURB
LOW CURB
CONCRETE SIDEWALK
BOULEVARD
CURB RETURN AT A PRIVATE OR COMMERCIAL ENTRANCE WITH BOULEVARD - UNCONTROLLED INTERSECTION
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
2. CURB DETAILS SEE SC1.1, SC1.2 AND SC1.3
3. SIDEWALK DETAILS SEE SC2 AND SC3.
4. ALL WORK TO BE IN ACCORDANCE WITH APPROVED BY-LAW.
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.: SC11

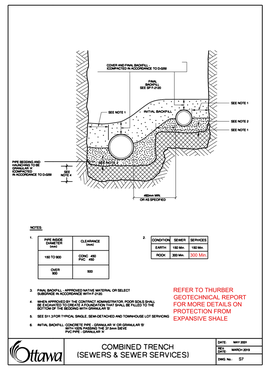

Approved 22.5° radius bends as required
Slope ½" min 2" min desirable
150mm min
Note 1
Note 2
Bedding and cover as specified
Watertight cap or plug as specified, Note 4
CONNECTION WITHOUT VERTICAL RISER
Approved 22.5° radius bends as required
Bedding and cover as specified
Note 3
VERTICAL RISER
NOTES:
1. ALL DIAMETERS OF SERVICE CONNECTIONS TO FLEXIBLE MAIN SEWER SHALL BE MADE USING APPROVED TEE OR WYE FITTINGS.
2. CONNECTIONS TO MAIN SEWER SHALL BE MADE USING APPROVED FITTINGS. ALL CONNECTIONS SHALL BE WATERTIGHT.
SERVICE PIPE MUST BE SEALED WITH THE APPROVED SEALS OR OTHER PRODUCTS APPROVED BY OTTAWA.
3. APPROVED CONTROLLED SETTLEMENT JOINTS OPTIONAL FOR SERVICE CONNECTIONS TO MAIN SEWERS UP TO 3m DEEP, WHERE APPROVED CONNECTIONS TO SEWERS OVER 3m DEEP REQUIRE APPROVED CONTROLLED SETTLEMENT JOINTS.
4. CAP OR PLUG AT THE PROPERTY LINE SHALL BE ADEQUATELY BRACED TO WITHSTAND TESTING PRESSURE.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
Ottawa
SEWER SERVICE CONNECTIONS FOR FLEXIBLE MAIN SEWER PIPE (MODIFIED OPSD-1006.020)
DATE: MARCH 2006
REV. DATE: MARCH 2010
DWG. No.: S11.1

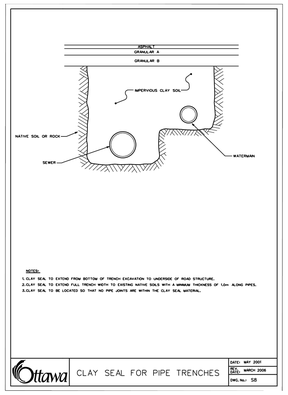

SURFACE COURSES
GRANULAR BASE
GRANULAR SUBBASE
SUBGRADE
EXCAVATED TRENCH WIDTH
FINAL BACKFILL
COVER
INITIAL BACKFILL
PIPE CROWN
SPRINGLINE
PIPE EMBEDMENT
HAUNCHING
BEDDING
FOUNDATION MATERIAL(IF REQUIRED)
NOTES:
1. PIPE REFERENCE IN THE STANDARD TO "BACKFILL" TO BE INTERPRETED AS "FINAL BACKFILL".
2. ANY REFERENCE IN THE STANDARD TO "BEDDING" TO BE INTERPRETED AS "PIPE EMBEDMENT".
Ottawa
STANDARD TRENCH TERMINOLOGY
DATE: MARCH 2006
REV. DATE:
DWG. No.: S5

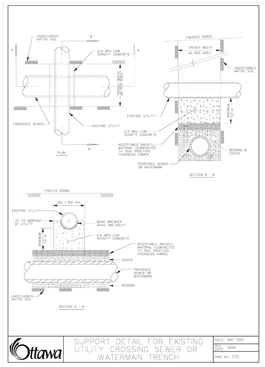

ORIFICE CONTROL PLATE
OUTLET
PIPE
ORIFICE OPENING TO MATCH OUTLET PIPE INVERT
INLET
NOTES:
1. INSTALL ORIFICE/WEIR CONTROL PRIOR TO PLACING CAP.
2. ORIFICE/WEIR CONTROL TO BE UNIFORM STEEL SECTION WITH NO OPEN SEAMS.
3. CONTROL FEATURES MUST BE INSTALLED AND INSPECTED BY THE ENGINEER PRIOR TO PAVING 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.

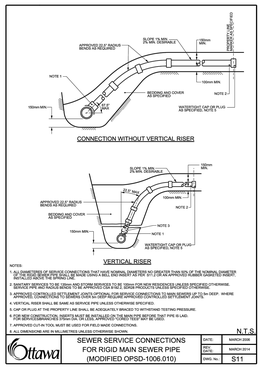

WIDTH OF SIDEWALK VARIES
125mm
MIN SLOPE = 1%
CONCRETE
150mm
SIDEWALK THROUGH DRIVEWAYS TO BE 200mm THICK
GRANULAR 'A' COMPACTED TO 100% STANDARD PROCTOR DENSITY
CONCRETE SIDEWALK DETAIL
N.T.S.

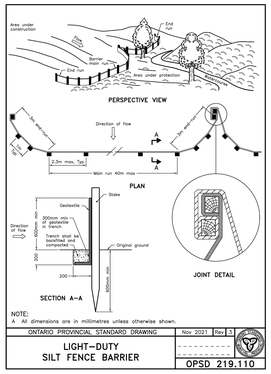

STORM MANHOLE OR CATCHBASIN
PROVIDE FLAT SURFACE ON MANHOLE WALL TO ALLOW ORIFICE CAP TO SIT FLUSH WITH MANHOLE WALL
OUTLET PIPE
ORIFICE LOCATION
LAG CAP TO MANHOLE WALL WITH 1.5"-3/8 dia. STAINLESS STEEL LAG BOLTS
ORIFICE CAP DETAIL
N.T.S.

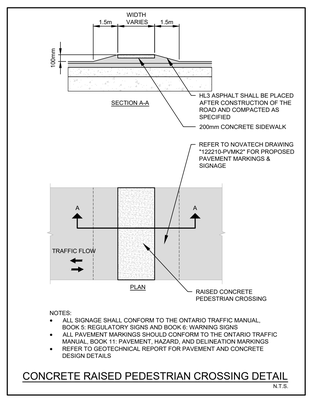

COMP METAL BOWL CONFORMING TO D-029
FINAL BACKFILL
INITIAL BACKFILL
SEE NOTE 1
SEE NOTE 2
SEE NOTE 3
SEE NOTE 4
PIPE BEDDING AND HAUNCHING MATERIAL TO BE GRANULAR 'A' IN ACCORDANCE TO D-029
PIPE
TRENCH WIDTH
NOTES:
1. PIPE INSIDE DIAMETER (mm) | CLEARANCE (mm)
150 TO 600 | CONC 400 PVC 300
OVER 600 | 600
2. CONDITION | SEWER | SERVICES
EARTH | 150 Min. | 150 Min.
ROCK | 300 Min. | 300 Min.
REFER TO THURBER GEOTECHNICAL REPORT FOR MORE DETAILS ON PROTECTION FROM EXPANSIVE SHALE
3. FINAL BACKFILL - APPROVED NATIVE MATERIAL OR SELECT SUBGRADE IN ACCORDANCE WITH F-2139.
4. WHEN APPROVED BY THE CONTRACT ADMINISTRATOR, ROCK SOILS SHALL BE EXCAVATED TO CREATE A FOUNDATION THAT SHALL BE FILLED TO THE BOTTOM OF THE BEDDING WITH GRANULAR 'B'.
5. SEE SP F-2139 TYPICAL SINGLE, SEMI-DETACHED AND TOWNHOUSE LOT SERVICING
6. INITIAL BACKFILL CONCRETE SAND, GRANULAR A OR GRANULAR 'B'
(A) PIPE BEDDING - 150mm MIN. OF 20mm SIEVE
(B) PIPE - GRANULAR 'A'
Ottawa
COMBINED TRENCH (SEWERS & SEWER SERVICES)
DATE: MAY 2001
REV. DATE: MARCH 2010
DWG. No.: S7

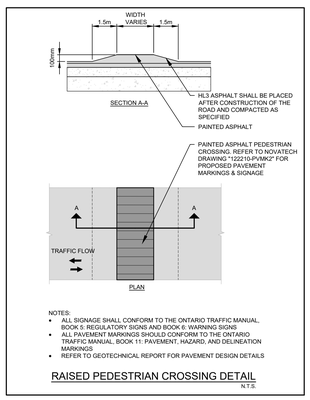

ASPHALT
GRANULAR A
GRANULAR B
IMPERVIOUS CLAY SOIL
NATIVE SOIL OR ROCK
SEWER
WATERMAIN
NOTES:
1. CLAY SEAL TO EXTEND FROM BOTTOM OF TRENCH EXCAVATION TO UNDERSIDE OF ROAD STRUCTURE.
2. CLAY SEAL TO EXTEND FULL TRENCH WIDTH TO EXISTING NATIVE SOILS WITH A MINIMUM THICKNESS OF 1.0m ALONG PIPES.
3. CLAY SEAL TO BE LOCATED SO THAT NO PIPE JOINTS ARE WITHIN THE CLAY SEAL MATERIAL.
Ottawa
CLAY SEAL FOR PIPE TRENCHES
DATE: MAY 2001
REV. DATE: MARCH 2006
DWG. No.: S8

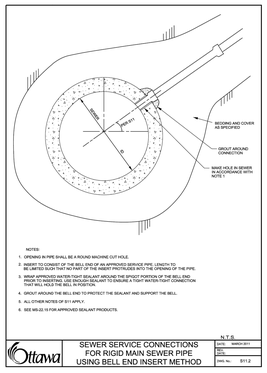

FINISHED GRADE
TRENCH WIDTH
UNDISTURBED NATIVE SOIL
EXISTING UTILITY
PROPOSED SEWER
PLAN
BEDDING & COVER
PROPOSED SEWER OR WATERMAIN
SECTION B - B
FINISHED GRADE
EXISTING UTILITY
UP TO WATERMAIN OR SEWER
BEDDING AND COVER AS SPECIFIED
SECTION A - A
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
2. ALL WORK TO BE IN ACCORDANCE WITH APPROVED BY-LAWS.
3. UNCONTROLLED INTERSECTION MEANS AN ENTRANCE NOT LOCATED AT A TRAFFIC SIGNAL OR ALL-WAY STOP CONTROL.
Ottawa
SUPPORT DETAIL FOR EXISTING UTILITY CROSSING SEWER OR WATERMAIN TRENCH
DATE: MAY 2001
REV. DATE: MARCH 2006
DWG. No.: S10

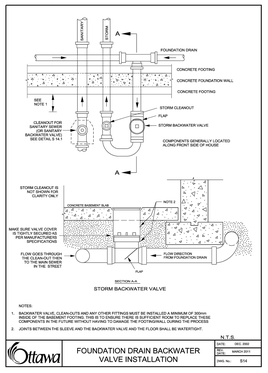

APPROVED SELF RADIUS BENDS AS REQUIRED
SLOPE 1% MIN. IN MIN. SIDEWALK
150mm MIN.
NOTE 1
NOTE 2
BEDDING AND COVER AS SPECIFIED
WATERTIGHT CAP OR PLUG AS SPECIFIED, NOTE 4
CONNECTION WITHOUT VERTICAL RISER
VERTICAL RISER
NOTES:
1. ALL DIAMETERS OF SERVICE CONNECTIONS THAT HAVE NOMINAL DIAMETERS NO GREATER THAN 50% OF THE NOMINAL DIAMETER OF THE MAIN SEWER SHALL BE MADE USING A BELL AND SPIGOT JOINT OR OTHER APPROVED FLEXIBLE JOINT PRODUCTS INSTALLED BEFORE THE SPRINGLINE.
2. SERVICE SERVICES TO BE 150mm MIN.(FOR EARTH REFER TO F-2139) (FOR NON RESIDENTIAL OR ELSE SPECIFIED OTHERWISE) SERVICE PIPE MUST BE SEALED WITH THE APPROVED SEALS OR OTHER PRODUCTS APPROVED BY OTTAWA.
3. APPROVED CONTROLLED SETTLEMENT JOINTS OPTIONAL FOR SERVICE CONNECTIONS TO MAIN SEWERS UP TO 3m DEEP, WHERE APPROVED CONNECTIONS TO SEWERS OVER 3m DEEP REQUIRE APPROVED CONTROLLED SETTLEMENT JOINTS.
4. CAP OR PLUG AT THE PROPERTY LINE SHALL BE ADEQUATELY BRACED TO WITHSTAND TESTING PRESSURE.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
Ottawa
SEWER SERVICE CONNECTIONS FOR RIGID MAIN SEWER PIPE (MODIFIED OPSD-1006.010)
DATE: MARCH 2006
REV. DATE: MARCH 2010
DWG. No.: S11

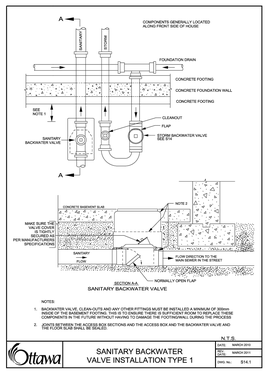

Area under construction
Barrier
Solid fence
Fence under protection
PERSPECTIVE VIEW
Direction of flow
PLAN
Geotextile
Stake
Trench shall be backfilled and compacted
Original ground
JOINT DETAIL
SECTION A–A
NOTE:
A. All dimensions are in millimetres unless otherwise shown.
ONTARIO PROVINCIAL STANDARD DRAWING
Nov 2021
Rev 3
LIGHT–DUTY SILT FENCE BARRIER
OPSD 219.110

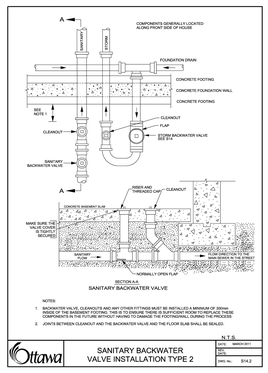

WIDTH VARIES
1.5m
100mm
SECTION A-A
HL3 ASPHALT SHALL BE PLACED AFTER CONSTRUCTION OF THE ROAD AND COMPACTED AS SPECIFIED
200mm CONCRETE SIDEWALK
REFER TO NOVATECH DRAWING "122210-PVMK2" FOR PROPOSED PAVEMENT MARKINGS & SIGNAGE
TRAFFIC FLOW
PLAN
RAISED CONCRETE PEDESTRIAN CROSSING
NOTES:
ALL SIGNAGE 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.

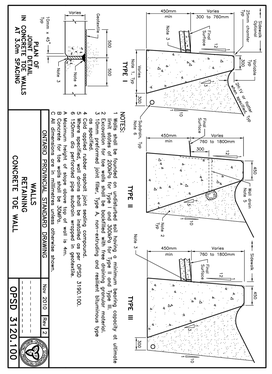

WIDTH VARIES
1.5m
100mm
SECTION A-A
HL3 ASPHALT SHALL BE PLACED AFTER CONSTRUCTION OF THE ROAD AND COMPACTED AS SPECIFIED
PAINTED ASPHALT
PAINTED PEDESTRIAN CROSSING. REFER TO NOVATECH DRAWING "122210-PVMK2" FOR PROPOSED PAVEMENT MARKINGS & SIGNAGE
TRAFFIC FLOW
PLAN
NOTES:
ALL SIGNAGE SHALL CONFORM TO 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 DESIGN DETAILS
RAISED PEDESTRIAN CROSSING DETAIL
N.T.S.

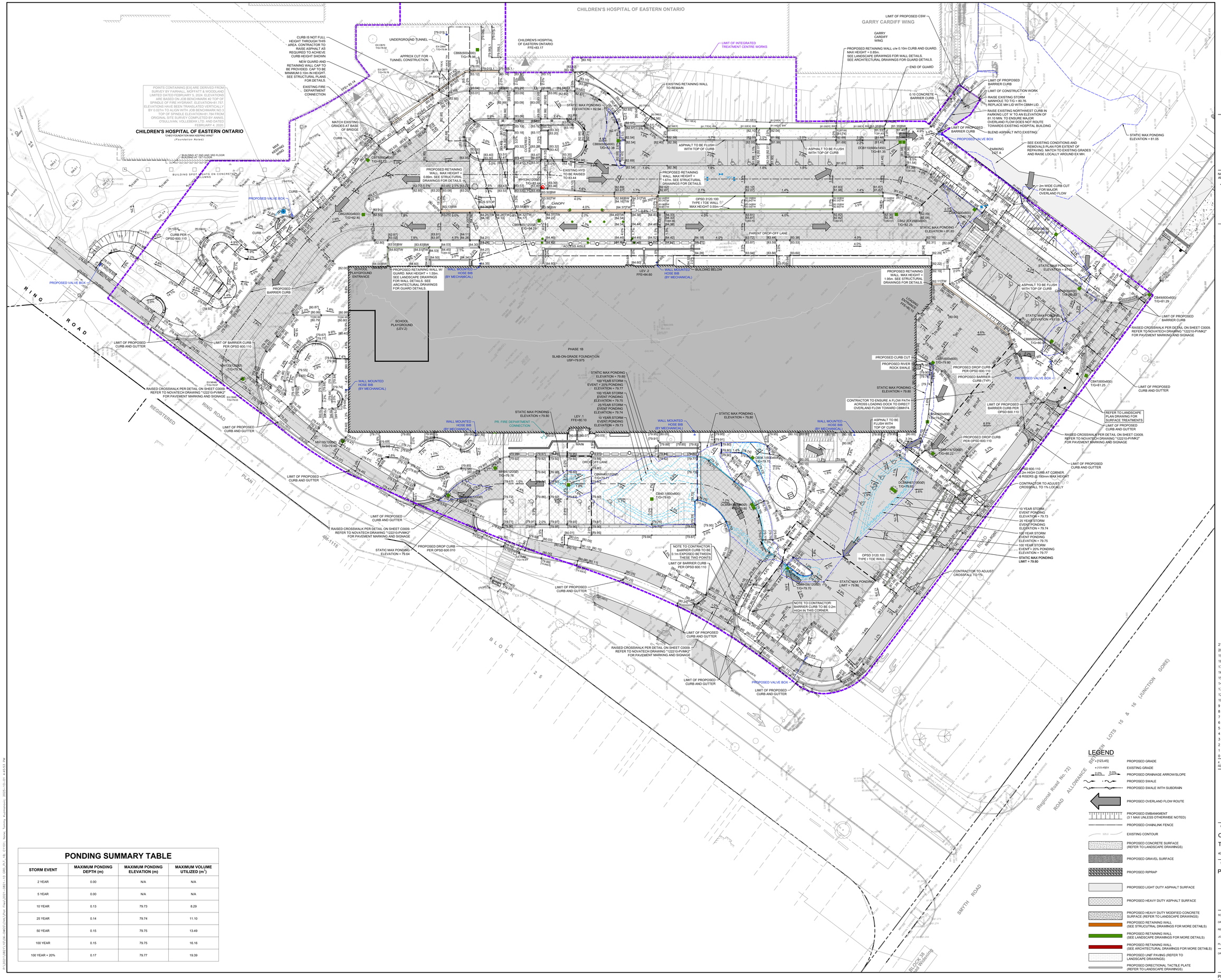

BEDDING AND COVER AS SPECIFIED
GROUT AROUND CONNECTION
MAKE HOLE IN SEWER IN ACCORDANCE WITH NOTE 1
NOTES:
1. OPENING IN PIPE SHALL BE A ROUND MACHINE CUT HOLE.
2. INSERT TO CONSIST OF THE BELL END OF AN APPROVED SERVICE PIPE. LENGTH TO BE LIMITED SUCH THAT NO PART OF THE INSERT PROTRUDES INTO THE OPENING OF THE PIPE.
3. WRAP APPROVED WATER TIGHT SEALANT AROUND THE SPIGOT PORTION OF THE BELL END INSERT. USE SUFFICIENT SEALANT TO ENSURE A TIGHT WATER TIGHT CONNECTION THAT WILL HOLD THE BELL IN POSITION.
4. GROUT AROUND THE BELL END TO PROTECT THE SEALANT AND SUPPORT THE BELL.
5. ALL OTHER NOTES OF S11 APPLY.
6. SEE M9.22 IS FOR APPROVED SEALANT PRODUCTS.
Ottawa
SEWER SERVICE CONNECTIONS FOR RIGID MAIN SEWER PIPE USING BELL END INSERT METHOD
N.T.S.
DATE: MARCH 2011
REV. DATE:
DWG. No.: S11.2


BACKFLOW PREVENTER
FOUNDATION DRAIN
CONCRETE FOOTING
CONCRETE FOUNDATION WALL
CONCRETE FOOTING
SEE NOTE 1
STORM CLEANOUT
FLAP
STORM BACKWATER VALVE
CLEANOUT FOR SANITARY SEWER BACKWATER VALVE (SEE DETAIL 5 14.1)
COMPONENTS GENERALLY LOCATED ALONG FRONT SIDE OF HOUSE
STORM CLEANOUT IS NOT BACKWATER CLARITY ONLY
CONCRETE BARRIER/ PLAT
MAKE SURE VALVE COVER IS TIGHTLY SECURED AS PER MANUFACTURERS SPECIFICATIONS
FLOW DOES THROUGH THE CLEANOUT THEN TO THE STORM SEWER IN THE STREET
FLOW DIRECTION FROM FOUNDATION DRAIN
FLAP
SECTION A-A
STORM BACKWATER VALVE
NOTES:
1. BACKWATER VALVE, CLEAN-OUTS AND ANY OTHER FITTINGS MUST BE INSTALLED A MINIMUM OF 300mm COMPLETE WITH THE BASEMENT FLOORING. THIS IS TO ENSURE THERE IS SUFFICIENT ROOM TO REPLACE THESE COMPONENTS IN THE FUTURE WITHOUT HAVING TO DAMAGE THE FOOTERING DURING THE PROCESS
2. JOINTS BETWEEN THE ACCESS BOX SECTIONS AND THE ACCESS BOX AND THE BACKWATER VALVE AND THE FLOOR SLAB SHALL BE SEALED.
Ottawa
FOUNDATION DRAIN BACKWATER VALVE INSTALLATION
N.T.S.
DATE: DEC. 2002
REV. DATE: MARCH 2011
DWG. No.: S14


COMPONENTS GENERALLY LOCATED ALONG FRONT SIDE OF HOUSE
FOUNDATION DRAIN
CONCRETE FOOTING
CONCRETE FOUNDATION WALL
CONCRETE FOOTING
SEE NOTE 1
CLEANOUT
FLAP
SANITARY BACKWATER VALVE
STORM BACKWATER VALVE SEE S14
SANITARY BACKWATER VALVE
CONCRETE BARRIER/ PLAT
MAKE SURE THE VALVE COVER IS TIGHTLY SECURED AS PER MANUFACTURERS SPECIFICATIONS
VARIES
FLOW
NORMALLY OPEN FLAP
MAIN SEWER IN THE STREET
SECTION A-A
SANITARY BACKWATER VALVE
NOTES:
1. BACKWATER VALVE, CLEANOUTS AND ANY OTHER FITTINGS MUST BE INSTALLED A MINIMUM OF 300mm COMPLETE WITH THE BASEMENT FLOORING. THIS IS TO ENSURE THERE IS SUFFICIENT ROOM TO REPLACE THESE COMPONENTS IN THE FUTURE WITHOUT HAVING TO DAMAGE THE FOOTERING DURING THE PROCESS
2. JOINTS BETWEEN THE ACCESS BOX SECTIONS AND THE ACCESS BOX AND THE BACKWATER VALVE AND THE FLOOR SLAB SHALL BE SEALED.
Ottawa
SANITARY BACKWATER VALVE INSTALLATION TYPE 1
N.T.S.
DATE: MARCH 2011
REV. DATE:
DWG. No.: S14.1


COMPONENTS GENERALLY LOCATED ALONG FRONT SIDE OF HOUSE
FOUNDATION DRAIN
CONCRETE FOOTING
CONCRETE FOUNDATION WALL
CONCRETE FOOTING
SEE NOTE 1
CLEANOUT
FLAP
STORM BACKWATER VALVE SEE S14
SANITARY BACKWATER VALVE
RISER AND THREADED CAP
CLEANOUT
CONCRETE BARRIER/ PLAT
MAKE SURE THE VALVE COVER IS TIGHTLY SECURED AS PER MANUFACTURERS SPECIFICATIONS
SANITARY FLOW
NORMALLY OPEN FLAP
MAIN SEWER IN THE STREET
SECTION A-A
SANITARY BACKWATER VALVE
NOTES:
1. BACKWATER VALVE, CLEANOUTS AND ANY OTHER FITTINGS MUST BE INSTALLED A MINIMUM OF 300mm COMPLETE WITH THE BASEMENT FLOORING. THIS IS TO ENSURE THERE IS SUFFICIENT ROOM TO REPLACE THESE COMPONENTS IN THE FUTURE WITHOUT HAVING TO DAMAGE THE FOOTERING DURING THE PROCESS
2. JOINTS BETWEEN CLEANOUT AND THE BACKWATER VALVE AND THE FLOOR SLAB SHALL BE SEALED.
Ottawa
SANITARY BACKWATER VALVE INSTALLATION TYPE 2
N.T.S.
DATE: MARCH 2011
REV. DATE:
DWG. No.: S14.2


PLAN OF CONCRETE TOE WALLS IN CONCRETE BLOCK AT LOW GRADING
TYPE A
TYPE B
TYPE III
Varies
450mm min
300 to 750mm
Sidewalk
Grade
Sod
Sump
Sump
Sump
Note 3
Note 4
Note 5
Note 6
Note 7
Note 8
Note 9
Note 10
Note 11
Note 12
Note 13
Note 14
Note 15
Note 16
Note 17
Note 18
Note 19
Note 20
Note 21
Note 22
Note



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	0.13	79.73	8.29
25 YEAR	0.14	79.74	11.10
50 YEAR	0.15	79.75	13.49
100 YEAR	0.15	79.75	16.16
100 YEAR + 20%	0.17	79.77	19.39

CHEO

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

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.
5. 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.
6. ALL HEALTH AND SAFETY RELATED SIGNAGE MUST BE POSTED AT THE SITE AS REQUIRED BY APPLICABLE LAW AND BEST MANAGEMENT PRACTICES.
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.

LEGEND

- PROPOSED GRADE
- EXISTING GRADE
- PROPOSED DRAINAGE ARROW/SLOPE
- PROPOSED SWALE
- PROPOSED SWALE WITH SUBDRAIN
- PROPOSED OVERLAND FLOW ROUTE
- PROPOSED EMBANKMENT (3:1 MAX UNLESS OTHERWISE NOTED)
- PROPOSED CHAINLINK FENCE
- EXISTING CONTOUR
- PROPOSED CONCRETE SURFACE (REFER TO LANDSCAPE DRAWINGS)
- PROPOSED GRAVEL SURFACE
- PROPOSED RIPRAP
- PROPOSED LIGHT DUTY ASPHALT SURFACE
- PROPOSED HEAVY DUTY ASPHALT SURFACE
- PROPOSED HEAVY DUTY MODIFIED CONCRETE SURFACE (REFER TO LANDSCAPE DRAWINGS)
- PROPOSED RETAINING WALL (SEE STRUCTRAL 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 (REFER TO LANDSCAPE DRAWINGS)
- PROPOSED DIRECTIONAL TACTILE PLATE (REFER TO LANDSCAPE DRAWINGS)

#	DATE:	REVISION:
21	01/10/25	ISSUED FOR SPC RESUBMISSION 2
20	10/09/25	ISSUED FOR CSI-004
19	07/08/25	ISSUED FOR CSI-003
18	14/05/25	ISSUED FOR CSI-002
17	01/04/25	ISSUED FOR SPC RE-SUBMISSION
16	25/03/24	ISSUED FOR 100% CD SUBMISSION R1
15	25/02/24	ISSUED FOR 100% CD RE-SUBMISSION
14	25/01/10	ISSUED FOR 100% CD RE-SUBMISSION
13	24/12/09	ISSUED FOR SPC RE-SUBMISSION
12	24/11/27	ISSUED FOR 100% CD SUBMISSION
10	24/09/20	ISSUED FOR CSI-001 SITE CURB AT TUNNEL
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. FEDORUK 2025-10-01 PROVINCE OF ONTARIO

REPRODUCTION OR DISTRIBUTION FOR PURPOSES OTHER THAN AUTHORIZED BY WALTERFEDY IS FORBIDDEN. USERS ARE CAUTIONED ... 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.

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CLIENT

CHEO INTEGRATED TREATMENT CENTRE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

PROPOSED GRADING PLAN

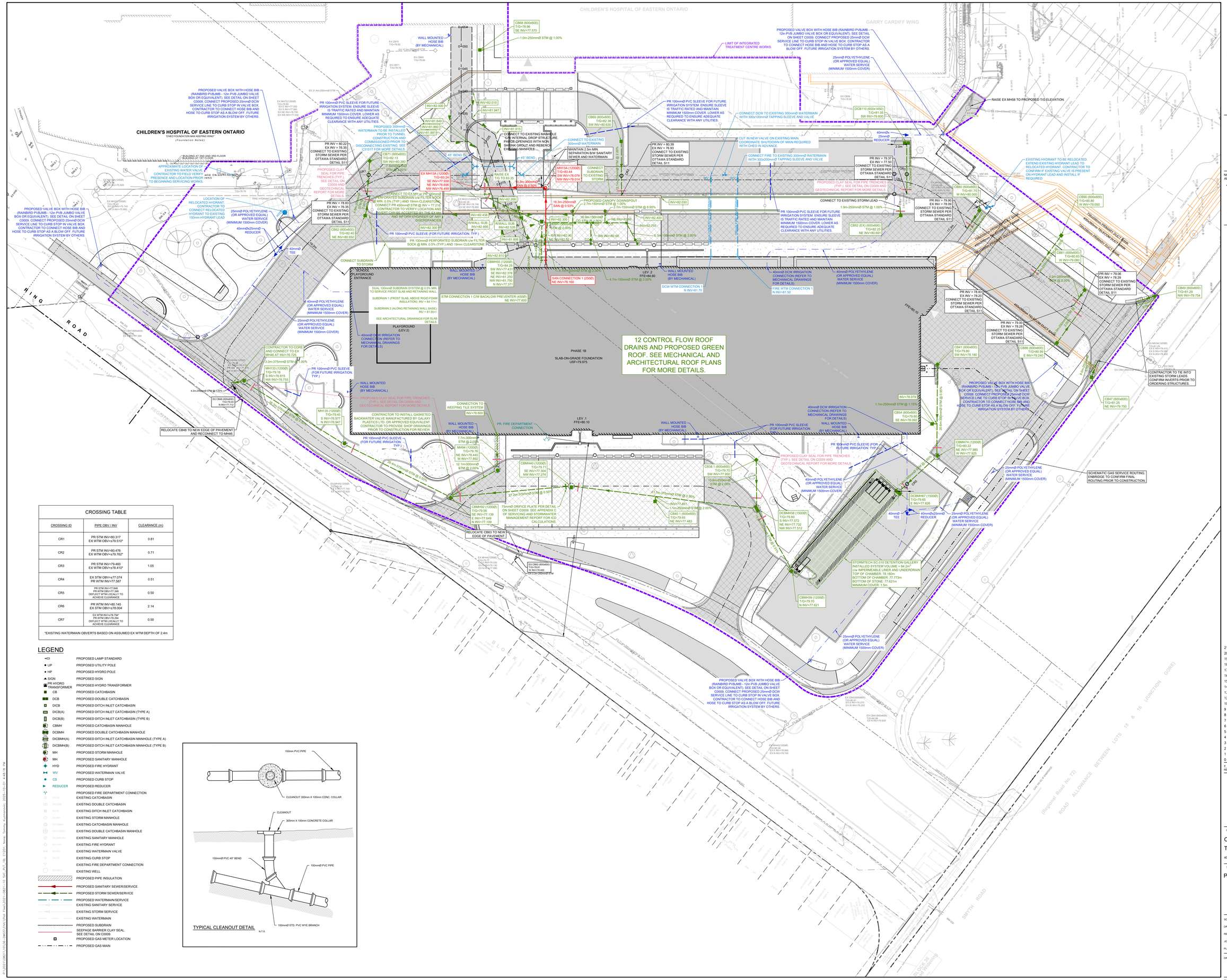
1:250 — 0 2.5 5.0 12.5

SCALE:	1:250
DRAWN BY:	DL, TK, ZS
REVIEWED BY:	SF
JOB NUMBER:	2021-0821-13
PLOT DATE:	2025.10.01

DRAWING NUMBER:

C1101

PLAN #: 19223
DEVELOPMENT #: D07-12-24-0121



CROSSING TABLE

CROSSING ID	PIPE OBV / INV	CLEARANCE (m)
CR1	PR STM INV=80.317 EX WTM OBV=±79.510*	0.81
CR2	PR STM INV=80.476 EX WTM OBV=±79.762*	0.71
CR3	PR STM INV=79.460 EX WTM OBV=±78.410*	1.05
CR4	EX STM OBV=±77.074 PR WTM INV=77.587	0.51
CR5	PR STM INV=77.848 PR WTM OBV=77.348 DEFLECT WTM LOCALLY TO ACHIEVE CLEARANCE	0.50
CR6	PR WTM INV=80.145 EX STM OBV=±78.004	2.14
CR7	EX WTM INV=±78.794* PR WTM OBV=78.294 DEFLECT WTM LOCALLY TO ACHIEVE CLEARANCE	0.50

*EXISTING WATERMAIN OBVERTS BASED ON ASSUMED EX WTM DEPTH OF 2.4m

LEGEND

- PROPOSED LAMP STANDARD
- PROPOSED UTILITY POLE
- PROPOSED HYDRO POLE
- PROPOSED SIGN
- PROPOSED HYDRO TRANSFORMER
- PROPOSED CATCHBASIN
- PROPOSED DOUBLE CATCHBASIN
- PROPOSED DITCH INLET CATCHBASIN
- PROPOSED DITCH INLET CATCHBASIN (TYPE A)
- PROPOSED DITCH INLET CATCHBASIN (TYPE B)
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED DOUBLE CATCHBASIN MANHOLE
- PROPOSED DITCH INLET CATCHBASIN MANHOLE (TYPE A)
- PROPOSED DITCH INLET CATCHBASIN MANHOLE (TYPE B)
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED WATERMAIN VALVE
- PROPOSED CURB STOP
- PROPOSED REDUCER
- PROPOSED FIRE DEPARTMENT CONNECTION
- EXISTING CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- EXISTING DITCH INLET CATCHBASIN
- EXISTING STORM MANHOLE
- EXISTING CATCHBASIN MANHOLE
- EXISTING DOUBLE CATCHBASIN MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATERMAIN VALVE
- EXISTING CURB STOP
- EXISTING FIRE DEPARTMENT CONNECTION
- 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.
- PROPOSED GAS METER LOCATION
- PROPOSED GAS MAIN

TYPICAL CLEANOUT DETAIL

CHEO

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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

KEY PLAN

#	DATE	REVISION
21	01/10/25	ISSUED FOR SPC RESUBMISSION 2
20	10/09/25	ISSUED FOR CSI-004
19	07/08/25	ISSUED FOR CSI-003
18	14/05/25	ISSUED FOR CSI-002
17	01/04/25	ISSUED FOR SPC RE-SUBMISSION
16	25/03/24	ISSUED FOR 100% CD SUBMISSION R1
15	25/02/24	ISSUED FOR 100% CD RE-SUBMISSION
14	25/01/10	ISSUED FOR 100% CD RE-SUBMISSION
13	24/12/09	ISSUED FOR SPC RE-SUBMISSION
12	24/11/27	ISSUED FOR 100% CD SUBMISSION
10	24/09/20	ISSUED FOR CSI-001 SITE CURB AT TUNNEL
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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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. FORTHILL 2025-10-01 PROVINCE OF ONTARIO

REPRODUCTION OR USE FOR OTHER 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.

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CLIENT

CHEO INTEGRATED TREATMENT CENTRE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

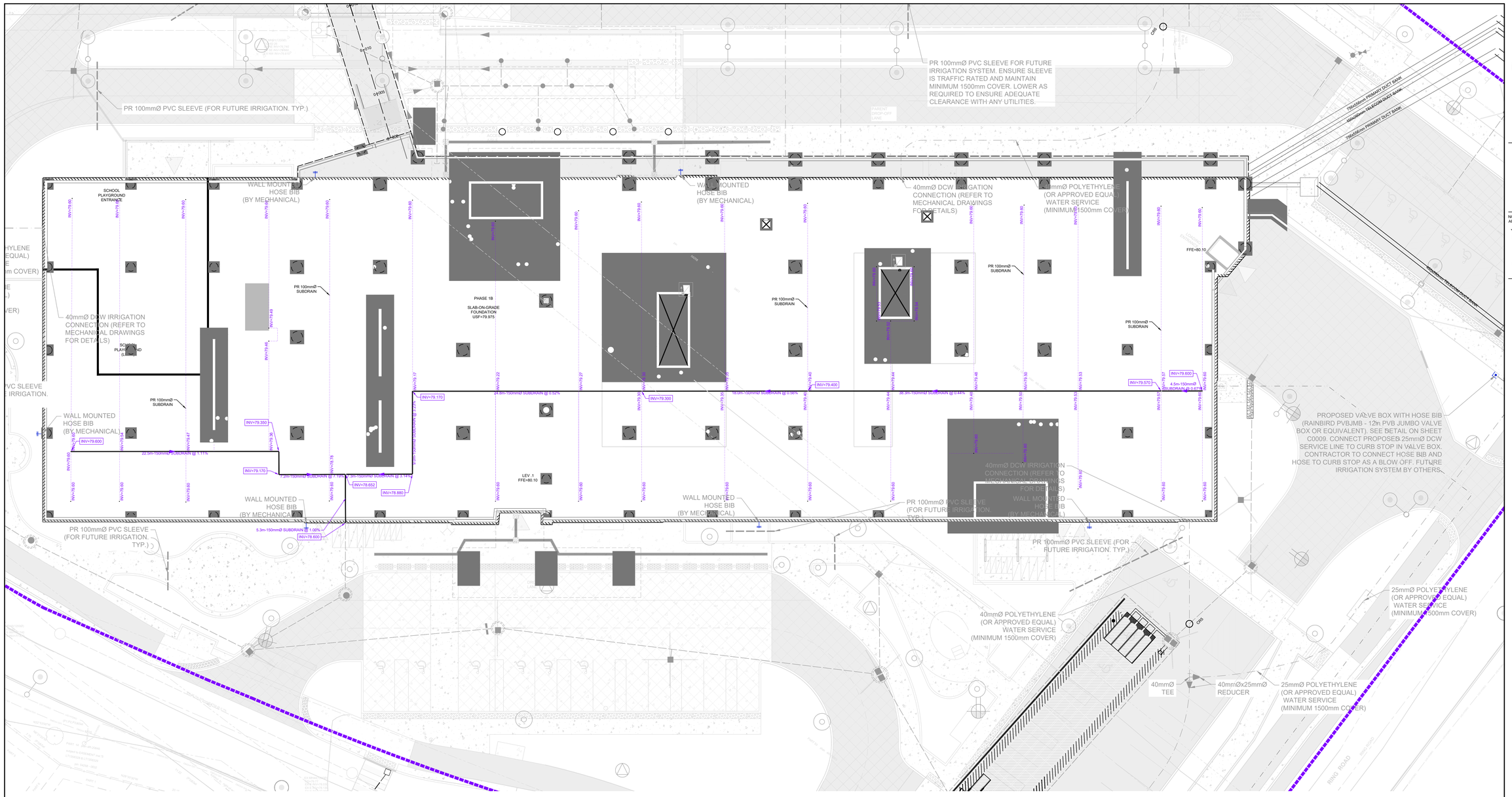
PROPOSED SERVICING PLAN

1:250 — 0 2.5 5.0 12.5

SCALE: 1:250
DRAWN BY: DL, TK, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2025.10.01
DRAWING NUMBER:

C1201

PLAN #: 19223
DEVELOPMENT #: D07-12-24-0121



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

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NORTH ARROW

KEY PLAN

#	DATE:	REVISION:
21	01/10/25	ISSUED FOR SPC RESUBMISSION 2
20	10/09/25	ISSUED FOR CSI-004
19	07/08/25	ISSUED FOR CSI-003
18	14/05/25	ISSUED FOR CSI-002
17	01/04/25	ISSUED FOR SPC RE-SUBMISSION
16	25/03/24	ISSUED FOR 100% CD SUBMISSION R1
15	25/02/24	ISSUED FOR 100% CD RE-SUBMISSION
14	25/01/10	ISSUED FOR 100% CD RE-SUBMISSION
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12	24/11/27	ISSUED FOR 100% CD SUBMISSION
10	24/09/20	ISSUED FOR CSI-001 SITE CURB AT TUNNEL
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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
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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. FORTILL
REGISTERED
2025-10-01
PROVINCE OF ONTARIO

REPRODUCTION OR REPRODUCTION 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.
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401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

PROPOSED BUILDING SUBDRAIN PLAN

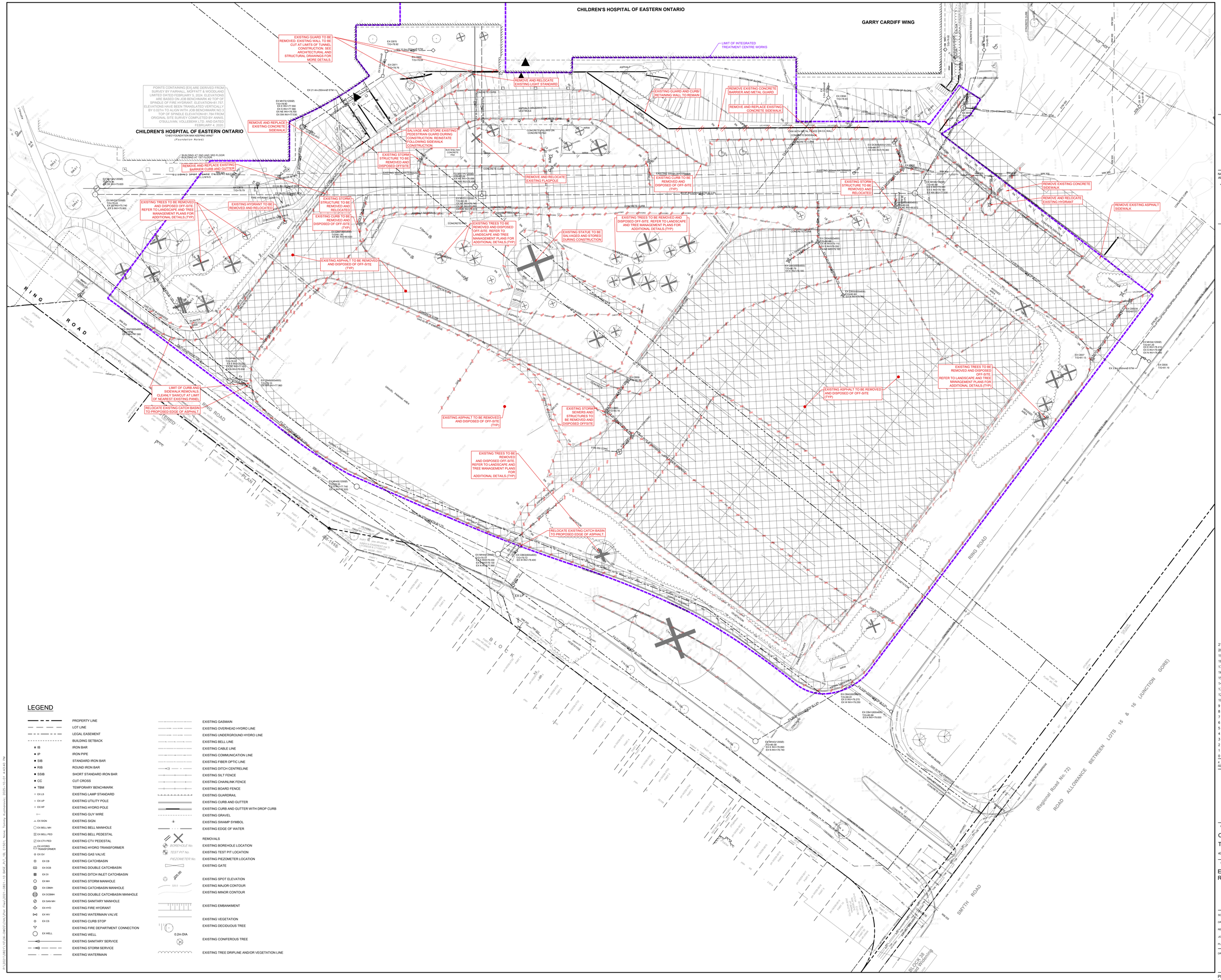
1:150 — 0 1.5 3.0 7.5

SCALE:	1:150
DRAWN BY:	DL, TK, ZS
REVIEWED BY:	SF
JOB NUMBER:	2021-0821-13
PLOT DATE:	2025.10.01

DRAWING NUMBER:

C1202

PLAN #: 19223
DEVELOPMENT #: D07-12-24-0121



LEGEND

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

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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

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.
5. 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.
6. ALL HEALTH AND SAFETY RELATED SIGNAGE MUST BE POSTED AT THE SITE AS REQUIRED BY APPLICABLE LAW AND BEST MANAGEMENT PRACTICES.
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.

#	DATE:	REVISION:
21	01/10/25	ISSUED FOR SPC RESUBMISSION 2
20	10/09/25	ISSUED FOR CSI-004
19	07/08/25	ISSUED FOR CSI-003
18	14/05/25	ISSUED FOR CSI-002
17	01/04/25	ISSUED FOR SPC RE-SUBMISSION
16	25/03/24	ISSUED FOR 100% CO SUBMISSION R1
15	25/02/24	ISSUED FOR 100% CO RE-SUBMISSION
14	25/01/10	ISSUED FOR 100% CO RE-SUBMISSION
13	24/12/09	ISSUED FOR SPC RE-SUBMISSION
12	24/11/27	ISSUED FOR 100% CO SUBMISSION
10	24/09/20	ISSUED FOR CSI-001 SITE CURB AT TUNNEL
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)
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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 — A.T. POWELL — 90160 — 2025-10-01 — PROVINCE OF ONTARIO

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CHEO INTEGRATED TREATMENT CENTRE

401 SMYTH RD, OTTAWA, ON K1H8L1

TITLE

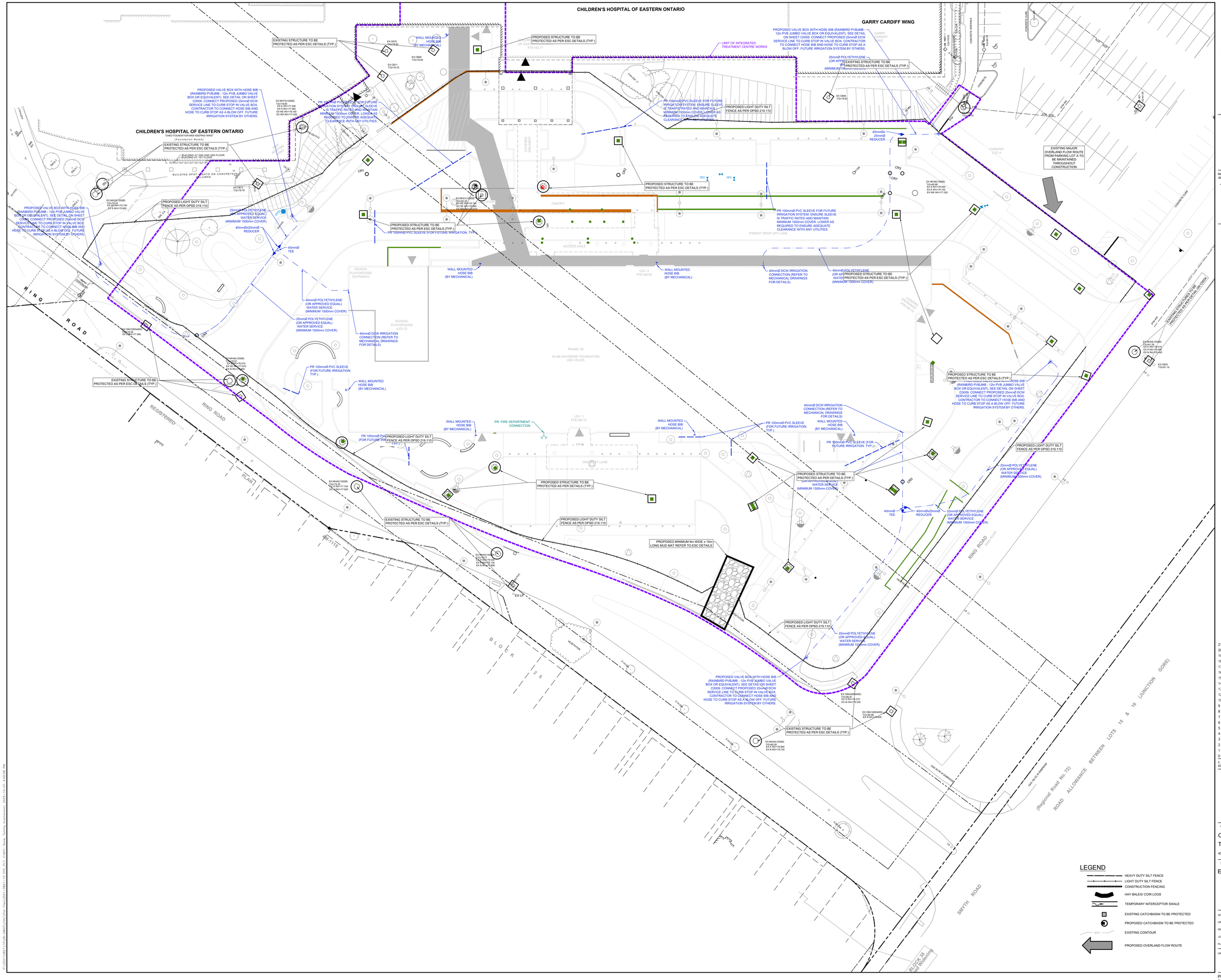
EXISTING CONDITIONS AND REMOVALS PLAN

1:250 — 0 2.5 5.0 12.5

SCALE: 1:250
DRAWN BY: DL, TK, ZS
REVIEWED BY: SF
JOB NUMBER: 2021-0821-13
PLOT DATE: 2025.10.01
DRAWING NUMBER:

C1501

PLAN #: 19223
DEVELOPMENT #: D07-12-24-0121



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WALTERFEDY

KITCHENER OFFICE
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T: 519.576.2150 F: 519.576.5499 walterfedy.com

NORTH ARROW

KEY PLAN

#	DATE	REVISION
21	01/10/25	ISSUED FOR SPC RESUBMISSION 2
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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. FERRELL
2025-10-01
PROVINCE OF ONTARIO

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CHEO INTEGRATED TREATMENT CENTRE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE

EROSION AND SEDIMENT CONTROL

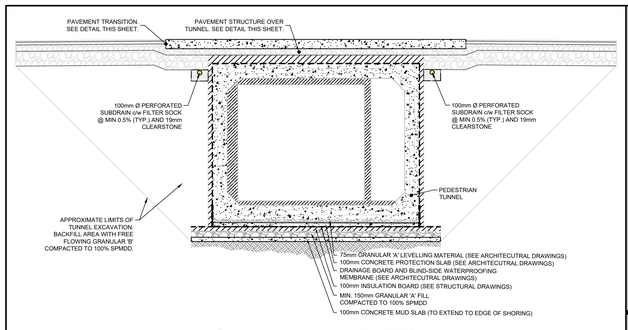
1:250
0 2.5 5.0 12.5

SCALE:	1:250
DRAWN BY:	DL, TK, ZS
REVIEWED BY:	SF
JOB NUMBER:	2021-0821-13
PLOT DATE:	2025.10.01

DRAWING NUMBER:

C1601

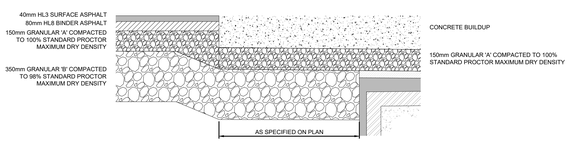
PLAN #: 19223
DEVELOPMENT #: D07-12-24-0121



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

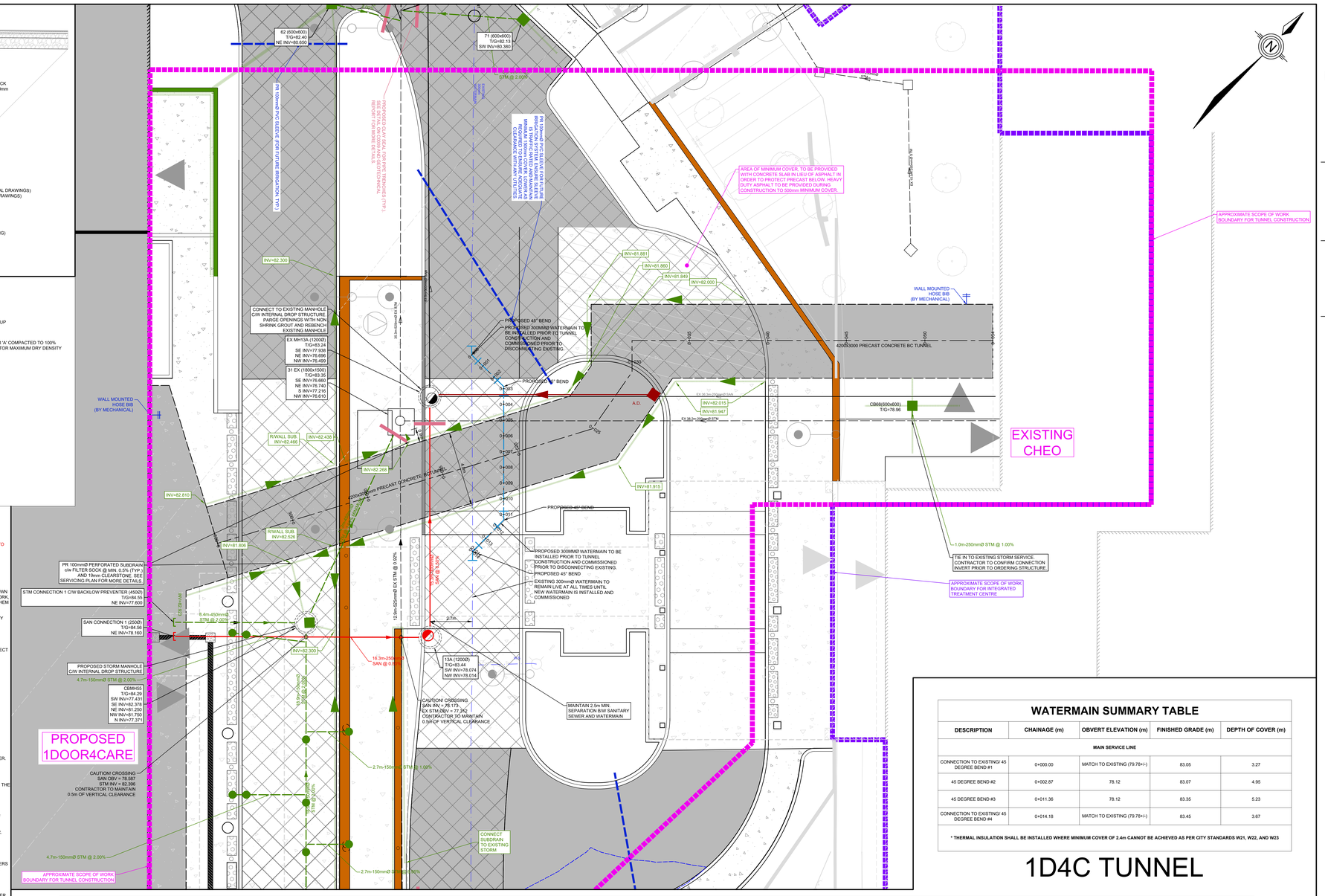
1. IN ACCORDANCE WITH THE CITY OF OTTAWA SITE ALTERATION BY-LAW; NO FILLING, PRE-GRADING OR TREE REMOVAL SHALL OCCUR, IN ADVANCE OF THE FINAL SITE PLAN ENGINEERING ACCEPTANCE, WITHOUT PERMIT. SHOULD THE DEVELOPER OR CONTRACTOR WISH TO PREPARE THE SITE FOR CONSTRUCTION PRIOR TO ENGINEERING ACCEPTANCE, 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
Infrastructure Ontario
EllisDon INFRASTRUCTURE Healthcare

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KEY PLAN

#	DATE	REVISION
21	01/10/25	ISSUED FOR SPC RESUBMISSION 2
20	10/09/25	ISSUED FOR CSI-004
19	07/08/25	ISSUED FOR CSI-003
18	14/05/25	ISSUED FOR CSI-002
17	01/04/25	ISSUED FOR SPC RE-SUBMISSION
16	25/03/24	ISSUED FOR 100% CD SUBMISSION R1
15	25/02/24	ISSUED FOR 100% CD RE-SUBMISSION
14	25/01/10	ISSUED FOR 100% CD RE-SUBMISSION
13	24/12/09	ISSUED FOR SPC RE-SUBMISSION
12	24/11/27	ISSUED FOR 100% CD SUBMISSION
10	24/09/20	ISSUED FOR CSI-001 SITE CURB AT TUNNEL
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. POWELL 2025-10-01 PROVINCE OF ONTARIO

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TITLE
TUNNEL PROFILE

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REVIEWED BY: SF
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PLOT DATE: 2025.10.01
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