NOTES: GENERAL

1. 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
3. 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 POWER, COMMUNICATION AND GAS LINES.
5. 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.
6. 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.
7. TOPOGRAPHIC SURVEY COMPLETED AND PROVIDED BY GEOVERRA (ON) LTD. DATED ON JULY 13, 2022. 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 CONSTRUCTION, INCLUDING WATER PERMIT AND ROAD CUT PERMIT.
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 WORK.
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. SERVICING REPORT AND STORMWATER MANAGEMENT REPORT, PREPARED BY WSP CANADA INC, PROJ. NO. 221-04646-00, DECEMBER 16, 2022
    ii. GEOTECHNICAL INVESTIGATION, PREPARED BY GOLDER ASSOCIATED LTD, PROJ. NO. 22524317, DECEMBER 16, 2022
20. PROVIDE CCTV INSPECTION REPORT FOR ALL SEWERS AND CATCHBASIN LEADS 200mm DIAMETER AND LARGER. REPEAT CCTV INSPECTION FOLLOWING RECTIFICATION OF ANY DEFICIENCIES.

NOTES: EROSION AND SEDIMENT CONTROL

** CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES. **

1. PRIOR TO START OF CONSTRUCTION:
   - 1.1. INSTALL SILT FENCE IN LOCATION SHOWN ON DWG C06.
   - 1.2. INSTALL SILTSACK FILTERS IN ALL THE CATCHBASINS AND MANHOLES TO REMAIN DURING CONSTRUCTION WITHIN THE SITE (SEE TYPICAL DETAIL).
   - 1.3. INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.
2. DURING CONSTRUCTION:
   - 2.1. MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE AND IMPACTS TO EXISTING GRADING.
   - 2.2. 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.
   - 2.3. 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.
   - 2.4. PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED WITHIN 30 DAYS.
   - 2.5. INSPECT SILT FENCES, FILTER FABRIC FILTERS AND CATCH BASIN SUMPS WEEKLY AND WITHIN 24 HOURS AFTER A STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY.
   - 2.6. DRAWING TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION.
   - 2.7. EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
   - 2.8. DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m 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).
   - 2.9. 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 EROSION PROTECTION SHALL BE PERMITTED UNLESS 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.

NOTES: WATERMAIN

1. ALL WATERMAIN AND WATERMAIN APPURTANANCES, MATERIALS, 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 (PVC) CLASS 150 DR 18 MEETING AWWA SPECIFICATION C900.
3. ALL WATERMAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW 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 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 STANDARD
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 THE MANUFACTURER.
9. REFER TO LANDSCAPE DRAWINGS FOR IRRIGATION SYSTEM REQUIREMENTS

NOTES: SANITARY SEWER AND MANHOLES

10. 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 SERVICES.
11. 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.
12. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
13. 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.
14. MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES AS PER THE OPSD 701.021
15. ANY SANITARY SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR APPROVED BY THE ENGINEER.

NOTES: STORM SEWERS AND STRUCTURES

16. 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.
17. STORM SEWERS 450mm DIAMETER AND SMALLER SHALL BE PVC SDR-35, WITH RUBBER GASKET PER CSA A-257.3.
18. STORM SEWER LARGER THAN 450mm SHALL BE REINFORCED CONCRETE CLASS 100.
19. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
20. ALL STORM MANHOLES TO BE AS PER STORM STRUCTURE TABLE ON DRAWING C02.
21. 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 CBMH109 AND CB114.
22. CB IN LANDSCAPE AREAS SHALL BE AS PER CITY OF OTTAWA STANDARD S29, S30 AND S31.
23. ALL CATCHBASIN LEADS TO BE MINIMUM 200mm DIAMETER AT MINIMUM 1.0% SLOPE UNLESS OTHERWISE SPECIFIED.
24. 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, ADJUSTMENT SECTIONS SHALL BE AS PER OPSD 704.010.
25. INSTALLATION OF FLOW CONTROL ICD'S TO BE VERIFIED BY QUALITY VERIFICATION ENGINEER RETAINED BY CONTRACTOR.

NOTES: PARKING LOT AND WORK IN PUBLIC RIGHTS OF WAY

1. CONTRACTOR TO REINSTATE ROAD CUTS AS PER CITY OF OTTAWA DETAIL R10.
2. CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROOFROLLING, TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT PRIOR TO THE COMMENCEMENT OF PLACEMENT OF GRANULAR B MATERIAL.
3. FILL TO BE PLACED AND COMPACTED PER THE GEOTECHNICAL REPORT REQUIREMENTS.
4. CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR B MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL CONSULTANT. CONTRACTOR TO PROVIDE CONSULTANT WITH SAMPLES OF GRANULAR B MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL CONSULTANT THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
5. GRANULAR A MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL CONSULTANT OF GRANULAR B PLACEMENT.
6. CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR A MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL CONSULTANT. CONTRACTOR TO PROVIDE CONSULTANT WITH SAMPLES OF GRANULAR A MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL CONSULTANT THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
7. ASPHALT MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL CONSULTANT OF GRANULAR A PLACEMENT.
8. CONTRACTOR TO SUPPLY, PLACE AND COMPACT ASPHALT MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL CONSULTANT. CONTRACTOR TO PROVIDE CONSULTANT WITH SAMPLES OF ASPHALT MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL CONSULTANT THAT THE MATERIAL MEETS THE REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
9. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING LINE AND GRADE IN ACCORDANCE WITH THE PLANS, AND FOR PROVIDING THE CONSULTANT WITH VERIFICATION PRIOR TO PLACEMENT.
10. ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED OF AT AN APPROVED DUMP SITE. SHOULD THE CONTRACTOR DISCOVER ANY HAZARDOUS MATERIAL, CONTRACTOR IS TO NOTIFY CONSULTANT. CONSULTANT TO DETERMINE APPROPRIATE DISPOSAL METHOD/LOCATION.
11. PAVEMENT STRUCTURE (MATERIAL TYPES AND THICKNESS) FOR HEAVY DUTY, LIGHT DUTY AND BASKETBALL COURT AREAS TO BE AS SPECIFIED IN THE GEOTECHNICAL REPORT AND SHOWN ON THE PLANS.

PAVEMENT STRUCTURE - NEW CAR PARKING AREAS	
PAVEMENT COMPONENT	THICKNESS
SUPERPAVE 12.5 SURFACE COURSE	50 mm
OPSS GRANULAR A BASE	150 mm
OPSS GRANULAR B TYPE II SUBBASE	300 mm

PAVEMENT STRUCTURE - NEW ACCESS ROADWAYS AND TRUCK TRAFFIC AREAS	
PAVEMENT COMPONENT	THICKNESS
SUPERPAVE 12.5 SURFACE COURSE	40 mm
ASPHALTIC CONCRETE	50 mm
OPSS GRANULAR A BASE	150 mm
OPSS GRANULAR B TYPE II SUBBASE	400 mm

WATERMAIN SCHEDULE

STATION	DESCRIPTION	FINISHED GRADE	TOP OF WATERMAIN	AS-BUILT WATERMAIN	COVER
BUILDING A					
0+000	W/M STUB	78.22	75.820		2.40
0+014.34	150mm VB	78.02	75.620		2.40
0+023.13	Crossing 450mmØ PVC STM	77.75	75.350		2.40
0+028.56	Connect to ex. 406mm W/M with TEE	77.65	75.250		2.40
BUILDING B					
Connect Building Water Servic to Existing 150mm Water Serivce					

SAN STRUCTURE TABLE

STRUCTURE ID	TOP OF GRATE ELEVATION	INVERT				DESCRIPTION		
		INLET	INLET	INLET	OUTLET	SIZE	OPSD	COVER
BUILDING 1								
SANMH01	78.02			74.640	74.620	1200mm DIA.	OPSD-701.010	S24
SANMH02	77.67			75.070	75.040	1200mm DIA.	OPSD-701.010	S24

EXISTING LEGEND:

- APPROXIMATE LOT LINE
- EXISTING EDGE OF PAVEMENT AND CURB
- HYD — EXISTING UNDERGROUND HYDRO
- EXISTING FENCE
- W — EXISTING WATERMAIN
- ST — EXISTING STORM SEWER
- SA — EXISTING SANITARY SEWER
- S — EXISTING SWALE
- OW — EXISTING OVER HEAD WIRE
- OH — EXISTING OVER HEAD WIRE
- EXISTING TOP OF SLOPE
- EXISTING RETAINING WALL
- EXISTING BUILDING
- EXISTING CONCRETE WALKWAY
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING SANITARY MANHOLE
- EXISTING WATER VALVE
- 443.15 EXISTING ELEVATION
- EXISTING LIGHT STANDARD
- EXISTING TREES
- EXISTING TREES LINE
- EXISTING UTILITY POLE

PROPOSED LEGEND:

- PROPOSED PROPERTY LINE
- PROPOSED EDGE OF PAVEMENT AND CURB
- W — PROPOSED WATERMAIN
- ST — PROPOSED STORM SEWER
- SA — PROPOSED SANITARY SEWER
- S — PROPOSED SWALE
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED CATCH BASIN MANHOLE
- PROPOSED WATER VALVE
- OVER FLOW DIRECTION
- HP — HIGH POINT LINE
- TERRACING LINE
- DOOR ENTRANCE
- PROPOSED BUILDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED SIGN
- 100 YR — 100 YEAR PONDING LINE
- 100 YR + 20% PONDING LINE
- 82.20 PROPOSED ELEVATION
- 1.5% PROPOSED SLOPE

REMOVAL LEGEND:

- BUILDING REMOVAL
- CONCRETE SIDEWALK REMOVAL
- GRAVEL PAVEMENT REMOVAL
- ASPHALT PAVEMENT REMOVAL
- HYD — EXISTING HYDRO REMOVAL
- OW — EXISTING OVER HEAD WIRE REMOVAL
- W — EXISTING WATERMAIN REMOVAL
- ST — EXISTING STORM SEWER REMOVAL
- X — EXISTING FENCE REMOVAL
- EXISTING FENCE REMOVAL
- EXISTING RETAINING WALL
- UP — EXISTING UTILITY POLE REMOVAL
- EXISTING TREES REMOVAL
- EXISTING TREES LINE REMOVAL
- EXISTING CATCH BASIN REMOVAL

ESC LEGEND:

- SILT FENCING
- MUD MAT
- SILTSACK

STORM DRAINAGE LEGEND:

- STORM DRAINAGE BOUNDARY
- ID CONTROLLED A C — ID DENOTES WATERSHED NAME; A DENOTES AREA IN HECTARES; C DEONOTES RUNOFF COEFFICIENT

Crossing

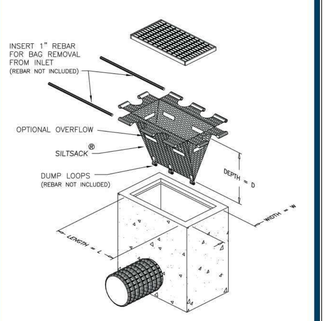
Crossing Number	Pipe Size and Type	Obvert	Invert	Clearance	Clearance Type	Obvert	Invert	Pipe Size and Type
1	150mmØ PVC WM	75.340	75.190	0.211	Clearance Under	76.001	75.551	*EX.450mmØPVC STM*
2	200mmØ PVC SAN	75.316	75.116	0.764	Clearance Under	76.280	76.080	200mmØ PVC STM
3	200mmØ PVC SAN	74.685	74.485	0.938	Clearance Under	76.073	75.623	*EX.450mmØPVC STM*
4	375mmØ PVC STM	75.084	74.709	0.849	Clearance Over	73.860	73.454	*EX.406mmØW/M*
7	375mmØ PVC STM	74.321	74.696	1.405	Clearance Over	73.291	73.041	*EX.250mmØPVC SAN*

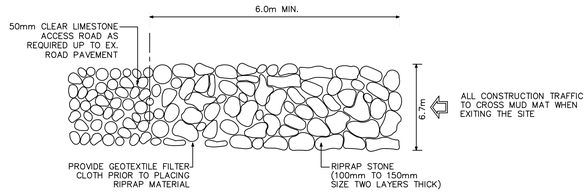
*Note: Provide Concrete Encased for corssing clearance less than 0.3m

STORM STRUCTURE TABLE

STRUCTURE ID	AREA ID	TOP OF GRATE	STRUCTURE INFO							OUTLET PIPE INFO		ICD INFO		
			INLET	INLET	INLET	OUTLET	SIZE	OPSD	COVER	DIAMETER	TYPE	HEAD (m)	FLOW (l/s)	ICD TYPE
BUILDING 1														
CB01		77.78				76.510	600X600mm	OPSD 701.010	S19.1	200	PVC SDR-35	1.45	6	Hydrovex 75VHV-1
CB02		77.65				75.610	600X600mm	OPSD 701.010	S19.1	200	PVC SDR-35	2.24	6	Hydrovex 75VHV-1
CB03		77.65				75.350	600X600mm	OPSD 701.010	S19.1	200	PVC SDR-35	2.46	6	Hydrovex 75VHV-1
CB04		77.65				75.150	600X600mm	OPSD 701.010	S19.1	200	PVC SDR-35	2.64	6	Hydrovex 75VHV-1
CB05		76.50				75.180	600X600mm	OPSD 701.010	S19.1	200	PVC SDR-35			
CB06		76.53		75.000	74.900	74.170	600X600mm	OPSD 701.010	S19.1	250	PVC SDR-35			0.18 m Orifice
STMH100		77.86			76.280	76.250	1200mm DIA.	OPSD 701.010	S24.1	200	PVC SDR-35			
STMH101		78.09			75.450	75.350	1200mm DIA.	OPSD 701.010	S28.1	300	PVC SDR-35			
STMH102		77.38			74.850	74.790	1200mm DIA.	OPSD 701.010	S24.1	300	PVC SDR-35			
STMH103		77.52			74.750	74.690	1200mm DIA.	OPSD 701.010	S24.1	300	PVC SDR-35			
STMH104		77.31			74.450	74.420	1200mm DIA.	OPSD 701.010	S24.1	300	PVC SDR-35			
STMH105		76.80		74.370	74.220	74.220	1200mm DIA.	OPSD 701.010	S24.1	525	PVC SDR-35			
STMH106		76.53		75.790	74.790	74.720	1200mm DIA.	OPSD 701.010	S24.1	375	PVC SDR-35			
STMH107		77.36		76.010	75.960	75.910	1200mm DIA.	OPSD 701.010	S24.1	300	PVC SDR-35	2.02	14	Hydrovex 100VHV-1
CBMH108		76.50			74.850	74.800	1200mm DIA.	OPSD 701.010	S24.1	300	PVC SDR-35			
CBMH109		76.50			75.010	74.950	1200mm DIA.	OPSD 701.010	S24.1	250	PVC SDR-35			
STMH110		76.70		74.770	74.690	74.550	1200mm DIA.	OPSD 701.010	S24.1	525	PVC SDR-35			
LCB01		78.20				77.160	300mm DIA.	S30	S30	250	PVC SDR-35			
TCB02		77.87			76.870	76.870	300mm DIA.	S30	S30	250	PVC SDR-35			
TCB03		77.20			76.200	76.200	300mm DIA.	S30	S30	250	PVC SDR-35			
TCB04		76.54			75.540	75.540	300mm DIA.	S30	S30	250	PVC SDR-35			
TCB05		76.49			75.000	75.000	300mm DIA.	S30	S30	250	PVC SDR-35			
LCB06		76.40				75.500	300mm DIA.	S30	S30	250	PVC SDR-35			
TCB07		76.45			75.250	75.250	300mm DIA.	S30	S30	250	PVC SDR-35			

Typical Siltsack® Construction - Type B





MUD MAT DETAIL - PLAN VIEW
(NTS)

wsp
2011 QUEENSVIEW DR.
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CANADA K2B 8K2
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SEAL:
LICENSED PROFESSIONAL ENGINEER
D. B. YANG
100230568
2023-04-17
PROVINCE OF ONTARIO

NORTH

CLIENT:
ACCESS STORAGE

CLIENT REF. #:

PROJECT:
864 LADY ELLEN PLACE, OTTAWA

KEY PLAN:


ISSUED FOR - REVISION:

IS	RS	DATE	DESCRIPTION
2		2023-04-17	REVISED AS PER CITY COMMENTS
1		2022-12-16	ISSUED FOR SPA

PROJECT NO: 221-04646-00
DATE: APRIL 2023
ORIGINAL SCALE: 1:300
IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
DESIGNED BY: DY
DRAWN BY: JT
CHECKED BY: DY
25mm
DISCIPLINE: CIVIL
TITLE: NOTES AND DETAILS
SHEET NUMBER: C01
SHEET #: 1 OF 6
ISSUE: REVISED AS PER CITY COMMENTS
REV #: 0
DATE OF: 2023-04-17

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#18904

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LICENSED PROFESSIONAL ENGINEER
D. B. YANG
100230568
2023-04-17
PROVINCE OF ONTARIO

NORTH

CLIENT:
ACCESS STORAGE

CLIENT REF. #:

PROJECT:
864 LADY ELLEN PLACE, OTTAWA

KEY PLAN:
SITE

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DISCIPLINE: CIVIL

TITLE: REMOVAL PLAN

SHEET NUMBER: C02
SHEET #: 2 OF 6

ISSUE: REVISED AS PER CITY COMMENTS
REV #: 0
DATE OF: 2023-04-17

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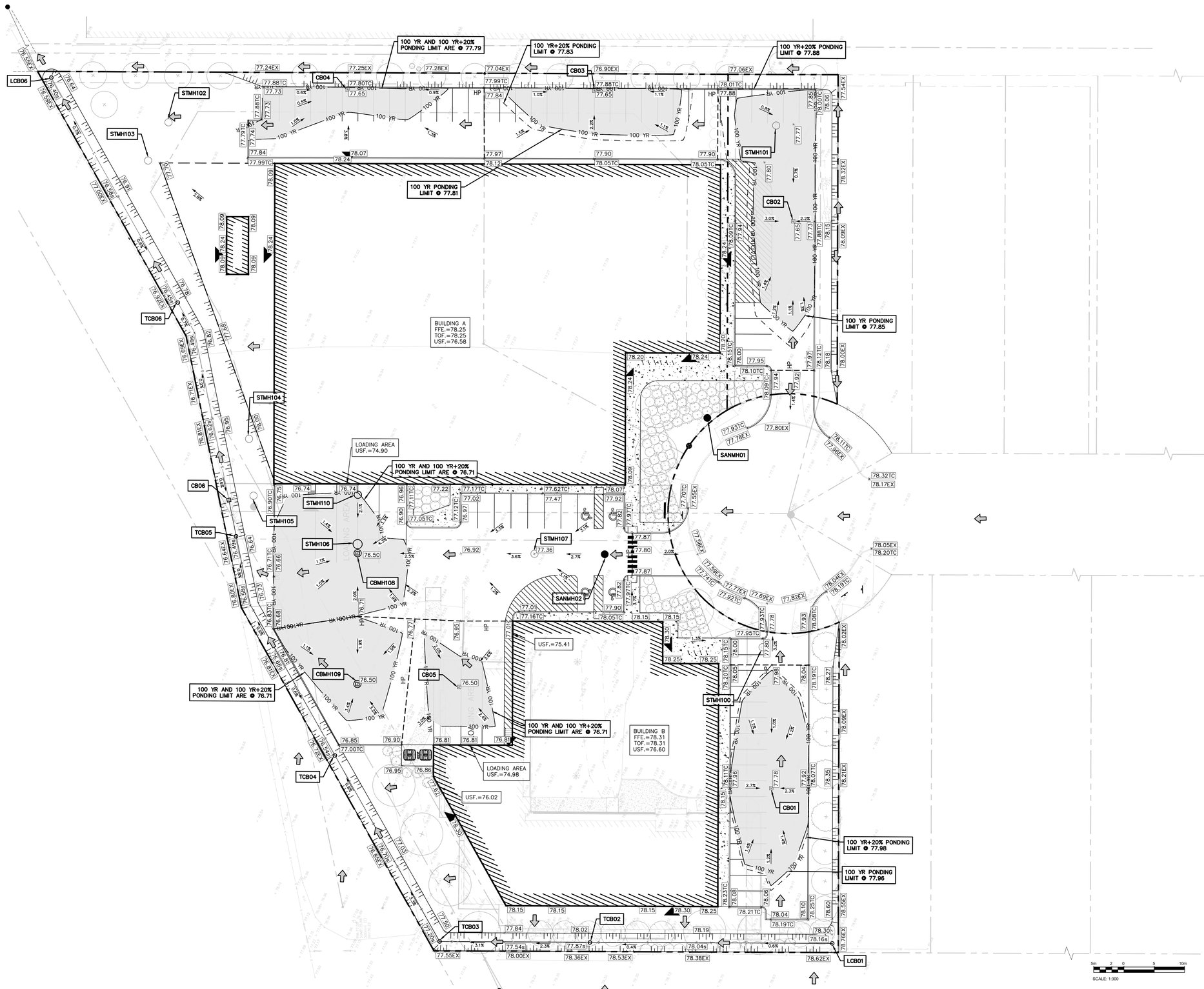

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DISCIPLINE: CIVIL

TITLE: GRADING PLAN

SHEET NUMBER: C03
SHEET #: 3 OF 6

ISSUE: REVISED AS PER CITY COMMENTS
DATE OF: 2023-04-17
REV #: 0

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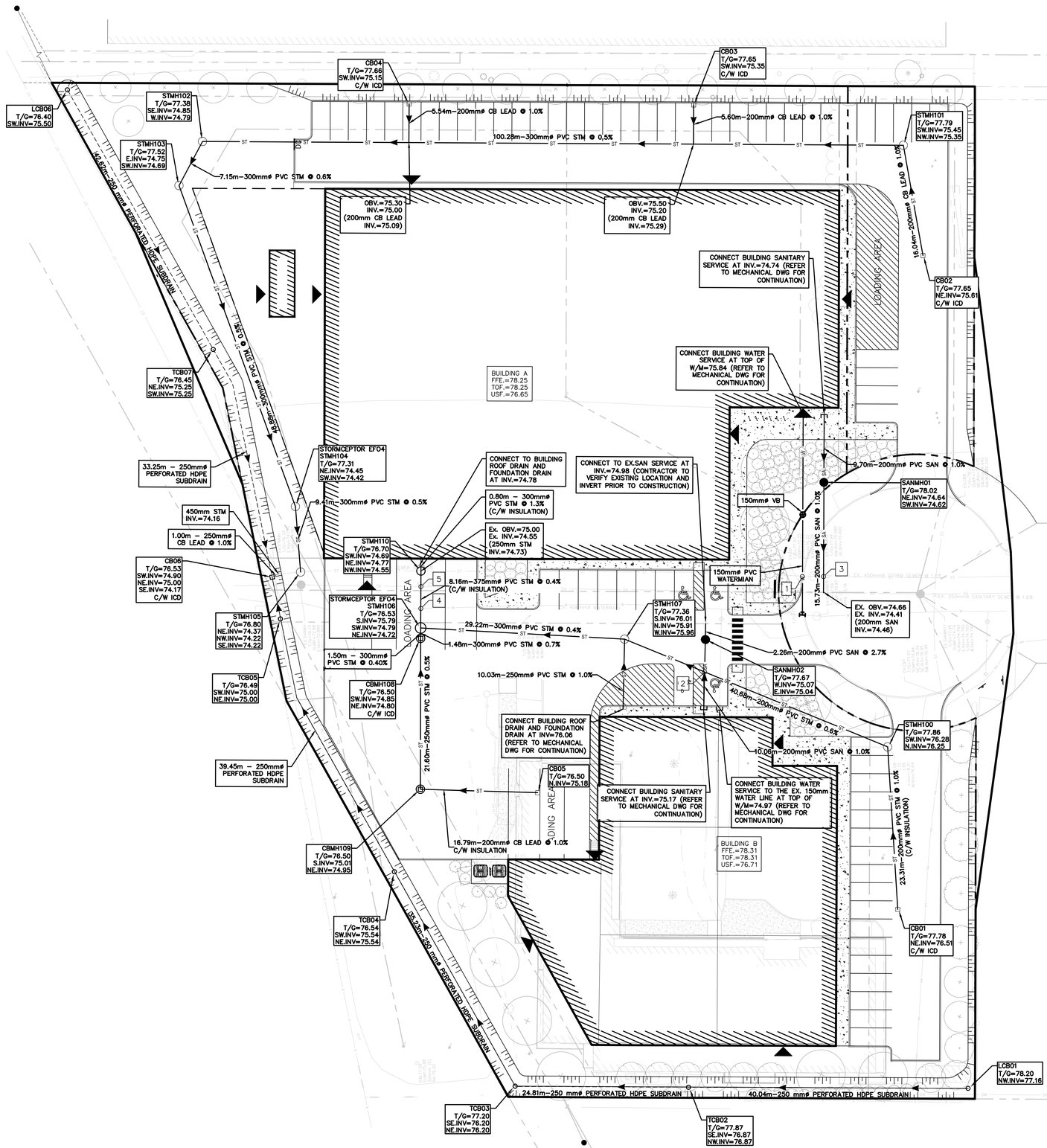

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DESIGNED BY: DY
DRAWN BY: JT
CHECKED BY: DY
DISCIPLINE: CIVIL
TITLE: SERVICING PLAN
SHEET NUMBER: C04
SHEET #: 4 OF 6
ISSUE: REVISED AS PER CITY COMMENTS
REV #: 0
DATE OF: 2023-04-17

V:\10-13 ME 2022 Projects\221-04646-00 - 864 Lady Ellen Place, Ottawa\14.0 Tech_Prof Services\14.60_Civil\3_Drawings\Working drawings\Civil\2 Working Drawings\Sheets\221-04646-00_C1.dwg Apr 17, 2023 - 10:53pm BY (OUTOTHLY2)

D07-12-22-0175

#18904

Drainage Area	CB NO.	Total (Ha)	Grass C=0.20	Asphalt C=0.90	Roof C=1.0	Cavg	100YR Ponding Depth	100YR Ponding Area	100YR Ponding Volume	100YR Ponding Depth+20% Depth	100YR+20% Depth Ponding Area	100YR+20% Depth Ponding Volume
			0.2	0.90	1.00							
S-101	CB02	0.085	0.012	0.073		0.80	0.20	330.00	29.00	0.23	375.00	38.00
S-102	CB03	0.049		0.049		0.90	0.16	162.00	13.00	0.18	188.00	17.00
S-103	CB04	0.048		0.048		0.90	0.14	165.00	12.00	0.14	165.00	12.00
S-104	CBMH108	0.133		0.133		0.90	0.21	373.00	37.00	0.21	373.00	37.00
S-105	CBMH109	0.035		0.035		0.90	0.21	223.00	21.00	0.21	223.00	21.00
S-106	CB05	0.035		0.035		0.90	0.21	130.00	12.00	0.21	130.00	12.00
S-107	CB01	0.082	0.020	0.062		0.73	0.18	350.00	23.00	0.20	365.00	29.00
S-109	CB06	0.202	0.200	0.002		0.21						
S-BLDG A		0.405			0.405	1.00						
S-BLDG B		0.175			0.175	1.00						
Uncontrolled												
S-108a		0.002	0.002			0.20						
S-108b		0.025	0.025			0.20						
S-110		0.004	0.004			0.20						
S-111		0.076	0.038	0.038		0.55						
Total		1.640	0.557	0.503	0.580	0.70		1733	147.00		1819	166.00

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PROJECT:
864 LADY ELLEN PLACE,
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KEY PLAN:
SITE

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25mm

DISCIPLINE: CIVIL

TITLE:
STORM DRAINAGE AREA PLAN

SHEET NUMBER: C05
SHEET #: 5 OF 6

ISSUE: REVISED AS PER CITY COMMENTS
REV #: 0
DATE OF: 2023-04-17

SCALE: 1:300

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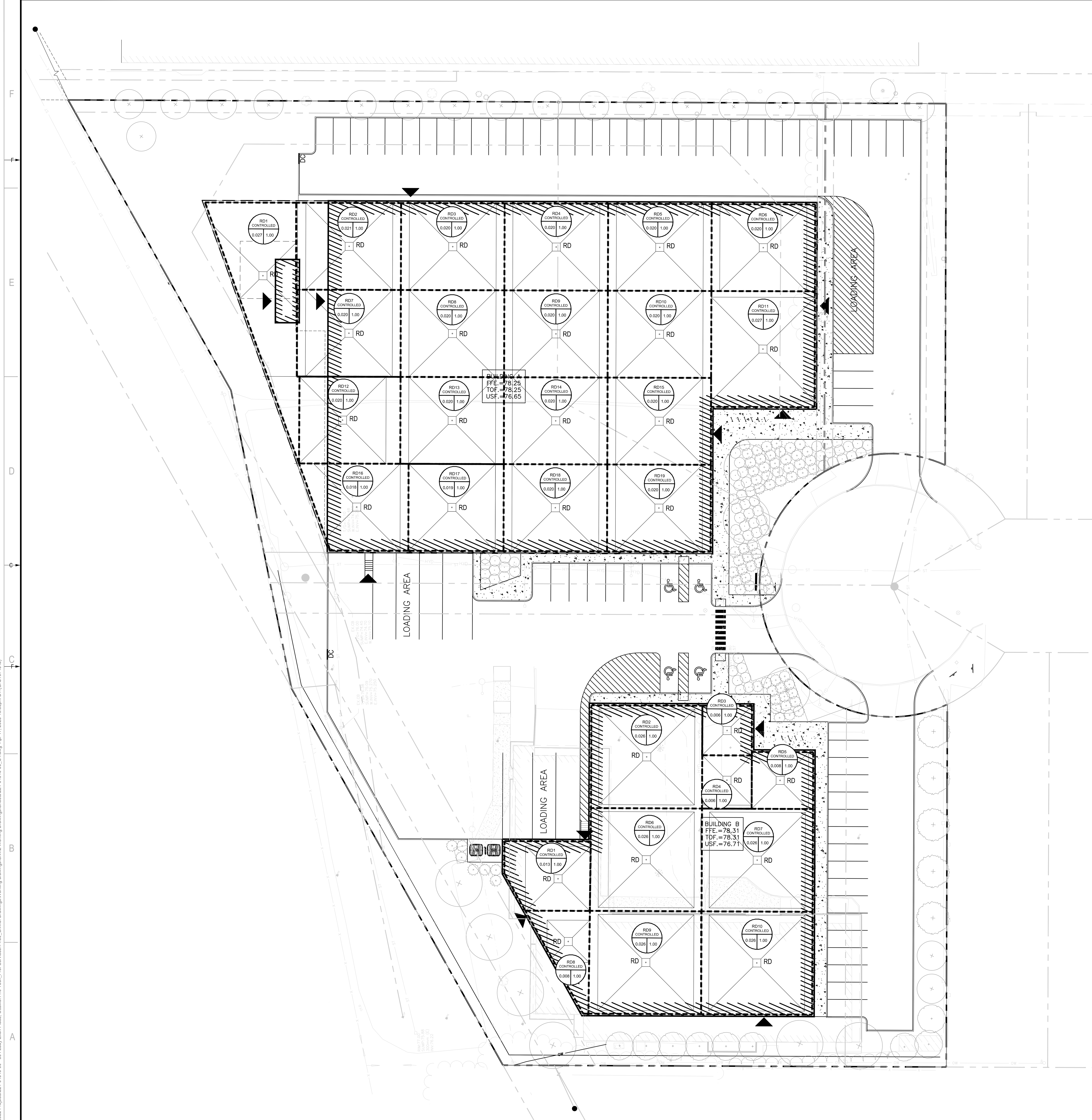


Roof Drains Areas and Storage Volume Table (Building A)					
Roof Drainage#	Roof Area m^2	100 YR Ponding Depth m	100 YR Ponding Volume	100YR + 20%Ponding Depth m	100 YR+20% Ponding Volume m^3
RD1	268.44	0.14	12.53	0.15	13.42
RD2	206.34	0.14	9.63	0.15	10.32
RD3	203.61	0.14	9.50	0.15	10.18
RD4	203.61	0.14	9.50	0.15	10.18
RD5	203.61	0.14	9.50	0.15	10.18
RD6	203.61	0.14	9.50	0.15	10.18
RD7	203.85	0.14	9.51	0.15	10.19
RD8	203.61	0.14	9.50	0.15	10.18
RD9	203.61	0.14	9.50	0.15	10.18
RD10	203.61	0.14	9.50	0.15	10.18
RD11	271.33	0.14	12.66	0.15	13.57
RD12	198.96	0.14	9.28	0.15	9.95
RD13	203.61	0.14	9.50	0.15	10.18
RD14	203.61	0.14	9.50	0.15	10.18
RD15	203.61	0.14	9.50	0.15	10.18
RD16	184.49	0.14	8.61	0.15	9.22
RD17	187.24	0.14	8.74	0.15	9.36
RD18	203.61	0.14	9.50	0.15	10.18
RD19	203.61	0.14	9.50	0.15	10.18

WATTS®

Adjustable Accutrol Weir

Tag: ____________________

Adjustable Flow Control for Roof Drains

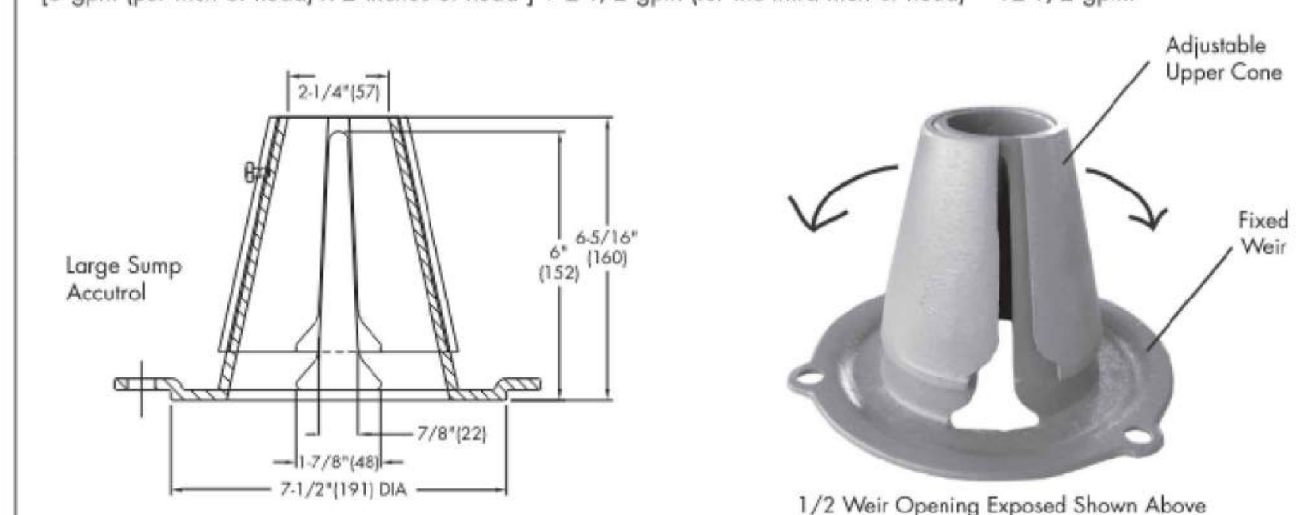
ADJUSTABLE ACCUTROL (for Large Sump Roof Drains only)

For more flexibility in controlling flow with heads deeper than 2", Watts Drainage offers the Adjustable Accutrol. The Adjustable Accutrol Weir is designed with a single parabolic opening that can be covered to restrict flow above 2" of head to less than 5 gpm per inch, up to 6" of head. To adjust the flow rate for depths over 2" of head, set the slot in the adjustable upper cone according to the flow rate required. Refer to Table 1 below.
Note: Flow rates are directly proportional to the amount of weir opening that is exposed.

EXAMPLE:

For example, if the adjustable upper cone is set to cover 1/2 of the weir opening, flow rates above 2"of head will be restricted to 2-1/2 gpm per inch of head.

Therefore, at 3"of head, the flow rate through the Accutrol Weir that has 1/2 the slot exposed will be:
[5 gpm (per inch of head) x 2 inches of head] + 2-1/2 gpm (for the third inch of head) = 12-1/2 gpm.



1/2 Weir Opening Exposed Shown Above

TABLE 1. Adjustable Accutrol Flow Rate Settings

Weir Opening Exposed	1"	2"	3"	4"	5"	6"
	Flow Rate (gallons per minute)					
Fully Exposed	5	10	15	20	25	30
3/4	5	10	13.75	17.5	21.25	25
1/2	5	10	12.5	15	17.5	20
1/4	5	10	11.25	12.5	13.75	15
Closed	5	5	5	5	5	5

Job Name ____________________ Contractor ____________________
Job Location ____________________ Contractor's P.O. No. ____________________
Engineer ____________________ Representative ____________________

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ES-WD-RD-ACCUTROLADJ-CAN 1615

Roof Drains Areas and Storage Volume Table (Building B)			
Roof Drainage#	Roof Area m^2	Ponding Depth m	Ponding Volume m^3
RD1	126.26	0.15	6.31
RD2	258.17	0.15	12.91
RD3	55.67	0.15	2.78
RD4	59.83	0.15	2.99
RD5	78.97	0.15	3.95
RD6	259.00	0.15	12.95
RD7	258.21	0.15	12.91
RD8	81.20	0.15	4.06
RD9	261.14	0.15	13.06
RD10	258.63	0.15	12.93

5m 2 0 5 10m
SCALE: 1:300

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NORTH

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ACCESS STORAGE

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PROJECT:
864 LADY ELLEN PLACE, OTTAWA

KEY PLAN:

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TITLE: ROOF DRAINAGE AREA PLAN
SHEET NUMBER: C05A
SHEET # 5 OF 6
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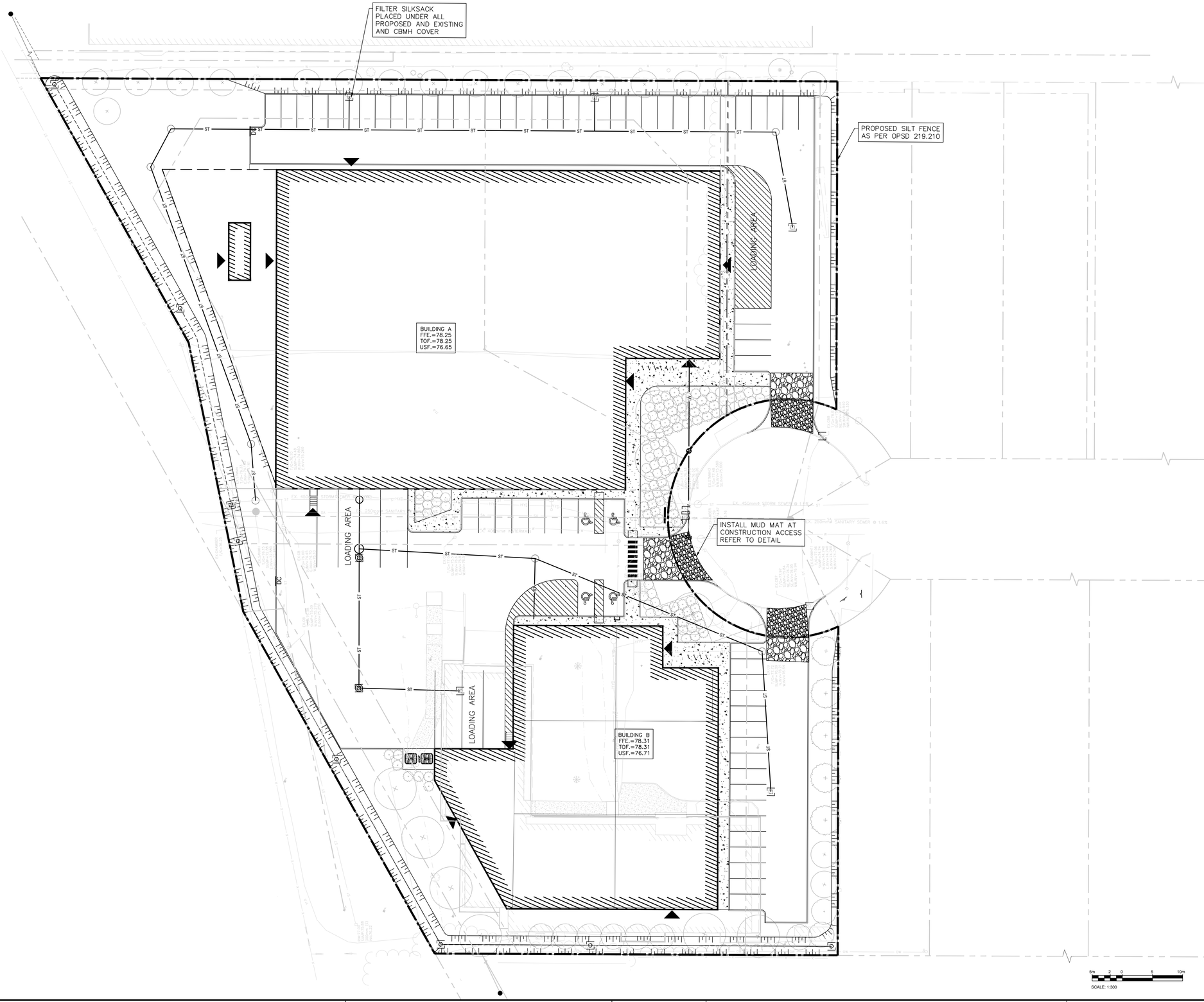

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DISCIPLINE: CIVIL

TITLE: EROSION AND SEDIMENT CONTROL PLAN

SHEET NUMBER: C06
SHEET #: 6 OF 6

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