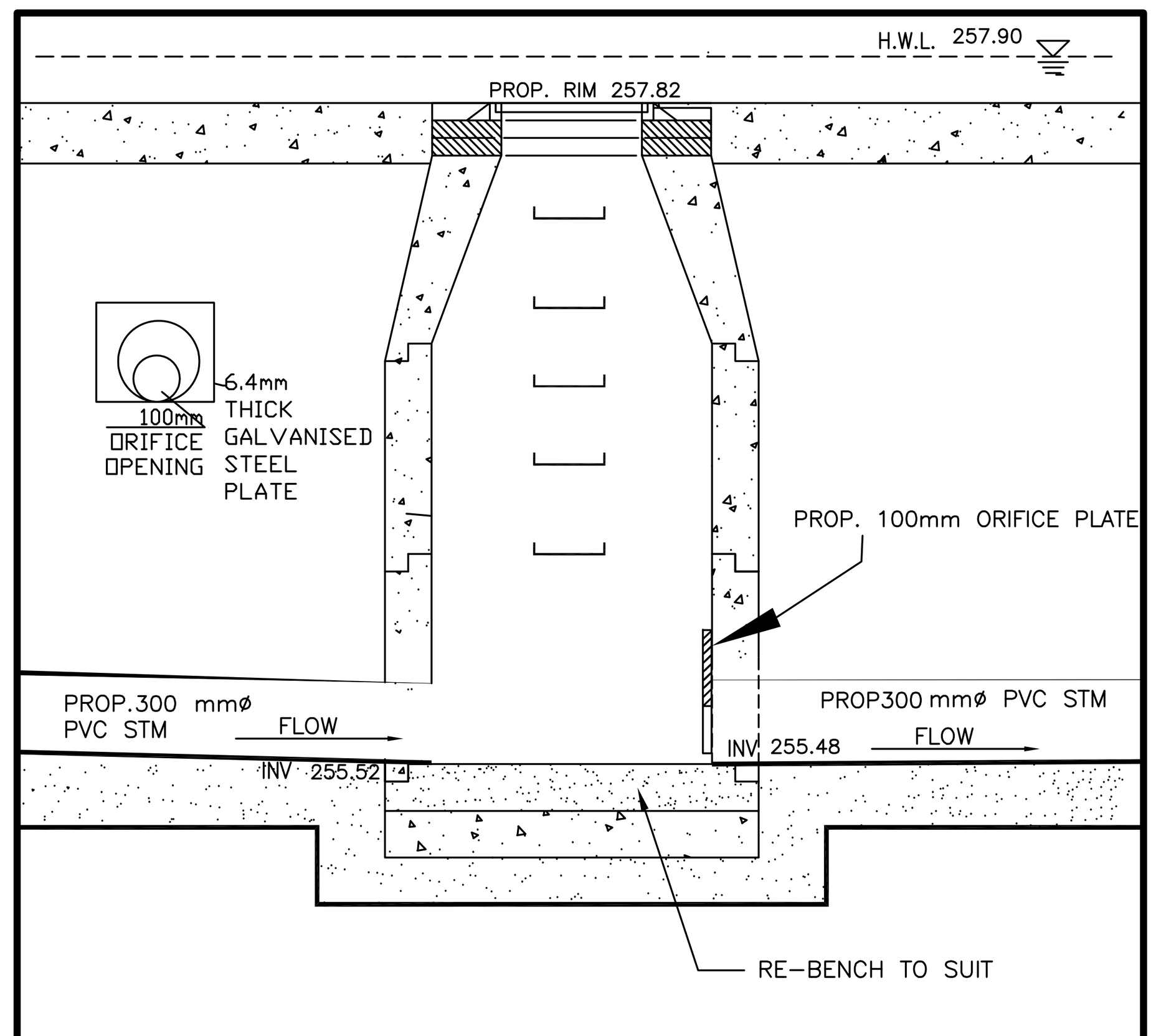


CONTROL MANHOLE MHI

SCALE: N.T.S

1 / SW4

HEAVY DUTY ASPHALT PAVING AT ENTRANCE AND FIRE ROUTES:

BASE: 450mm LIMESTONE BASE PLACED AS FOLLOWS:
300mm OF 50mm (2") GRANULAR 'A'
150mm of 19mm (.75") GRANULAR 'B'

ASPHALT: 50mm (2") OF HL-8 ASPHALT BINDER COURSE
40mm (1-5/8") OF HL-3 ASPHALT TOP COURSE

INSTALLATION:

1. PLACE AND CONSOLODATE 300mm (18") OF LIMESTONE BASE COURSE AS SPECIFIED ABOVE.
2. ASPHALT SHALL SPREAD TO EVEN AND UNIFORM LAYERS AND ROLLED TO A MINIMUM TOTAL THICKNESS AS FOLLOWS:
   A) SUPPLY AND INSTALL 2" DEEP HOT ASPHALT BASE. BASE COURSE SHALL CONFORM TO ONTARIO DEPARTMENT OF HIGHWAY SPECIFICATIONS FOR TYPE HL-8.
   B) LAY 1-5/8" DEEP FINISH COURSE HOT ASPHALT PAVING CONFORMING TO ONTARIO DEPARTMENT OF HIGHWAY SPECIFICATIONS FOR TYPE HL-3.

NOTE: ALL ASPHALT BASE TO BE COMPACTED TO 100% STANDARD PROCTOR DENSITY.

ASPHALT PAVING ON SITE SHALL BE AS FOLLOWS:

BASE: 350mm LIMESTONE BASE PLACED AS FOLLOWS:
200mm OF 50mm (2") GRANULAR 'A'
150mm OF 19mm (.75") GRANULAR 'B'

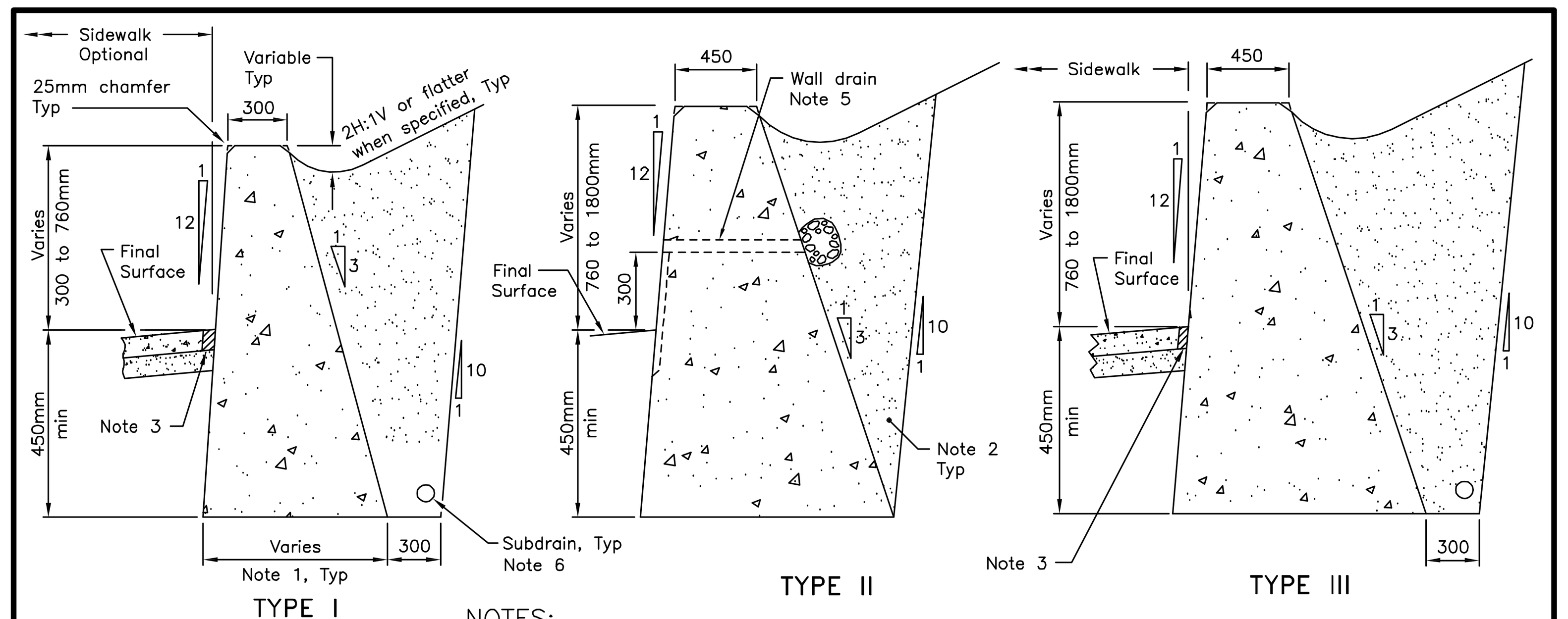
ASPHALT: 50mm (2") OF HL-8 ASPHALT BINDER COURSE
40mm (1-5/8") OF HL-3 ASPHALT TOP COURSE

INSTALLATION:

1. PLACE AND CONSOLODATE 350mm (13-3/4") OF LIMESTONE BASE COURSE AS SPECIFIED ABOVE.
2. ASPHALT SHALL SPREAD TO EVEN AND UNIFORM LAYERS AND ROLLED TO A MINIMUM TOTAL THICKNESS AS FOLLOWS:
   A) SUPPLY AND INSTALL 2" DEEP HOT ASPHALT BASE. BASE COURSE SHALL CONFORM TO ONTARIO DEPARTMENT OF HIGHWAY SPECIFICATIONS FOR TYPE HL-8.
   B) LAY 1-5/8" DEEP FINISH COURSE HOT ASPHALT PAVING CONFORMING TO ONTARIO DEPARTMENT OF HIGHWAY SPECIFICATIONS FOR TYPE HL-3.

NOTE: ALL ASPHALT BASE TO BE COMPACTED TO 100% STANDARD PROCTOR DENSITY.

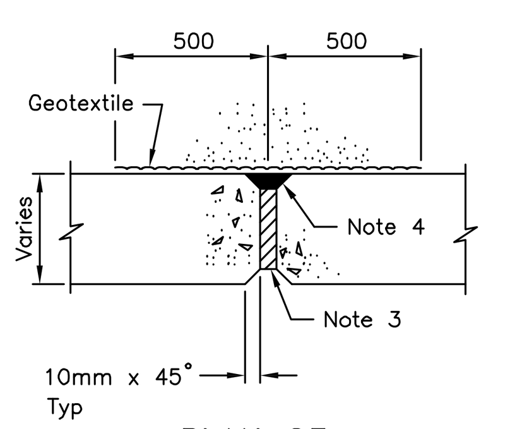
	SERVICE CROSSING CHART					
I. D	GRADE	OBV-STM	INV-STM	OBV. SAN	INV. SAN	OBV. WM
C1	258.04			256.46	256.31	255.81
C2	257.81			256.02	255.87	255.37
C3	258.04			256.17	256.01	255.51
C4	258.03			256.18	256.03	255.53
C5	257.79			256.27	256.12	255.62
C6		255.23	254.98			
C7		255.56	255.26	256.39	256.24	
C8	257.92			256.50	256.35	255.85
C9	257.92			256.54	256.39	255.89
C10	257.85			256.49	256.34	255.84
C11	257.92			256.53	256.38	255.88
C12	257.92			256.64	256.49	255.99
C13	257.92			256.67	256.52	256.02
C14	257.92			256.65	256.50	256.00
C15	257.84			256.58	256.43	255.93
C16		255.96	255.66	256.54	256.39	
C17		255.66	255.36			254.86
C18	258.02			256.72	256.57	256.07
C19	258.02			256.73	256.58	256.08
C20	258.02			256.77	256.62	256.12
C21	258.02			256.86	256.71	256.21
C22		256.26	256.01			255.51
C23		256.40	256.15			255.65
C24		256.41	256.16			255.66
C25				256.76	256.61	256.11
C26				256.74	256.59	256.09
C27				256.72	256.57	256.07
C28				256.71	256.56	256.06
C29				256.68	256.53	256.03
C30				256.66	256.51	256.00
C31				256.64	256.49	255.99
C32				256.62	256.47	255.97
C33				256.61	256.46	255.96
C34				256.59	256.44	255.94
C35				256.57	256.42	255.92
C36		255.89	255.59			255.09
C37				256.67	256.52	256.02
C38				256.71	256.56	256.06
C39				256.74	256.59	256.09
C40				256.77	256.62	256.12
C41				256.81	256.66	256.16
C42				256.84	256.69	256.19
C43		255.76	255.46	256.67	256.52	



NOTES:

1 Walls shall be founded on undisturbed soil having a minimum bearing capacity at ultimate limit states of 200kPa for Type I and 300kPa for Type II and Type III.
2 Excavation for toe walls shall be backfilled with free draining granular material.
3 10mm preformed joint filler, Type A, non-extruding and resilient bituminous type as specified.
4 Cold applied rubber asphalt joint sealing compound.
5 Where specified, wall drains shall be installed as per OPSD 3190.100.
6 150mm dia perforated pipe subdrain wrapped in geotextile.

A Maximum height of slope above top of wall is 4m.
B Concrete for toe walls shall be 30MPa.
C All dimensions are in millimetres unless otherwise shown.



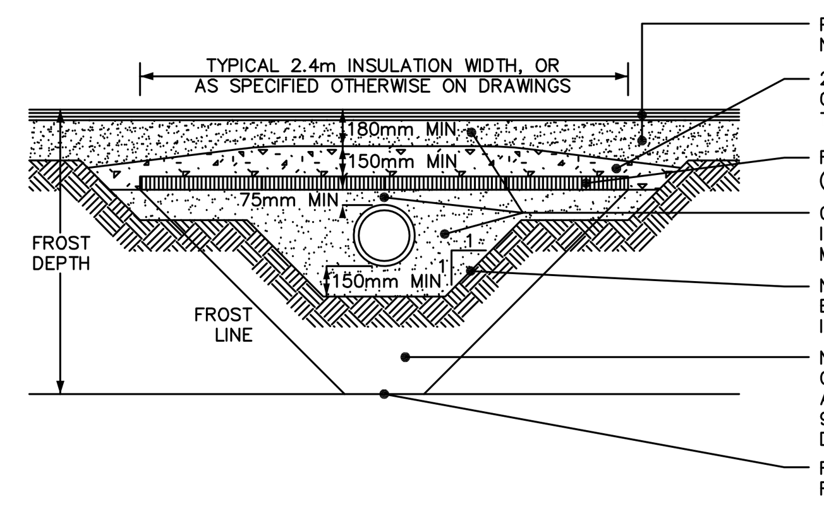
PLAN OF JOINT DETAIL IN CONCRETE TOE WALLS AT 3.0m SPACING

4 / SW4

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2010 | Rev 2

WALLS
RETAINING
CONCRETE TOE WALL

OPSD 3120.100



PAVEMENT STRUCTURE (ASPHALT AND/OR GRANULAR), OR SELECT NATIVE MATERIAL AND TOPSOIL, AS SPECIFIED ON DRAWINGS

20 MPa CONCRETE c/w 6% AIR ENTRAINMENT, MINIMUM 150mm CENTRAL AREA THICKNESS, TAPERED TO MINIMUM 75mm EDGE THICKNESS AS SHOWN

RIGID EPS-INSULATION BOARD PER SPECIFICATION NOTES (MINIMUM R10-THICKNESS, TYPICALLY 50-65mm)

GRANULAR-A BEDDING & BACK FILL AROUND PIPE, UNDER INSULATION, AND ABOVE CONCRETE AS SHOWN, COMPACTED TO MINIMUM 95% SPMDD

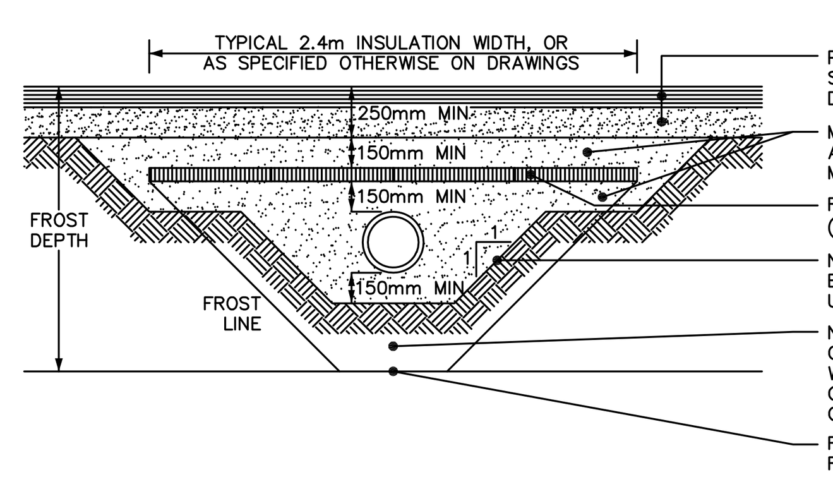
NOTE: TRENCH SIDE-SLOPES IN AREAS OF PIPE INSULATION TO BE MAXIMUM 1:1 SLOPE, NO VERTICAL SECTIONS ALLOWED UNLESS INDICATED IN DETAIL

NATIVE SOILS – WHERE NATIVE SOIL IS SOFT AND/OR OF ORGANIC CONTENT, REMOVE TO DEPTH OF SUITABLE SOILS AND REPLACE WITH GRANULAR-B2 MATERIAL COMPACTED TO 95% SPMDD, OR CONSTRUCT IN ACCORDANCE WITH WRITTEN DIRECTION FROM GEOTECHNICAL CONSULTANT

FROST DEPTH – PROTECT SOIL ZONE UNDER PIPE FROM FREEZING REFER TO OPSD 3400.011 FOR SPECIFIC LOCAL FROST DEPTH

SEWER PIPE INSULATION DETAIL

FOR SEWER PIPES HAVING LESS THAN 0.615m COVER AND MINIMUM 0.470m
N.T.S.



PAVEMENT STRUCTURE (ASPHALT AND/OR GRANULAR), OR SELECT NATIVE MATERIAL AND TOPSOIL, AS SPECIFIED ON DRAWINGS

MINIMUM 150mm GRANULAR-A BEDDING & BACK FILL BELOW AND ABOVE PIPE AND INSULATION BOARD, COMPACTED TO MINIMUM 95% SPMDD

RIGID EPS-INSULATION BOARD PER SPECIFICATION NOTES (MINIMUM R10-THICKNESS, TYPICALLY 50-65mm)

NOTE: TRENCH SIDE-SLOPES IN AREAS OF PIPE INSULATION TO BE MAXIMUM 1:1 SLOPE, NO VERTICAL SECTIONS ALLOWED UNLESS INDICATED IN DETAIL

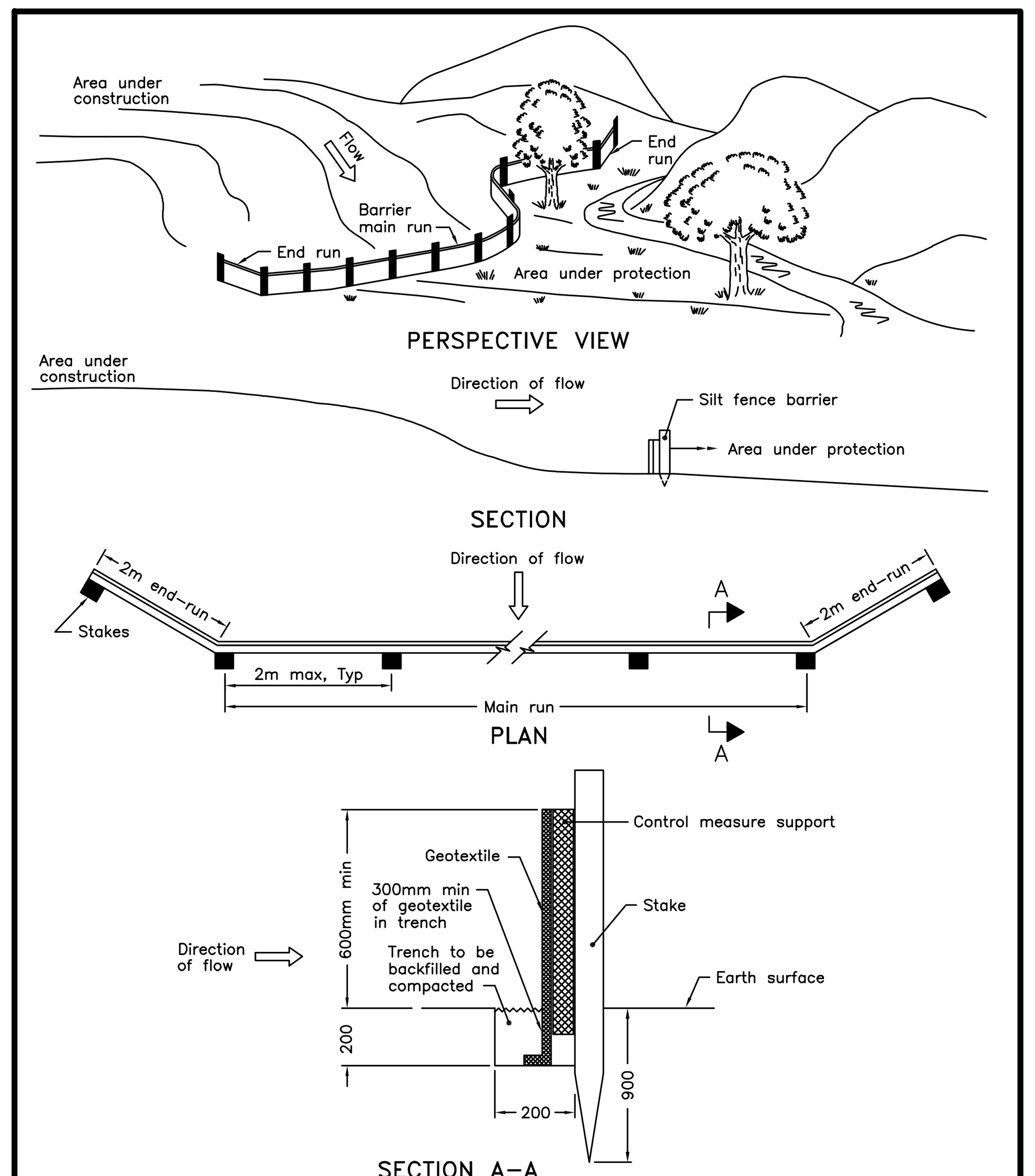
NATIVE SOILS – WHERE NATIVE SOIL IS SOFT AND/OR OF ORGANIC CONTENT, REMOVE TO DEPTH OF SUITABLE SOILS AND REPLACE WITH GRANULAR-B2 MATERIAL COMPACTED TO 95% SPMDD, OR CONSTRUCT IN ACCORDANCE WITH WRITTEN DIRECTION FROM GEOTECHNICAL CONSULTANT

FROST DEPTH – PROTECT SOIL ZONE UNDER PIPE FROM FREEZING REFER TO OPSD 3400.011 FOR SPECIFIC LOCAL FROST DEPTH

SEWER PIPE INSULATION DETAIL

FOR SEWER PIPES HAVING LESS THAN 1.4m COVER AND MINIMUM 0.615m COVER
N.T.S.

2 / SW4

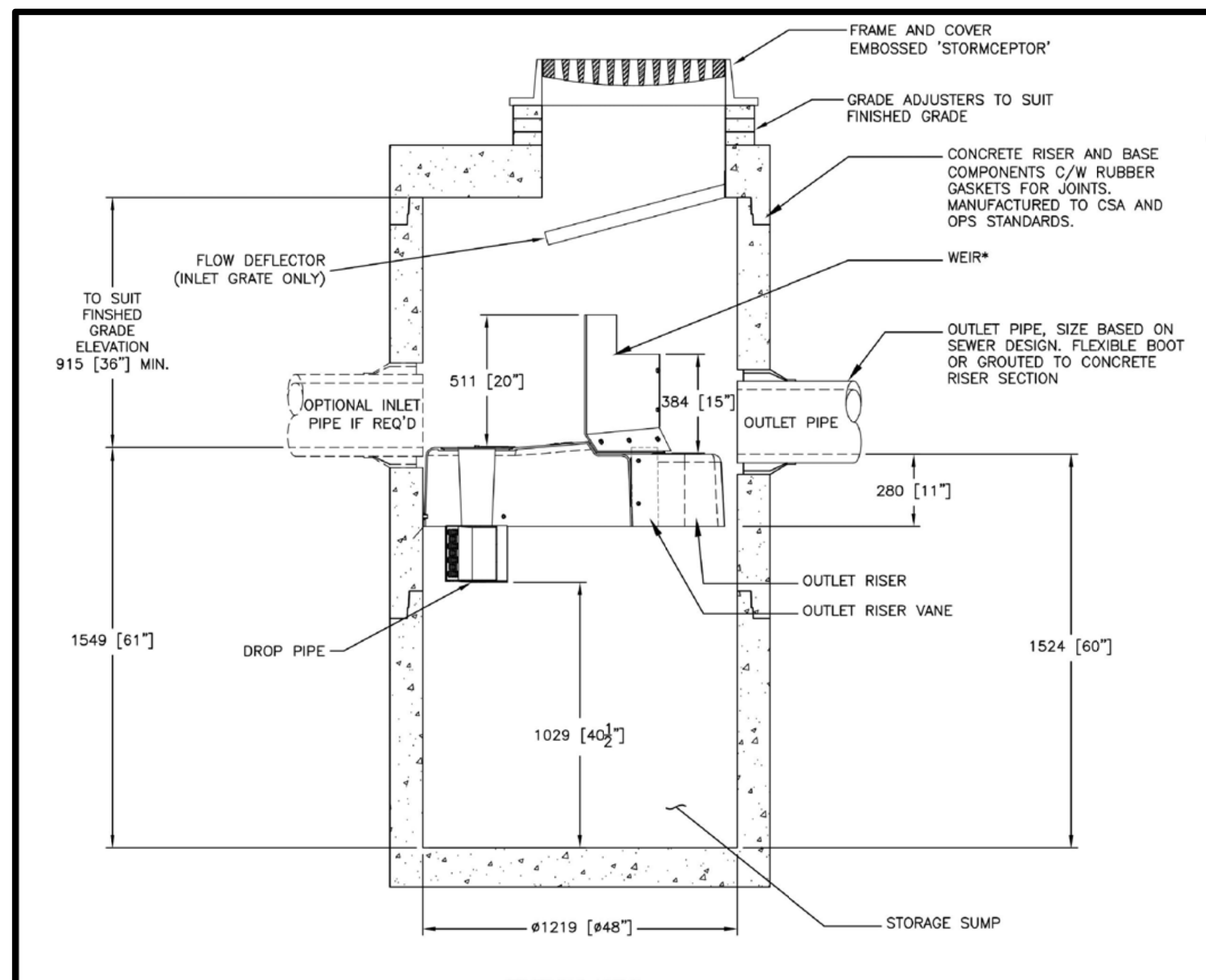


NOTE:
A All dimensions are in millimetres unless otherwise shown.

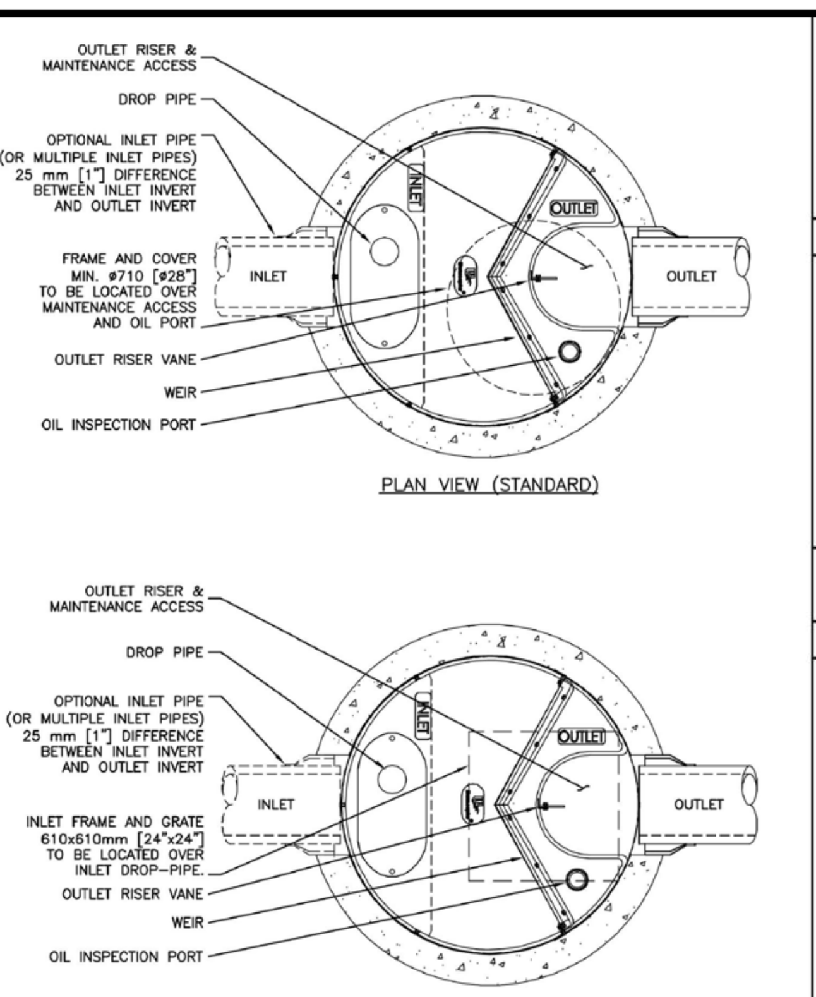
ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2006 | Rev 1

3 / SW4 HEAVY-DUTY SILT FENCE BARRIER

OPSD 219.130



SECTION VIEW



FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT YOUR LOCAL STORMCEPTOR REPRESENTATIVE. SITE SPECIFIC DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME. SOME FIELD REVISIONS TO THE SYSTEM LOCATION OR CONNECTION PIPING MAY BE NECESSARY BASED ON AVAILABLE SPACE OR SITE CONFIGURATION REVISIONS. ELEVATIONS SHOULD BE MAINTAINED EXCEPT WHERE NOTED ON BYPASS STRUCTURE (IF REQUIRED).

GENERAL NOTES:

* MAXIMUM SURFACE LOADING RATE (SLR) INTO LOWER CHAMBER THROUGH DROP PIPE IS 1135 L/min/m² (27.9 gpm/ft²) FOR STORMCEPTOR EF4 AND 535 L/min/m² (13.1 gpm/ft²) FOR STORMCEPTOR EFO4 (OIL CAPTURE CONFIGURATION). WEIR HEIGHT IS 150 mm (6 INCH) FOR EF04.
1. ALL DIMENSIONS INDICATED ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.
2. STORMCEPTOR STRUCTURE INLET AND OUTLET PIPE SIZE AND ORIENTATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
3. UNLESS OTHERWISE NOTED, BYPASS INFRASTRUCTURE, SUCH AS ALL UPSTREAM DIVERSION STRUCTURES, CONNECTING STRUCTURES, OR PIPE CONDUITS CONNECTING TO COMPLETE THE STORMCEPTOR SYSTEM SHALL BE PROVIDED AND ADDRESSED SEPARATELY.
4. DRAWING FOR INFORMATION PURPOSES ONLY. REFER TO ENGINEER'S SITE/UTILITY PLAN FOR STRUCTURE ORIENTATION.
5. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT THE DEVICE FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. DEVICE ACTIVATION, BY CONTRACTOR, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE STORMCEPTOR UNIT IS CLEAN AND FREE OF DEBRIS.

STANDARD DETAIL
NOT FOR CONSTRUCTION

SITE SPECIFIC DATA REQUIREMENTS					
STORMCEPTOR MODEL	EF4				
STRUCTURE ID					*
WATER QUALITY FLOW RATE (L/s)					*
PEAK FLOW RATE (L/s)					*
RETURN PERIOD OF PEAK FLOW (yrs)					*
DRAINAGE AREA (HA)					*
DRAINAGE AREA IMPERVIOUSNESS (%)					*
PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*
* PER ENGINEER OF RECORD					

Stormceptor® EF

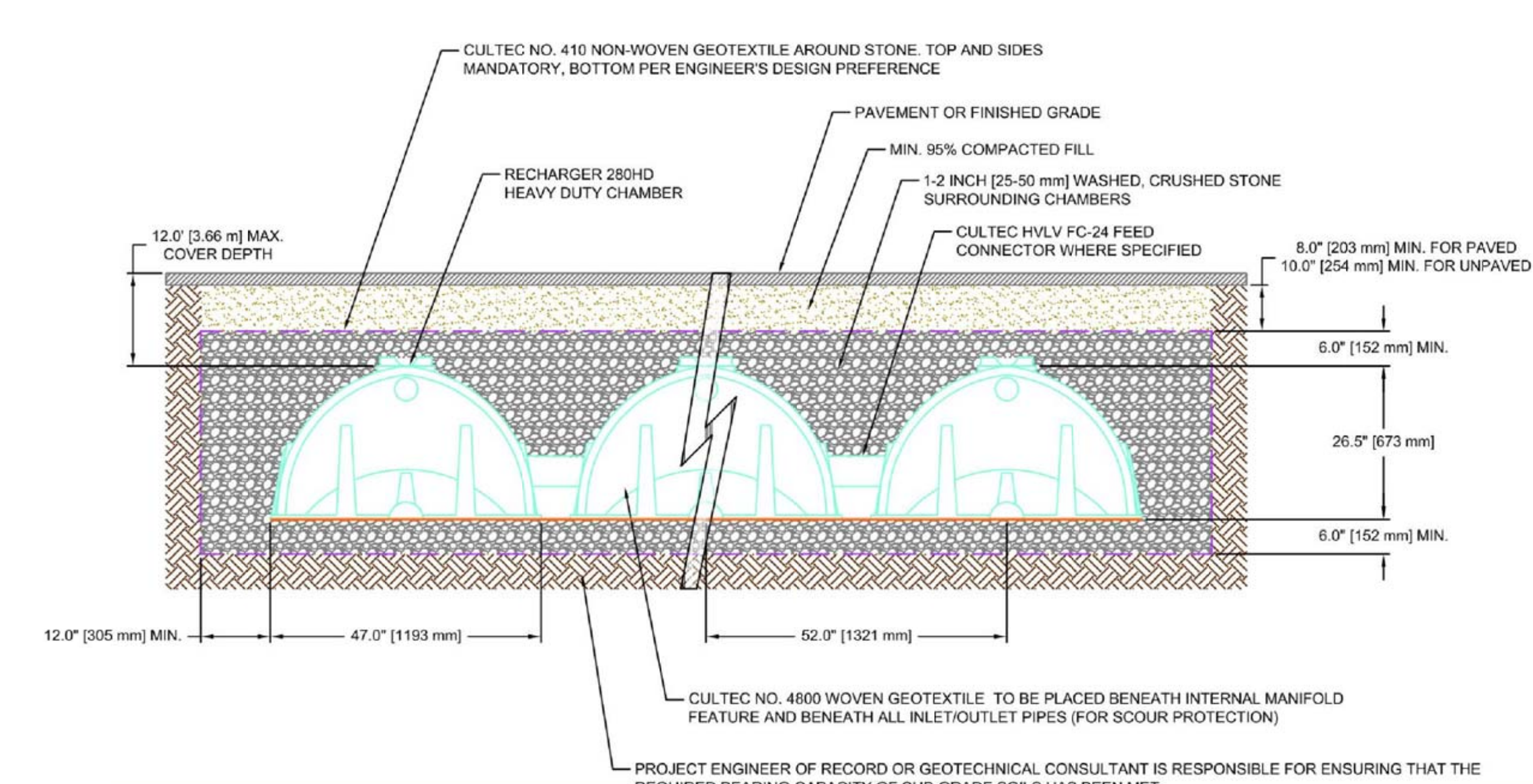
imbrium

MARK	DATE	REVISION DESCRIPTION	BY
0	5/26/17	INITIAL RELEASE	JSK
1	6/8/18	UPDATES	JSK

SCALE = NTS

DATE: 5/26/2017 | DESIGNED: JSK | DRAWN: JSK | CHECKED: BSF | APPROVED: SP | PROJECT No.: EF4 | SEQUENCE No.: * | SHEET: 1 OF 1

Typical Cross Section for Traffic Application



ROAD WORKS

1. ALL FILL WITHIN ROAD ALLOWANCE TO BE COMPACTED TO A MIN. OF 95% SPD, THE SUITABILITY AND COMAPCTION OF ALL FILL MATERIALS ARE TO BE CONFIRMED BY A RECOGNIZED SOIL CONSULTANT TO THE CITY ENGINEER PRIOR TO THE INSTALLATION OF ANY ROAD BASE MATERIALS
2. ALL CONNECTIONS WITHIN PAVED PORTION OF ANY EXISTING ROAD TO BE BACKFIELD WITH GRANULAR MATERIAL AND/OR UNSHRINKABLE FILL AS PER THE LATEST OF CITY OF BRAMPTON STANDARDS & SPECIFICATIONS.
3. A)TRENCH BACK FILLING ON PROPOSED ROADS SHALL COMPLY WITH THE CITY'S ENGINEERING POLICY STATEMENTS PROVIDED IN THE "DEVELOPMENT REQ. MANUAL" (SECTION 4.02.06 – TRENCH BACK FILLING ON ROADS)

   B) ALL BACK FILL FOR SEWERS, WATERMAIN AND UTILITIES WITHIN ROAD ALLOWANCE SHALL BE COMPACTED TO 95% SPD WITH 2% OF THE OPTIMUM MOISTURE CONTENT

   C) THE TOP 1.0m OF THE SUBGRADE IS TO BE COMPACTED TO A MIN. 98% SPD. WITHIN 2 % OF THE OPTIMUM MOISTURE CONTENT
4. ALL ROAD WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF BRAMPTON STANDARDS AND SPECIFICATIONS.
5. ALL INTERSECTING ROADS SHALL BE PROVIDED WITH AN ADDITIONAL 150mm THICKNESS OF OPSS GRANULAR "B" THIS EXTRA DEPTH SHALL EXTEND FOR A MIN. OF 15m BEYOND PROPERTY LINE OF INTERSECTING STREET, AS NOTED 7- CONCRETE CURB & GUTTER OPSD-600.07
6. PAVEMENT THICKNESS AND COMPOSITION TO BE AS SHOWN ON INDIVIDUAL PLAN AND PROFILE DWGS

No.	Date:	Revision:	D'wn.	Ch'd.
I.	08/23/2021	ISSUED FOR SPA	N.R.	S.S.

TOWN OF CALEDON
PLANNING
RECEIVED
Nov.29, 2021

APPLICANT:
HUMPHRIES PLANNING GROUP INC.
190 PIPPIN ROAD, SUITE A
VAUGHAN, ON L4K 4X9
TEL: 905-264-7678 EXT. 244
EMAIL: rhumphries@humphriesplanning.com

OWNER:
HARVESTONE CENTRE INC.
3 BROWNING COURT,
BOLTON, ON L7E 5S6
TEL: 905-857-3266
EMAIL: vince@boltonrailings.com

ARCHITECTS / ENGINEERS:
SOSCIA PROFESSIONAL ENGINEERS INC
10376 YONGE STREET, SUITE 307
RICHMOND HILL, ON L4C 3B8
TEL: 905 237 5410
FAX: 905 237 5413
CEL: 416 704 3868
E-MAIL: hma@sosciaeng.ca

LICENSED PROFESSIONAL ENGINEER
S. SOSCIA
AUG 23,2021
PROVINCE OF ONTARIO

SOSCIA
PROFESSIONAL ENGINEERS INC.
10376 YONGE STREET,SUITE 307
RICHMOND HILL, ON. L4C 3B8
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Project:
PROPOSED:
STACKED TOWNHOUSE DEVELOPMENT
13656 EMIL KOLB PARKWAY
CALEDON, ONTARIO.
SPA 2021-0077

Sheet title:		Job. no.
AS NOTED		20-007
Scale: AS NOTED	Date: AUG 2021	D'wg. no.
Drawn: N.R.	Checked: S.S.	**SW4**