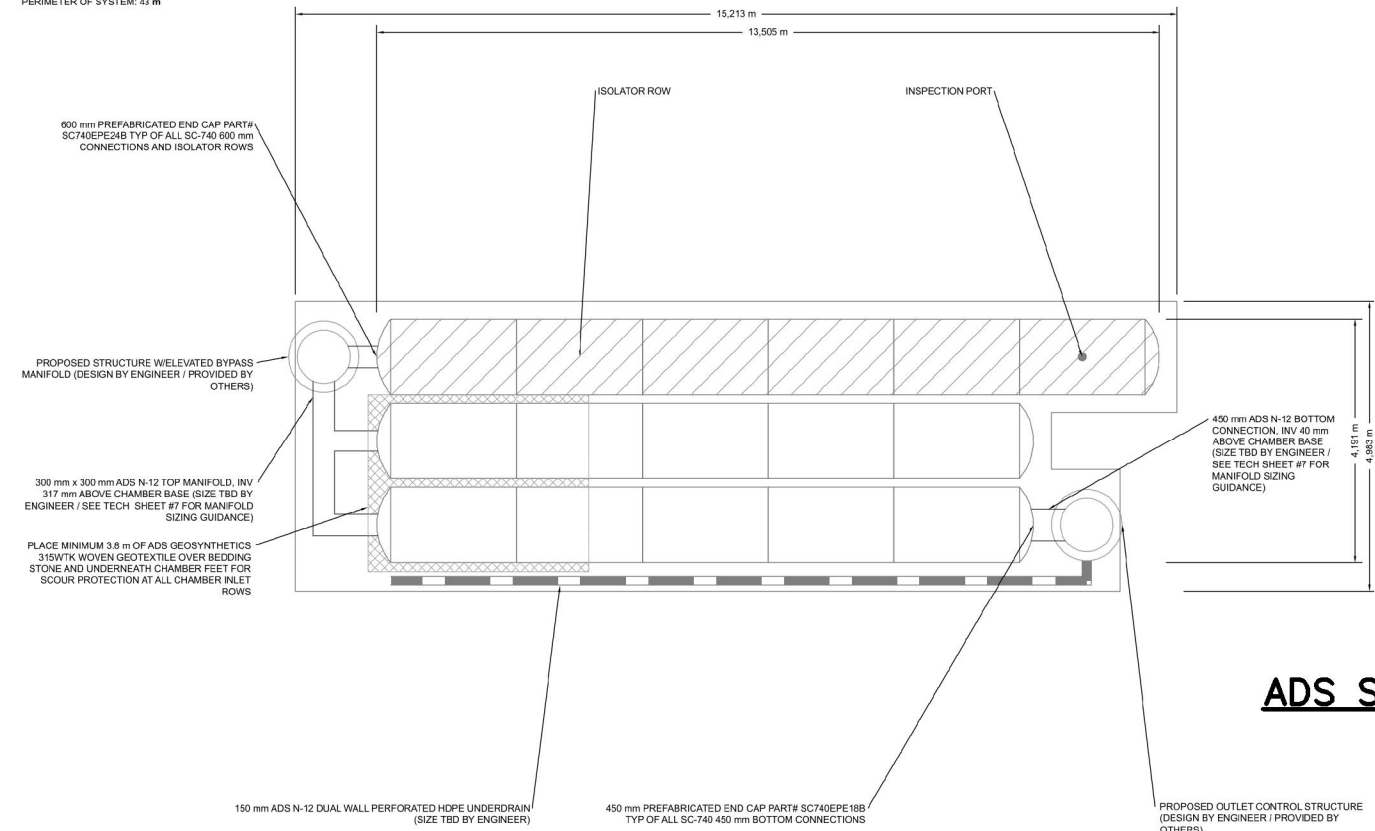
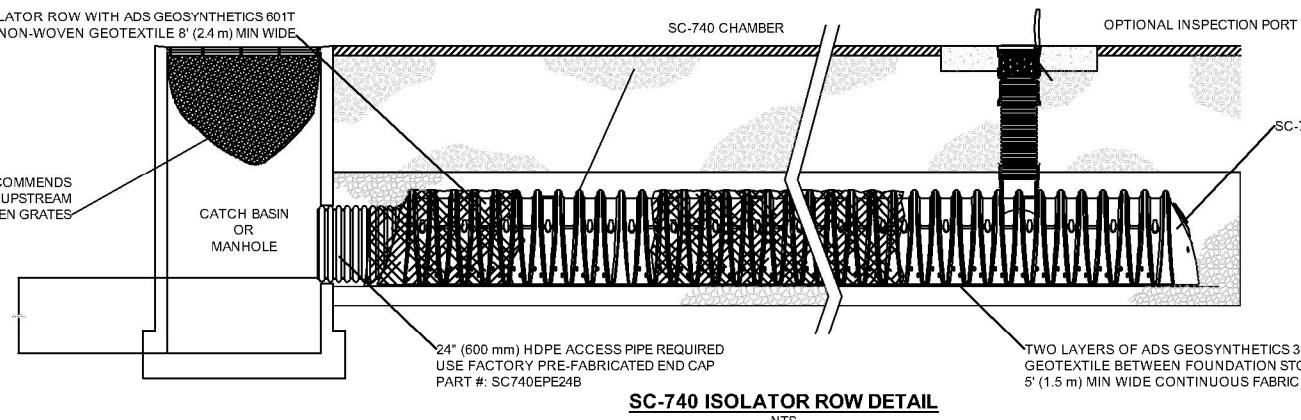


BARRIE HIEX CITY OF BARRIE		STORM SEWER DESIGN SHEET				Design Parameters									
		ENGINEERING AND PUBLIC WORKS				5 YEAR STORM									
Project Number: 45303-100 Date: July 23, 2020 Design By: CAH Checked By: CAH File: Q:\45303\100\Sanitary Sewer Design Sheet_2020-07-23.dwg		Drainage Area Plan No:				On-HAIC: 4.00278 Intensity (i) = $a/(b+c)^2$ a = 853.5 b = 4.659 c = 0.766 Manning's "n" Min. Velocity Max. Velocity 0.013 0.750 m/s 4.000 m/s									
LOCATION			STORMWATER FLOW							DESIGN					
STREET	AREA NUMBER	MANHOLE LOCATION FROM MH TO MH	AREA (A) (ft ²)	RUNOFF COEFF. (C)	A x C	CUMUL. A x C	CONCENTRATION TIME (min)	RAIN INTENSITY (ft ³ /min)	FLOW (ft ³ /sec)	PIPE SIZE	LENGTH	SLOPE	CAPACITY	FULL FLOW VELOCITY	PIPE FULL
		MH14 Ex. MH	ft ²		ft ³	ft ³	min	ft ³ /min	ft ³ /sec	mm	m	%	L/s	ft/sec	%
									Flow taken from SWMMHYMO Model - 5 yr office controlled flow rate from site 66.00000	450	22.0	0.60	220.84227	1.3866	29.86

CONCEPTUAL LAYOUT
SEE EXISTING PLAN FOR CHAMBERS
ALL CHAMBERS TO BE 10' DIA. (10' DIA. CHAMBERS)
MANHOLE STRUCTURE SHALL BE 10' DIA. (10' DIA. CHAMBERS)
MANHOLE STRUCTURE SHALL BE 10' DIA. (10' DIA. CHAMBERS)
MANHOLE STRUCTURE SHALL BE 10' DIA. (10' DIA. CHAMBERS)
MANHOLE STRUCTURE SHALL BE 10' DIA. (10' DIA. CHAMBERS)



ADS STORMTECH INFILTRATION GALLERY
N.T.S.



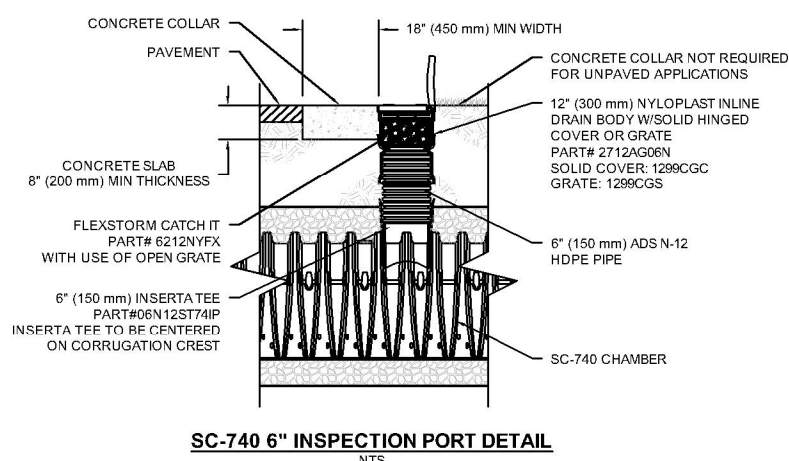
SC-740 ISOLATOR ROW DETAIL
N.T.S.

NOTE: CONTRACTOR TO PROVIDE STAMPED SHOP DRAWING FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	NA	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBANKMENT STONE OR LAYER TO BE AVOIDED ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M450 A1-A2-A3 OR AASHTO M407 3, 307, 4, 407, 5, 407, 6, 407, 7, 70, 8, 9, 9, 10	BEFORE CONSTRUCTION AFTER 10' (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED, CONSTRUCTION OF LAYER 'C' SHALL BE MAINTAINED TO A MAX. 90% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 90% RELATIVE DENSITY FOR PROCEDED AGGREGATE MATERIALS. INSURE GRADES VEHICLE WEIGHT NOT TO EXCEED 10,000 lbs (4,500 kg) MAX. DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (9,000 kg) MAX.
B	EMBANKMENT STONE FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (IF LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M407 3, 307, 4, 407, 5, 407, 6, 407, 7, 70, 8, 9, 9, 10	NO COMPACTION REQUIRED.
A	FOUNDATION STONE FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M407 3, 307, 4, 407, 5, 407, 6, 407, 7, 70, 8, 9, 9, 10	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.

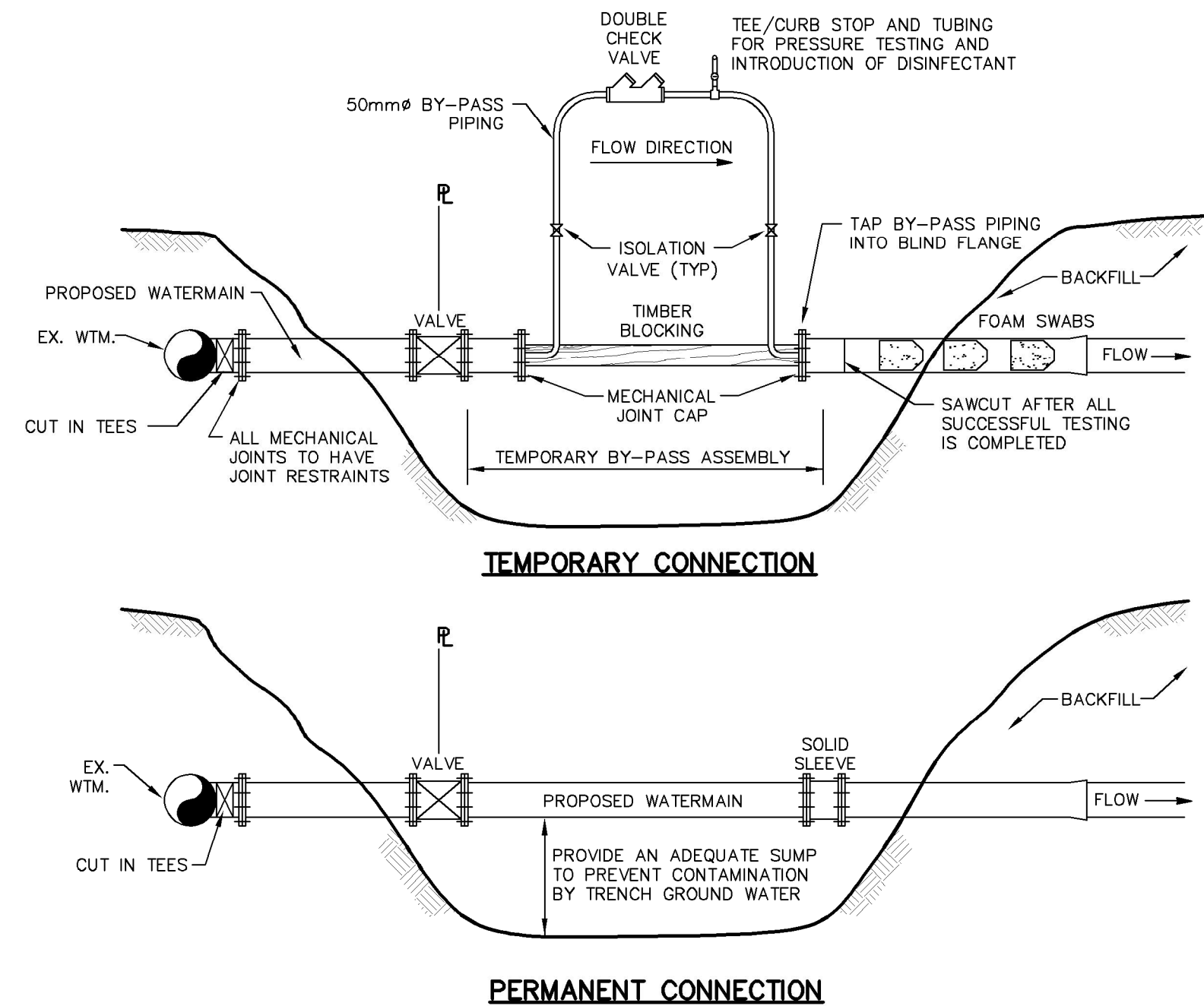
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR A STONE WOULD STATE "CLEAN, CRUSHED, ANGULAR NO. 4 (ASTM M40) STONE".
2. STORMTECH CHAMBER REQUIREMENTS ARE MET FOR V-LAYER MATERIALS PLACED AND COMPACTED WITH A VIBRATORY COMPACTOR.
3. INSURE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION. FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY ROLLING OR GRADING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGN, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



SC-740 6\"/>

NOTES:

- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2777 STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS (OR ASTM F2777 STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS).
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2777 STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS.
- "ACCEPTABLE" FILL MATERIALS TABLE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBANKMENT, AND FILL MATERIALS.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMWATER CHAMBERS FOR THIS PROJECT.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING CAPACITY (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- FOUNDATION STONE MUST BE EXTENDED HORIZONTALLY TO THE EMBANKMENT WALL FOR BOTH HORIZONTAL AND SLOPED EMBANKMENT WALLS.
- ONCE LAYER 'C' IS PLACED, ANY EXISTING MATERIAL, CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'D' UP TO THE FINISHED GRADE.

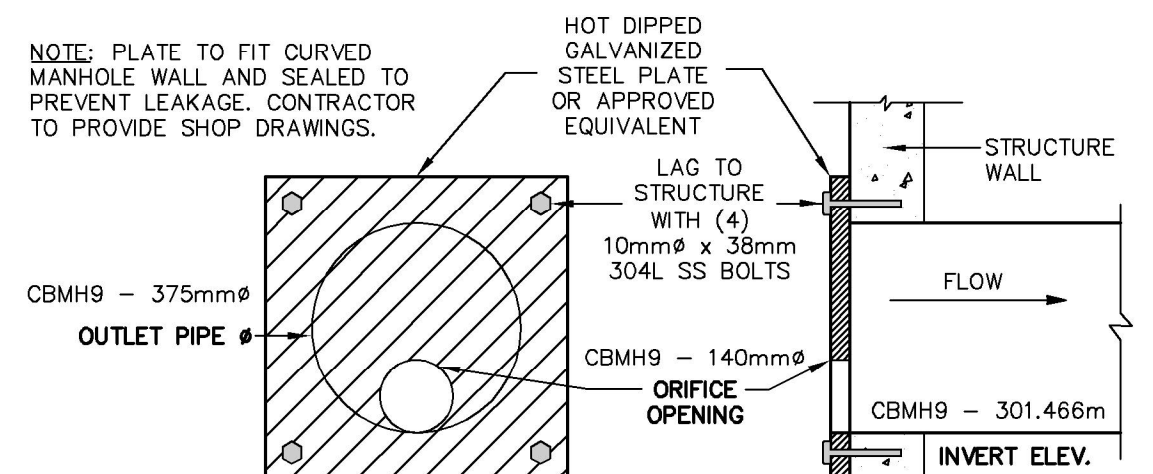


NOTES:

- NEW WATERMAIN TO BE KEPT ISOLATED FROM THE ACTIVE DISTRIBUTION SYSTEM DURING CONSTRUCTION AND TESTING.
- ALL PRESSURE/LEAKAGE TESTING, DISINFECTION, BACTERIOLOGICAL ANALYSIS AND FLUSHING TO BE SUCCESSFULLY COMPLETED AND ACCEPTED BY MUNICIPALITY PRIOR TO PERMANENT CONNECTION TO WATER DISTRIBUTION SYSTEM. REFER TO SPECIFICATIONS FOR TESTING REQUIREMENTS.
- BY-PASS PIPING TO BE MINIMUM 50mm DIAMETER AND/OR NO LARGER THAN PERMANENT WATERMAIN.
- BACKFLOW PREVENTER TO BE A DOUBLE CHECK VALVE OR REDUCED PRESSURE ZONE DEVICE.
- ALL MECHANICAL JOINTS IN TEMPORARY AND PERMANENT CONNECTIONS TO INCLUDE MECHANICAL JOINT RESTRAINTS.
- FOAM SWABS TO BE PLACED IN FIRST PIPE FOR SUBSEQUENT CLEANING OF MAINS.
- PROVIDE ADEQUATE SUMP BELOW CONNECTION, AND PUMPING IF REQUIRED, TO PREVENT CONTAMINATION OF NEW WATERMAIN WITH TRENCH GROUND WATER OR ANY OTHER FOREIGN MATTER.
- ALL PIPES AND FITTINGS INSTALLED AS PART OF THE FINAL CONNECTION MUST BE THOROUGHLY DISINFECTED PRIOR TO CONNECTION TO THE SYSTEM.
- AFTER FINAL FLUSHING, AND BEFORE THE WATERMAIN IS APPROVED FOR CONNECTION OF THE NEW MAIN TO THE EXISTING WATER SYSTEM, TWO CONSECUTIVE SETS OF WATER SAMPLES, TAKEN AT LEAST 24 HOURS APART, SHALL BE COLLECTED, EVERY 350 m, PLUS FROM THE END OF THE LINE FROM EACH BRANCH, CERTIFIED MUNICIPAL STAFF OR TRAINED DESIGNATE ONLY.
- (O.Reg.459/00) SHALL COLLECT FOR BACTERIOLOGICAL SAMPLES.

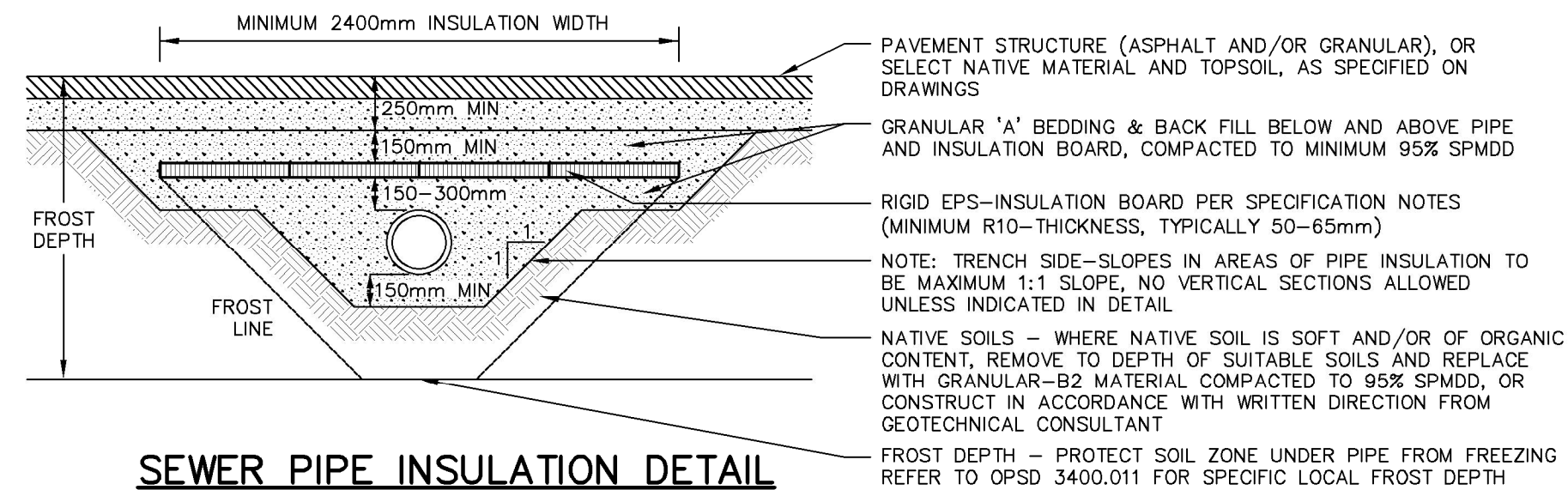
TYPICAL NEW WATERMAIN CONNECTION DETAIL

N.T.S.



ON-LINE ORIFICE DETAIL

N.T.S.



SEWER PIPE INSULATION DETAIL

FOR SEWER PIPES HAVING LESS THAN 1400mm COVER AND MINIMUM 615mm COVER
N.T.S.

NOTE:

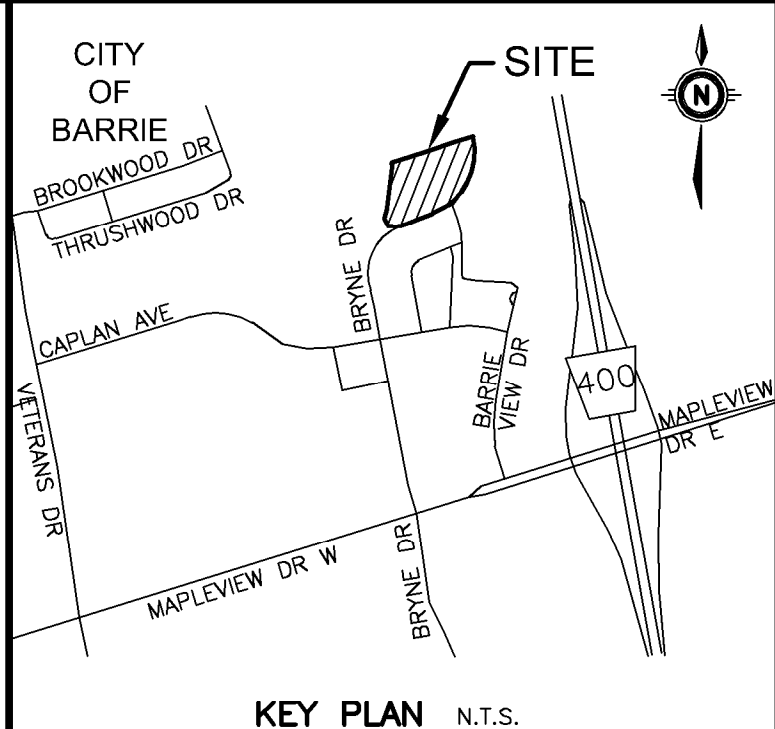
- PROPERTY-LINE IS APPROXIMATE ONLY AND IS TAKEN FROM PLAN PREPARED BY EPLETT & WOROBE SURVEYING LTD. DATED OCTOBER 23, 1995 AND FEBRUARY 24, 2010.
- INVERTS DENOTED WITH "±" ARE TAKEN FROM AS-RECORDED PLAN AND PROFILE DRAWINGS COMPLETED BY SKELTON BRUMWELL & ASSOCIATES INC. DATED OCTOBER, 1995 AND ARE CONSIDERED APPROXIMATE ONLY. CONTRACTOR TO FIELD VERIFY AND REPORT ANY DISCREPANCIES TO ENGINEER.
- THIS PLAN IS PART OF A SET OF PLANS WHICH COMPRISE OF THE FOLLOWING: C1.1, C2.1, C2.2, C2.3, C2.4 AND THE SWM REPORT.

CITY OF BARRIE CONTROL MONUMENTS:

- MONUMENT # 03120080046
TYPE: BRASS TABLET
ELEVATION: 303.551
- MONUMENT # 03120080048
TYPE: BRASS TABLET
ELEVATION: 302.523

NOTE TO CONTRACTOR :

- DO NOT SCALE DRAWINGS.
- CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- ALL DRAWINGS REMAIN THE PROPERTY OF THE ENGINEER AND SHALL NOT BE REPRODUCED OR REUSED WITHOUT THE ENGINEER'S WRITTEN PERMISSION.
- THE OWNER/ARCHITECT/CONTRACTOR IS ADVISED THAT M.T.E. CONSULTANTS INC. CANNOT CERTIFY ANY COMPONENT OF THE SITE WORKS NOT INSPECTED DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY M.T.E. CONSULTANTS INC. PRIOR TO COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR INSPECTION.



KEY PLAN N.T.S.

GEODETIC BM ELEV. = 303.551 m
BRASS TABLET LOCATED ON EAST LIMIT OF BRYNE DRIVE ON SOUTH SIDE OF ENTRANCE TO #311 BRYNE DRIVE. NOTE: A PROTECTIVE WATER VALVE COVER HAS BEEN PLACED OVER A MONUMENT CAP.

SITE BENCHMARK ELEV. = m
SEE ABOVE.

8.			
7.			
6.			
5.	Revised per City/LSRCA Comments	JPL	NOV.02/20
4.	Revised per City Comments	JPL	OCT.26/20
3.	Revised per City Comments	JPL	JUL.23/20
2.	Revised per City comments	JPL	MAR.31/20
1.	ISSUED FOR APPROVAL	JPL	DEC.12/19
BY			DATE

CLIENT
2599974 ONTARIO INC.
204 COOKS MILL CRESCENT VAUGHAN
PROJECT
HOLIDAY INN EXPRESS
326 BRYNE DRIVE BARRIE
DRAWING

DETAILS AND NOTES PLAN 2



Engineers, Scientists, Surveyors

(519) 743-6500	www.mte85.com
Project Manager J. LERCH	Project No. 45303-100
Design By CAH	Checked By JPL
Drawn By DDK	Checked By CAH
Surveyed By MTE	Drawing No.
Date Mar.24/20	C2.4
Scale 1:300	Sheet 5 of 5