

JULY 19, 2021.

- 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.
- 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

- ALL EROSION CONTROL FENCING, TEMPORARY FILTRATION, AND MUD MATS MUST BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE CONSULTANT PRIOR TO COMMENCEMENT OF ANY AREA GRADING, EXCAVATING, OR DEMOLITION. CONTRACTOR TO NOTIFY CONSULTANT FOR INSPECTION.
- 2. ATTACH EROSION CONTROL FENCE TO EXISTING CHAINLINK FENCE WITHIN THE LIMITS OF THE SITE WHERE POSSIBLE.
- 3. EROSION CONTROL FENCING TO BE PLACED AROUND THE BASE OF ALL STOCKPILES. ALL STOCKPILES TO BE KEPT A MINIMUM OF 2.5m FROM PROPERTY LINES.
- 4. FILTER FABRIC TO BE TERRAFIX 270R OR APPROVED EQUIVALENT.
- 5. MUD MATS TO BE PROVIDED ON SITE AT ALL LOCATIONS WHERE CONSTRUCTION VEHICLES EXIT THE SITE. MUD MATS SHALL BE SUPPLIED AS INSTALLED AS PER THE DETAIL ON SHEET C4-1. CONTRACTOR TO ENSURE ALL VEHICLES LEAVE THE SITE VIA THE MUD MAT AND THAT THE MAT IS MAINTAINED IN A MANNER TO MAXIMIZE ITS EFFECTIVENESS AT ALL TIMES.
- ALL DITCH INLET CATCHBASINS, CATCHBASINS AND CATCHBASIN MANHOLES TO HAVE TEMPORARY FILTRATION INSTALLED AND MAINTAINED AS PER THE DETAIL ON SHEET C4-1.
- 7. NO ALTERNATE METHODS OF EROSION CONTROL PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY CONSULTANT AND THE AUTHORITY HAVING JURISDICTION.
- 8. ALL EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN RE-STABILIZED EITHER BY PAVING OR RESTORATION WITH VEGETATIVE GROUND COVER.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SEDIMENTS FROM THE PUBLIC ROADWAY AND SIDEWALKS AT THE END OF EACH WORK DAY OR AS DIRECTED BY THE CONSULTANT.
- 10. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED BY THE CONTRACTOR AFTER MAJOR RAINFALL EVENTS AND CLEANED OR REPLACED AS REQUIRED TO MEET THEIR INTENDED FUNCTION. SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MAXIMUM OF ONE THIRD (1/3) THE STRUCTURE CAPACITY.
- 11. THE CONSULTANT SHALL MONITOR SITE DEVELOPMENT TO ENSURE ALL EROSION CONTROLS ARE INSTALLED AND MAINTAINED TO CITY OF OTTAWA REQUIREMENTS. CONTRACTOR TO COMPLY WITH THE CONSULTANTS
- 12. THIS PLAN TO BE READ IN CONJUNCTION WITH THE EXISTING CONDITIONS PLAN, SITE SERVICING PLAN, STORM WATER MANAGEMENT PLAN, LANDSCAPING PLAN, AND THE STORM WATER MANAGEMENT REPORT DATED AUGUST

INSTRUCTIONS TO INSTALL, MODIFY, OR MAINTAIN EROSION CONTROL WORKS

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. 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.
- 5. 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
- 6. 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.
- 7. FINISH GRADE AT FOUNDATION WALLS TO BE MINIMUM 150mm BELOW THE TOP OF FOUNDATION WALL/BRICK LINE UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS.
- 8. 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.
- 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.
- 9.1. THIS CONTRACTOR SHALL BE PAID THE COST OF SUCH EXTRA EXCAVATION AT THE UNIT PRICE ESTABLISHED IN
- 9.2. 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.
- 9.3. QUANTITIES USED FOR PAYMENT OF EXCAVATION AND FILLING AT EXTRA DEPTHS TO BE DETERMINED BY THE CONSULTANT.

GENERAL SERVICING

SECURED IN PLACE.

- 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
- 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. CUIT AT LEAST 500mm.
- 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

- 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
- 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 2.5m 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.
- 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
- 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
- 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
- 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.

 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
- 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.

. TRACER WIRE:

PIPING AND/OR ASSOCIATED FITTINGS.

- 8.1. T.W.U. OR R.W.U #10 GAUGE MIN. 7 STRANDS COPPER WIRE, MIN 60°C OR HIGHER, 600v OR APPROVED
- 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
- 9. WATERMAIN VALVES, 100mm AND LARGER, SHALL BE AS PER AWWA C509-MUELLER A2362 OR APPROVED
- 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
- 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

SENERAL I. 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.

TO THE SATISFACTION OF THE CONSULTANT AND OWNER.

- 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.

DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE COMMENCING WORK.

- 1.5. REPORT DISCREPANCIES IN EXISTING CONDITION INFORMATION IMMEDIATELY TO THE CONSULTANT.
 THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR DAMAGE TO EXISTING WORKS. DAMAGE SHALL BE RECTIFIED
- 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 LITH LITY COMPANIES WHEN CROSSING OR WORKING NEAR THEIR PLANT.
- 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
- 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.
- 3. 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 I. ALL REMOVALS TO BE IN ACCORDANCE WITH OPSS.MUNI 510.

ALE REMOVALS TO BE IN ACCORDANCE WITH 0F35.MON 310.

- ASPHALT MATERIAL TO BE PROVIDED AS PER OPSS 1150 AND INSTALLED AS PER OPSS 310.

 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
- CONCRETE

 1. EXISTING SIDEWALK ON THE RIGHT OF WAY IS NOT TO BE REMOVED UNTIL THE CONTRACTOR IS READY TO REPLACE
- 2. CONCRETE SIDEWALK WITHIN THE RIGHT OF WAY SHALL BE AS PER OPSD 310.010 AND 310.030.

CONSULTANT A MINIMUM OF TWO WEEKS IN ADVANCE OF SCHEDULED ASPHALT PAVING.

- 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.
- . 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.

- 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.
- 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.
 GRANULAR 'A' TO OPSS.MUNI 1010.
- 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.

 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

OPSOIL/SOD TOPSOIL TO BE PROVIDED AND INSTALLED AS PER OPSS 802. SOD TO BE PROVIDED AND INSTALLED AS PER OPSS

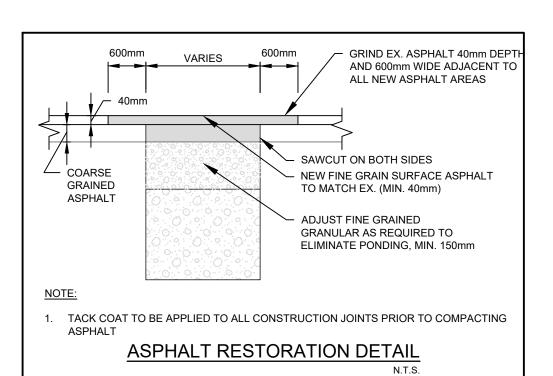
PAVEMENT MARKING & SIGNS 1. PAVEMENT MARKINGS TO BE LAID OUT AS PER THE DRAWINGS AND CONTRACTOR TO CONTACT CONSULTANT TO REVIEW LAYOUT PRIOR TO PAINTING. ALL PAINT LINES TO BE OF UNIFORM COLOR AND DENSITY WITH SHARP EDGES TO THE SATISFACTION OF THE CONSULTANT.

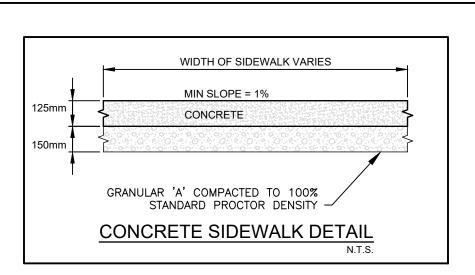
2. PAVEMENT MARKINGS TO BE

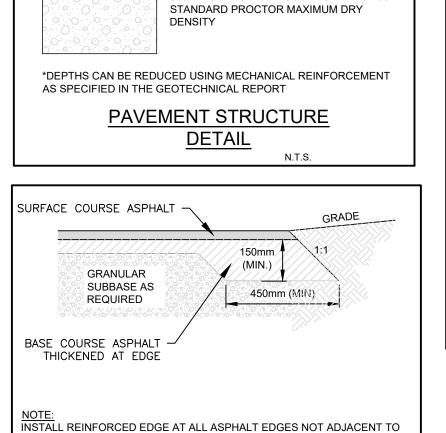
BEFORE ACCEPTANCE OF THE WORK

- 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
- 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.

ALL EXISTING SIGNS, MAIL BOXES, POSTS, ETC., WHICH MUST BE REMOVED TO ACCOMMODATE CONSTRUCTION







ASPHALT EDGE DETAIL

50mm HL3 SURFACE ASPHALT (PG 64-34)

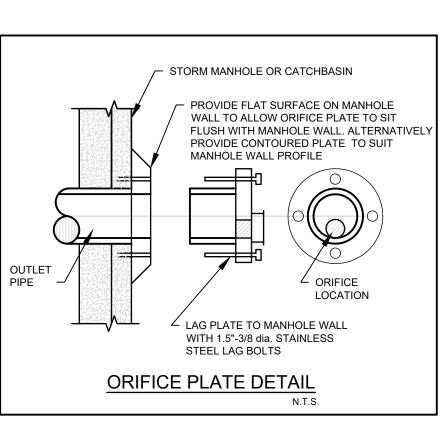
300mm GRANULAR 'A' COMPACTED TO 100%

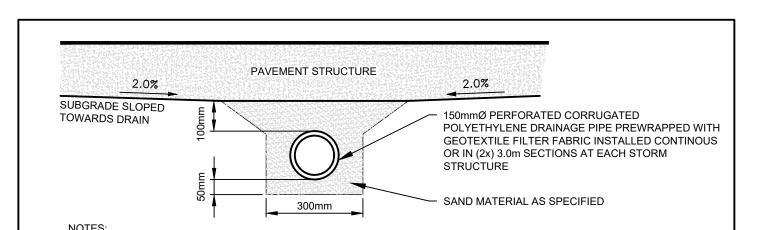
360mm GRANULAR 'B' COMPACTED TO 100%

90mm HL8 BINDER ASPHALT (PG 64-34)

STANDARD PROCTOR MAXIMUM DRY

DENSITY





PIPE FILTER FABRIC CONFORMING TO OPSS 1860 FOR GEOTEXTILE CLASS 1 WITH A FILTRATION OPENING SIZE OF 150 TO

OPSS 1002 (FINE AGGREGATE FOR CONCRETE) 7. DO NOT CONNECT UPSTREAM ENDS TO STRUCTURES

SUBDRAIN DETAIL

BEDDING AND BACKFILL MATERIAL SHALL BE CONCRETE SAND MEETING THE GRADATION REQUIREMENTS

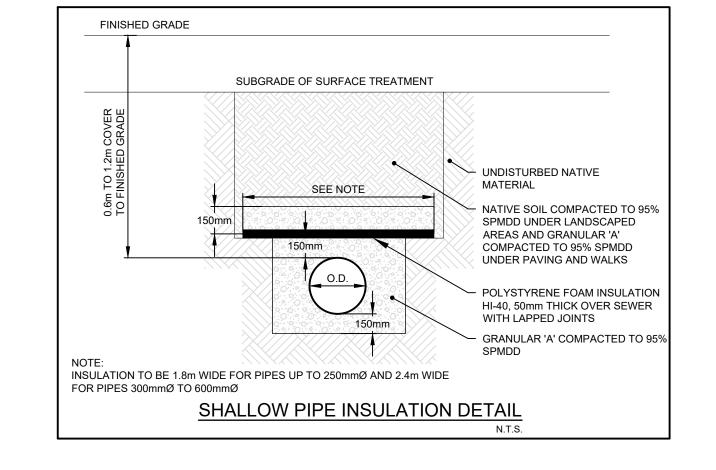
1 PERFORATED CORRUGATED POLYETHYLENE DRAINAGE PIPE SHALL MEET THE REQUIREMENTS OF OPSS 1840.

SUBDRAIN PIPES TO BE SET ON AT LEAST 1.0% GRADE DRAINING TO A POSITIVE FROST-FREE OUTLET.

450 MICRONS SHALL BE SUPPLIED ON ALL SECTIONS OF PERFORATED PIPE.

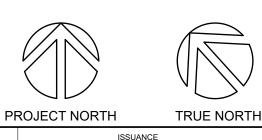
LAY PERFORATED PIPE WITH PERFORATIONS DOWNWARD

OPEN UPSTREAM ENDS OF PIPES SHOULD BE CAPPED.









2021.07.09 | ISSUED FOR DEMOLITION

2021.08.25 | ISSUED FOR SITE PLAN CONTROL

CENTRE

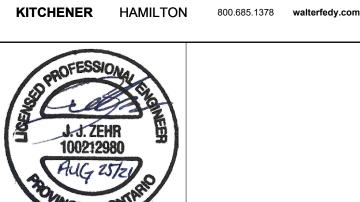
ENBRIDGE INC.

500 CONSUMERS RD, NORTH YORK, ON
PROJECT
OTTAWA OPERATIONS

2571 LANCASTER RD, OTTAWA, ON

DETAILS AND NOTES PLAN

WALTERFEDY



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SCALE: NTS

DATE: 2021-08-24

PROJECT NO.: 2020-0566-10

CAD FILE: 2020-0566-10_DET_PLOT

DRAWN BY: TK

HECKED BY: JZ

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