CONSTRUCTION NOTES AND SPECIFICATIONS

1. GENERAL

1.1. THESE PLANS ARE NOT FOR CONSTRUCTION UNTIL SIGNED AND SEALED BY ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.

1.2. THESE PLANS ARE TO BE USED FOR SERVICING AND GRADING ONLY. ANY OTHER INFORMATION SHOWN IS FOR ILLUSTRATION PURPOSES ONLY. THESE PLANS MUST NOT BE USED TO SITE THE PROPOSED BUILDING.

1.3. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE DESIGN ENGINEER.

1.4. THESE PLANS ARE NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF MTE CONSULTANTS INC.

1.5. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST:

1.5.1. CHECK AND VERIFY ALL EXISTING CONDITIONS, LOCATIONS AND ELEVATIONS WHICH INCLUDES BUT IS NOT LIMITED TO THE BENCHMARK ELEVATIONS, EXISTING SERVICE CONNECTIONS AND EXISTING INVERTS. REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING.

1.5.2. OBTAIN ALL UTILITY LOCATES AND REQUIRED PERMITS AND LICENSES.

1.5.3. VERIFY THAT THE FINISHED FLOOR ELEVATIONS AND BASEMENT FLOOR ELEVATIONS (WHICH MAY APPEAR ON THIS PLAN) COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.

1.5.4. CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE OF THE MOST RECENT REVISION.

1.6. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR ANY DAMAGE TO EXISTING WORKS. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY TO LOCAL MUNICIPALITY STANDARDS

1.7. ALL WORKS ON A MUNICIPAL RIGHT-OF-WAY WITH THE EXCEPTION OF WATERMAIN TAPPING, TO BE INSTALLED BY THE OWNER'S CONTRACTOR AT OWNER'S EXPENSE IN ACCORDANCE WITH THE LOCAL MUNICIPALITY'S "PROCEDURE FOR OFF-SITE WORKS BY PRIVATE CONTRACTOR". THE OWNER AND CONTRACTOR ARE TO ENSURE OFF-SITE WORKS PERMIT IS IN PLACE PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL AFFECTED PROPERTY TO ORIGINAL CONDITION. ALL BOULEVARD AREAS SHALL BE RESTORED WITH 150mm TOPSOIL AND SOD.

1.8. ALL UNDERGROUND SERVICES ARE TO BE CONSTRUCTED IN FULL COMPLIANCE WITH THE ONTARIO PROVINCIAL BUILDING CODE (PART 7, PLUMBING), THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) AND THE REQUIREMENTS OF THE LOCAL MUNICIPALITY AND THE REGIONAL MUNICIPALITY OF WATERLOO, WHICH CODES AND REGULATIONS SHALL SUPERSEDE ALL OTHERS.

1.9. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ENGINEER 48 HRS PRIOR TO COMMENCING WORK TO ARRANGE FOR INSPECTION. ENGINEER TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION AS MANDATED BY ONTARIO BUILDING CODE, DIVISION C, PART 1, SECTION 1.2.2, GENERAL REVIEW. FAILURE TO NOTIFY ENGINEER WILL RESULT IN EXTENSIVE POST CONSTRUCTION INSPECTION AT CONTRACTORS EXPENSE.

1.10. SANITARY AND STORM SEWERS AND SERVICES TO HAVE A MINIMUM 1.2m COVER TO TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "SEWER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI=1.76 (R10) INSULATING FACTOR (TYPICALLY 50-65mm). INSULATION BOARD WIDTH SHALL BE 1.8m FOR UP TO 200mm NOMINAL PIPE DIAMETER, 2.4m FOR 201mm~800mm DIAMETER AND 3.0m FOR 801mm~1400mm. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL COVER). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION RATE OF 2.0% BY VOLUME. ACCEPTABLE PRODUCTS ARE DOW STYROFOAM~SM OR ~HI (FULL LINE), OWENS CORNING FOAMULAR (200, 250, OR HIGHER), PLASTISPAN HD~M28 OR OTHER ENGINEER~APPROVED EQUIVALENT.

2.11. ADJUSTMENT UNITS FOR STORM STRUCTURES TO BE IN ACCORDANCE WITH OPSD 704.010 OR 704.011.

2.12. STORM SEWERS AND SERVICES TO HAVE MINIMUM 1.2m 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. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI=1.76 (R10) INSULATING FACTOR (TYPICALLY 50~65mm). INSULATION BOARD WIDTH SHALL BE 1.8m FOR UP TO 200mm NOMINAL PIPE DIAMETER, 2.4m FOR 201mm~800mm DIAMETER AND 3.0m FOR 801mm~1400mm. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL COVER). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION RATE OF 2.0% BY VOLUME. ACCEPTABLE PRODUCTS ARE DOW STYROFOAM~SM OR ~HI (FULL LINE), OWENS CORNING FOAMULAR (200, 250, OR HIGHER), PLASTISPAN HD~M28 OR OTHER ENGINEER~APPROVED EQUIVALENT.

2.13. UNDER NO CIRCUMSTANCES SHALL THE BUILDING FOUNDATION DRAINS BE CONNECTED DIRECTLY TO THE STORM SEWER SYSTEM.

2.14. ALL WEEPING TILE DRAINAGE TO BE PUMPED TO THE STORM SEWER SYSTEM.

3. SANITARY SEWERS

3.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010. BEDDING MATERIAL AND COVER MATERIAL TO BE GRANULAR "A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

3.2. SANITARY SEWERS 150mm# AND SMALLER SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR28 ASTM~D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

3.3. SANITARY SEWERS 200mm# TO 600mm# INCLUSIVE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM~D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

3.4. SANITARY SEWERS GREATER THAN 600mm# SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM~D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

3.5. MANHOLES TO BE 1200mm# PRECAST WITH ALUMINUM STEPS AT 300mm CENTRES AS PER OPSD 701.010 UNLESS OTHERWISE SPECIFIED.

3.6. MANHOLES TO BE BENCHED PER OPSD 701.021.

3.7. SANITARY MANHOLE LIDS TO BE PER OPSD 401.010 ~ TYPE 'A'.

3.8. MANHOLE FRAMES, CASTINGS AND LIDS TO BE QUALITY GREY IRON ASTM A48 CLASS 30B.

3.9. ADJUSTMENT UNITS FOR SANITARY STRUCTURES TO BE IN ACCORDANCE WITH OPSD 704.010 OR 704.011.

3.10. FACTORY FABRICATED WYES SHALL BE USED FOR ALL SERVICE CONNECTIONS.

3.11. SANITARY SEWERS AND SERVICES TO HAVE MINIMUM 1.2m COVER ON TOP OF PIPE, WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "SEWER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI=1.76 (R10) INSULATING FACTOR (TYPICALLY 50~65mm). INSULATION BOARD WIDTH SHALL BE 1.8m FOR UP TO 200mm NOMINAL PIPE DIAMETER, 2.4m FOR 201mm~800mm DIAMETER AND 3.0m FOR 801mm~1400mm. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL PLACEMENT). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION RATE OF 2.0% BY VOLUME. ACCEPTABLE PRODUCTS ARE DOW STYROFOAM~SM OR ~HI (FULL LINE), OWENS CORNING FOAMULAR (200, 250, OR HIGHER), PLASTISPAN HD~M28 OR OTHER ENGINEER~APPROVED EQUIVALENT.

3.12. CONTRACTOR RESPONSIBLE FOR TESTING OF SANITARY SEWERS IN ACCORDANCE WITH OPSS 410.

3.13. CONTRACTOR TO FLUSH CLEAN ALL PROPOSED STORM SEWERS AND COMPLETE CCTV INSPECTION PER OPSS 409, MANDREL (PIG) TEST PER OPSS 410 AND PROVIDE REPORTS TO THE ENGINEER. CCTV AND TESTING TO BE DONE TO THE SATISFACTION OF THE CITY AND ENGINEER.

4. WATERMAINS

4.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010. BEDDING MATERIAL AND COVER MATERIAL TO BE GRANULAR "A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

4.2. WATER SERVICE CONNECTIONS 50mm# AND SMALLER, SHALL BE TYPE "K" SOFT COPPER ASTM B88, ALUMINUM COMPOSITE CSA B137.10, OR HDPE SERIES 160 AWWA C 901 WITH SERVICE SADDLE. COPPER SERVICE SHALL HAVE 5.5Kg ANODE.

4.3. WATERMAINS 100mm# AND LARGER SHALL BE PVC C900 CLASS 150 INSTALLED WITH MINIMUM 2.0 METRES OF COVER. FITTINGS 100mm# AND LARGER SHALL BE PVC CLASS 150 (DR18) CSA B137.3.

4.4. WATERMAIN FITTINGS TO BE SUPPLIED WITH MECHANICAL JOINT RESTRAINTS. FOR WATERMAIN PIPE SIZES 150mm# 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 150mm# ALL PIPE JOINTS TO BE RESTRAINED WITHIN 10.0m FROM ALL FITTINGS, 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.

4.5. ALL METALLIC FITTINGS (EXCLUDING CURB/MAIN STOP AND BRASS FITTINGS) AND APPURTENANCES INCLUDING SADDLES, VALVES, TEES, BENDS ETC ARE TO BE WRAPPED WITH AN APPROVED PETROLATUM SYSTEM CONSISTING OF PASTE, MASTIC AND TAPE. PARTICULAR ATTENTION SHALL BE PAID TO ANODE INSTALLATION. CONTRACTOR TO REFER TO THE MOST RECENT EDITION OF THE LOCAL MUNICIPALITY AND AREA MUNICIPALITIES DESIGN GUIDELINES AND SUPPLEMENTAL SPECIFICATIONS FOR MUNICIPAL SERVICES.

4.6. WATERMAIN VALVES 100mm# AND LARGER SHALL BE AS PER AWWA C509 ~ MUELLER A2360~2.3 OR APPROVED EQUIVALENT (OPEN LEFT) INCLUDING VALVE BOX AND 2.3Kg ANODE INCLUDING ANODE PROTECTION INSTALLED PER LOCAL MUNICIPALITY STANDARDS.

4.7. PVC WATERMAIN SHALL HAVE TWU STRANDED COPPER, AWG8 TRACER WIRE STRAPPED TO TOP AT 3 METRE INTERVALS. TRACER WIRE SHALL BE BROUGHT TO THE SURFACE AT ALL HYDRANTS AND CAD WELDED TO THE LOWER FLANGE OF THE HYDRANT.

4.8. HYDRANTS SHALL BE CANADA VALVE "CENTURY" OR APPROVED EQUIVALENT WITH 2~64mm HOSE CONNECTIONS INCLUDING 5.5Kg ANODE.

4.9. MAIN STOPS, CURB STOPS AND COUPLINGS SHALL BE AWWA C~800 COPPER TO COPPER FLANGED OR COMPRESSION CONNECTION OR APPROVED EQUIVALENT.

4.10. SERVICE BOXES TO BE FERGUSON ECLIPSE TYPE FIGURE 222 SIZE NO. 9 OR APPROVED EQUIVALENT COMPLETE WITH ROD AND PLUG.

4.11. WATER CONNECTIONS MAY BE PLACED IN THE SAME TRENCH WITH A STORM OR SANITARY CONNECTION ONLY IF A MINIMUM VERTICAL SEPARATION OF 500mm IS MAINTAINED BETWEEN THE WATER SERVICE AND ANY OTHER PIPE, IN ACCORDANCE WITH SECTION 7.5.5.7.(2)(a)(i) OF THE ONTARIO BUILDING CODE.

4.12. ALL WATERMAINS AND SERVICES TO HAVE MINIMUM 1.7m COVER ON TOP OF PIPE, WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "WATER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI~3.52 (R20) INSULATING FACTOR (TYPICALLY 100~130mm). INSULATION BOARD WIDTH SHALL BE 2.4m FOR UP TO 200mm NOMINAL PIPE DIAMETER, 3.0m FOR 201mm~305mm DIAMETER. INSULATION BOARD SHALL BE INSTALLED WITH MINIMUM2~LAYERS, OVERLAPPED MINIMUM 300mm AT ALL JOINTS. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL PLACEMENT). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION RATE OF 2.0% BY VOLUME.ACCEPTABLE PRODUCTS ARE DOW STYROFOAM~SM OR ~HI (FULL LINE), OWENS CORNING FOAMULAR (200, 250, OR HIGHER), PLASTISPAN HD~M28 OR OTHER ENGINEER~APPROVED EQUIVALENT.

4.13. ALL WATERMAIN TO BE PRESSURE TESTED IN ACCORDANCE WITH OPSS 441. DISINFECT ALL WATERMAIN IN ACCORDANCE WITH AWWA C 651~99 INCLUDING CHLORINATION, BACKFLOW PREVENTOR AND 24 HOUR DUPLICATE SAMPLING. ALL TESTING AND DISINFECTION TO BE COMPLETED UNDER THE SUPERVISION OF THE ENGINEER. CONTRACTOR TO SUBMIT WATER COMMISSIONING PLAN IN ACCORDANCE WITH REGION OF PEEL CRITERIA. THIS PLAN MUST BE APPROVED BY THE LOCAL MUNICIPALITY PRIOR TO ANY WATERMAIN WORK).

4.14. PRIOR TO OCCUFANCY, CONTRACTOR MUST COMMISSION FIRE FLOW TEST FOR PRIVATE ON~SITE HYDRANT. PROVIDE RESULT TO DESIGN ENGINEER.

4.15. PRIOR TO OCUPANCY, CONTRACTOR SHALL CONDUCT CONDUCTIVITY TESTING AND PROVIDE RESULTS TO DESIGN ENGINEER.

5. EROSION AND SEDIMENT CONTROL

5.1. CONTRACTOR TO INSTALL EROSION CONTROL MEASURES AS SHOWN PRIOR TO CONSTRUCTION AND MAINTAIN IN GOOD CONDITION UNTIL CONSTRUCTION IS COMPLETED AND ALL DISTURBED GROUND SURFACES HAVE BEEN RESTABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE COVER.

5.2. ALL SEDIMENT CONTROL FENCING TO BE INSTALLED PRIOR TO ANY AREA GRADING, EXCAVATING OR DEMOLITION COMMENCING.

5.3. EROSION CONTROL FENCING TO BE INSTALLED AROUND BASE OF ALL STOCKPILES. ALL STOCKPILES TO BE KEPT 2.5m MINIMUM FROM PROPERTY LINE.

5.4. EROSION PROTECTION TO BE PROVIDED AROUND ALL STORM AND SANITARY MHs AND CBs.

5.5. CONSTRUCTION ACCESS (MUD MAT) TO BE PROVIDED ON~SITE AT ALL LOCATIONS WHERE CONSTRUCTION VEHICLES EXIT THE SITE. CONSTRUCTION ACCESS (MUD MAT) SHALL BE A MINIMUM OF 15.0m WIDE, 15.0m LONG (LENGTH MAY VARY DEPENDING ON SITE LAYOUT) AND 0.3m DEEP AND SHALL CONSIST OF 200mm CLEAR STONE MATERIAL OR APPROVED EQUIVALENT. PROPOSED EROSION FENCING TO TIE INTO MUD MAT. CONTRACTOR TO ENSURE ALL VEHICLES LEAVE THE SITE VIA THE MUD MAT AND THAT THE MAT IS MAINTAINED IN A MANNER TO MAXIMIZE EFFECTIVENESS AT ALL TIMES.

5.6. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE DEVELOPMENT PROGRESSES. CONTRACTOR TO PROVIDE ALL ADDITIONAL EROSION CONTROL STRUCTURES.

5.7. EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN RESTABILIZED.

5.8. NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE ENGINEER AND THE LOCAL MUNICIPALITY'S DEPARTMENT OF PUBLIC WORKS.

5.9. CONTRACTOR TO CLEAN ROADWAY AND SIDEWALKS OF SEDIMENTS RESULTING FROM CONSTRUCTION TRAFFIC FROM THE SITE EACH DAY.

5.10. CONTRACTOR MUST REMOVE EROSION AND SEDIMENTATION FENCING PRIOR TO COMPLETION OF PROJECT. CONTRACTOR TO HAVE EROSION AND SEDIMENT CONTROL FENCE INSPECTED WHEN VEGETATION HAS ESTABLISHED, BUT PRIOR TO FENCE BECOMING OVERGROWN. ENGINEER'S REPRESENTATIVE TO DETERMINE IF VEGETATION HAS REACHED THE CRITICAL POINT AND WILL THEN INSTRUCT CONTRACTOR TO REMOVE FENCE.

6. MAINTENANCE RECOMMENDATIONS

6.1. FOLLOWING CONSTRUCTION CONTRACT COMPLETION, OWNER TO HIRE QUALIFIED CONTRACTOR TO REMOVE SEDIMENT AND CONTAMINANTS ANNUALLY AND REINSTATE SYSTEM MANUFACTURER MANAGEMENT FACILITIES ACCORDING TO THE DESIGN OUTLINED ON THIS PLAN, AS REQUIRED.

6.2. EROSION CONTROL STRUCTURES TO BE MONITORED REGULARLY AND ANY DAMAGE REPAIRED IMMEDIATELY. SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MAXIMUM OF 1/3 THE HEIGHT OF THE FENCE.

6.3. OWNER'S REPRESENTATIVE TO MONITOR EROSION CONTROL STRUCTURES TO ENSURE FENCING IS INSTALLED AND MAINTENANCE IS PERFORMED TO CITY REQUIREMENTS.

6.4. THE PROPOSED STORMCEPTOR EF04 OGS UNITS WILL REQUIRE REGULAR ANNUAL MAINTENANCE. OWNER TO ENTER INTO A MAINTENANCE AGREEMENT WITH A SUITABLE CONTRACTOR TO COMPLETE THIS WORK.

7. RESTORATIONS

7.1 RESTORATIONS OF ROAD UTILITY CUTS IN MISSISSAUGA TO BE AS PER STANDARD DRAWINGS 2220.030, 2220.031, 2220.032 TO THE SATISFACTION OF THE CITY OF MISSISSAUGA.

7.2 ALL BOULEVARDS TO BE RESTORED AS PER LANDSCAPE PLANS.

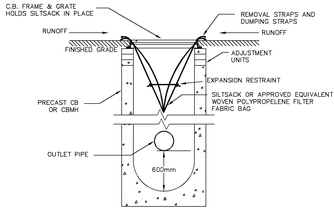
7.3 CONTRACTOR SHALL BE CO~ORDINATE THE REMOVAL AND REINSTALLATION OF EXISTING PARKING METERS AND/OR STREET SIGNS

7.4 ALL FENCES AFFECTED BY CONSTRUCTION SHALL BE REMOVED, TEMPORARILY RELOCATION AND/OR STOCKPILED, IF APPROVED BY THE ENGINEER, AND REINSTATED UPON COMPLETION OF CONSTRUCTION.

PAVEMENT STRUCTURE

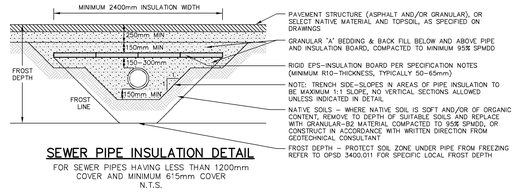
PAVEMENT LAYER	COMPACTION REQUIREMENTS	PARKING AREAS	DRIVEWAYS
SURFACE COURSE ASPHALTIC CONCRETE HL~3 (OPSS 1150)	92% MPD AS PER OPSS 310	35mm	35mm
BINDER COURSE ASPHALTIC CONCRETE HL~8 (OPSS 1150)	92% MPD AS PER OPSS 310	55mm	80mm
BASE COURSE: GRANULAR "A" (OPSS 1010)	100% STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM~D698)	150mm	150mm
SUBBASE COURSE: GRANULAR "B" (OPSS 1010)	100% STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM~D698)	400mm	450mm

BASED ON GEOTECHNICAL INVESTIGATION PREPARED BY: PINCHIN LTD., DATED OCTOBER 30,2024



TEMPORARY SILTSACK SILTATION CONTROL IN CB

N.T.S.



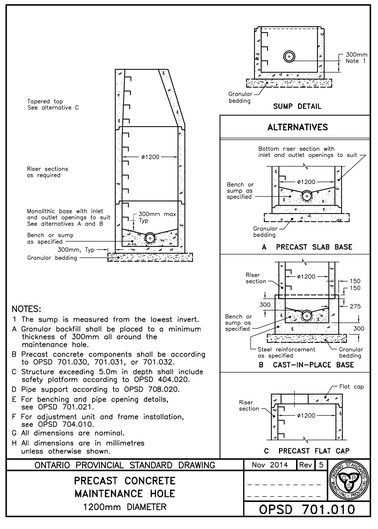
SEWER PIPE INSULATION DETAIL

FOR SEWER PIPES HAVING LESS THAN 1200mm COVER AND MINIMUM 615mm COVER

N.T.S.

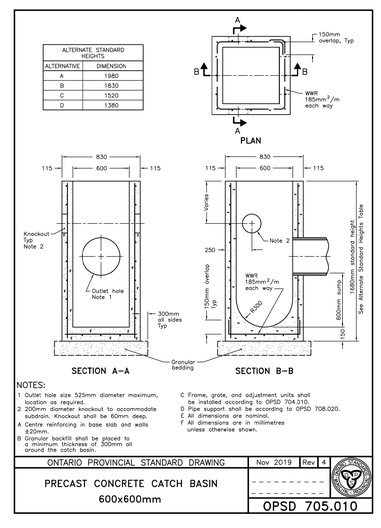
MAINTENANCE SCHEDULE

~INSPECT AFTER EVERY MAJOR RAIN EVENT.
~INSPECT EVERY 3 WEEKS MINIMUM.
~SILTSACK SHOULD NEVER BE OVER HALF FULL.
~FULL BAG CAN BE REMOVED, DUMPED, CLEANED AND REUSED
(TO REMOVE INSERT 25mm REBAR INTO REMOVAL FLAP POCKETS)
(TO DUMP INSERT 25mm REBAR IN'TO BOTH DUMPING STRAPS)



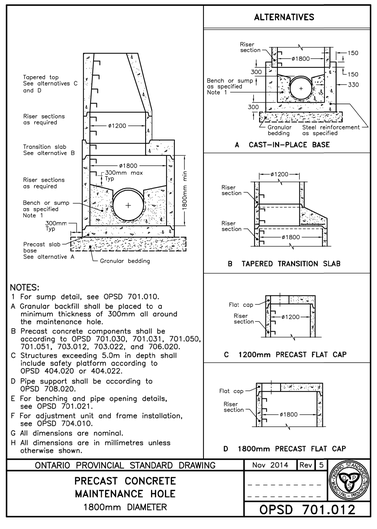
NOTES:
1 The sump is measured from the lowest invert.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.034.
C Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

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



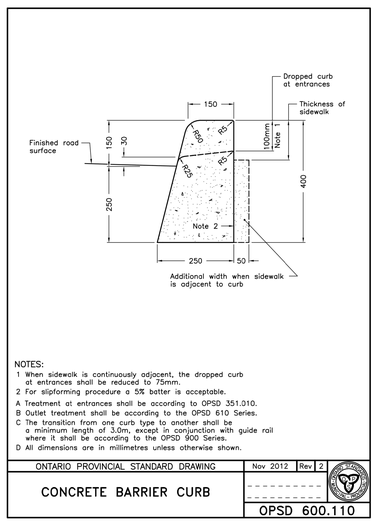
NOTES:
1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 50mm deep.
A Centre reinforcing in base slab and walls ±20mm.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

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



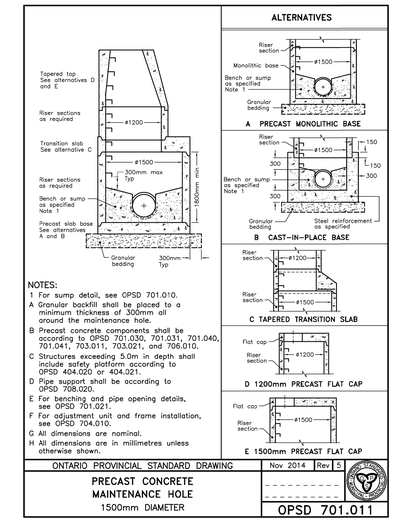
NOTES:
1 For sump detail, see OPSD 701.010.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.050, 701.051, 703.012, 703.022, and 706.020.
C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020 or 404.021.
D Pipe support shall be according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 5
PRECAST CONCRETE MAINTENANCE HOLE 1800mm DIAMETER		OPSD 701.012



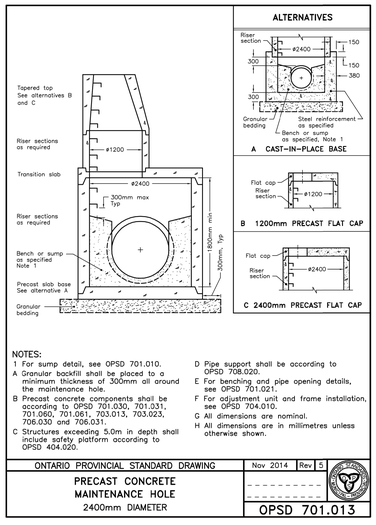
NOTES:
1 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
2 For slipforming procedure a 5% batter is acceptable.
A Treatment at entrances shall be according to OPSD 351.010.
B Outlet treatment shall be according to the OPSD 610 Series.
C The transition from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

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



NOTES:
1 For sump detail, see OPSD 701.010.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.040, 701.041, 703.011, 703.021, and 706.010.
C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020 or 404.021.
D Pipe support shall be according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 5
PRECAST CONCRETE MAINTENANCE HOLE 1500mm DIAMETER		OPSD 701.011



NOTES:
1 For sump detail, see OPSD 701.010.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.060, 701.061, 703.013, 703.023, 706.030 and 706.031.
C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support shall be according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 5
PRECAST CONCRETE MAINTENANCE HOLE 2400mm DIAMETER		OPSD 701.013

NOTES TO CONTRACTOR:

1. INSPECTION
CONTRACTOR IS RESPONSIBLE FOR CONTACTING ENGINEER & CITY INSPECTION STAFF 48 HRS PRIOR TO COMMENCING WORK TO ARRANGE FOR INSPECTION & OFF~SITE WORKS. ENGINEER TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION AS MANDATED BY ONTARIO BUILDING CODE, DIVISION C, PART 1, SECTION 1.2.2, GENERAL REVIEW. FAILURE TO NOTIFY ENGINEER WILL RESULT IN EXTENSIVE POST CONSTRUCTION INSPECTION AT CONTRACTORS E