

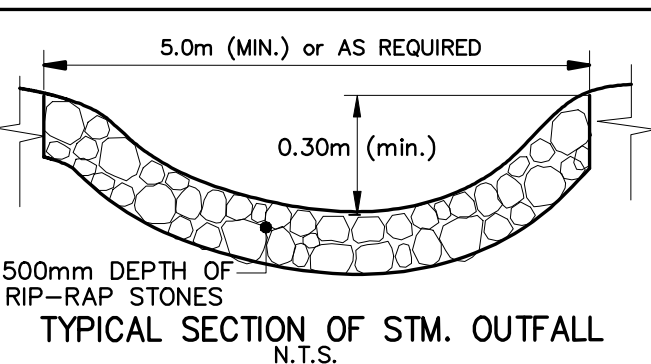
GENERAL NOTES:

1. THE LOCATION OF ALL UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON CONTRACT DRAWINGS, AND WHERE SHOWN THE ACCURACY OF THE LOCATION AND ELEVATION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY EXACT LOCATION AND ELEVATION OF SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITIES FOR DAMAGE.
2. ALL AREAS DISTURBED DURING CONSTRUCTION OF SEWERS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE CITY OF BRAMPTON, REGIONAL MUNICIPALITY OF PEEL. GRASSED AREAS TO BE TOPPED WITH 100mm TOPSOIL AND SODDED AS PER CITY STD. S-271. ALL EXISTING SERVICES TO BE ADJUSTED TO SUIT NEW GRADINGS.
3. CUT AREAS OF POND AND FOREBAY TO BE INSPECTED BY THE GEOTECHNICAL INSPECTOR FOR DIRECTIONS ABOUT THE TYPE OF EROSION PROTECTION NEEDED.
4. ALL TOPSOIL AND ORGANIC MATERIALS FROM POND AREAS TO BE STRIPPED BEFORE PLACING ANY FILL.
5. ALL EXISTING STRUCTURES, DRIVEWAYS, CULVERTS, BRIDGES TO BE REMOVED AND DISPOSED OFF SITE.
6. SEEDING OF PONDS AS PER LANDSCAPE ARCHITECTS AND SPECIFICATIONS. THE DEVELOPER'S ENGINEER SHALL SUBMIT THE PROPOSED TREATMENT TO PLANNING, DESIGN DEVELOPMENT DEPARTMENT FOR APPROVAL PRIOR TO CONSTRUCTION.
7. ENGINEERED FILLED BERMS TO BE DONE WITH EVERY 300mm LIFTS AND COMPACTED TO 95% STD. PROCTOR DENSITY AS DIRECTED BY THE GEOTECHNICAL ENGINEER RECOMMENDATION.
8. FILL AREAS OF POND TO BE INSPECTED BY THE GEOTECHNICAL INSPECTOR FOR DIRECTIONS ABOUT THE TYPE OF EROSION PROTECTION NEEDED, AND WITH REGARDS TO STABILITY AND SEEPAGE.
9. HEADWALLS TO HAVE HORIZONTAL REVEAL WORK IN THE CONCRETE, REFER TO LANDSCAPE ARCHITECT DRAWINGS FOR DETAILS.
10. EXPOSED CORRUGATED STEEL PIPE OF QUALITY CONTROL OUTLET STRUCTURE SHALL BE COVERED WITH RIVER STONE RANGING IN SIZE FROM 150mm-300mm, WITH A FEW LARGER STONES UP TO 600mm RANDOMLY PLACED AROUND THE PIPE.
11. THE EDGES OF ALL RIP RAP SPLASH PADS AND OUTLET WEIRS SHALL BE FINISHED IN CURVED NATURALIZED PATTERNS. STRAIGHT LINES WILL NOT BE ACCEPTED.
12. LAYOUT OF OUTFALL AND OVERFLOW CHANNELS THROUGH EXISTING VEGETATION TO BE ADJUSTED ON SITE TO MINIMIZE REMOVAL OF EXISTING VEGETATION.
13. ALL SWM BLOCKS REQUIRE THE PLACEMENT OF PERMANENT STORM WATER MANAGEMENT FACILITIES WARNING SIGNS AS PER THE CITY OF BRAMPTON'S SPECIFICATIONS. MINIMUM 5 SIGNS AROUND POND.
14. ANY EROSION EXPERIENCED ALONG THE VALLEYLAND SLOPES THROUGHOUT THE CONSTRUCTION AND WARRANTY PERIOD OF THIS DEVELOPMENT SHALL BE CORRECTED TO THE SATISFACTION OF THE PLANNING, DESIGN AND DEVELOPMENT DEPARTMENT.
15. SWM POND BLOCKS, CHANNEL BLOCK AND UNDEVELOPED BLOCKS SHALL BE MAINTAINED FREE OF GARBAGE AND CONSTRUCTION DEBRIS BY THE DEVELOPER UNTIL ASSUMPTION OF THE SUBDIVISION BY THE CITY.
16. ALL AREAS OF SWM POND BLOCK AND CHANNEL BLOCK DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE CITY OF BRAMPTON.
17. SWM POND BLOCKS, CHANNEL BLOCK AND UNDEVELOPED BLOCKS SHALL NOT BE USED FOR THE PURPOSE OF STOCKPILING OR FOR THE PLACEMENT OF CONSTRUCTION TRAILERS.
18. ALL CHAINLINK FENCING ABUTTING SWM BLOCKS MUST BE INSTALLED AT TIME OF SWM CONSTRUCTION. IN CONDITIONS WHERE FUTURE ACOUSTIC BARRIERS ARE IDENTIFIED, TEMPORARY FENCING TO THE CITY'S SATISFACTION SHALL BE ERRECTED. ALL SWM BLOCKS SHALL BE MAINTAINED FREE OF DEBRIS AND CONSTRUCTION MATERIALS UNTIL ASSUMPTION OF THE LANDS BY THE CITY.
19. ALL HEADWALLS AND OTHER EXPOSED CONCRETE STRUCTURES SHALL BE TREATED WITH A SMOOTH, PATTERNESS CONCRETE FINISH. WHERE POSSIBLE, ARMOURSTONE COURSGING SHALL BE USED AT THE BOTTOM OF HEAD OR WING WALLS IN ORDER TO REDUCE THE EXPOSED CONCRETE.
20. ANY EROSION EXPERIENCED ALONG THE CHANNEL SLOPES THROUGHOUT THE CONSTRUCTION AND WARRANTY PERIOD OF THIS DEVELOPMENT SHALL BE CORRECTED BY THE DEVELOPER TO THE SATISFACTION OF THE PLANNING, DESIGN AND DEVELOPMENT DEPT.

NOTES:

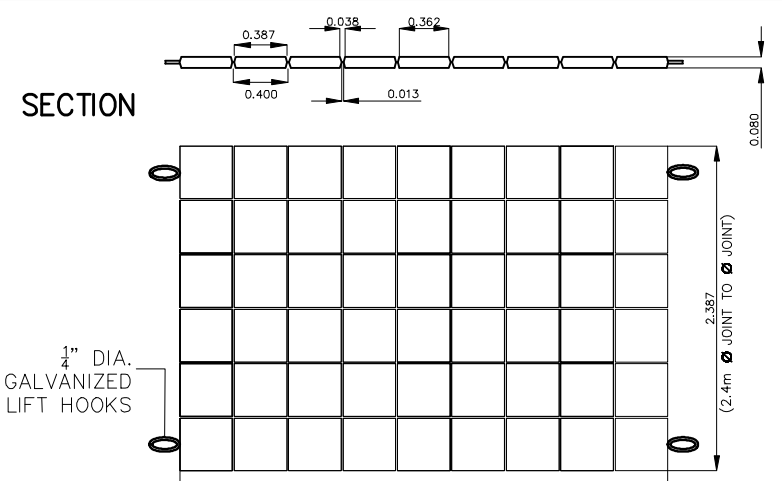
1. IF GRANULAR MATERIAL (PERVIOUS) SUCH AS SAND IS ENCOUNTERED DURING CONSTRUCTION OF POND, THE UPPER LAYER OF THE SIDE SLOPE OF THE POND SHALL BE REPLACED WITH A LAYER OF SILTY CLAY TILL MATERIAL, THICKNESS TO BE DETERMINED BY THE SOIL CONSULTANT WHICH WILL BE COMPACTED TO 95% + STANDARD PROCTOR DRY DENSITY. AN INTERCEPT SUBDRAIN SYSTEM (SEE DETAIL THIS DRAWING) SHOULD BE CONSTRUCTED TO STABILIZED THE SIDE.
2. IN ALL SEWER TRENCHES, WHERE SUBGRADE CONSISTS OF WET SANDS AND SANDY SILT, THE PIPE JOINTS SHALL BE WRAPPED WITH WATERPROOF MEMBRANE.

DESCRIPTION	PROVIDED STORAGE	REQUIRED STORAGE	DISCHARGE TARGET	EXPECTED	ORIFICE SIZE	CONTROL
PERMANENT POOL EL.239.70 - EL.242.20	28,088m ³	27,794m ³	0.00m ³ /s	0.00m ³ /s	NA	NA
EROSION EL.242.20 - EL.243.00	27,669m ³	26,911m ³	0.08m ³ /s	0.08m ³ /s	205mm	HICKEN BOTTOM
2YR. W.L. EL.242.20 - EL.243.00	38,893m ³	38,283m ³	0.36m ³ /s	0.30m ³ /s	450mm	243.1
5YR. W.L. EL.242.20 - EL.243.65	52,421m ³	52,009m ³	0.65m ³ /s	0.57m ³ /s		
10YR. W.L. EL.242.20 - EL.243.90	62,690m ³	62,150m ³	0.90m ³ /s	0.62m ³ /s		
25YR. W.L. EL.242.20 - EL.244.15	73,500m ³	71,788m ³	1.29m ³ /s	1.06m ³ /s	500mm	243.9
50YR. W.L. EL.242.20 - EL.244.30	80,082m ³	79,410m ³	1.67m ³ /s	1.23m ³ /s		
100 YR. W.L. EL.242.20 - EL.244.60	88,544m ³	88,191m ³	1.99m ³ /s	1.39m ³ /s		
OVERFLOW	NA	NA			3.9x3.0 OPEN TOP	244.6



SPECIFICATION FOR CLASS I RIP-RAP STONE:
100% SMALLER THAN 450mm OR 130kg
at least 20% LARGER THAN 350mm OR 70kg
at least 50% LARGER THAN 300mm OR 40kg
at least 80% LARGER THAN 200mm OR 10kg

NOTE:
BOREHOLE LOCATIONS TAKEN FROM SOIL REPORT PREPARED BY exp. PROJECT No.BRM00396886-60. DATE SUBMITTED AUGUST 11, 2011.

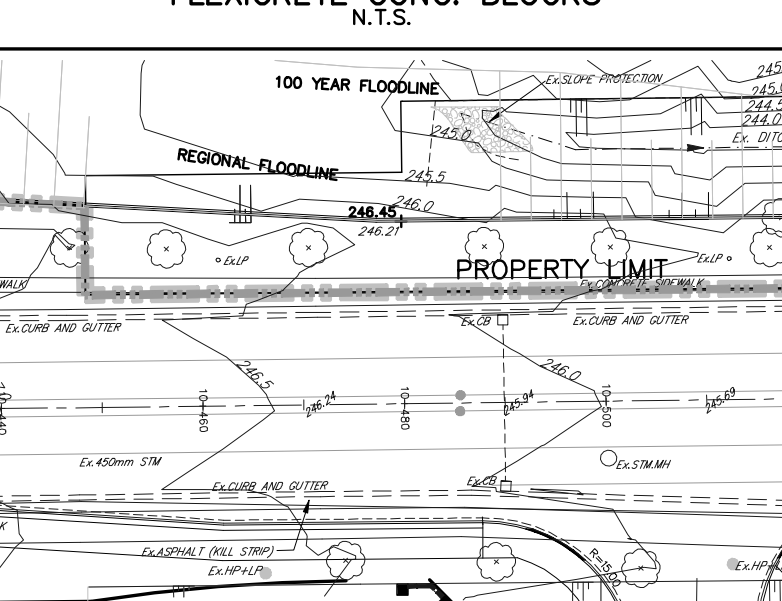


FLEXICRETE SPECIFICATIONS:

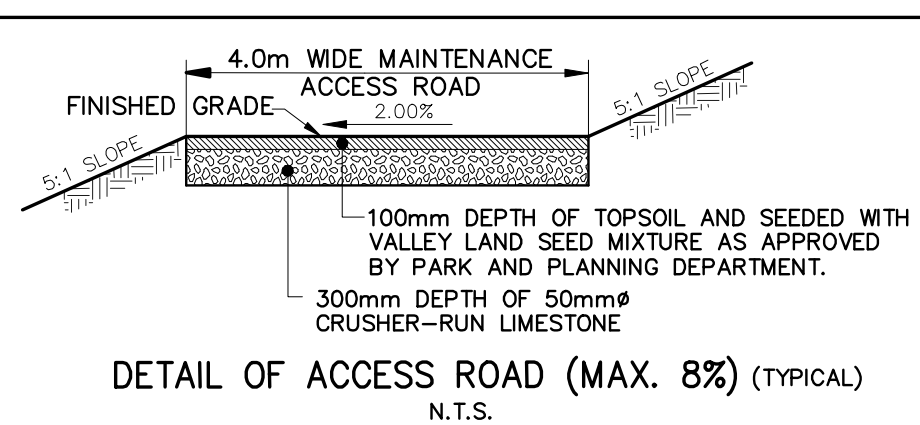
- CONCRETE STRENGTH USED IS 30 MPa OR HIGHER IN ACCORDANCE WITH CANADIAN STANDARDS C30.3
- THE GALVANIZED MESH REINFORCEMENT WIRES ARE 203mm CENTRE TO CENTRE AND 4.1mm DIAMETER (G/B GAUGED)
- THE CROSS-SECTIONAL AREA OF STEEL IN LONGITUDINAL AND TRANSVERSE DIRECTION IS 65.69mm² FOR 8/B GAUGE

FLEXICRETE SIZES:
• BLOCKS ARE AT 400mm CENTRES
• STANDARD BLOCK WEIGHS 27kg
• PANEL HEIGHT IS 150 mm
• STANDARD PANEL WEIGHS 1.45 TONNES

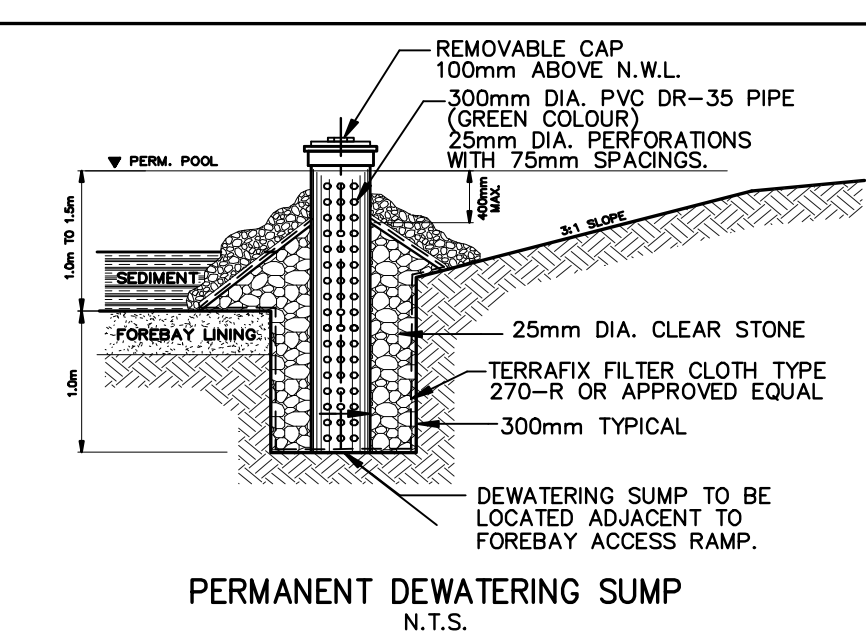
FLEXICRETE CONC. BLOCKS



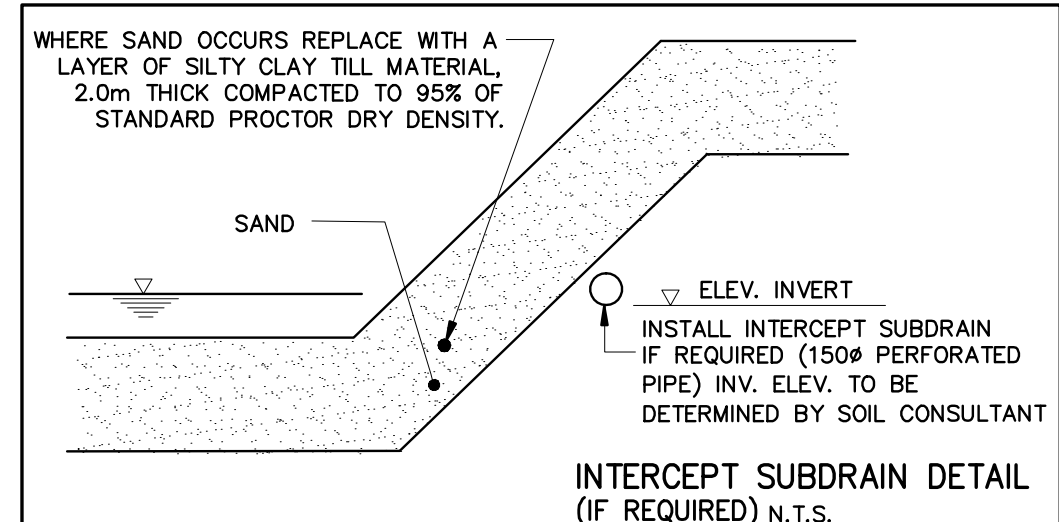
EXISTING 4.27x1.83 CON-SPAN CULVERT (FIELD INFORMATION TAKEN JULY 13,2011) BY R.V. ANDERSON DWG. Nos.11-B-4, SHT. No.S-1 CONTRACT No.2009-049



FOR DETAILS OF EX.CHANNEL SOUTH OF COUNTRYSIDE RD. REFER TO SCHAEFFERS CONSULTING ENGINEERS PROJECT No. 2006-3058 DWG. No. CH-1 TO CH-4

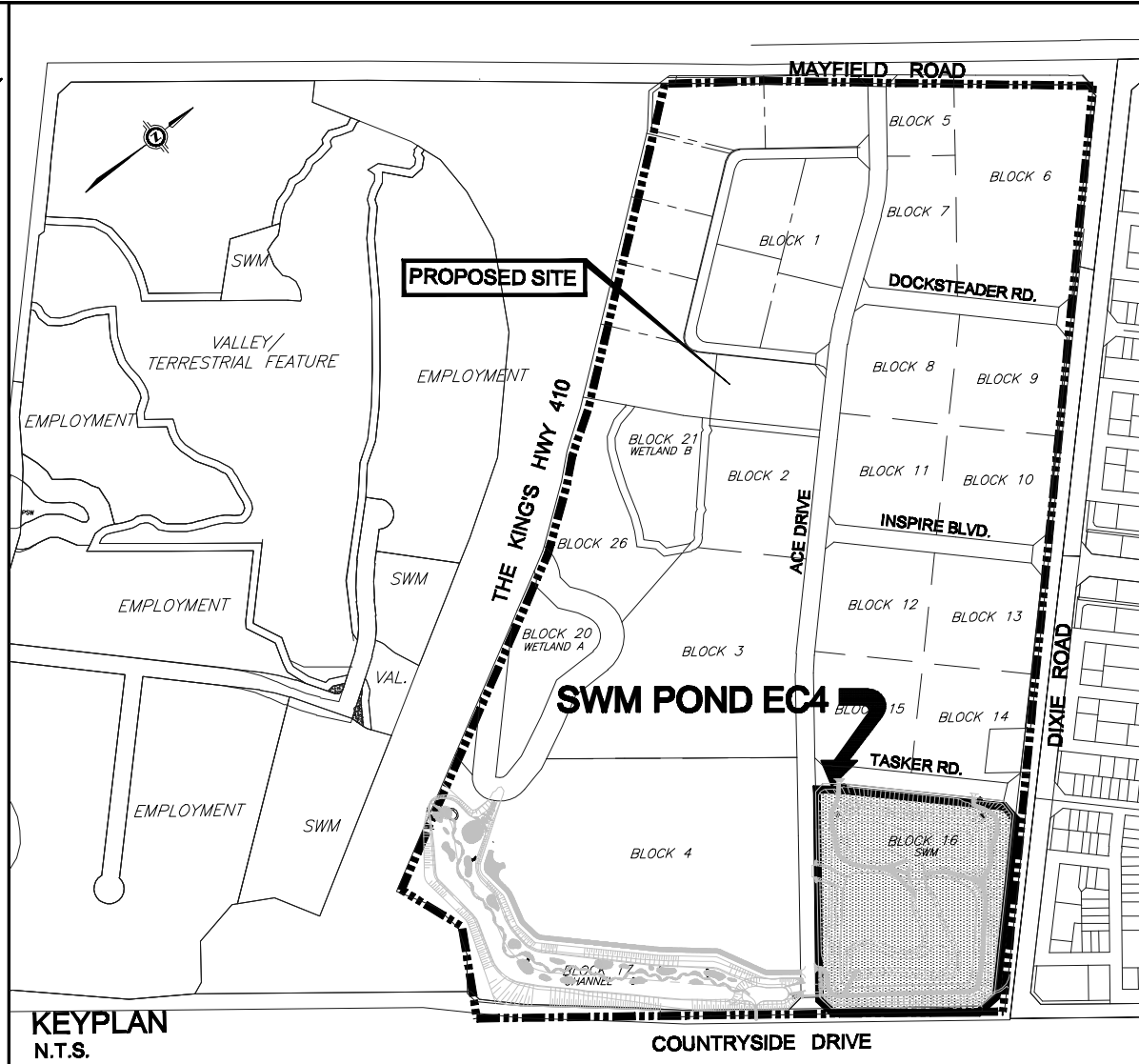


COUNTRYSIDE DRIVE



REFER TO:

- | | |
|--|--------------------------|
| FOR SECTIONS 1 TO 2 | REFER TO DWG. No. SWM-2 |
| FOR SECTIONS 3 TO 4 | REFER TO DWG. No. SWM-3 |
| FOR SECTIONS 5 TO 6 | REFER TO DWG. No. SWM-4 |
| FOR SECTIONS 7 TO 8 | REFER TO DWG. No. SWM-5 |
| FOR SECTIONS 9 TO 10 | REFER TO DWG. No. SWM-6 |
| FOR SECTIONS 11 TO 14, SECTIONS 3A TO 5A AND DETAIL OF OVERLAND FLOW ROUTE#3 | REFER TO DWG. No. SWM-7 |
| FOR EMERGENCY SPILLWAY AND CONTROL FLOW STRUCTURE DETAILS | REFER TO DWG. No. SWM-8 |
| FOR STORM OUTFALL#1 DETAIL | REFER TO DWG. No. SWM-9 |
| FOR STORM OUTFALL#2 DETAIL | REFER TO DWG. No. SWM-10 |
| FOR 1650x3000 BOX MH#46 DETAIL | REFER TO DWG. No. SWM-11 |



LEGEND

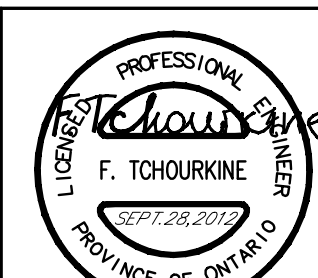
- | | |
|---|---|
| --- DENOTES PERMANENT POOL LEVEL | --- DENOTES 5 YR. WATER LEVEL |
| --- DENOTES 100 YR. WATER LEVEL | --- DENOTES PROPOSED POND CONTOUR LINE |
| --- DENOTES PROPOSED REGIONAL FLOODLINE | --- DENOTES DEVELOPMENT LIMIT |
| --- DENOTES ACCESS ROAD (SEE DETAIL THIS DWG.) | --- DENOTES FLEXICRETE CONC. BLOCKS |
| --- DENOTES 500mm DEPTH RIP-RAP STONE (CL-1) EMBEDDED ON SOLID GROUND | --- DENOTES FLEXICRETE CONCRETE BLOCKS COVERED WITH 150mm TOPSOIL AND SOD |
| 210.07 (211.0) DENOTES PROPOSED ELEVATION | 211.0 DENOTES EXISTING ELEVATION |
| 208.00 DENOTES EXISTING CONTOUR ELEVATION | 208.00 DENOTES PROPOSED CONTOUR ELEVATION |
| ⊕ BH#1 DENOTES BOREHOLE | ⊕ BH#108 DENOTES DEWATERING SUMP |
| ⊕ DENOTES PERMANENT STORM WATER MANAGEMENT WARNING SIGN AS PER THE CITY OF BRAMPTON'S SPECIFICATIONS. | ⊕ DENOTES OVERLAND FLOW ROUTE |
| ⊕ #649 DENOTES Ex.TREES TO BE PRESERVED | ⊕ #649 DENOTES Ex.TREES TAG NUMBER |

No.	By	Date	Revision	Checked
6.	AO	OCT 2012	REVISED SCOUR POOL AND ADDED ARMOUR STONES	
5.	AO	SEP 2012	REVISED REGIONAL FLOODLINE AND OVERLAND FLOW ROUTE.	
4.	AO	AUG 2012	REVISED CONTROL FLOW STRUCTURE ON PLAN AND DETAILS.	
3.	AO	MAY 2012	UPDATED OUTFALL AND ADDED OVERLAND FLOW ROUTE.	
2.	AO	APR 2012	UPDATED INVERT OF STM. OUTFALL#1.	
1.	AO	MAY 2011	REVISED AS PER CITY COMMENTS DATED FEB. 3, 2012.	
			REVISED AS PER CITY COMMENTS DATED FEB. 10, 2011.	

Region of Peel
Working for you



Brampton
PLANNING, DESIGN & DEVELOPMENT
ENGINEERING & DEVELOPMENT SERVICES, MICHAEL WONG, P.ENG., DIRECTOR



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E-mail: design@schaeffers.com

PROJECT: 2011 - 3676

EMPLOYMENT LANDS COUNTRYSIDE VILLAGE

SWM POND

CONTROLLED TO 100 YEAR WATER LEVEL

CITY FILE: C03E16.002

21T-09010B

Surveyed By:	Date:	Contract No.	
Drawn By: A.M./R.M.M.	Checked By: M.N.	Drawing No.	
Designed By: A.O.	Checked By: P.S.	Sheet No.	
Scale: 1:750	Date: SEPTEMBER 2012		

SWM-1