- . DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND LANDSCAPE DRAWINGS
- 2. ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS OF THE: CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS, ONTARIO PROVINCIAL SPECIFICATION STANDARD SPECIFICATION (OPSS) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), UNLESS OTHERWISE SPECIFIED. TO THE SATISFACTION OF THE CITY AND THE CONSULTANT
- . THE POSITION OF EXISTING POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, STRUCTURES AND APPURTENANCES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWING. AND WHERE SHOWN. THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION. ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF SUBJECT LANDS IS TO BE UNDERTAKEN AT CONTRACTOR'S EXPENSE.
- 4. THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANY OFFICIALS FIVE (5) BUSINESS DAYS PRIOR TO START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR EXPOSED PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO HYDRO, BELL. CABLE TV. AND CONSUMERS GAS LINES.
- ALL TRENCHING AND EXCAVATIONS TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS AND AS PER THE RECOMMENDATIONS INCLUDED IN THE GEOTECHNICAL REPORT.
- REFER TO ARCHITECTS PLANS FOR BUILDING DIMENSIONS, LAYOUT AND REMOVALS. REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. ALL INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- TOPOGRAPHIC SURVEY COMPLETED AND PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. DATED ON JULY 31, 2018. CONTRACTOR TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION OF ANY WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- 8. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS. VERIFY THAT JOB BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED.
- 9. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
- 10. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM.
- 11. ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS UNLESS OTHERWISE SPECIFIED. ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
- 12. ABUTTING PROPERTY GRADES TO BE MATCHED UNLESS OTHERWISE SHOWN.
- 13. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING
- 14. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
- 15. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
- 16. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING
- 17. CONTRACTOR TO OBTAIN POST-CONSTRUCTION TOPOGRAPHIC SURVEY, COMPLETED BY OLS OR P.ENG CONFIRMING COMPLIANCE WITH DESIGN GRADING AND SERVICING. SURVEY IS TO INCLUDE LOCATION AND INVERTS FOR **BURIED UTILITIES.**
- 18. ABIDE BY RECOMMENDATIONS OF GEOTECHNICAL REPORT. REPORT ANY VARIATIONS IN OBSERVED CONATIONS FROM THOSE INCLUDED IN REPORT.

# 19. REPORT REFERENCES

i. STORMWATER MANAGEMENT REPORT, PREPARED BY WSP CANADA INC, PROJ. NO. 191-01517-00, JUNE 24, 2019 ii. GEOTECHNICAL INVESTIGATION, PREPARED BY PATERSON GROUP, PROJ. NO. PG4624-1, JUNE 03, 2019

#### **NOTES: WATERMAIN**

- CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.
- 2. ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE 16. STORM SEWERS 450mm DIAMETER AND SMALLER SHALL BE PVC SDR-35, WITH (PVC) CLASS 150 DR 18 MEETING AWWA SPECIFICATION C900.
- 3. ALL WATERMAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW 17. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6. FINISHED GRADE. WHERE WATERMAINS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE SHALL BE MAINTAINED: WHERE WATERMAINS CROSS UNDER OTHER UTILITIES. A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED, THE WATERMAIN SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTTAWA STANDARD W22. WHERE A WATERMAIN IS IN CLOSE PROXIMITY TO AN OPEN STRUCTURE. THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTTAWA STANDARD W23.
- 4. CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, ENDS OF MAINS AND 21. ALL CATCHBASIN LEADS TO BE MINIMUM 200mm DIAMETER AT MINIMUM 1.0% CONNECTIONS 100mm AND LARGER, IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25.3 & W25.4.
- 5. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 & W42.
- 6. ALL VALVES AND VALVE BOXES AND CHAMBERS, HYDRANTS, AND HYDRANT VALVES AND ASSEMBLES SHALL BE INSTALLED AS PER CITY OF OTTAWA
- 7. FIRE HYDRANT LOCATION AND INSTALLATION AS PER CITY OF OTTAWA STANDARD W18 & W19. CONTRACTOR TO PROVIDE FLOW TEST AND PAINTING OF NEW HYDRANT IN ACCORDANCE WITH CITY STANDARDS
- 8. IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY

### NOTES: SANITARY SEWER AND MANHOLES

- 9. ALL SANITARY SEWER, SANITARY SEWER APPURTENANCES AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. PROVIDE CCTV INSPECTION REPORTS FOR ALL NEW SANITARY PIPING. PROVIDE DYE TESTING FOR NEW
- 10. SANITARY SEWER PIPE SIZE 150mm DIAMETER AND GREATER TO BE PVC SDR-35 (UNLESS SPECIFIED OTHERWISE) WITH RUBBER GASKET TYPE JOINTS IN CONFORMANCE WITH CSA B-182.2,3,4.
- 11. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.

PAVEMENT STRUCTURE - BUS ACCESS LANES

MATERIAL

HL3 OR SUPERPAVE 12.5 AC

OPSS GRANULAR 'A'

HL8 OR SUPERPAVE 19.0 AC

OPSS GRANULAR 'B' TYPE II

PAVEMENT STRUCTURE - PARKING AREAS

HL3 OR SUPERPAVE 12.5 AC

OPSS GRANULAR 'A

OPSS GRANULAR 'B' TYPE II

COURSE

SURFACE

BASECOURSE

COURSE

SURFACE

BASECOURSE

BINDER

- 12. ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSD 701.01. FRAME AND COVER TO BE AS PER CITY OF OTTAWA STANDARD S25 AND S24.
- 13. MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES AS PER THE
- 14. ANY SANITARY SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR APPROVED BY THE

THICKNESS

**THICKNESS** 

150 mm

300 mm

- FLEV: 82.63

DEPTH OF STONE 229mm

# NOTES: STORM SEWERS AND STRUCTURES

- 1. ALL WATERMAIN AND WATERMAIN APPURTANANCES, MATERIALS, 15. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. PROVIDE CCTV INSPECTION REPORTS FOR ALL NEW STORM SEWERS, SERVICES AND CB LEADS.
  - RUBBER GASKET PER CSA A-257.3.

  - ALL STORM MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSD 701.01. FRAME AND COVER TO BE AS PER CITY OF OTTAWA STANDARD S25 AND S24.1.
  - 19. ANY NEW OR EXISTING STORM SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22 OR APPROVED BY THE ENGINEER. ADD INSULATION ABOVE EXISTING STORM SEWER BETWEEN EXISTING CBMH101 AND CB1.
  - 20. CB IN LANDSCAPE AREAS SHALL BE AS PER CITY OF OTTAWA STANDARD S31.
  - SLOPE UNLESS OTHERWISE SPECIFIED.
  - 22. STORM CATCHBASINS AS PER OPSD 705.010 AND FRAME/COVER AS PER CITY STANDARD DRAWINGS S19. STORM CBMH'S AS INDICATED IN TABLE WITH SUMP AND FRAME/COVER AS PER OPSD 401.010 TYPE B. SANITARY MH'S AS PER OPSD 701.010 TYPE A BASE WITH BENCHING, AND FRAME/COVER AS PER OPSD 401.010 TYPE A. ADJUSTMENT SECTIONS SHALL BE AS PER OPSD 704.010.
  - 23. INSTALLATION OF FLOW CONTROL ICD'S TO BE VERIFIED BY QUALITY VERIFICATION ENGINEER RETAINED BY CONTRACTOR.

## NOTES: EROSION AND SEDIMENT CONTROL

\*\* CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES, AND MEETING ASSOCIATED LEED REQUIREMENT \*\*

#### 1. PRIOR TO START OF CONSTRUCTION:

- INSTALL SILT FENCE IN LOCATION SHOWN ON DWG C06.
- INSTALL FILTER FABRIC OR SILT SACK FILTERS IN ALL THE CATCHBASINS AND MANHOLES TO REMAIN DURING CONSTRUCTION WITHIN THE SITE (SEE TYPICAL
- 1.3. INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.

#### 2. DURING CONSTRUCTION:

- MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE 2.1. AND IMPACTS TO EXISTING GRADING.
- PERIMETER VEGETATION TO REMAIN IN PLACE UNTIL PERMANENT STORM WATER MANAGEMENT IS IN PLACE. OTHERWISE, IMMEDIATELY INSTALL SILT FENCE WHEN THE EXISTING SITE IS DISTURBED AT THE PERIMETER.
- PROTECT DISTURBED AREAS FROM OVERLAND FLOW BY PROVIDING TEMPORARY SWALES TO THE SATISFACTION OF THE FIELD ENGINEER. TIE-IN TEMPORARY SWALE TO EXISTING CB'S AS REQUIRED.
- PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED WITHIN 30 DAYS. INSPECT SILT FENCES, FILTER FABRIC FILTERS AND CATCH BASIN SUMPS WEEKLY
- AND WITHIN 24 HOURS AFTER A STORM EVENT. CLEAN AND REPAIR WHEN **NFCFSSARY**
- DRAWING TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION. EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
- FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE PAVED BEFORE THE PILE IS REMOVED. ALL TOPSOIL PILES ARE TO BE SEEDED IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS).
- CONTROL WIND-BLOWN DUST OFF SITE BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED AND TO THE SATISFACTION OF THE ENGINEER) 2.10. NO ALTERNATE METHODS OF ERÓSION PROTECTION SHALL BE PERMITTED UNLESS

DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m

- APPROVED BY THE FIELD ENGINEER. 2.11. CITY ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING AS REQUIRED.
- 2.12. DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPED
- 2.13. ANY MUD/MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER. 2.14. TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL. CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ABUTTING PROPERTIES OR
- PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED. 2.15. ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED EITHER BY PAVING OR RESTORATION
- OF VEGETATIVE GROUND COVER. 2.16. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

	WATERMAIN SCH	IEDULE for Bl	JILDING SEI	RVICE	
STATION	DESCRIPTION	FINISHED	EXISTING	PROP. TOP	AS-BUILT
STATION	DESCRIPTION	GRADE	GRADE	OF	WATERMAIN
0+000	Connect to Ex. 200mm W/M		86.550		84.150
0+010.1	200mm V&VB	86.560		84.160	
0+014.2	Crossing the Ex. 600mm STM	86.600		84.200	
0+017.2	Cap to Building water service	86.840		84.440	
	WATERMAIN SCH	EDULE for W	/M RELOCA	TION	
0+000	Connect to Ex. 200mm W/M		85.520		83.120
0+011.6	200mm V&VB	85.330		82.930	
0+013.9	Crossing the Ex. 600mm STM	85.340		82.940	
0+015.3	Crossing the Ex. 250mm SAN	85.350		82.950	
0+034.1	Crossing the 450mm STM	85.240		82.019	
0+037.4	Crossing the 200mm STM	85.190		82.317	
0+092.0	Crossing the 375mm STM	85.240		82.507	
0+096.1	45 degree bend	85.240		82.840	
0+098.3	45 degree bend	85.250		82.850	
0+185.6	200x150 Reducer	86.599		84.199	
0+187.5	45 degree bend	86.610		84.210	
0+189.0	45 degree bend	86.660		84.260	
0+189.4	Connect to Ex. 150mm W/M	86.670	86.910		84.510

	PIPE CROSSING TABLE										
		Obvert			Invert						
1.	600mm. Dia. Ex. STM	83.478	0.522	Clearance Under	84.000	200mm. Dia. WM					
2.	600mm. Dia. Ex. STM	82.480	0.260	Clearance Under	82.740	200mm. Dia. WM					
3.	250mm. Dia. Ex. SAN	82.246	0.504	Clearance Under	82.750	200mm. Dia. WM					
4.*	250mm. Dia. Ex. SAN	82.261	0.027	Clearance Under	82.288	450mm. Dia. Ex. STM					
5.	200mm. Dia. WM	82.019	0.500	Clearance Under	82.519	450mm. Dia. STM					
6.	200mm. Dia. WM	82.317	0.500	Clearance Under	82.817	200mm. Dia. STM					
7.	200mm. Dia. WM	82.507	0.500	Clearance Under	83.007	375mm. Dia. STM					
8.	200mm. Dia. SAN	82.555	0.529	Clearance Under	83.084	375mm. Dia. STM					
9.	200mm. Dia. STM	84.173	0.265	Clearance Under	84.438	150mm. Dia. STM					

				CA	TCH BASIN	I AND ICD	DATA TABL	E.				
STRUCTURE	AREA ID	STRUCTURE	COVER	TOP OF GRATE		INVERT		DIAMTER	TYPE	HEVD	FLOW	ICE TYPE
ID	ANLAID	STRUCTURE	COVER	ELEVATION	INLET	INLET	OUTLET	(mm)	IIFL	IILAD	FLOV	ICL TIFE
CB1	A-1	OPSD 705.010	S19.1	85.20			83.712	200	PVC SDR-35			
CB2	A-2	OPSD 705.010	S19.1	85.76			83.713	200	PVC SDR-35			
CB3	A-3	OPSD 705.010	S19.1	86.25			84.050	200	PVC SDR-35			
CB4	A-5	OPSD 705.010	S19.1	86.40			84.200	200	PVC SDR-35			
CB9	A-7	OPSD 705.010	S19.1	86.48			84.281	200	PVC SDR-35			
CB6	A-9	OPSD 705.010	S19.1	84.93			82.730	200	PVC SDR-35			
CB7	A-11	OPSD 705.010	S19.1	85.35			83.221	200	PVC SDR-35			
CB8	A-12	OPSD 705.011	S19.1	86.10			83.900	200	PVC SDR-35			
СВМН9	A-13	OPSD 701.010	S28.1	86.55	83.030		83.030	600	CONC 65-D			
CBMH8	EXT1	OPSD 701.010	S28.1	86.67	84.141		84.091	200	PVC SDR-35			
CB11	A-8	OPSD 705.010	S19.1	85.05			83.935	200	PVC SDR-35			
CB12	A-4	OPSD 705.010	S19.1	86.46			84.260	200	PVC SDR-35			
CB13	A-6	OPSD 705.010	S19.1	86.60			84.400	200	PVC SDR-35			
CB5	A-22	OPSD 705.010	S19.1	86.68			84.022	200	PVC SDR-35			
СВМНЗ		OPSD 701.010	S28.1	85.26	83.530		83.144	375	PVC SDR-35	1.8	41	HYDROVEX 200VHV-2
СВМН6	EXT3	OPSD 701.010	S28.1	84.96	82.340		82.310	450	Ex.CONC 65-D			
СВМН7	A-10	OPSD 701.010	S28.1	85.13	82.990		82.930	200	PVC SDR-35			

\*Existing Crossing

519.1	86.48		84.281	200	PVC SDR-35			
519.1	84.93		82.730	200	PVC SDR-35			
519.1	85.35		83.221	200	PVC SDR-35			
519.1	86.10		83.900	200	PVC SDR-35			
528.1	86.55	83.030	83.030	600	CONC 65-D			
528.1	86.67	84.141	84.091	200	PVC SDR-35			
519.1	85.05		83.935	200	PVC SDR-35			
519.1	86.46		84.260	200	PVC SDR-35			
519.1	86.60		84.400	200	PVC SDR-35			
519.1	86.68		84.022	200	PVC SDR-35			
528.1	85.26	83.530	83.144	375	PVC SDR-35	1.8	41	HYDROVEX 200VHV-2
528.1	84.96	82.340	82.310	450	Ex.CONC 65-D			
528.1	85.13	82.990	82.930	200	PVC SDR-35			
					T. 155 T. 51 5			
				SAN STRUC	TURE TABLE			
		TOD OF CDATE		1			DESCRI	DTION

SAN STRUCTURE TABLE											
STRUCTURE ID	TOP OF GRATE	INVERT IN		INVERT OUT	DESCRIPTION						
3 INOCTORE ID	ELEVATION	IIVE	INVERTIN INVERTOR		SIZE	OPSD	COVER				
SAMH1	85.57		82.296	82.266	1200mm DIA.	OPSD-701.010	S24				
SAMH2	86.72		82.624	82.594	1200mm DIA.	OPSD-701.010	S24				
SAMH3	85.23		82.301	82.271	1200mm DIA.	OPSD-701.010	S24				
SAMH4	85.34	82.013	81.983	81.983	1200mm DIA.	OPSD-701.010	S24				

GRANULAR B TYPE II COMPACT IN 12" (305mm)  MAX LIFTS TO 95% STANDARD PROCTOR DENSITY  NOMINAL (19mm - 51mm) CLEAN, CRUSHED,  ANGULAR STONE (AASHTO M43 #3 & #4  STONE SIZES ALLOWED)  ADS 601T NON-WOVEN GEOTEXTILE (OR EQUAL)  ALL AROUND CLEAN, CRUSHED ANGULAR STONE	ASTM F2787 "STAN DESIGN OF THERM STORMWATER CO PAVEMENT DESIGN	BE DESIGNED IN ACCORDANCE WITH IDARD PRACTICE FOR STRUCTURAL MOPLASTIC CORRUGATED WALL LLECTION CHAMBERS".  N (PER ECOMMENDATIONS)
ONNECTION PIPES AS PER SUPPLIER'S DESIGN RECOMMENDATIONS.		610mm MIN. ELEV. 84.383
		305mm MIN. ELEV. 84.002

THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE THE LOAD FACTORS SPECIFIED. IN THE AASHTO LRFD BRIDGE SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS, WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES. PROVIDE TWO ROWS OF CHAMBERS, ONE ROW OF 54 AND ONE ROW OF 51, WITH MC-3500 END CAP AT EACH END. TOTAL CHAMBER RETENTION VOLUME = 339 0m3 (RELOW LEVEL OF CHAMBER OUTLET) TOTAL VOLUME (BARE STORAGE) WITHIN CHAMBERS = 579.0m3 MINIMUM. STORMTECH MC-3500 CHAMBER GENERAL CROSS SECTION

FILTER CLOTH TERRAFIX 270R OR

APPROVED EQUAL

FILTER CLOTH CATCHBASIN OR MANHOLE	
SEDIMENT CONTROL DEVICE	
(NTS)	
• •	

STORM STRUCTURE TABLE									
STRUCTURE	TOP OF	INVERTIN		INVERT OUT	DESCRIPTION				
ID	GRATE			INVERTIOUT	SIZE	OPSD	COVER		
CB1	85.20			83.712	600X600mm	OPSD 705.010	S19.1		
CB2	85.76			83.713	600X600mm	OPSD 705.010	S19.1		
CB3	86.25			84.050	600X600mm	OPSD 705.010	S19.1		
CB4	86.40			84.200	600X600mm	OPSD 705.010	S19.1		
CB5	86.68			84.022	600X600mm	OPSD 705.010	S19.1		
CB6	84.93			82.851	600X600mm	OPSD 705.010	S19.1		
CB7	85.35			83.221	600X600mm	OPSD 705.010	S19.1		
CB8	86.10			83.900	600X600mm	OPSD 705.010	S19.1		
CB9	86.48			84.281	600X600mm	OPSD 705.010	S19.1		
CB11	85.05			83.935	600X600mm	OPSD 705.010	S19.1		
CB12	86.46			84.260	600X600mm	OPSD 705.010	S19.1		
CB13	86.60			84.400	600X600mm	OPSD 705.010	S19.1		
STMH1	86.63	83.840	84.195	83.780	1200mm DIA.	OPSD 701.010	S24.1		
STMH2	86.54	83.629		83.609	1200mm DIA.	OPSD 701.010	S24.1		
СВМН3	85.26	83.530		83.144	1200mm DIA.	OPSD 701.010	S28.1		
STMH4	85.32	83.084		83.064	1800mm DIA.	OPSD 701.012	S24.1		
STMH5	85.24	82.958	83.032	82.883	1200mm DIA.	OPSD 701.010	S24.1		
СВМН6	84.96	82.340		82.310	1200mm DIA.	OPSD 701.010	S28.1		
CBMH7	85.13	82.990		82.930	1200mm DIA.	OPSD 701.010	S28.1		
СВМН8	86.67	84.111		84.091	1200mm DIA.	OPSD 701.010	S28.1		
СВМН9	86.55	83.030		83.030	1500mm DIA.	OPSD 701.011	S28.1		
STMH10	86.59	83.003		83.003	1500mm DIA.	OPSD 701.011	S24.1		
STMH11	86.43	82.929		82.929	1500mm DIA.	OPSD 701.011	S24.1		
STMH12	86.60	82.902		82.902	1500mm DIA.	OPSD 701.011	S24.1		

# **PONDING TABLE**

					1	LOO-YEAR		100-YEA	R+20% Stre	ss Test
AREA ID	Ponding Type	LOCATION	Top of CB ELEV. (m)	Low Point ELEV. (m)	CB PONDING ELEV. (m)	CB PONDING DEPTH (m)	PONDING VOL. (m³)	CB PONDING ELEV. (m)	CB PONDING DEPTH (m)	PONDING VOL. (m³)
A-1	Surface	CB1	85.20	85.20	85.25	0.053	2.60	85.26	0.056	2.80
A-2	Surface	CB2	85.76	85.76	85.82	0.058	1.00	85.82	0.061	1.00
A-3	Surface	CB3	86.25	86.25	86.30	0.054	3.10	86.31	0.057	3.20
A-4	Bioretetion	CB12	86.46	86.31	86.47	0.156	1.70	86.47	0.157	1.70
A-5	Surface	CB4	86.40	86.40	86.45	0.046	0.40	86.45	0.051	0.50
A-6	Bioretetion	CB13	86.60	86.45	86.61	0.156	2.20	86.61	0.159	2.30
A-9	Surface	CB6	84.93	84.93	84.94	0.008	0.20	84.94	0.011	0.20
A-10	Surface	CBMH7	85.13	85.13	85.17	0.041	0.60	85.18	0.050	0.70
A-12	Bioretetion	CB8	86.10	85.95	86.10	0.154	1.00	86.11	0.155	1.00
A-13	Bioretetion	СВМН9	86.55	86.40	86.56	0.157	2.30	86.56	0.159	2.40
A-22	Bioretetion	CB5	86.68	86.53	86.69	0.155	0.50	86.69	0.156	0.50

\*Ponding Depth and Ponding Volume are generated by StormWater Model. Refer to SWM Memo for details.



ATHLETICS AND RECREATION CENTRE (ARC)

Prepared For

**ALGONQUIN STUDENTS' ASSOCIATION** 



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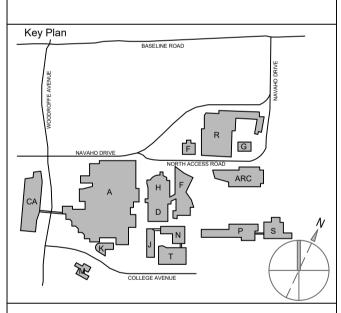
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No. Description	Date
1 SITE PLAN APPROVAL 2019	9-06-24
2 ISSUED FOR PERMIT/TENDER 2019	9-08-20
3 RESPONSE TO SPA COMMENTS 2019	9-09-24
4 ISSUED FOR WATER PERMIT 2019	9-10-30
5 RESPONSE TO SPA COMMENTS 201	9-11-21

Drawn by: D.B.Y. Project No: 191-01517-00

Reviewed by: J.J.

Sheet Title

**NOTES AND DETAILS** 

Original drawing is A1. Do not scale contents of this drawing.

Sheet Number