

NOTES: GENERAL

- DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND LANDSCAPE DRAWINGS
- 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, GUIDELINES, APPROVED PRODUCTS AND BYLAWS TO THE SATISFACTION OF THE CITY OF OTTAWA AND THE CONSULTANT.
- THE POSITION OF EXISTING POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, STRUCTURES AND APPURTENANCES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, 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.
- 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 FAIRHALL MOFFATT & WOODLAND LTD. DATED ON OCTOBER 04, 2019. CONTRACTOR TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION OF ANY WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS. VERIFY THAT JOB BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED.
- ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
- ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT RENSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM.
- 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.
- ALL PROPERTY LINE GRADES ARE TO MATCH EXISTING.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
- MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
- 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.
- 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.
- CONTRACTOR TO OBTAIN POST-CONSTRUCTION TOPOGRAPHIC SURVEY, COMPLETED BY OLS OR PENG CONFIRMING COMPLIANCE WITH DESIGN GRADING AND SERVICING. SURVEY IS TO INCLUDE LOCATION AND INVERTS FOR BURIED UTILITIES.
- ABIDE BY RECOMMENDATIONS OF GEOTECHNICAL REPORT. REPORT ANY VARIATIONS IN OBSERVED CONDITIONS FROM THOSE INCLUDED IN REPORT.
- REPORT REFERENCES
1. STORMWATER MANAGEMENT REPORT, PREPARED BY WSP CANADA INC, PROJ. NO. 19M-01935-00, MARCH 31, 2023.
2. GEOTECHNICAL INVESTIGATION REPORT, PREPARED BY EXP SERVICE INC., PROJ. NO. OTT-00214958-00, MARCH 2023.

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

- PRIOR TO START OF CONSTRUCTION:
 - INSTALL SILT FENCE IN LOCATION SHOWN ON DWG 005.
 - INSTALL FILTER FABRIC OR SILT SACK FILTERS IN ALL THE CATCHBASINS AND MANHOLES TO REMAIN DURING CONSTRUCTION WITHIN THE SITE (SEE TYPICAL DETAIL).
 - INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.
- DURING CONSTRUCTION:
 - MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE 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 SWALES 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 NECESSARY.
 - DRAWING TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION.
 - EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
 - 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 90 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.
 - NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE FIELD ENGINEER.
 - CITY ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING AS REQUIRED.
 - DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPPED.
 - ANY MUD/MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER.
 - TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ADJUTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.
 - 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.
 - 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

- 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.
- ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 18 MEETING AWWA SPECIFICATION C900.
- ALL WATERMAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE WATERMANS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE SHALL BE MAINTAINED. WHERE WATERMANS 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.
- 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.
- CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 & W42.
- ALL VALVES AND VALVE BOXES AND CHAMBERS, HYDRANTS, AND HYDRANT VALVES AND ASSEMBLIES SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARD W18.
- 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.
- 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.

NOTES: SANITARY SEWER AND MANHOLES

- 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.
- 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-182.3.4.
- SEWER BEDDING AS PER CITY OF OTTAWA DETAIL 56.
- MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES AS PER THE OPSD 701.021
- ANY SANITARY SEWER WITH LESS THAN 2.5m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR APPROVED BY THE ENGINEER.

NOTES: PARKING LOT AND WORK IN PUBLIC RIGHTS OF WAY

- CONTRACTOR TO REINSTATE ROAD CUTS AS PER CITY OF OTTAWA DETAIL R10.
- CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROFFROLLING, TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT PRIOR TO THE COMMENCEMENT OF PLACEMENT OF GRANULAR B MATERIAL.
- FILL TO BE PLACED AND COMPACTED PER THE GEOTECHNICAL REPORT REQUIREMENTS.
- 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.
- GRANULAR A MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL CONSULTANT OF GRANULAR B PLACEMENT.
- 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.
- ASPHALT MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL CONSULTANT OF GRANULAR A PLACEMENT.
- 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 REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
- CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING LINE AND GRADE IN ACCORDANCE WITH THE PLANS, AND FOR PROVIDING THE CONSULTANT WITH VERIFICATION PRIOR TO PLACEMENT.
- ALL EXCESS MATERIAL TO BE HAILED 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.
- PAVEMENT STRUCTURE (MATERIAL TYPES AND THICKNESS) FOR HEAVY DUTY AND LIGHT DUTY AREAS TO BE AS SPECIFIED IN THE GEOTECHNICAL REPORT AND SHOWN ON THE PLANS.

NOTES: STORM SEWERS AND STRUCTURES

- ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS. PROVIDE CCTV INSPECTION REPORTS FOR ALL NEW STORM SEWERS, SERVICES AND CB LEADS.
- STORM SEWERS 450mm DIAMETER AND SMALLER SHALL BE PVC SDR-35, WITH RUBBER GASKET PER CSA A-257.3.
- SEWER BEDDING AS PER CITY OF OTTAWA DETAIL 56.
- 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.
- 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.
- CB IN LANDSCAPE AREAS SHALL BE AS PER CITY OF OTTAWA STANDARD S31.
- ALL CATCHBASIN LEADS TO BE MINIMUM 200mm DIAMETER AT MINIMUM 1.0% SLOPE UNLESS OTHERWISE SPECIFIED.
- STORM CATCHBASINS AS PER OPSD 705.010 AND FRAME/COVER AS PER CITY STANDARD DRAWINGS S19. STORM CBMFS AS INDICATED IN TABLE WITH SUMP AND FRAME/COVER AS PER OPSD 401.010 TYPE B. SANITARY MFS 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.
- INSTALLATION OF FLOW CONTROL ICDS TO BE VERIFIED BY QUALITY VERIFICATION ENGINEER RETAINED BY CONTRACTOR.

NOTES: SERVICES LATERALS

- NO SERVICE LATERALS ARE TO BE DIRECTLY CONNECTED TO A MANHOLE.
- SERVICE LATERALS THAT HAVE INSUFFICIENT COVER ARE TO BE THERMAL INSULATED AS PER CITY OF OTTAWA STANDARD W22.
- ALL SERVICE LATERALS, LOCATED WITHIN THE ROW, ARE TO BE AT A MIN. OF 1% GRADIENT.

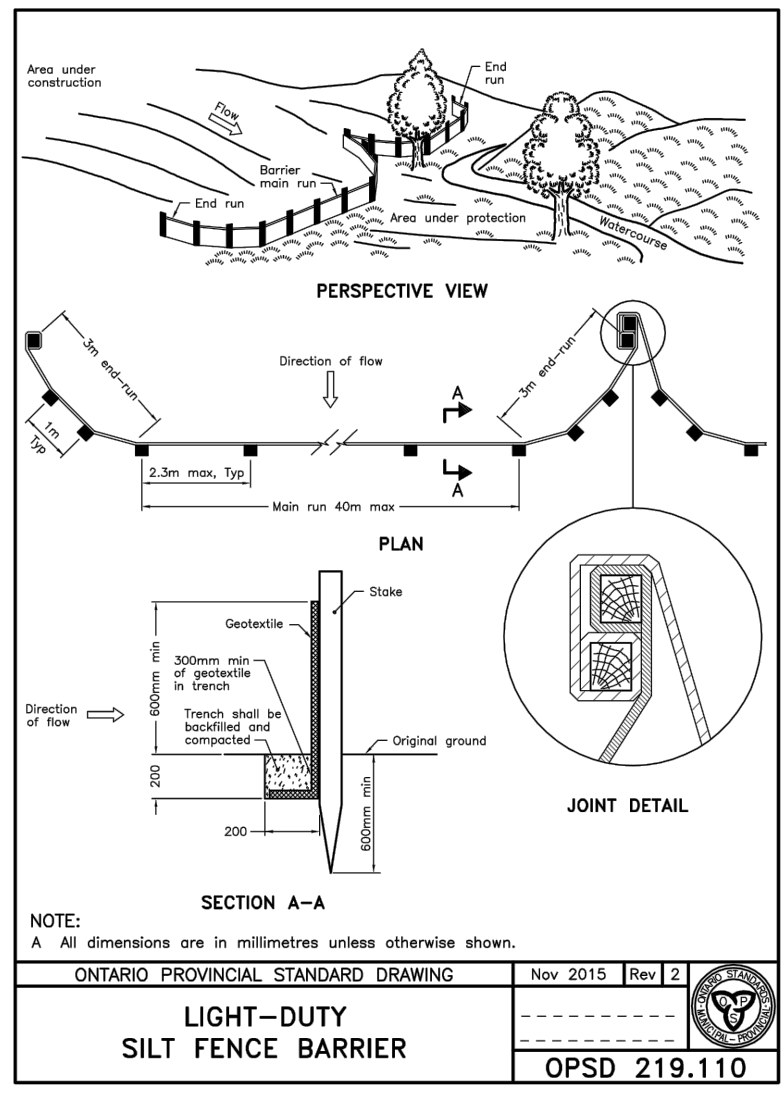
PAVEMENT STRUCTURE - HEAVY DUTY (BUSES AND TRUCKS)

COURSE	MATERIAL	THICKNESS
SURFACE	HL3 OR SUPERPAVE 12.5 AC	50 mm
BINDER	HL8 OR SUPERPAVE 19.0 AC	60 mm
BASECOURSE	OPSS GRANULAR 'A'	150 mm
SUBBASE	OPSS GRANULAR 'B' TYPE II	450 mm

PAVEMENT STRUCTURE - LIGHT DUTY (CARS ONLY)

COURSE	MATERIAL	THICKNESS
SURFACE	HL3 OR SUPERPAVE 12.5 AC	65 mm
BASECOURSE	OPSS GRANULAR 'A'	150 mm
SUBBASE	OPSS GRANULAR 'B' TYPE II	300 mm

WATERMAIN SCHEDULE					
STATION	DESCRIPTION	FINISHED GRADE	EXISTING GRADE	PROP. TOP OF W/M	AS-BUILT TOP OF W/M
0+000	Connect to Ex. 305mm W/M with 300x200 TEE			56.390	54.280
0+003.50	Crossing Existing 600mm Sanitary Sewer	56.410	54.010		
0+005.40	Crossing Existing 1050mm Storm Sewer	56.390	52.692		
0+012.64	DMA VC	56.540	54.140		
0+013.40	45 degree bend	56.560	54.160		
0+014.06	45 degree bend	56.580	54.180		
0+016.13	200 X 200 TEE	56.570	54.170		
0+016.13	200mm V&VB	56.590	54.190		
0+016.13	W/M STUB	56.620	54.220		
0+017.13	200 X 200 TEE	56.570	54.180		
0+017.13	200mm V&VB	56.580	54.190		
0+017.13	W/M STUB	56.590	54.200		
0+025.30	45 degree bend	56.600	54.200		
0+026.52	45 degree bend	56.610	54.210		
0+081.71	200 X 200 TEE	56.680	54.280		
0+081.71	200mm V&VB	56.700	54.300		
0+081.71	Fire Hydrant	56.730	54.330		
0+155.12	45 degree bend	57.130	54.730		
0+156.61	45 degree bend	57.150	54.750		
0+158.70	200x150 TEE	57.140	54.740		
0+158.70	200mm V&VB	57.150	54.750		
0+158.70	Fire hydrant	57.150	54.750		
0+164.77	200mm V&VB	56.860	54.460		
0+167.32	45 degree bend	56.790	54.390		
0+168.94	200x150 Reducer	56.790	54.390		
0+174.18	Connect to Ex. 150mm W/M with 150x150 TEE	56.690			54.290



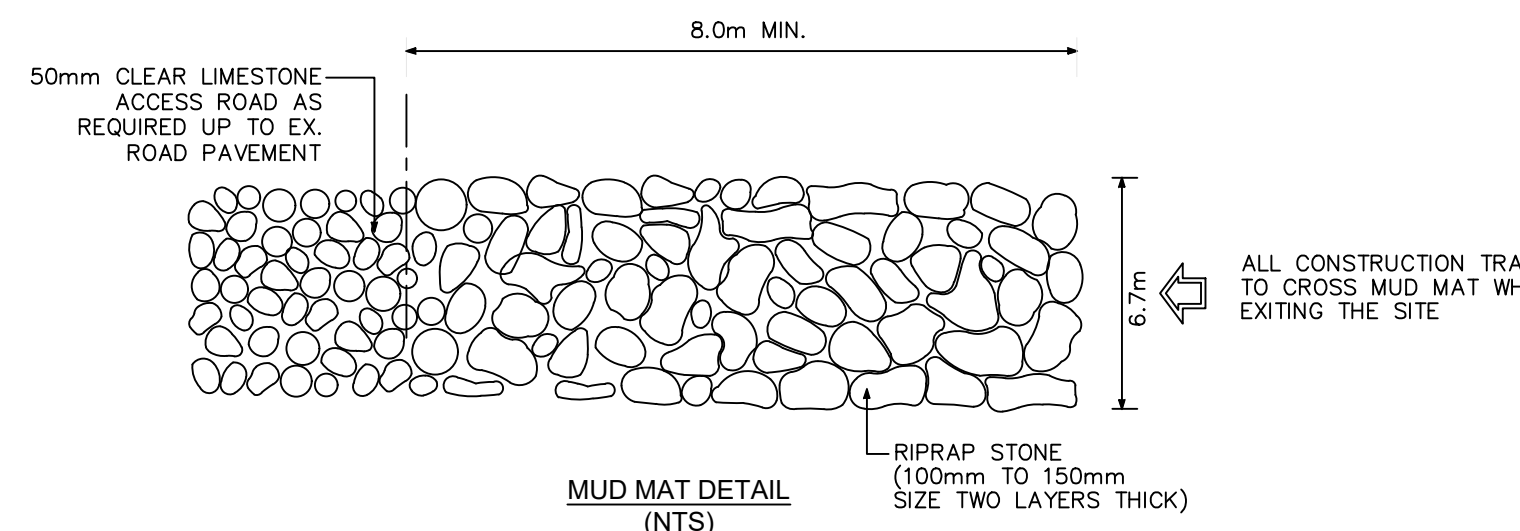
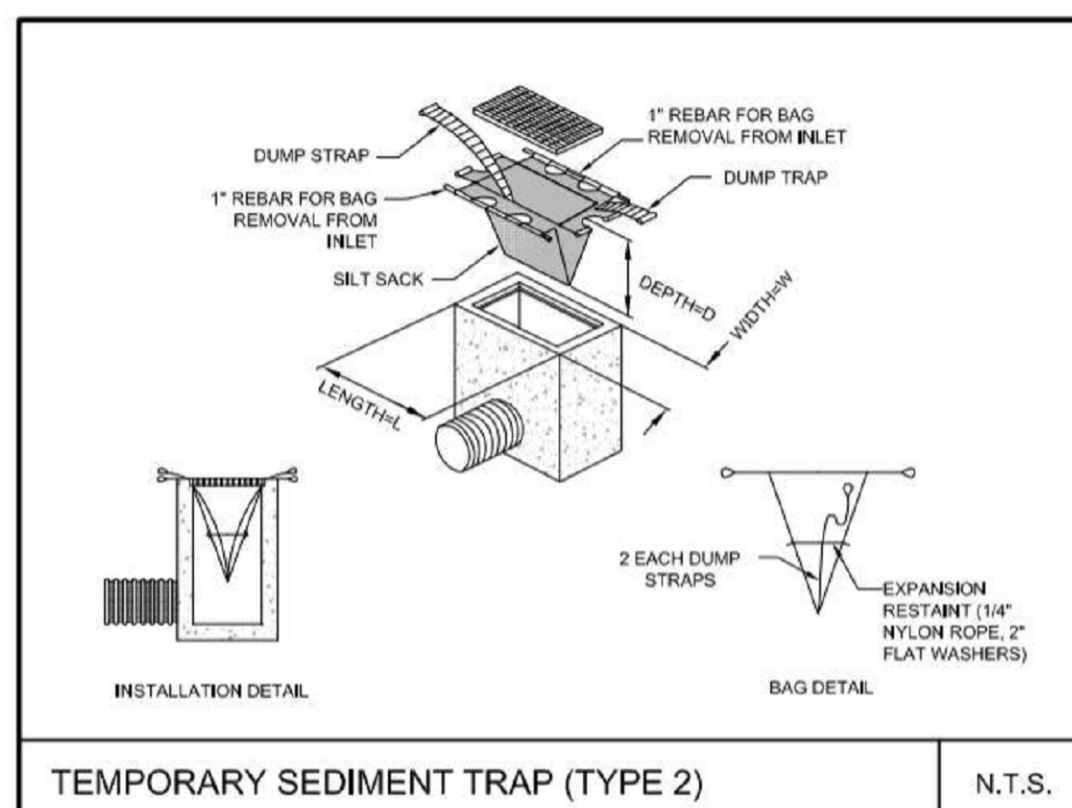
LEGEND:

	EXISTING FIRE HYDRANT		EXISTING GRADE
	EXISTING V&VB		PROPOSED GRADE AT TOP OF WALL
	EXISTING VALVE CHAMBER		PROPOSED GRADE
	PROPOSED FIRE HYDRANT		PROPOSED TOP OF CURB
	PROPOSED VALVE AND VALVE BOX		PROPOSED SWALE ELEVATION
	PROPOSED VALVE AND VALVE CHAMBER		PROPOSED SLOPE
	PROPOSED REMOTE METER		100 YEAR PONDING LIMIT
	PROPOSED METER		5 YEAR PONDING LIMIT
	PROPOSED CATCHBASIN MANHOLE		SIAMESE CONNECTION
	PROPOSED CATCHBASIN		OVERLAND MAJOR FLOW ROUTE
	PROPOSED LANDSCAPE CATCHBASIN		STORM DRAINAGE BOUNDARY
	EXISTING CATCHBASIN MANHOLE		ID DENOTES WATERSHED NAME
	EXISTING SANITARY SEWER AND MANHOLE		A DENOTES AREA IN HECTARES
	PROPOSED SANITARY SEWER AND MANHOLE		C DENOTES RUNOFF COEFFICIENT
	EXISTING STORM SEWER AND MANHOLE		SERVICE LATERAL LOCATION
	PROPOSED STORM SEWER AND MANHOLE		PRESSURE REDUCING VALVE
	PROPOSED WATERMAIN		FINISHED FLOOR ELEVATION
	PROPOSED SUBDRAIN		TOP OF FOUNDATION ELEVATION
	EXISTING WATERMAIN		UNDERSIDE OF FOOTING ELEVATION
	PROPOSED CENTERLINE OF SWALE		NEW INTERLOCK PAVING
	PROPOSED TERRACING (3:1 MAX)		NEW ASPHALT PAVING
	PROPOSED CONCRETE CURB		GRASS AREA
	EXISTING BUILDING OR STRUCTURE		NEW CONCRETE PAVING
	LIMIT OF CONSTRUCTION		
	EXISTING CONCRETE CURB		
	PROPOSED SILT FENCE AS PER OPSD 219/110		
	FILTER CLOTH PLACED UNDER CB/ID AND CBM/COVER		
	ROCK CHECK DAM AS PER OPSD-219-211		
	STRAW BALE CHECK DAM AS PER OPSD-219-180		

PIPE CROSSING TABLE								
NO.	DESCRIPTION	INVERT	OBVERT	CLEARANCE	INVERT	OBVERT	DESCRIPTION	
								1
2	EX. 600mm @ CONC SAN	53.014	53.709	0.797	Clearance Under	53.810	54.010	200mm @ W/M
3	300mm @ PVC SAN	54.680	54.980	0.315	Clearance Above	53.182	54.365	EX. 1050mm @ CONC STM
4	375mm @ PVC STM	54.080	54.455	0.500	Clearance Above	53.430	53.580	150mm @ HYDRANT LEAD
5	150mm @ PVC STM	54.440	54.590	0.500	Clearance Above	53.740	53.940	200mm @ W/M
6	375mm @ PVC STM	54.280	54.655	0.500	Clearance Above	53.580	53.780	200mm @ W/M
6	375mm @ PVC STM	54.310	54.685	0.500	Clearance Above	53.610	53.810	200mm @ W/M

STORM STRUCTURE TABLE							
STRUCTURE ID	TOP OF GRATE ELEVATION	INVERT IN	INVERT OUT	DESCRIPTION			
				SIZE	OPSD	COVER	
CBMH01	56.94	54.300	54.860	54.280	1200mm DIA.	OPSD 701.010	S28.4
CBMH02	56.79	54.310	54.250	1200mm DIA.	OPSD 701.010		S28.4
STMH03	56.88	54.230	54.210	1200mm DIA.	OPSD 701.010		S24.1
STMH04	56.63	53.690	53.670	1200mm DIA.	OPSD 701.010		S24.1
STMH05	57.06	54.620	54.320	1200mm DIA.	OPSD 701.010		S24.1
CBMH06	56.90	54.780	1200mm DIA.	OPSD 701.010			S28.4
CBMH07	56.50	55.390	1200mm DIA.	OPSD 701.010			OPSD 403.010
TEMP DICB	55.90	54.910	600X600mm	OPSD 705.010			OPSD 403.010

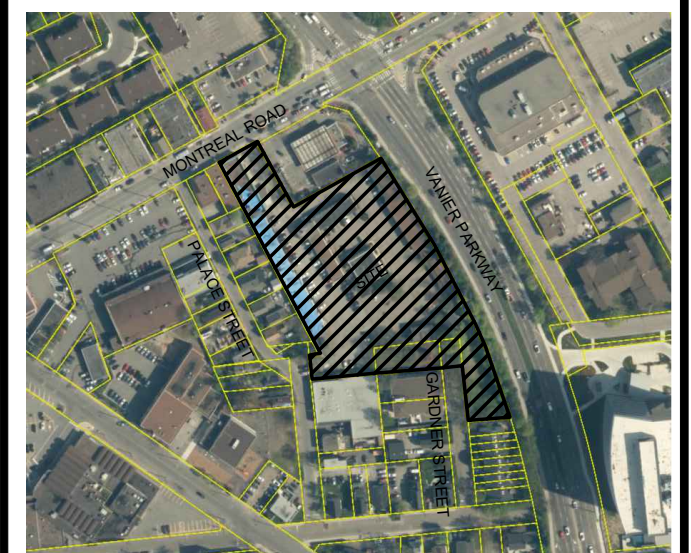
SAN STRUCTURE TABLE						
STRUCTURE ID	TOP OF GRATE ELEVATION	INVERT IN	INVERT OUT	DESCRIPTION		
				SIZE	OPSD	COVER
SAMH01	56.56	54.79	54.77	1200mm DIA.	OPSD-701.010	S24
SAMH02	56.50	54.67	53.01	1200mm DIA.	OPSD-701.010	S24



GENERAL NOTES:

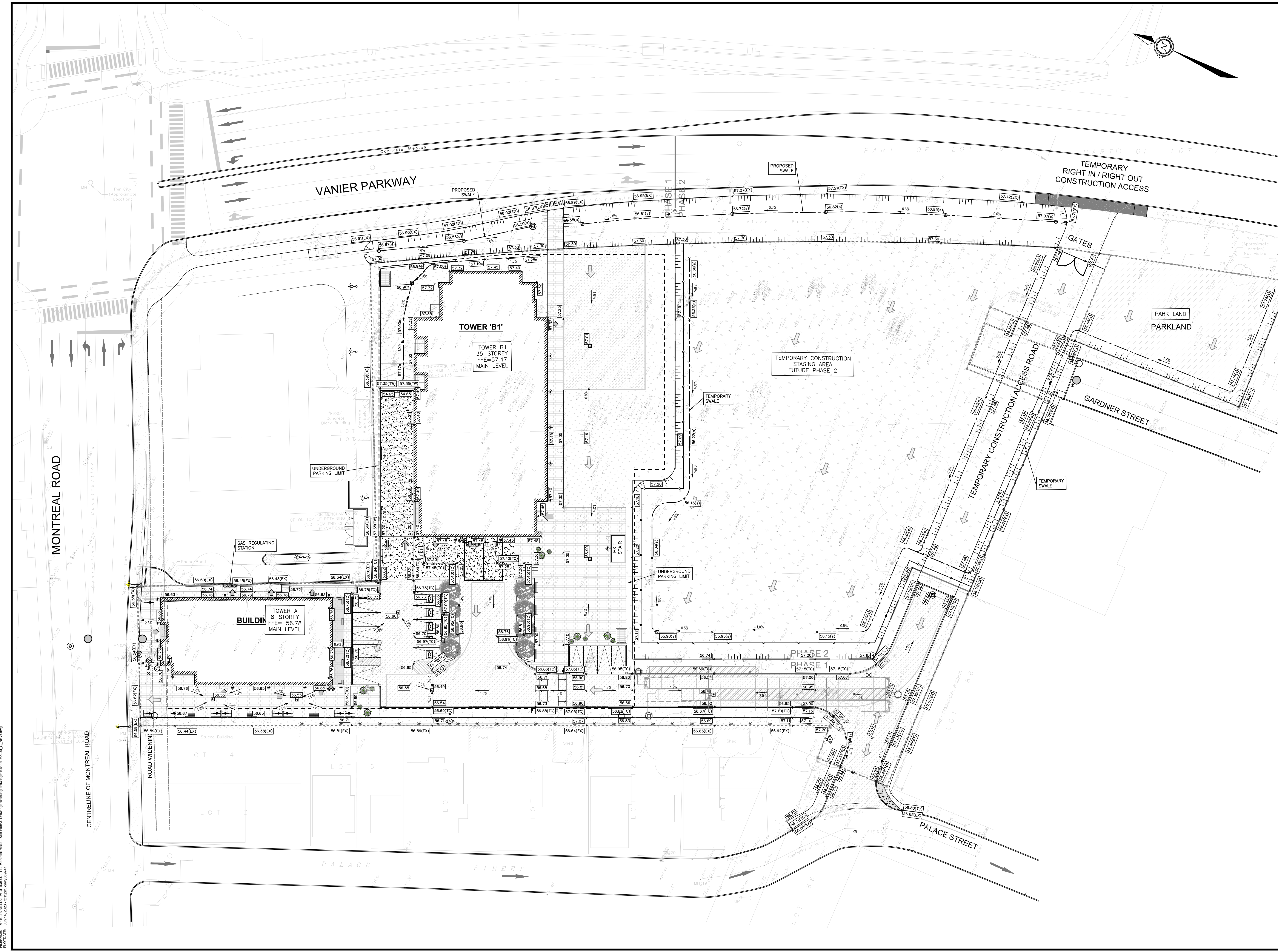
THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEERS GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.



BENCH MARK No.1 ELEVATION=56.43			
03	REVISED AS PER CITY COMMENTS	D.Y.	2023-06-14
02	REVISED AS PER CITY COMMENTS	D.Y.	2023-04-03
01	ISSUED FOR SPA	D.Y.	2022-09-13

TOWNSHIP: CITY OF OT

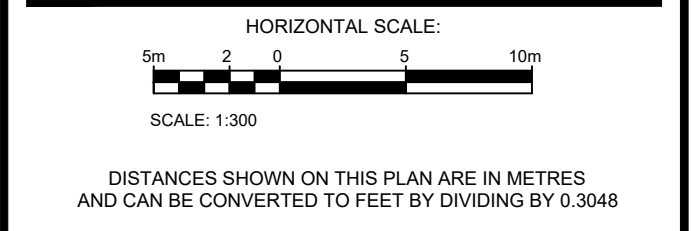


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BENCH MARK No.1 ELEVATION=56.43
 ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODEIC DATUM AND ARE DERIVED FROM THE WESTERLY LIMIT OF PART 1, PLAN 5R-6112 SHOWN AS HAVING A BEARING OF N28°27'30"W.
 TOWNSHIP: CITY OF OTTAWA

No.	REVISIONS	BY	DATE
03	REVISED AS PER CITY COMMENTS	D.Y.	2023-06-14
02	REVISED AS PER CITY COMMENTS	D.Y.	2023-04-03
01	ISSUED FOR SPA	D.Y.	2022-09-13



PROFESSIONAL ENGINEER
 D. B. YANG
 100230568
 2023-06-14
 PROVINCE OF ONTARIO
 NOT VALID UNLESS SIGNED AND DATED

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 MANOR PARK MANAGEMENT
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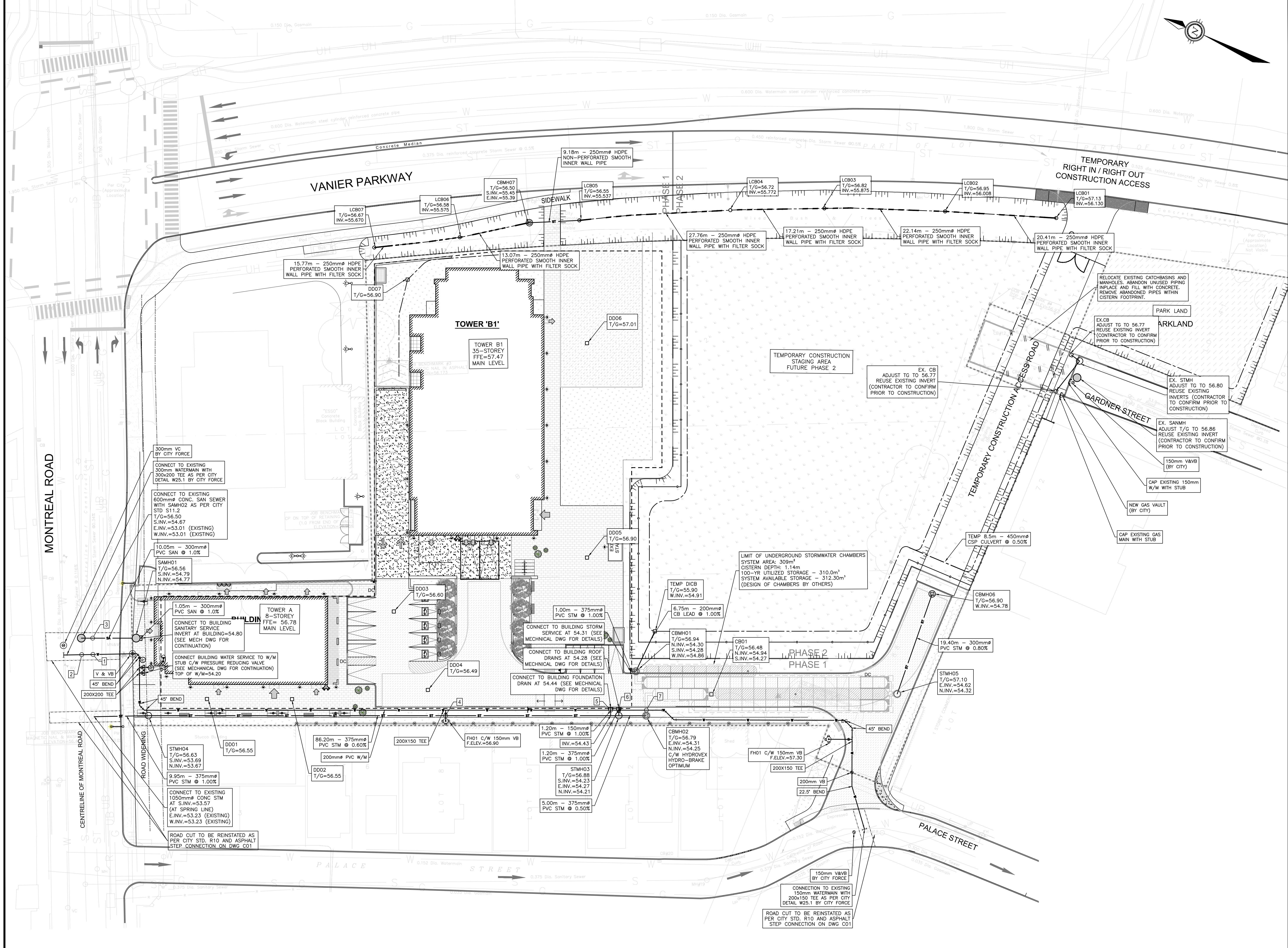
DESIGNED BY: D.Y. DRAWN BY: J.T. APPROVED BY: D.Y.

PROJECT
 112 MONTREAL ROAD
 RESIDENTIAL DEVELOPMENT

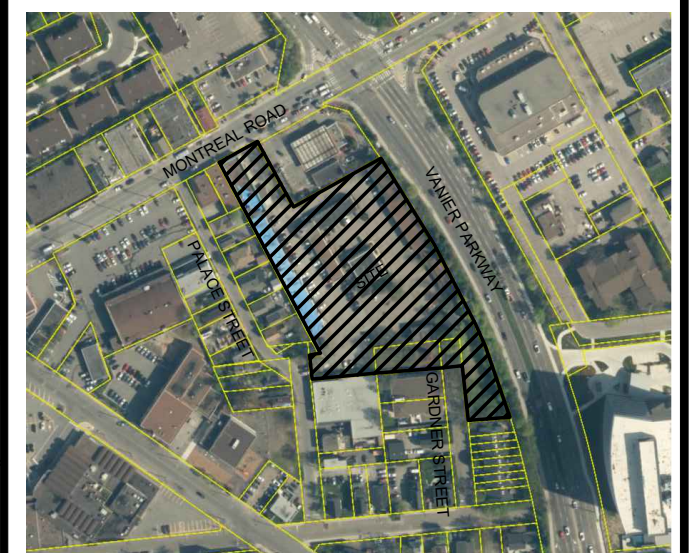
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 GRADING PLAN

PROJECT NO. 19M-01935-00 DRAWING NO. C02

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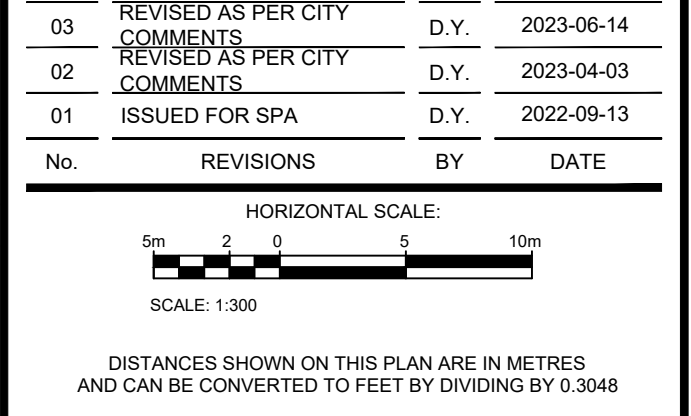


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BENCH MARK No.1 ELEVATION=56.43
 ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE WESTERLY LIMIT OF PART 1, PLAN SR-6112 SHOWN AS HAVING A BEARING OF N28°27'30"W.
 TOWNSHIP: CITY OF OTTAWA

No.	REVISIONS	BY	DATE
03	REVISED AS PER CITY COMMENTS	D.Y.	2023-06-14
02	REVISED AS PER CITY COMMENTS	D.Y.	2023-04-03
01	ISSUED FOR SPA	D.Y.	2023-09-13



PROFESSIONAL ENGINEER
 D. B. YANG
 100230568
 2023-06-14
 PROVINCE OF ONTARIO
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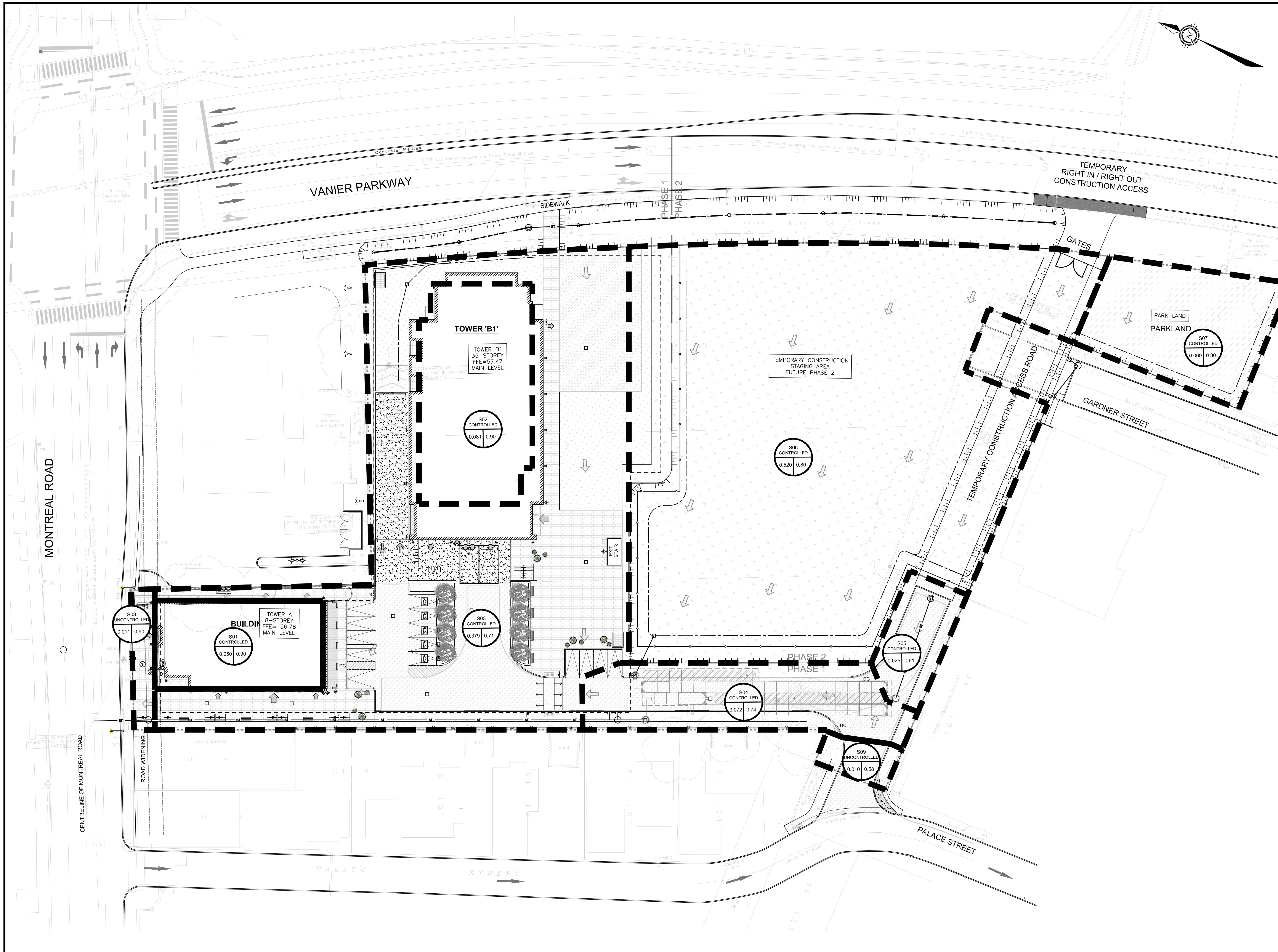
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PROJECT
 112 MONTREAL ROAD
 RESIDENTIAL DEVELOPMENT

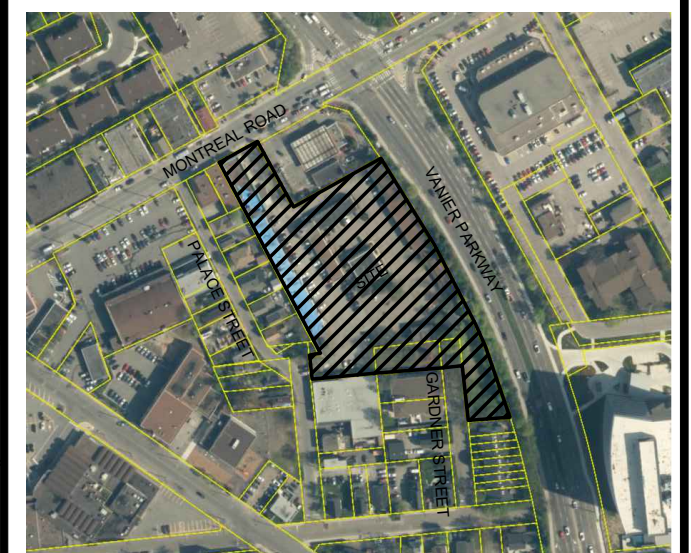
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PROJECT NO. 19M-01935-00 DRAWING NO. C03

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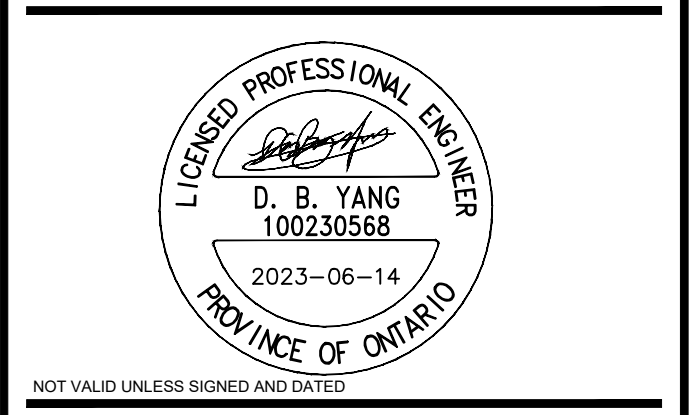
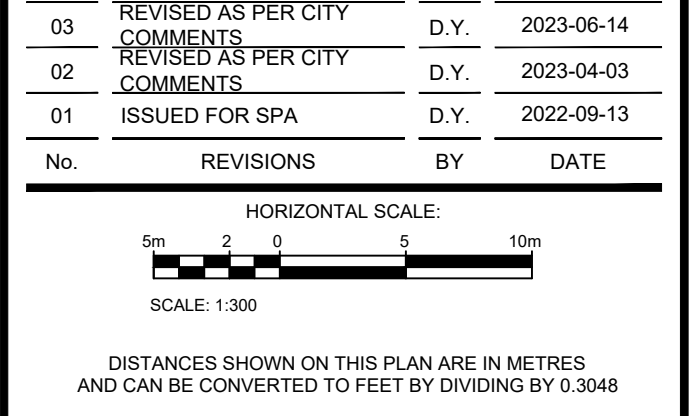


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 TOWNSHIP: CITY OF OTTAWA

No.	REVISIONS	BY	DATE
03	REVISED AS PER CITY COMMENTS	D.Y.	2023-06-14
02	REVISED AS PER CITY COMMENTS	D.Y.	2023-04-03
01	ISSUED FOR SPA	D.Y.	2022-09-13



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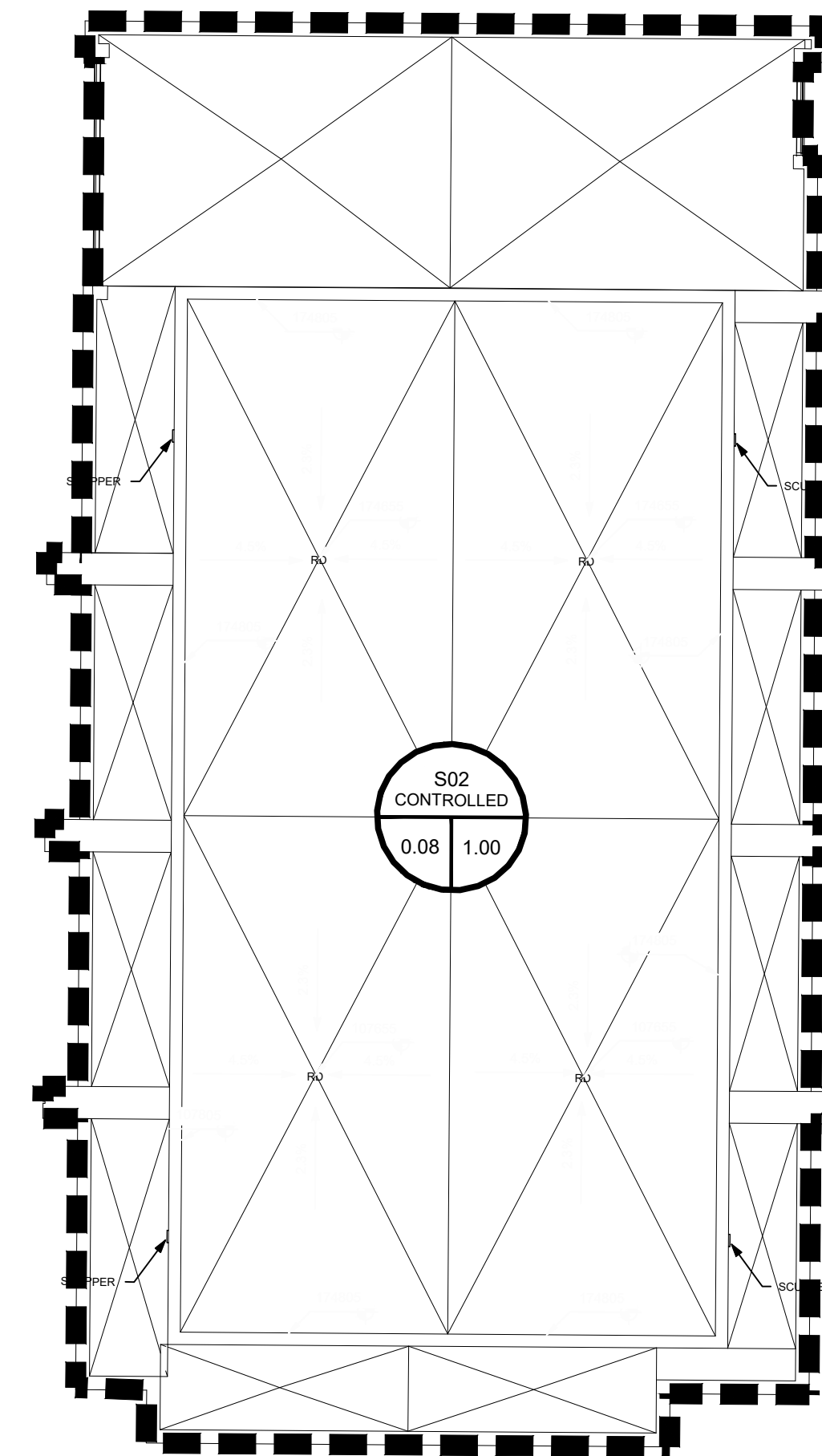
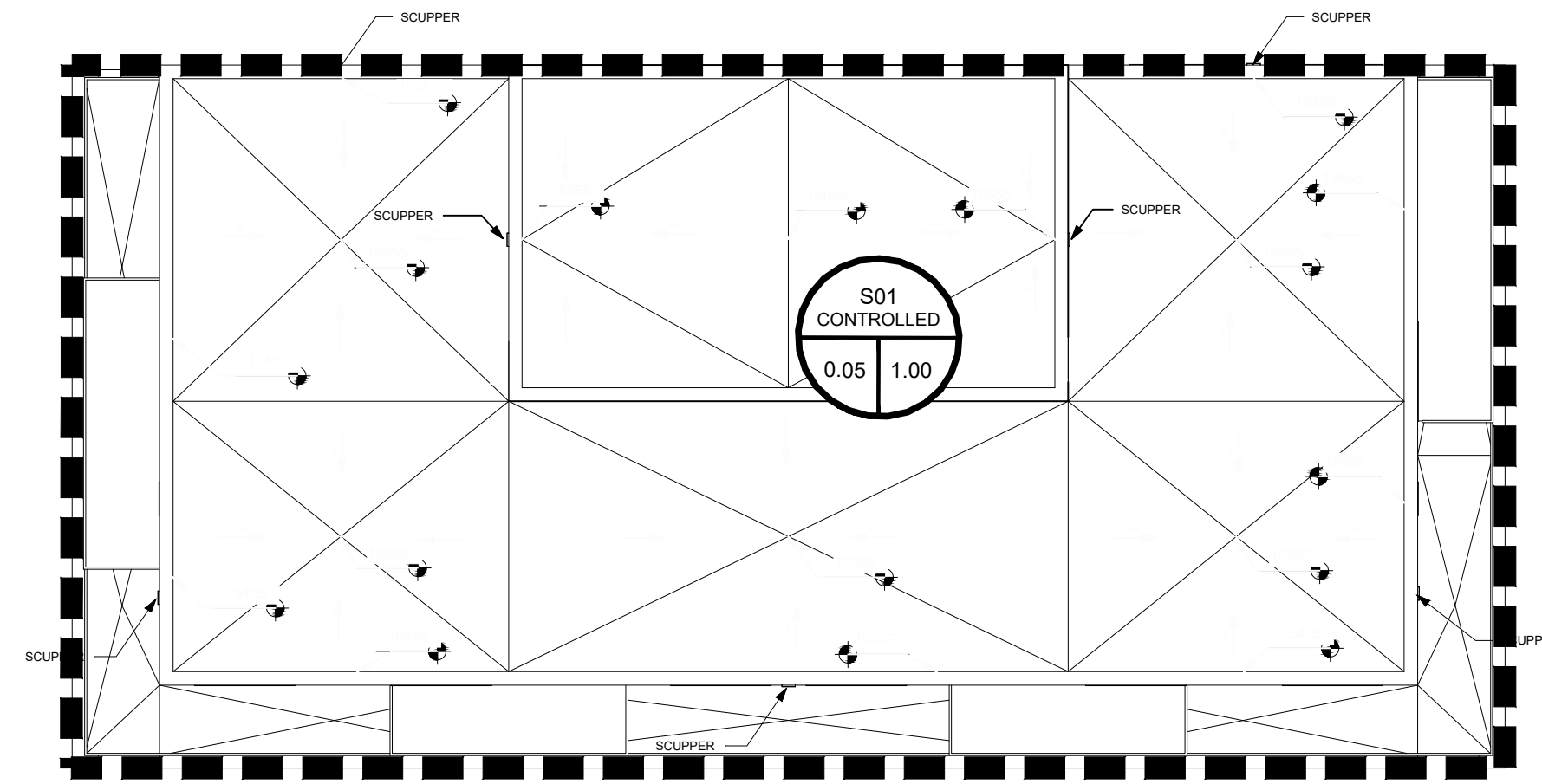
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PROJECT
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 RESIDENTIAL DEVELOPMENT

DRAWING TITLE
 STORM DRAINAGE
 AREA PLAN

PROJECT NO. 19M-01935-00 DRAWING NO. C04

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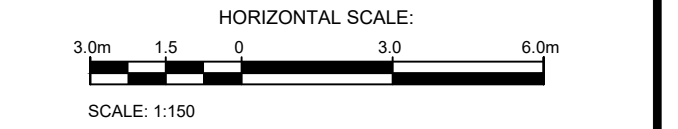
KEY PLAN (N.T.S.)

BENCH MARK No.1 ELEVATION=56.43

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TOWNSHIP: CITY OF OTTAWA

No.	REVISIONS	BY	DATE
02	REVISED AS PER CITY COMMENTS		D.Y. 2023-04-03
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DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048



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PROJECT
 112 MONTREAL ROAD
 RESIDENTIAL DEVELOPMENT

DRAWING TITLE
 ROOF DRAINAGE PLAN

PROJECT NO. 19M-01935-00 DRAWING NO. C04A

WATTS® Adjustable Accutrol Weir Adjustable Flow Control for Roof Drains
 Tag: _____

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.

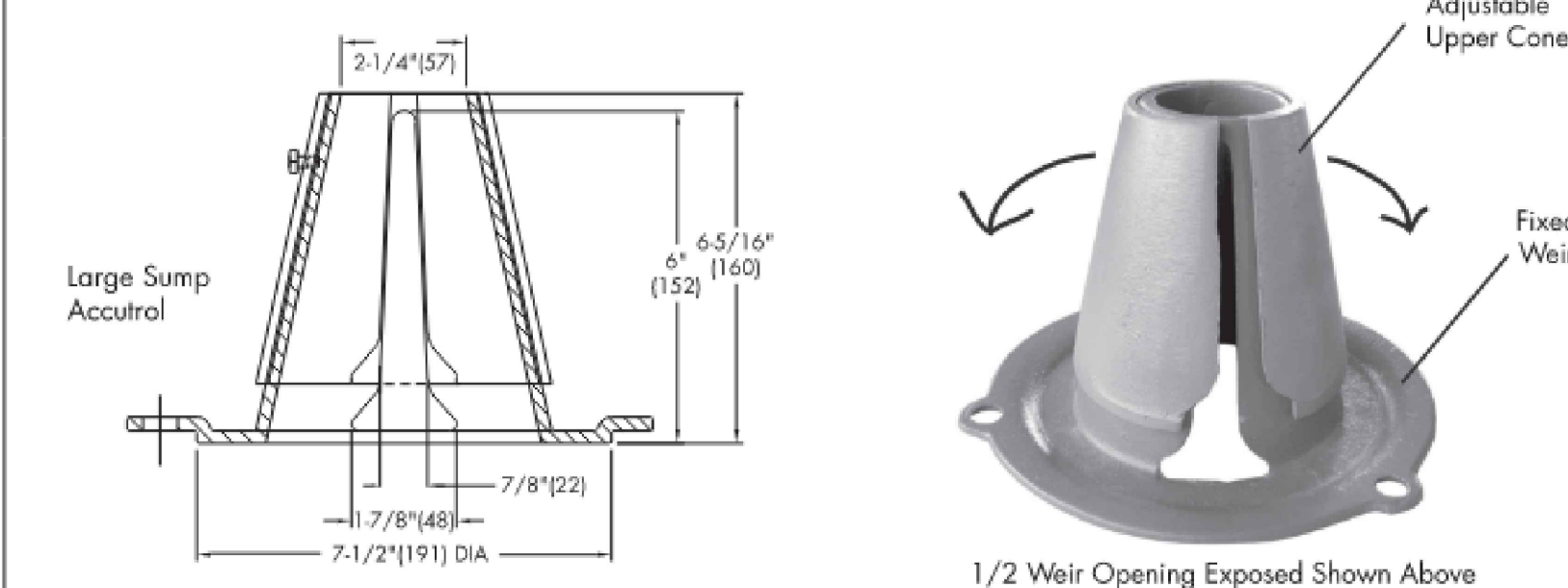


TABLE 1. Adjustable Accutrol Flow Rate Settings

Weir Opening Exposed	Flow Rate (gallons per minute)					
	1"	2"	3"	4"	5"	6"
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 _____

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Services. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



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Roof Drains

Catchment ID	Status	Common Name	Area (ha.)	Area (m ²)	Area to Cistern 1 (m ²)	Area controlled by Rooftop (m ²)	WATT Drains		
							Number of Drains Req. (~1 Drain / 150 m ²)	Area Per Drain (m)	Width / Length (m)
S01	Controlled	Building A	0.05	500	190	310	5	62.00	7.87
S02	Controlled	Building B1	0.081	810	447	363	4	90.75	9.53

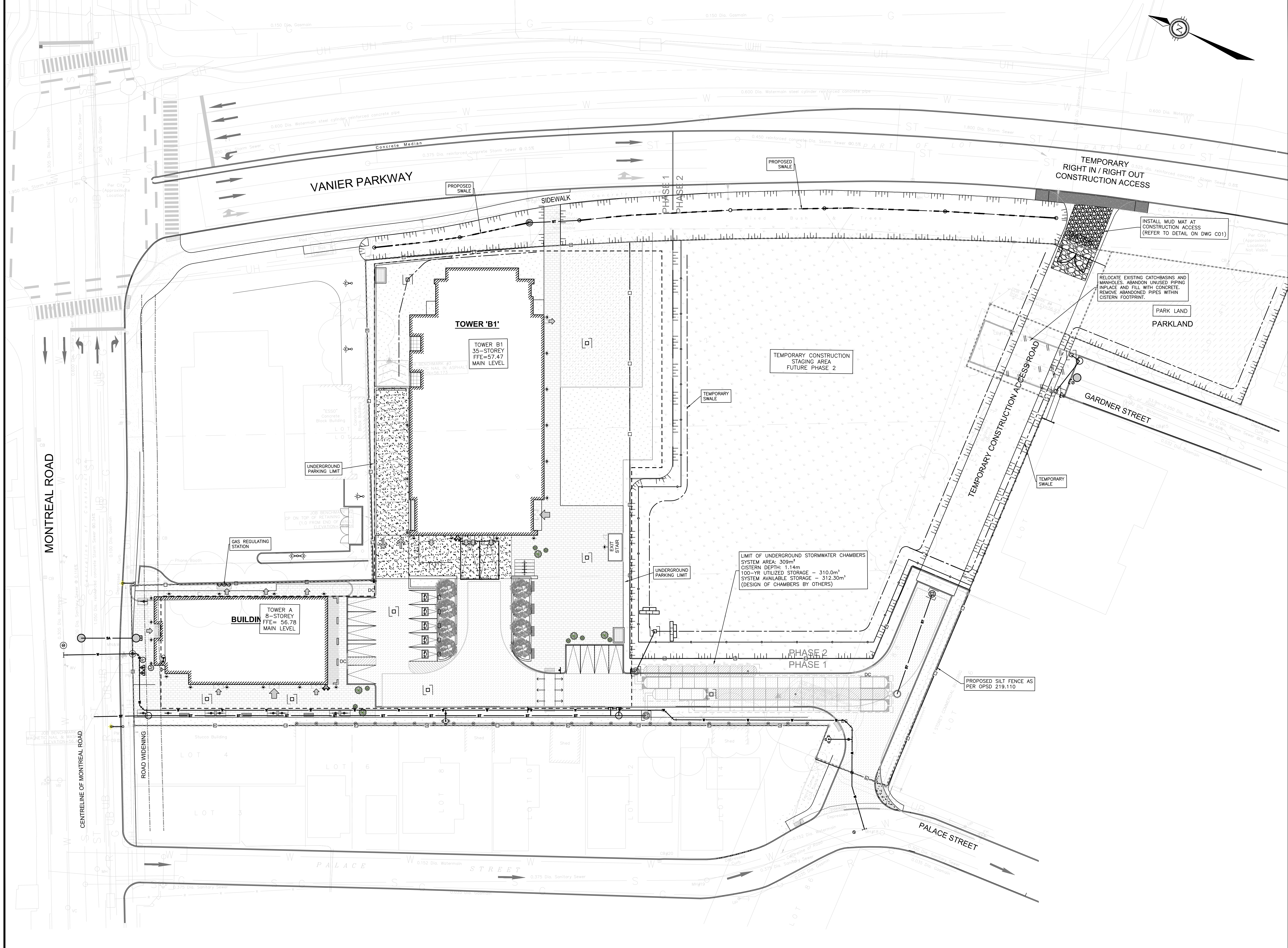
METRIC	Flow Rate (m3/sec)					
	25.4	50.8	76.2	101.6	127.0	152.4
Weir opening	0.02540	0.05080	0.07620	0.10160	0.12700	0.15240
Fully Exposed	0.000315451	0.000630902	0.000946353	0.001261804	0.001577255	0.001892706
3/4	0.000315451	0.000630902	0.00086749	0.001104079	0.001340667	0.001577255
1/2	0.000315451	0.000630902	0.000788628	0.000946353	0.001104079	0.001261804
1/4	0.000315451	0.000630902	0.000709765	0.000788628	0.00086749	0.000946353
Closed	0.000315451	0.000315451	0.000315451	0.000315451	0.000315451	0.000315451

Table 3-3: Post-Development Modelling Results (C)

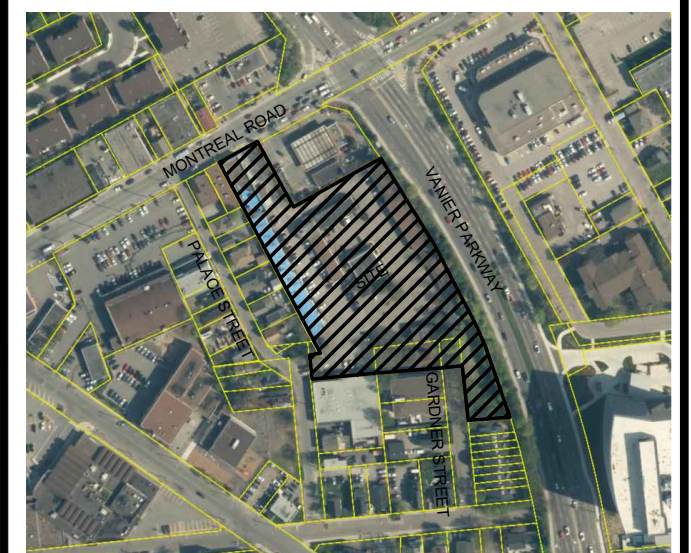
RETURN PERIOD (YEARS)	ROOFTOP MAXIMUM STORAGE VOLUME, PEAK RELEASE RATE ¹ , AND PONDING DEPTH						UNCONTROLLED FLOW RATE ² (L/S)
	TOWER A			TOWER B1			
	(m ³)	(L/s)	(m)	(m ³)	(L/s)	(m)	
5	4.5	1.5	0.054	6.4	1.2	0.073	2.9
100	11.5	1.5	0.086	15.4	1.2	0.142	8.3

¹ Based on the critical duration resulting in maximum storage utilized on each roof surface

² Based on the critical duration resulting in the maximum flow released from the site

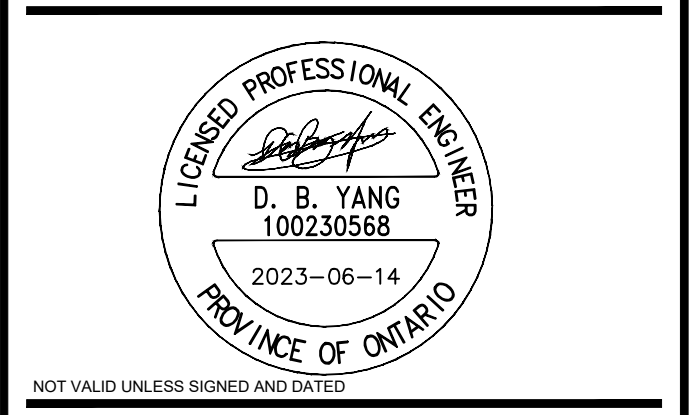
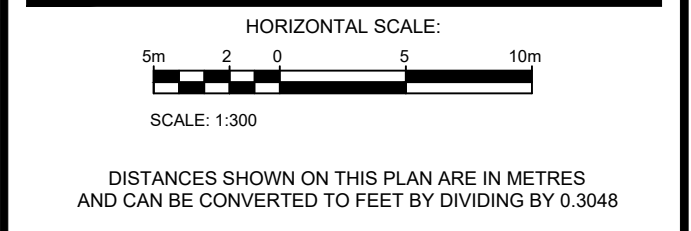


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PROJECT
 112 MONTREAL ROAD
 RESIDENTIAL DEVELOPMENT

DRAWING TITLE
 EROSION AND SEDIMENTATION
 CONTROL PLAN

PROJECT NO. 19M-01935-00 DRAWING NO. C05

FILENAME: Y:\19\19M-01935-00 - 112 Montreal Road - Site Plan3 Drawing\shdwg\dwg\19M-01935-00_C_NREV.dwg
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