

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, TO THE SATISFACTION OF THE CITY 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 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.
- 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. ALL INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- REFER TO ARCHITECTS PLANS FOR BUILDING DIMENSIONS, ELEVATIONS, 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 STANTEC GEOMATICS LTD. DATED JUNE 18, 2024. 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 DRAIN 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 REINSTATEMENT 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. EXISTING PARKING LOT SHALL BE RE-ASPHALTED AT EXISTING GRADES EXCEPT AS NOTED TO EVEN OUT GRADES. ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
- ABUTTING PROPERTY GRADES TO BE MATCHED.
- 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.
- 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.
- PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB-SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES.
- CONTRACTOR TO OBTAIN POST-CONSTRUCTION TOPOGRAPHIC SURVEY PERFORMED BY CERTIFIED OLS OR P.ENG. CONFIRMING COMPLIANCE WITH DESIGN GRADING AND SERVICING. SURVEY IS TO INCLUDE LOCATION AND INVERTS FOR BURIED UTILITIES.
- PROVIDE CCTV INSPECTION REPORT FOR ALL SEWERS AND CATCHBASIN LEADS 200MM DIAMETER AND LARGER. REPEAT CCTV INSPECTION FOLLOWING RECTIFICATION OF ANY DEFICIENCIES.

- REPORT REFERENCES
- GEOTECHNICAL INVESTIGATION - PROPOSED EVENT CENTRE LANSDOWNE PARK REDEVELOPMENT, REPORT NO. PG6655-1, MAY 2024, BY PATTERSON GROUP.
- FUNCTIONAL SERVICING AND STORMWATER MANAGEMENT REPORT FOR LANSDOWNE LIVE OTTAWA SPORT AND ENTERTAINMENT GROUP, PROJECT NO. 09-378, JANUARY 2012, BY DSEL.
- FUNCTIONAL SERVICING AND STORMWATER MANAGEMENT STUDY FOR LANSDOWNE PARK REDEVELOPMENT 2.0, PROJECT NO. CA0000286.1662, SEPTEMBER 2023, BY WSP.
- STORMWATER MANAGEMENT DESIGN REPORT FOR LANSDOWNE URBAN PARK, FEBRUARY 2012, BY STANTEC CONSULTING LTD.

PARKING LOT AND WORK IN PUBLIC RIGHTS OF WAY

- CONTRACTOR TO REINSTATE ROAD CUTS AS PER CITY OF OTTAWA DETAIL R10.
- GEOTECHNICAL INVESTIGATION - PROPOSED EVENT CENTRE LANSDOWNE PARK REDEVELOPMENT, REPORT NO. PG6655-1, MAY 2024, BY PATTERSON GROUP.
- CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROOFROLLING, 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 MATERIAL MEETS 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 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.
- PAVEMENT STRUCTURE (MATERIAL TYPES AND THICKNESS) TO BE AS SPECIFIED IN THE GEOTECHNICAL REPORT.

STORM SEWERS AND STRUCTURES

- 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.
- STORM SEWERS 450mm DIAMETER AND SMALLER SHALL BE PVC SDR-35, WITH RUBBER GASKET PER CSA A-257.3.
- STORM SEWER LARGER THAN 450mm SHALL BE REINFORCED CONCRETE CLASS 1000.
- SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
- ALL STORM MANHOLES TO BE AS PER STORM STRUCTURE TABLE.
- 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.
- 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 CBMH'S AS INDICATED IN TABLE WITH SUMP. ADJUSTMENT SECTIONS SHALL BE AS PER OPSD 704.010.
- INSTALLATION OF FLOW CONTROL ICDS TO BE VERIFIED BY QUALITY VERIFICATION ENGINEER RETAINED BY CONTRACTOR.
- PROVIDE BACKWATER VALVE ON FOUNDATION DRAIN, STORM DISCHARGE, AND OVERFLOW DISCHARGE PER S14
- ALL CATCHBASINS EXCLUDING LANDSCAPE CATCHBASINS TO HAVE 150 MMØ PERFORATED PIPE FOR 3.0M ON ALL AVAILABLE SIDES AT AN ELEVATION OF 300mm BELOW SUBGRADE LEVEL AS PER CITY OF OTTAWA STANDARD DRAWING R'1

SANITARY SEWER AND STRUCTURES

- 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.
- 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.
- SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
- 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.
- MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES AS PER THE OPSD 701.021
- ANY SANITARY SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR APPROVED BY THE ENGINEER.
- PROVIDE BACKWATER VALVE FOR BUILDING SANITARY SERVICES PER S14.1

WATERMAIN

- ALL WATERMAIN AND WATERMAIN APPURTENANCES, 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 ASSEMBLES SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARD.
- 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.

Table 2 - Recommended Light Duty Asphalt Pavement Structure - Car Only Parking Areas

Thickness (mm)	Material Description
50	Wear Course - HL-3 or Superpave 12.5 Asphaltic Concrete
150	Base - OPSS Granular A Crushed Stone
300	SUBBASE - OPSS Granular B Type II
SUBGRADE - Either approved fill, in-situ, or OPSS Granular B Type I or II material placed on in-situ soil or fill.	

Table 3 - Recommended Asphalt Pavement Structure - Access Lanes and Heavy Loading Parking Areas

Thickness (mm)	Material Description
40	Wear Course - Superpave 12.5 Asphaltic Concrete
50	Binder Course - Superpave 19.0 Asphaltic Concrete
150	Base - OPSS Granular A Crushed Stone
300	SUBBASE - OPSS Granular B Type II
SUBGRADE - Either approved fill, in-situ, or OPSS Granular B Type I or II material placed on in-situ soil or fill	

EROSION AND SEDIMENT CONTROL

- ** CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES. **
- PRIOR TO START OF CONSTRUCTION:
 - INSTALL SILT FENCE IN LOCATION SHOWN.
 - INSTALL SILT SACK FILTERS IN ALL THE CATCHBASINS AND MANHOLES TO REMAIN DURING CONSTRUCTION WITHIN THE SITE.
 - INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.
 - INSTALL MUD MAT AT CONSTRUCTION ENTRANCES.
 - 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 SWALE TO EXISTING CBS 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.
 - DOWNSTREAM STORM INFRASTRUCTURE SHALL BE PROTECTED FROM UNFILTERED RUNOFF DURING ON-SITE STORM INFRASTRUCTURE DEMOLITION.
 - 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 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).
 - 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 ABUTTING 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.

EXISTING LEGEND:

- EXISTING CURB
- EXISTING BOTTOM OF SLOPE
- EXISTING TOP OF SLOPE
- EXISTING WATERMAIN
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING SWALE
- EXISTING PERFORATED DRAIN
- EXISTING FENCE
- SITE TEMPORARY CONTROL POINT
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING ELEVATION
- EXISTING TREES TO REMAIN
- EXISTING CATCHBASIN
- EXISTING CATCHBASIN MANHOLE
- EXISTING STORM MANHOLE

REMOVALS LEGEND:

- CURB REMOVAL
- ST --- STORM REMOVAL
- SA --- STORM REMOVAL
- W --- WATERMAIN REMOVAL
- RET --- RETAINING WALL REMOVAL
- SUB --- SUB DRAIN REMOVAL
- FULL DEPTH ASPHALT REMOVAL
- GREEN AREA/ INTERLOCK AREA REMOVAL
- CONCRETE SIDEWALK REMOVAL
- GRAVEL ROAD REMOVAL
- RAMP REMOVAL
- CATCH BASIN REMOVAL
- STORM MANHOLE REMOVAL
- SANITARY MANHOLE REMOVAL
- FIRE HYDRANT REMOVAL
- EXISTING TREES REMOVAL
- BOLLAR REMOVAL
- LIGHT STAND REMOVAL

PROPOSED LEGEND:

- EXISTING BOUNDARY
- W --- NEW WATERMAIN
- --- NEW STORM SEWER
- SA --- NEW HDPE SUBDRAIN
- SA --- NEW SANITARY SEWER
- HIGH POINT
- NEW STORM CATCH BASIN MANHOLE
- NEW STORM MANHOLE
- NEW CATCH BASIN DITCH INLET
- NEW SANITARY MANHOLE
- NEW WATERMAIN VALVE
- NEW WATERMAIN CONNECTION
- NEW WATERMAIN 45° BEND
- NEW SERVICING CAP
- PROPOSED ELEVATION
- PROPOSED SURFACE SLOPE
- OVER FLOW DIRECTION
- PROPOSED TRENCH DRAIN
- PROPOSED INTERLOCK
- PROPOSED ASPHALT PAVEMENT
- PROPOSED TREES

ESC LEGEND:

- LIGHT DUTY SILT FENCE (OPSD 219.110)
- FILTER CLOTH PROTECTION
- MUD MAT

DRAINAGE AREA LEGEND:

- DRAINAGE AREA SYMBOL
- DRAINAGE AREA BOUNDARY



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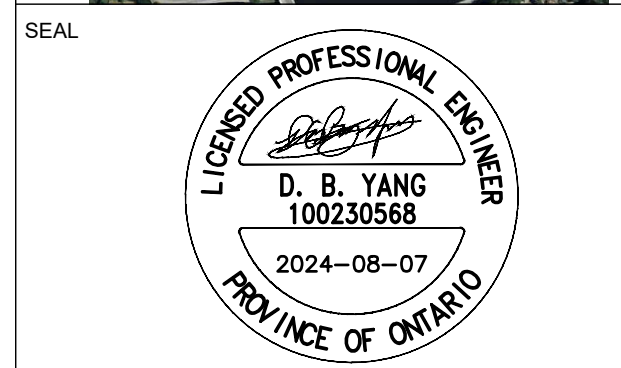
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NO.	ISSUED FOR SPA	DESCRIPTION	DATE
1	ISSUED FOR SPA		2024-08-07

REVISIONS/ ISSUES

CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY OMISSIONS OR DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. **DO NOT SCALE THE DRAWINGS**



DRAWN: J.T
DATE: 2024/08/07
CHECKED: W.Y

LANSDOWNE EC

NOTES AND DETAILS

SCALE: AS SHOWN
PROJ. NO: CA0033920.1056
DWG. NO: C01

DATE PLOTTED:

STORM STRUCTURE TABLE										
STRUCTURE	TOP OF GRATE	INLET				OUTLET			DIAMETER	TYPE
		INLET	INLET	OUTLET	SIZE	OPSD	COVER			
CB01	65.01			63.600	600X600mm	OPSD 705.010	S19.1	250	PVC SDR-35	
CB02	65.58			63.880	REFER TO TRENCH DRAIN DESIGN			250	PVC SDR-35	
CB03	66.28			64.190	REFER TO TRENCH DRAIN DESIGN			250	PVC SDR-35	
CB04	66.05			64.220	600X600mm	OPSD 705.010	S19.1	250	PVC SDR-35	
CB05	64.91			63.740	REFER TO TRENCH DRAIN DESIGN			250	PVC SDR-35	
CB06	64.91			63.760	REFER TO TRENCH DRAIN DESIGN			250	PVC SDR-35	
CB07	64.91			63.690	REFER TO TRENCH DRAIN DESIGN			250	PVC SDR-35	
CB08	64.91			64.150	REFER TO TRENCH DRAIN DESIGN			250	PVC SDR-35	
CB09	65.12			64.040	600X600mm	OPSD 705.010	S19.1	200	PVC SDR-35	
CB10	65.18			62.970	REFER TO TRENCH DRAIN DESIGN			250	PVC SDR-35	
CB11	65.31			63.840	600X600mm	OPSD 705.010	S19.1	250	PVC SDR-35	
CB12	65.72			64.000	REFER TO TRENCH DRAIN DESIGN			250	PVC SDR-35	
CB13	66.46			63.560	600X600mm	OPSD 705.010	S19.1	250	PVC SDR-35	
CB14	66.54			63.500	600X600mm	OPSD 705.010	S19.1	250	PVC SDR-35	
CB15	65.44			63.680	REFER TO TRENCH DRAIN DESIGN			250	PVC SDR-35	
CB16	67.20			64.140	REFER TO TRENCH DRAIN DESIGN			250	PVC SDR-35	
STMH201(OGS)	65.36			62.960	1800mm DIA.	OPSD 701.010	S24.1	900	PVC SDR-35	
STMH202	65.39	63.150	63.020	62.960	1800mm DIA.	OPSD 701.010	S24.1	1050	CONC	
STMH203	68.26		63.090	63.060	1800mm DIA.	OPSD 701.010	S24.1	1050	CONC	
STMH204	71.50		63.150	63.120	1800mm DIA.	OPSD 701.010	S24.1	1050	CONC	
STMH205	68.56		63.210	63.180	1800mm DIA.	OPSD 701.010	S24.1	1050	CONC	
STMH206	68.65		63.280	63.240	1800mm DIA.	OPSD 701.010	S24.1	1050	CONC	
STMH207	68.83		63.320	63.300	1800mm DIA.	OPSD 701.010	S24.1	1050	CONC	
STMH208	66.50	63.900	63.490	63.340	1800mm DIA.	OPSD 701.010	S24.1	1050	CONC	
STMH208	66.50	63.900	63.490	63.340	1800mm DIA.	OPSD 701.010	S24.1	1050	CONC	
STMH209	66.39			63.550	1800mm DIA.	OPSD 701.010	S24.1	900	CONC	
CBMH210	64.98	63.520	63.200	63.180	1200mm DIA.	OPSD 701.010	S28.1	600	CONC	
STMH211	65.45	63.240	63.220	63.220	1200mm DIA.	OPSD 701.010	S24.1	600	CONC	
STMH212	65.37		63.360	63.300	1200mm DIA.	OPSD 701.010	S24.1	600	CONC	
STMH213	65.04		63.110	63.090	1200mm DIA.	OPSD 701.010	S24.1	250	PVC SDR-35	

NO.	STRUCTURE	Obvert		Invert		CLEARANCE	Obvert		Invert		REMARKS
		INLET	OUTLET	INLET	OUTLET		INLET	OUTLET			
1	1050mmØ CONC STM	64.373	63.190	0.188	Clearance Above	63.002	62.627	375mmØ PVC SAN			
2	375mmØ PVC SAN	62.729	62.354	0.103	Clearance Under	64.341	62.832	EX. 1350mmØ CONC STM			
3	375mmØ PVC SAN	62.768	62.393	0.083	Clearance Above	62.310	62.110	EX. 200mmØ PVC W/M			
4	375mmØ PVC SAN	62.794	62.419	0.164	Clearance Under	63.979	62.958	900mmØ CONC STM			
5	200mmØ PVC W/M	62.130	61.930	0.825	Clearance Under	63.976	62.955	900mmØ CONC STM			
6	375mmØ PVC SAN	62.855	62.480	1.289	Clearance Under	64.394	64.144	250mmØ PVC STM			
7	375mmØ PVC SAN	63.189	62.814	2.261	Clearance Under	65.650	65.450	EX. 200mmØ PVC W/M			
8	1050mmØ CONC STM	64.421	63.238	0.979	Clearance Under	65.600	65.400	200mmØ PVC W/M			
9	375mmØ PVC SAN	63.300	62.925	0.605	Clearance Under	64.505	63.905	600mmØ PVC STM			
10	200mmØ PVC W/M	64.170	63.970	0.324	Clearance Above	63.646	63.346	EX. 300mmØ PVC SAN			
11	200mmØ PVC W/M	63.490	63.290	0.451	Clearance Under	64.542	63.942	EX. 600mmØ PVC STM			
12	200mmØ PVC W/M	64.080	63.880	0.481	Clearance Above	63.399	63.024	375mmØ PVC SAN			
13	200mmØ PVC W/M	63.190	62.990	0.348	Clearance Under	64.559	63.538	900mmØ CONC STM			
14	250mmØ PVC STM	63.976	63.726	0.884	Clearance Above	62.841	62.591	EX. 250mmØ PVC SAN			
15	250mmØ PVC STM	64.209	63.959	1.012	Clearance Above	62.947	62.572	EX. 375mmØ PVC SAN			
16	250mmØ PVC STM	63.194	62.944	0.097	Clearance Above	62.847	62.472	EX. 375mmØ PVC SAN			
17	200mmØ PVC STM	64.157	63.957	0.944	Clearance Above	63.013	62.813	200mmØ PVC SAN			
18	600mmØ PVC STM	63.987	63.387	0.343	Clearance Above	63.044	62.794	EX. 250mmØ PVC SAN			
19	600mmØ PVC STM	63.850	63.250	0.332	Clearance Above	62.918	62.668	EX. 250mmØ PVC SAN			
20	200mmØ PVC SAN	64.770	64.570	0.167	Clearance Above	64.403	63.220	1050mmØ CONC STM			
21	200mmØ PVC SAN	65.055	64.855	0.279	Clearance Above	64.576	63.555	900mmØ CONC STM			
22	375mmØ PVC SAN	63.279	62.904	2.071	Clearance Under	65.550	65.350	200mmØ PVC W/M			
23	375mmØ PVC SAN	63.275	62.900	2.895	Clearance Under	65.970	66.170	200mmØ PVC W/M			
24	1050mmØ CONC STM	64.611	63.428	0.759	Clearance Under	65.570	65.370	200mmØ PVC W/M			
25	1050mmØ CONC STM	64.608	63.425	1.152	Clearance Under	65.960	65.760	200mmØ PVC W/M			

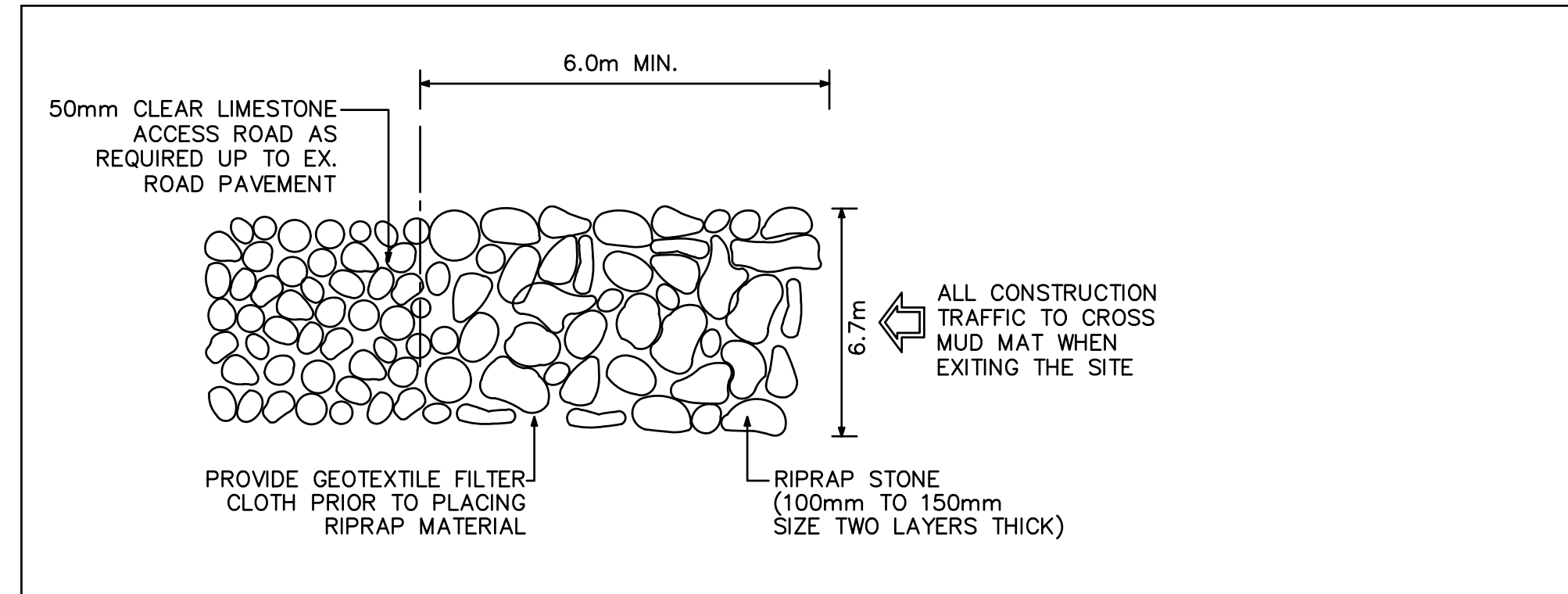
*Note: Provide Concrete Encased for crossing clearance less than 0.30m

SAN STRUCTURE TABLE									
STRUCTURE E ID	TOP OF GRATE	INVERT				DESCRIPTION			
		INLET	INLET	OUTLET	OUTLET	SIZE	OPSD	COVER	
SAMH201	65.28			62.420	62.400	1200mm DIA.	OPSD-701.010	S24	
SAMH202	66.20			62.510	62.490	1200mm DIA.	OPSD-701.010	S24	
SAMH202A	68.99		64.550	62.640	62.640	1200mm DIA.	OPSD-701.010	S24	
SAMH203	71.50			62.690	62.670	1200mm DIA.	OPSD-701.010	S24	
SAMH204	68.23			62.760	62.740	1200mm DIA.	OPSD-701.010	S24	
SAMH205	68.74			62.840	62.820	1200mm DIA.	OPSD-701.010	S24	
SAMH206	68.85			62.890	62.870	1200mm DIA.	OPSD-701.010	S24	
SAMH207	66.61			62.940	62.920	1200mm DIA.	OPSD-701.010	S24	
SAMH207A	66.48		63.840	63.000	63.000	1200mm DIA.	OPSD-701.010	S24	
SAMH208	66.41	63.100	63.040	62.810	62.760	1200mm DIA.	OPSD-701.010	S24	
SAMH209	65.51			62.680	62.660	1200mm DIA.	OPSD-701.010	S24	
SAMH210	65.36			62.820	62.760	1200mm DIA.	OPSD-701.010	S24	

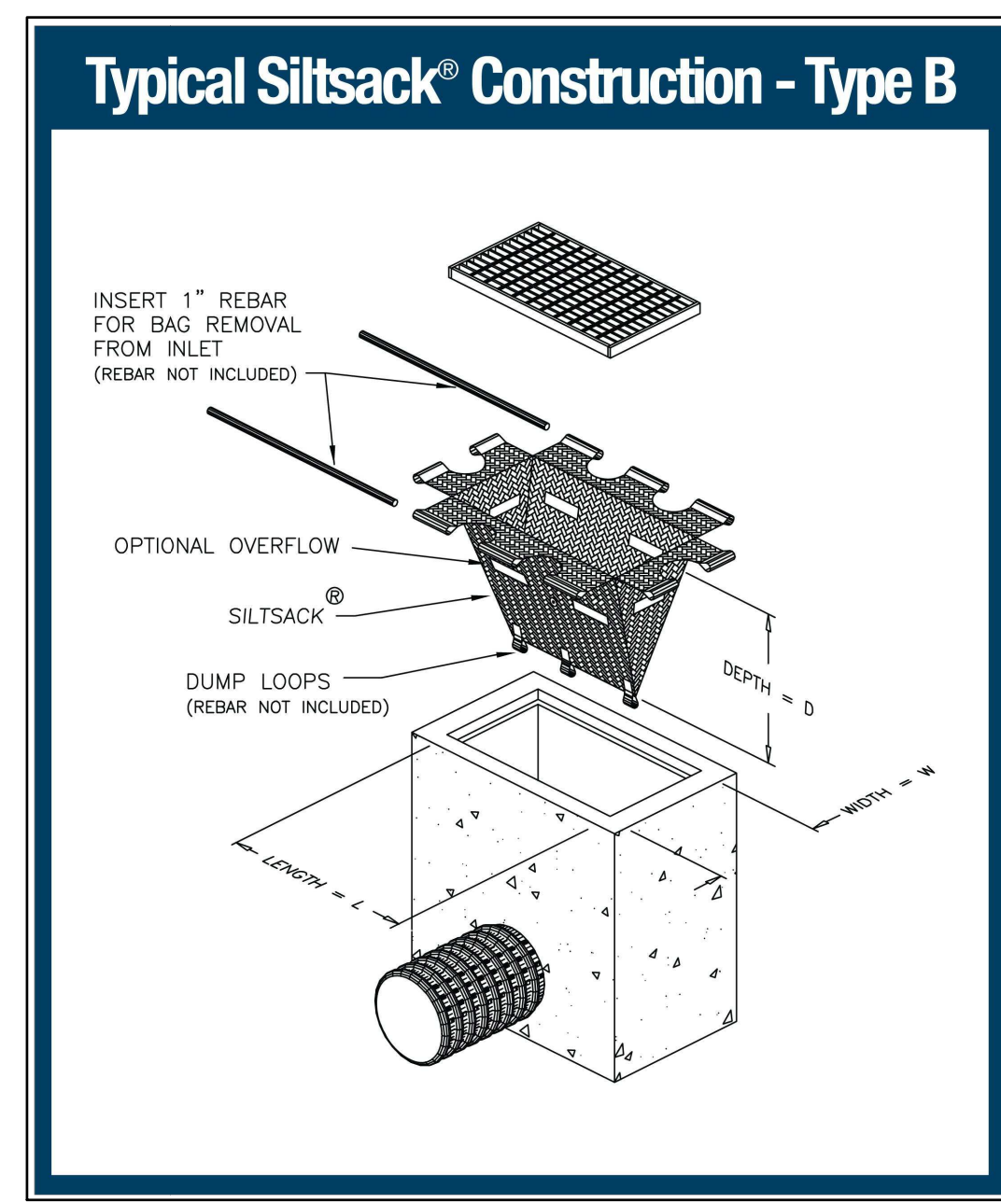
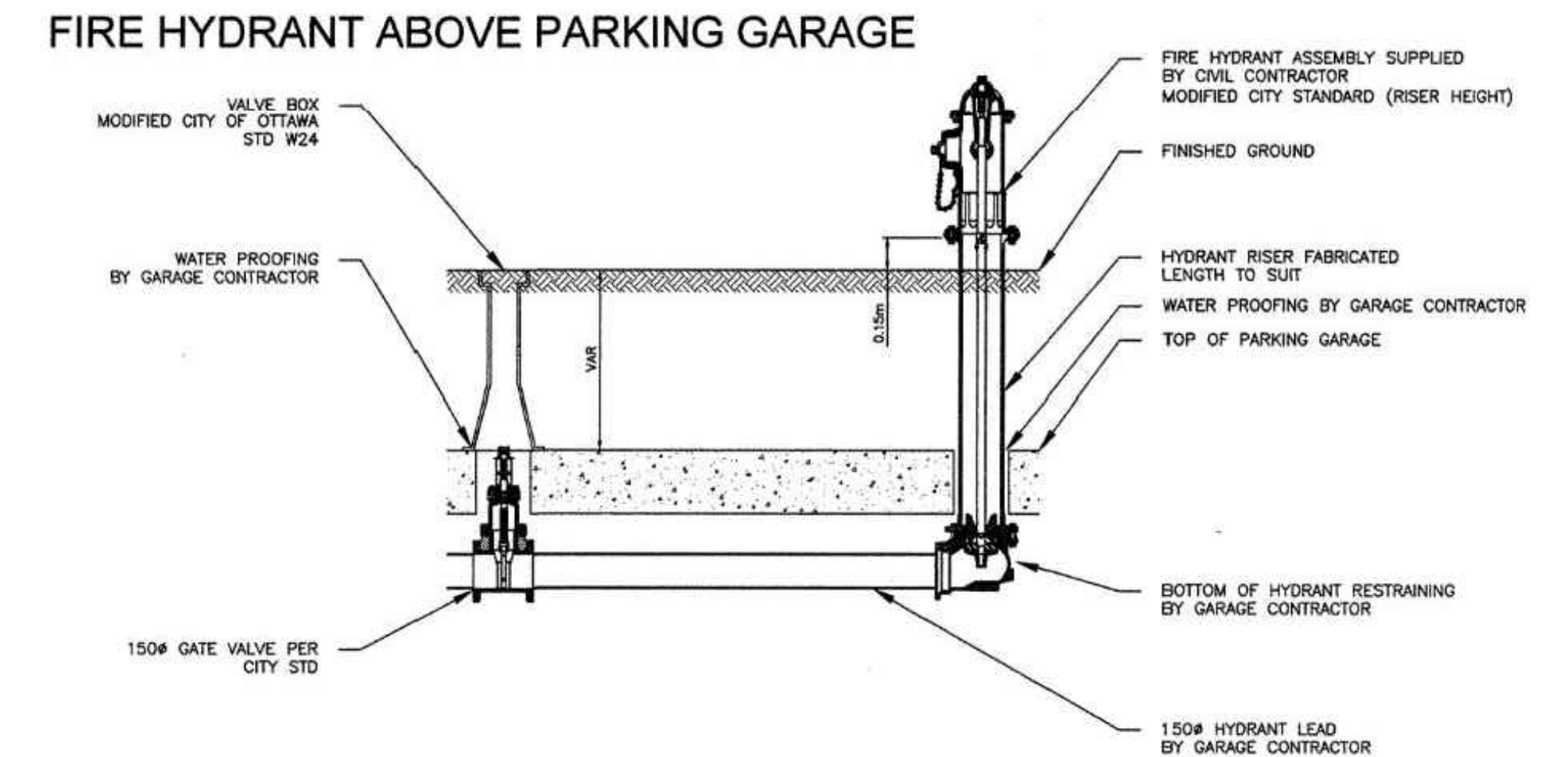
WATERMAIN SCHEDULE				
STATION	DESCRIPTION	FINISHED GRADE	TOP OF WATERMAIN	COVER
200mm W/M				
0+000	Connect to proposed building	66.45	64.050	2.40
0+004.05	22.5° Bend	66.46	64.060	2.40
0+008.08	11.25° Bend	66.90	64.500	2.40
0+010.44	45° Bend	67.28	64.880	2.40
0+012.20	45° Bend	67.27	64.870	2.40
0+015.87	Crossing with 900mm CONC STM	66.49	63.190	3.30
0+017.37	Crossing with 375mm PVC SAN	66.48	64.080	2.40
0+017.51	45° Bend	66.48	64.080	2.40
0+020.10	45° Bend	66.47	64.070	2.40
0+073.22	Crossing with ex. 600mm PVC STM	66.49	63.490	3.00
0+075.09	Crossing with ex. 300mm PVC SAN AND 45° Bend	66.57	64.170	2.40
0+076.02	Fire Hydrant Lead connection with 200 x 200mm Tee	66.68	64.280	2.40
0+085.87	Connect to building w/m servicing with 200x200mm Tee	67.96	65.560	2.40
0+087.54	200mm VB	68.17	65.770	2.40
0+089.25	Connect to building w/m servicing with 200x200mm Tee	68.40	66.000	2.40
0+093.18	11.25° Bend	68.90	66.500	2.40
0+118.78	45° Bend	69.26	66.860	2.40
0+124.04	45° Bend	68.80	66.400	2.40
0+125.29	Connect to ex. 200mm W/M	68.57	66.170	2.40

WATERMAIN SCHEDULE				
STATION	DESCRIPTION	FINISHED GRADE	TOP OF WATERMAIN	COVER
200mm WATER SERVICE 1				
1+000	Connect to proposed building	67.98	65.580	2.40
1+001.10	Crossing with 1050mm CONC STM	67.97	65.570	2.40
1+002.36	200mm VB	67.96	65.560	2.40
1+003.34	Crossing with 375mm PVC SAN	67.95	65.550	2.40
1+005.36	Connect to 200mm PVC W/M	67.96	64.660	3.30

WATERMAIN SCHEDULE				
STATION	DESCRIPTION	FINISHED GRADE	TOP OF WATERMAIN	COVER
200mm WATER SERVICE 2				
2+000	Connect to proposed building	68.37	65.970	2.40
2+000.85	Crossing with 1050mm CONC STM	68.36	65.960	2.40
2+002.18	200mm VB	68.36	65.960	2.40
2+002.97	Crossing with 375mm PVC SAN	68.37	65.970	2.40
2+004.98	Connect to 200mm PVC W/M	67.96	64.660	3.30

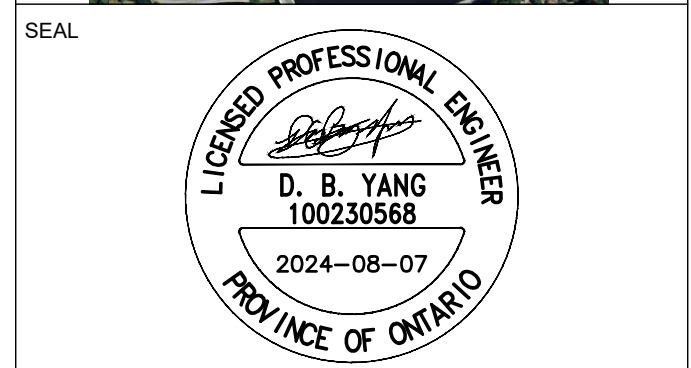
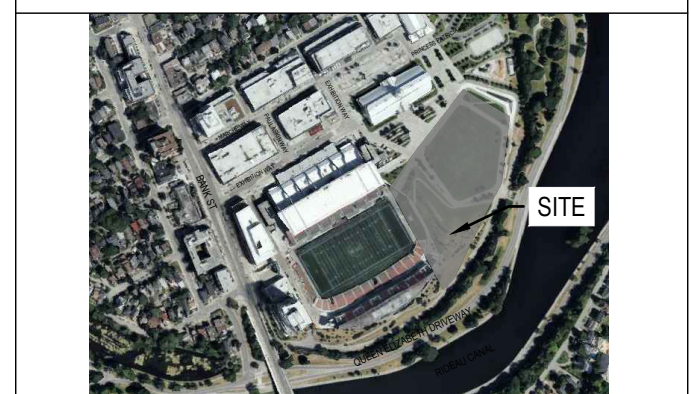


1 MUD MAT DETAIL - PLAN VIEW
SCALE: N.T.S.



NO.	ISSUED FOR	DESCRIPTION	DATE
1	ISSUED FOR SPA		2024/08/07

REVISIONS/ ISSUES
CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY OMISSIONS OR DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE THE DRAWINGS



DRAWN	J.T
DATE	2024/08/07
CHECKED	W.Y

LANSDOWNE EC

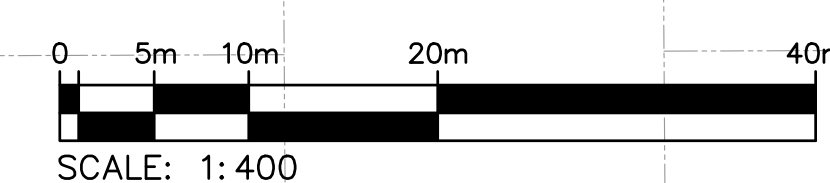
DWG. TITLE
DETAILS

SCALE	AS SHOWN	DWG. NO.	C02
PROJ. NO.	CA0033920.1056		

DATE PLOTTED:

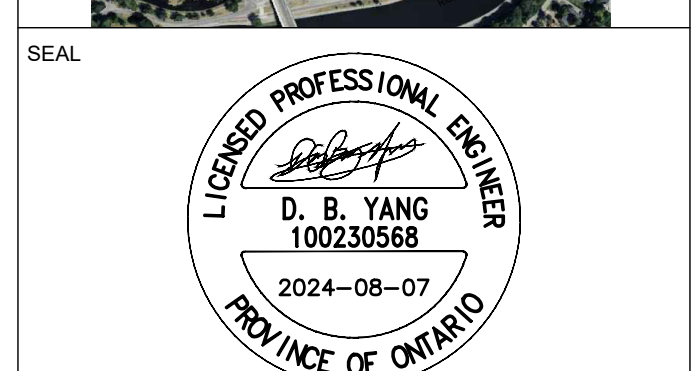
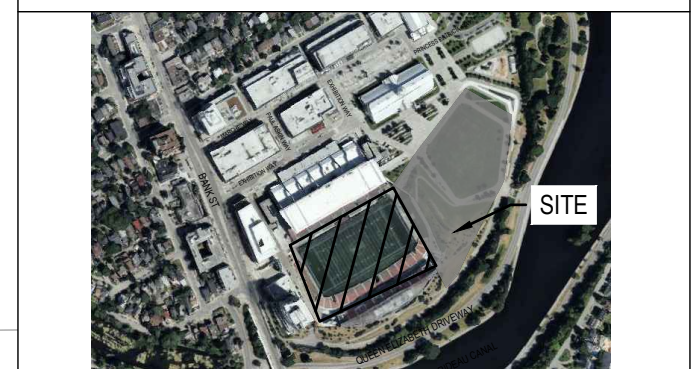


DATE PLOTTED: 2024-08-07
 1/8-80-17
 1/8-80-17



NO.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2024-08-07

REVISIONS/ ISSUES
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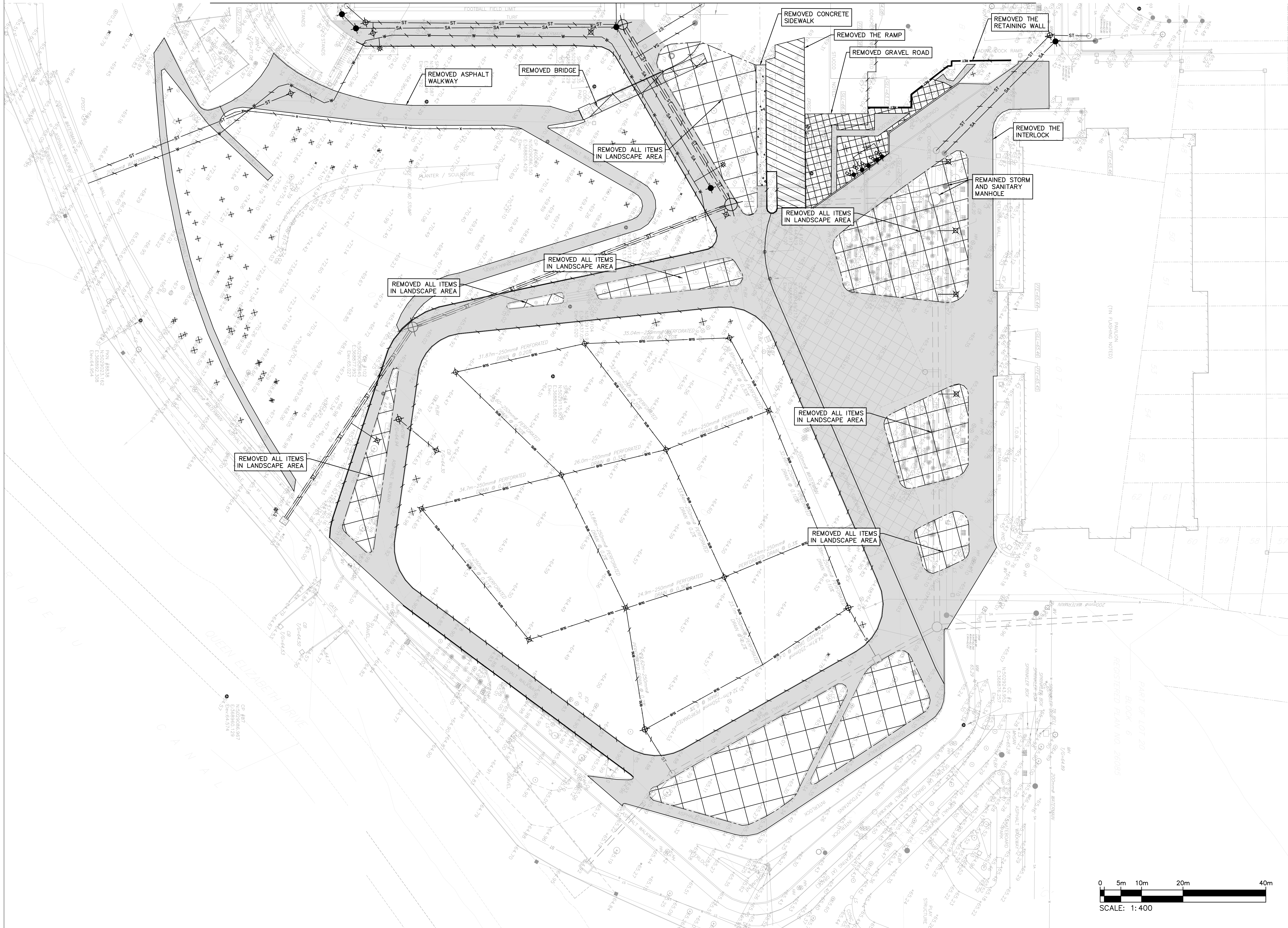
DRAWN: J.T
 DATE: 2024/08/07
 CHECKED: W.Y

LANSDOWNE EC

DWG. TITLE: **REMOVAL PLAN**

SCALE: 1:400
 PROJ. NO.: CA0033920.1056
 DWG. NO.: C03A

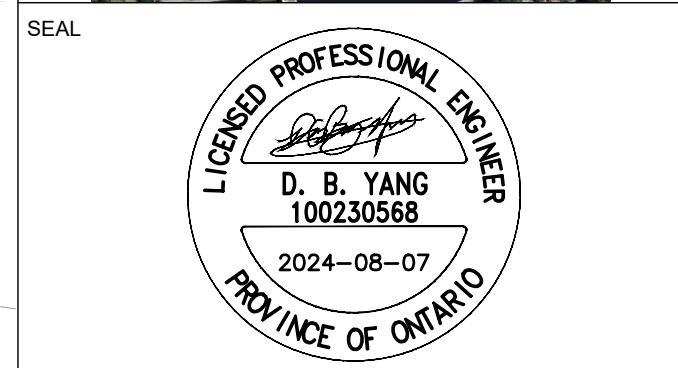
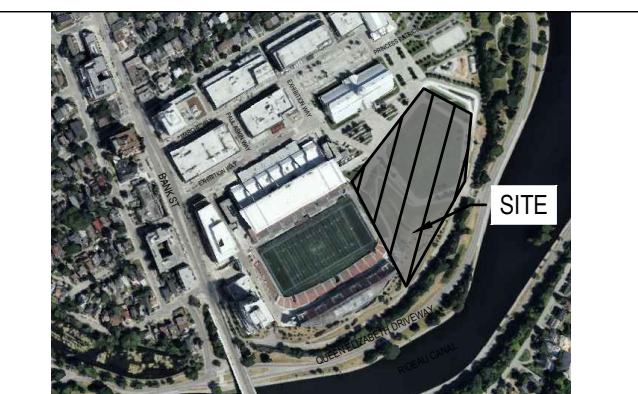
MATCHING LINE
SEE DRAWING C03A



NO.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2024-08-07

REVISIONS/ ISSUES

CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY OMISSIONS OR DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE THE DRAWINGS

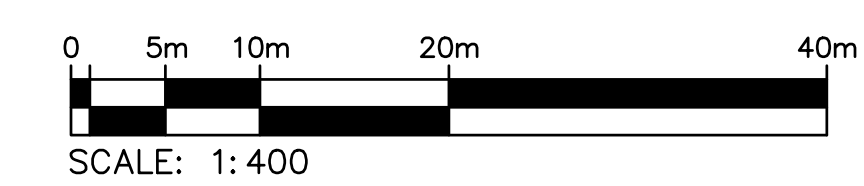


DRAWN	J.T
DATE	2024/08/07
CHECKED	W.Y

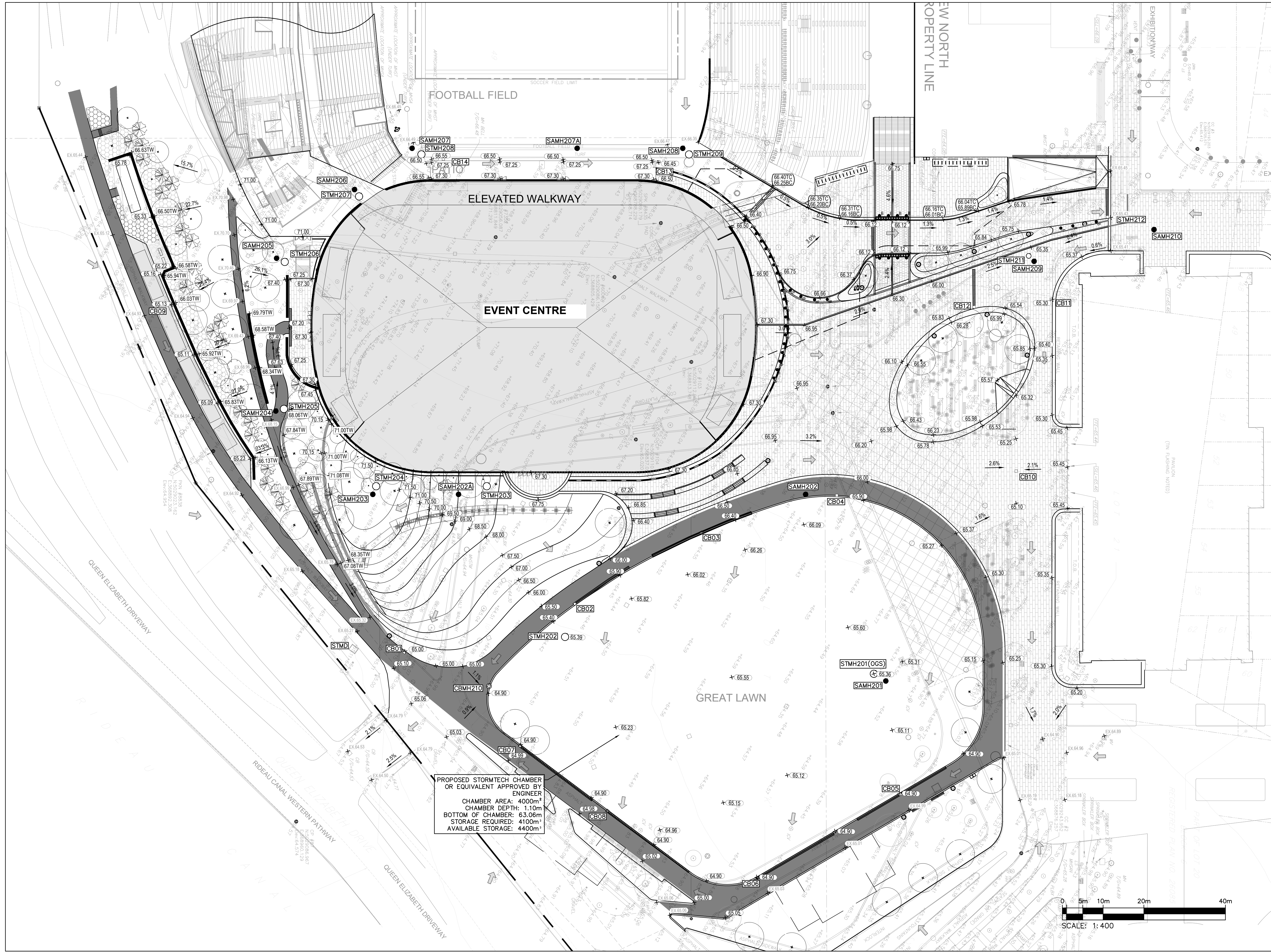
LANSDOWNE EC

DWG. TITLE
REMOVAL PLAN

SCALE	1:400	DWG. NO.	C03B
PROJ. NO.	CA0033920.1056		

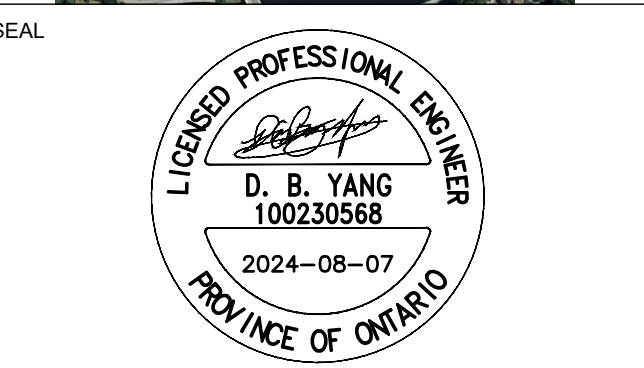


DATE PLOTTED:



NO.	ISSUED FOR SPA	DESCRIPTION	DATE
1	ISSUED FOR SPA		2024/08/07

REVISIONS/ ISSUES
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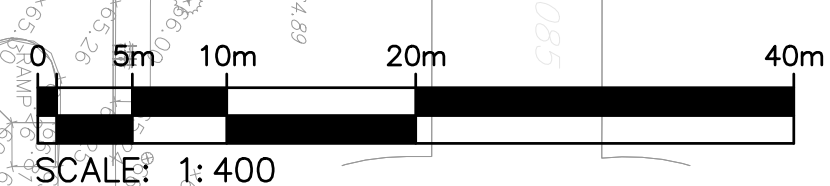


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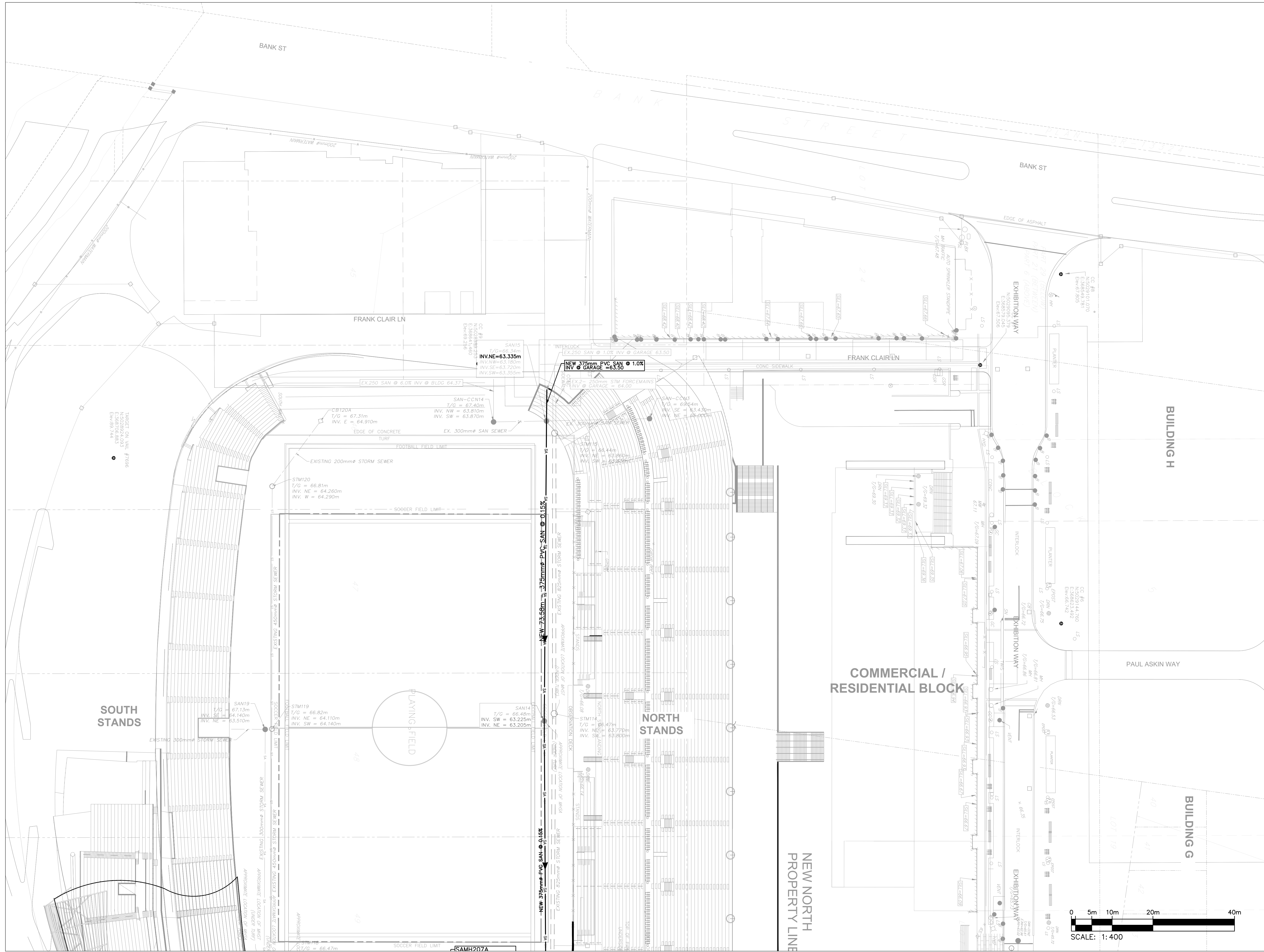
LANSDOWNE EC

DWG. TITLE: **GRADING PLAN**

SCALE: 1:400
 PROJ. NO.: CA0033920.1056
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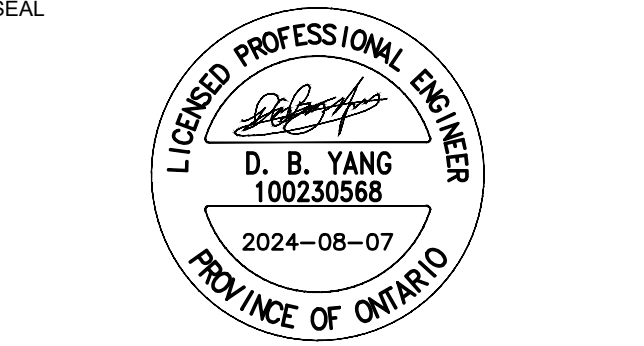
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DATE PLOTTED:

NO.	ISSUED FOR SPA	DESCRIPTION	DATE
1	ISSUED FOR SPA		2024/08/07

REVISIONS/ ISSUES
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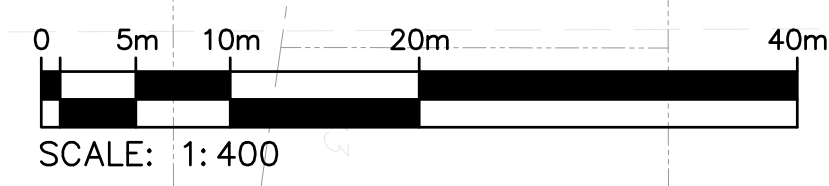


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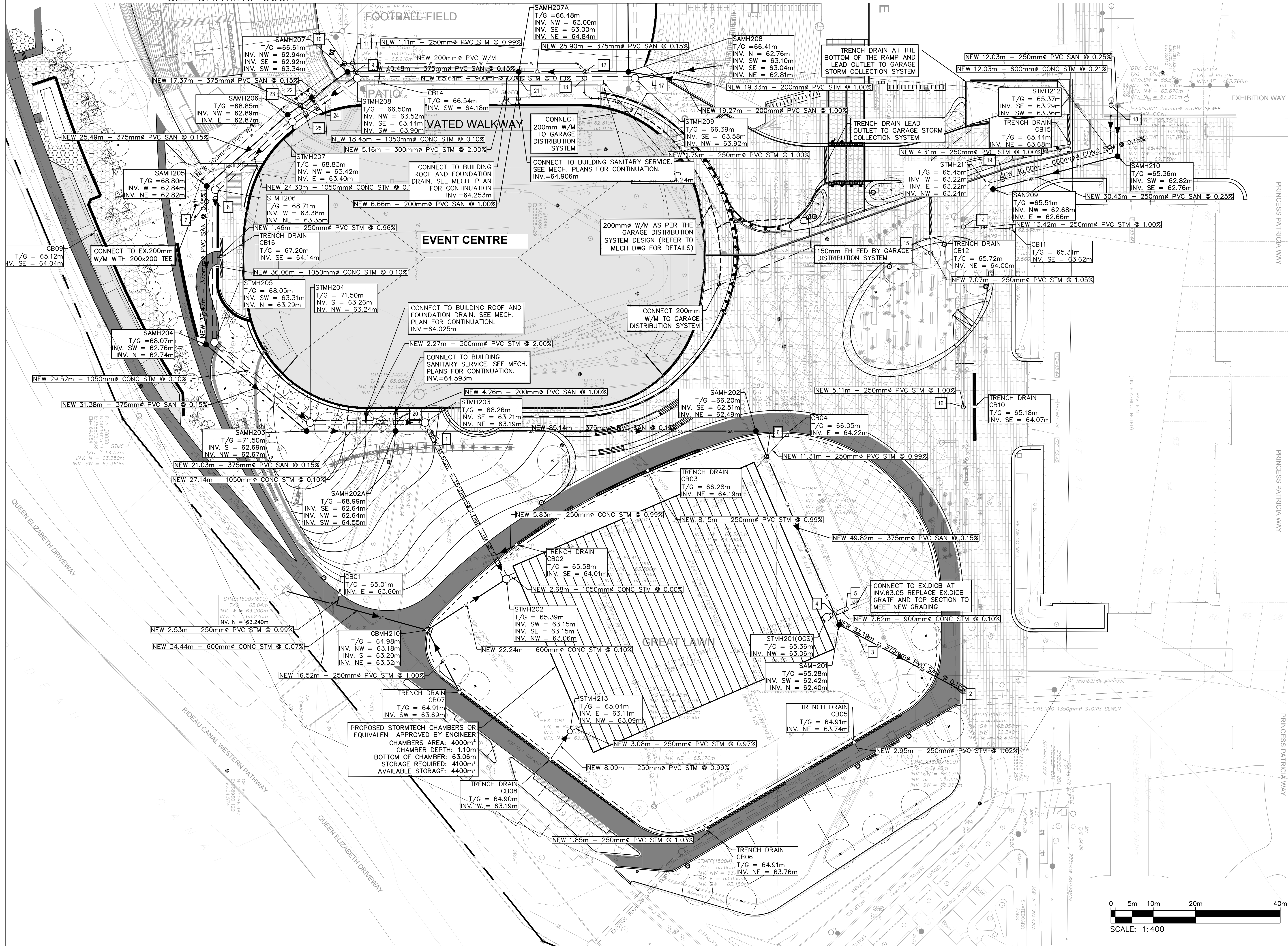
LANSDOWNE EC

DWG. TITLE: **SERVICING PLAN**

SCALE: 1:400
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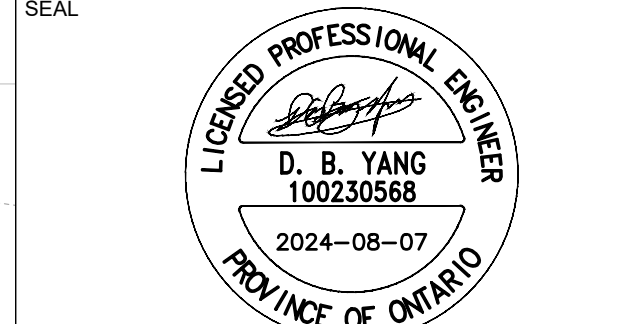


MATCH LINE
SEE DRAWING C05A



NO.	ISSUED FOR SPA	DESCRIPTION	DATE
1	ISSUED FOR SPA		2024/08/07

REVISIONS/ ISSUES
CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY OMISSIONS OR DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. **DO NOT SCALE THE DRAWINGS**

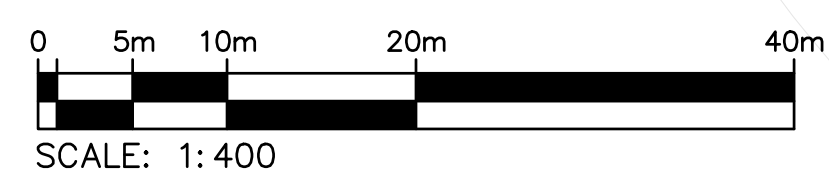


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DATE: 2024/08/07
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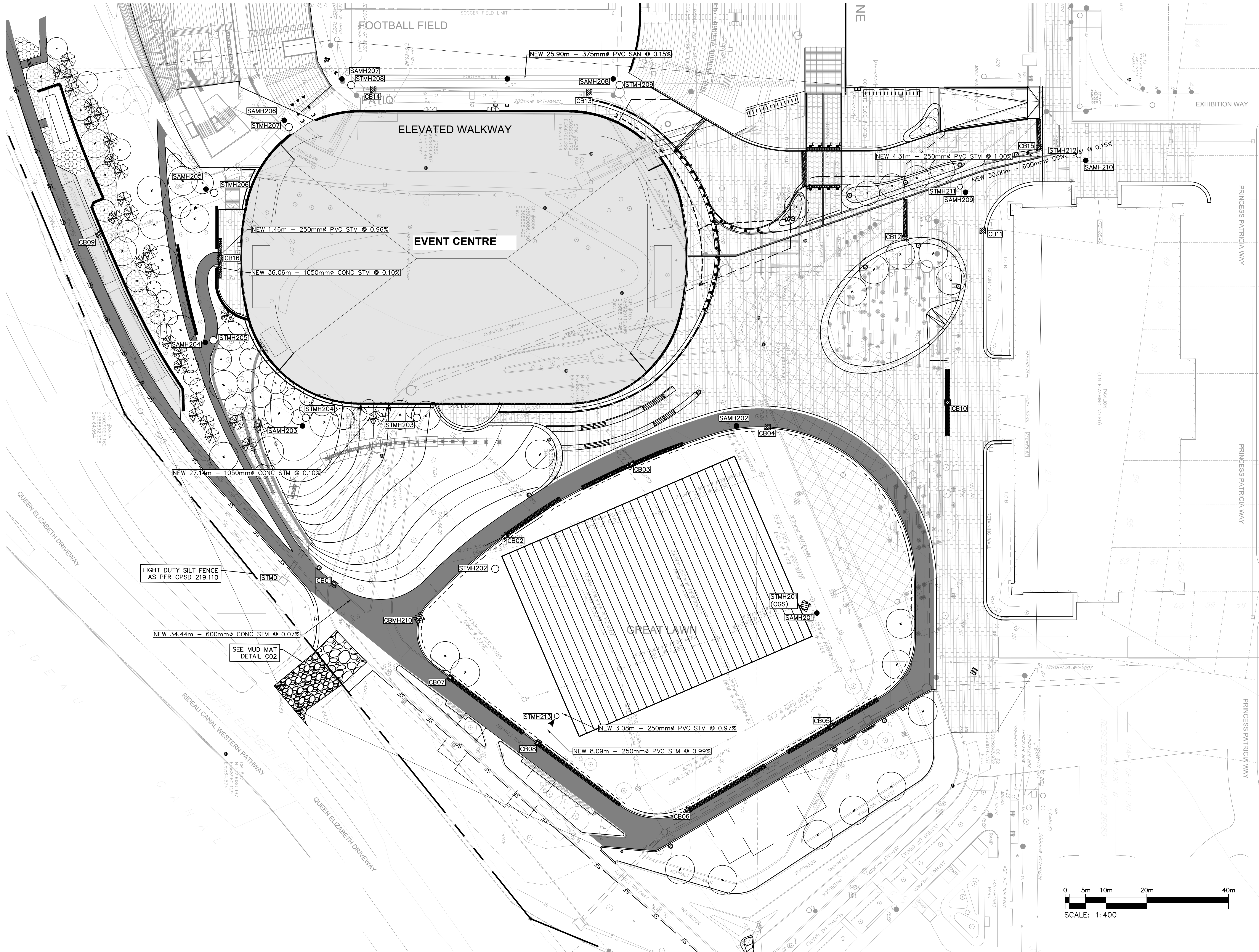
LANSDOWNE EC

DWG. TITLE: **SERVICING PLAN**

SCALE: 1:400
DWG. NO.: **C05B**
PROJ. NO.: CA0033920.1056



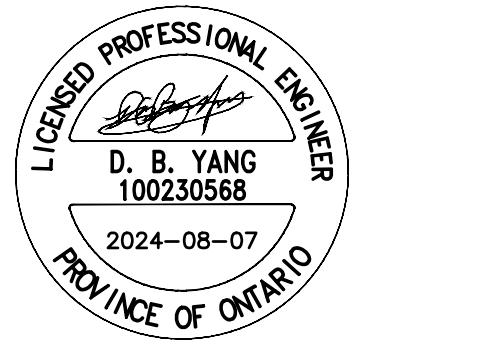
DATE PLOTTED:



NO.	ISSUED FOR SPA	DESCRIPTION	DATE
1	ISSUED FOR SPA		2024-08-07

REVISIONS/ ISSUES

CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY OMISSIONS OR DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE THE DRAWINGS.

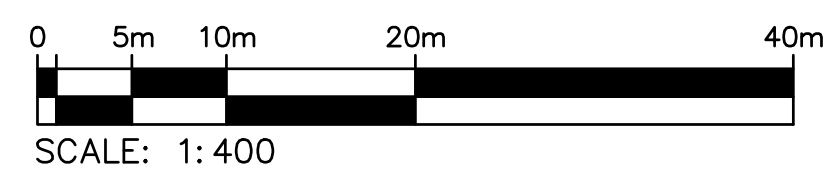


DRAWN J.T
 DATE 2024/08/07
 CHECKED W.Y

LANSDOWNE EC

DWG. TITLE
EROSION AND SEDIMENT CONTROL PLAN

SCALE 1:400 DWG. NO. C06
 PROJ. NO. CA0033920.1056



DATE PLOTTED: