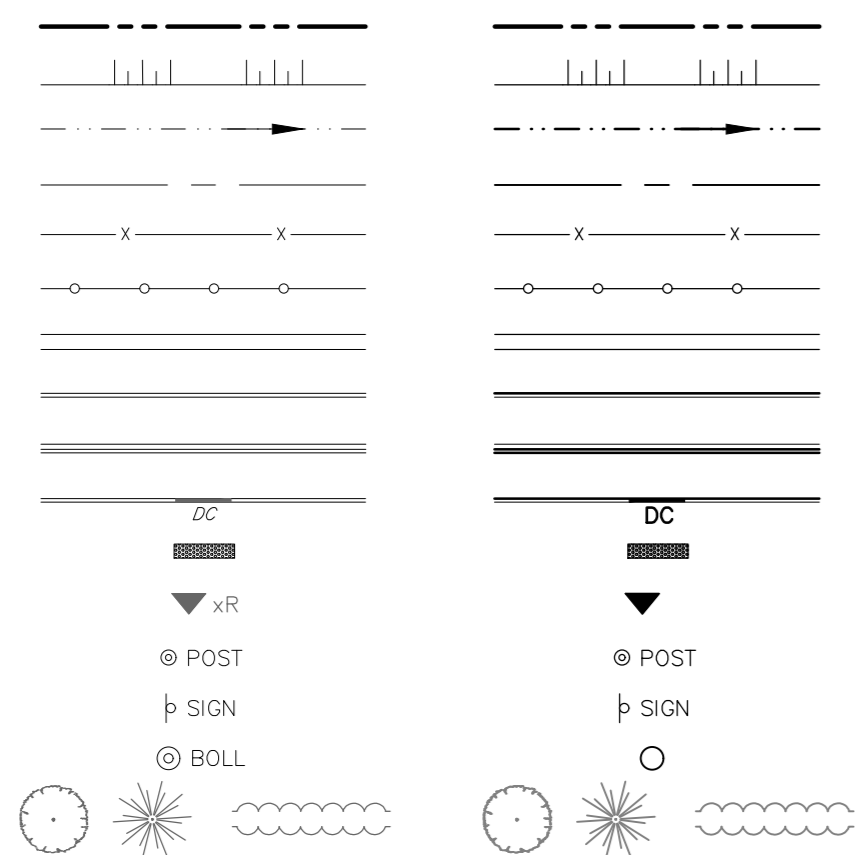


DESCRIPTION

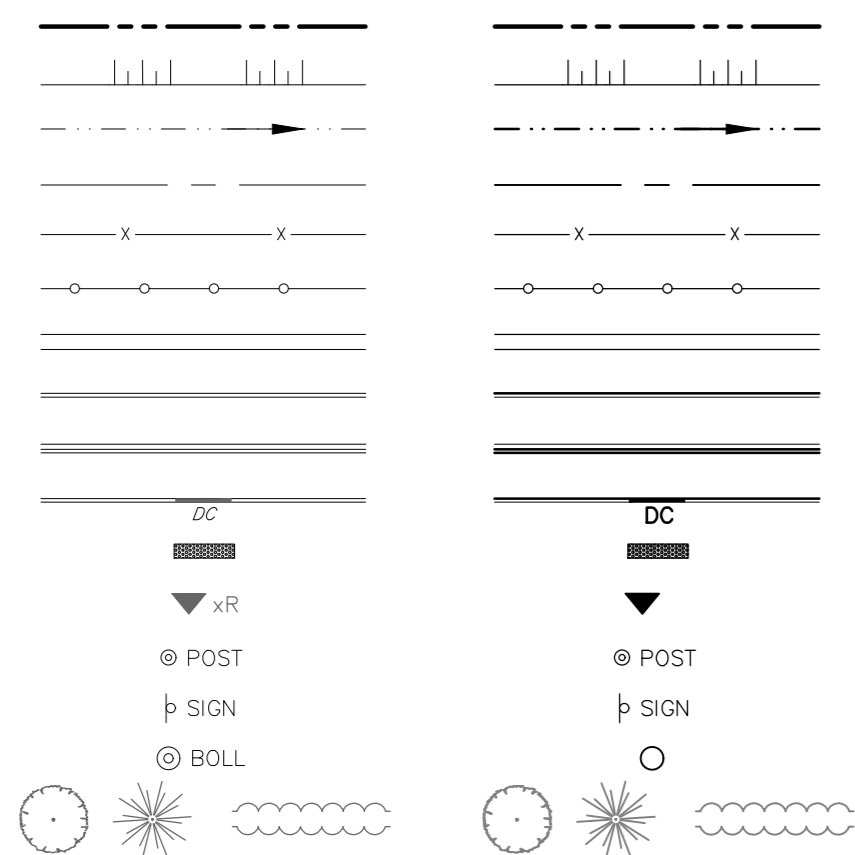
SITE FEATURES

- PROPERTY LINE
TERRACING (3:1 TYPICAL)
DITCH/SWALE AND DIRECTION OF FLOW
ROAD/ALIGNMENT
CHAINLINK FENCE
PERIMETER FENCE FOUNDED ON SONOTUBE
SIDEWALK (TYPE AS NOTED ON DRAWINGS)
BARRIER CURB (SC1.1)
MOUNTABLE CURB (SC1.3)
DEPRESSED CURB
TACTILE WALKING SURFACE INDICATOR "TWS" (SC7.3)
BUILDING ENTRY/EXIT
POST
SIGN
BOLLARD
VEGETATION

EXISTING



PROPOSED



SERVICES AND STRUCTURES

- SANITARY SEWER
COMBINATION SEWER
STORM SEWER
STORM SUBDRAIN
HI-40 THERMAL INSULATION AS PER OPSD 514.010
SANITARY MANHOLE
COMBINATION MANHOLE
STORM MANHOLE
CATCHBASIN MANHOLE
CATCHBASIN
DOUBLE CATCHBASIN
CATCHBASIN ELBOW (S30)
CATCHBASIN TEE (S31)
CURB INLET CATCHBASIN
DITCH INLET CATCHBASIN
WATERMAIN
IRRIGATION
VALVE AND VALVE BOX
VALVE AND VALVE CHAMBER
FIRE HYDRANT
SIAMSESE CONNECTION
WATER METER
REMOTE WATER METER
45° BEND
22.5° BEND
11.25° BEND
TEE
REDUCER
CROSS
CURB STOP
WATER WELL

GRADING

- GROUND ELEVATION
SWALE ELEVATION
TOP OF GRATE ELEVATION
TOP OF WALL ELEVATION
BOTTOM OF WALL ELEVATION
FINISHED FLOOR ELEVATION
BASEMENT FLOOR ELEVATION
SLOPE AND DIRECTION OF FLOW
OVERLAND FLOW ROUTE ONSITE
OVERLAND FLOW ROUTE EXTERNAL

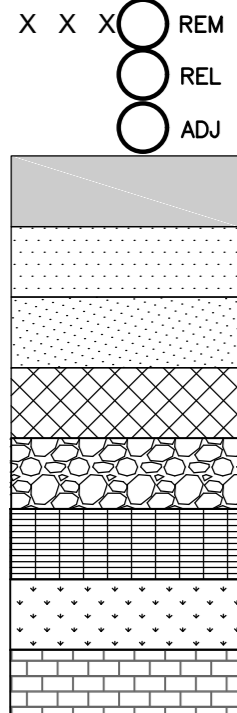
STORMWATER MANAGEMENT

- STORM DRAINAGE AREA BOUNDARY
STORM DRAINAGE AREA NUMBER
STORM DRAINAGE AREA IN HECTARES
RUN-OFF COEFFICIENT
2 YEAR PONDING AREA
100 YEAR PONDING AREA

DESCRIPTION

MISCELLANEOUS

- REMOVED
RELOCATED
ADJUSTED
LIGHT DUTY PAVEMENT
HEAVY DUTY PAVEMENT
ROAD REINSTATEMENT AS PER CITY STANDARD R10
CURBS AND SIDEWALK REINSTATEMENT AS PER CITY STD. SC4
RIP-RAP AS PER OPSD 810.010
LANDSCAPE REINSTATEMENT
PROPOSED SOFT LANDSCAPING AS PER LANDSCAPE PLANS
PROPOSED CONCRETE PAVERS



GENERAL NOTES

- 1. ALL WORKS AND MATERIALS SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS), WHERE APPLICABLE.
2. THE LOCATION OF UTILITIES IS APPROXIMATE ONLY, AND THE EXACT LOCATION SHOULD BE DETERMINED BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED.
3. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING SERVICES PRIOR TO ANY CONSTRUCTION.
4. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND BEAR COST OF THE SAME.
6. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS".
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION, BACKFILL AND REINSTATEMENT OF ALL AREAS DISTURBED DURING CONSTRUCTION.
8. ANY AREAS BEYOND THE LIMIT OF THE SITE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER.
9. THE CONTRACTOR SHALL COMPLY WITH THE CITY OF OTTAWA REQUIREMENTS FOR TRAFFIC CONTROL WHEN WORKING ON CITY STREETS.
10. THERE WILL BE NO SUBSTITUTION OF MATERIALS UNLESS WRITTEN APPROVAL BY THE ENGINEER HAS BEEN OBTAINED.
11. EXCESS EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE.
12. THE SITE LAYOUT IS THE RESPONSIBILITY OF THE CONTRACTOR.
13. THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL BEDDING OR ADDITIONAL STRENGTH PIPE IF THE MAXIMUM TRENCH WIDTH, AS SPECIFIED BY OPSD, IS EXCEEDED.
14. ALL NECESSARY CLEARING AND GRUBBING SHALL BE COMPLETED BY THE CONTRACTOR.
15. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT.
16. ALL BOREHOLES SHOWN ON THE DRAWINGS ARE FOR INFORMATION ONLY.
17. THE CONTRACTOR SHALL APPRAISE HIS/HERSELF OF ALL SURFACE AND SUBSURFACE CONDITIONS.
18. DO NOT CONSTRUCT USING DRAWINGS THAT ARE NOT MARKED "ISSUED FOR CONSTRUCTION".
19. FOR TOPOGRAPHICAL INFORMATION REFER TO PLAN PREPARED BY FAIRHALL MOFFAT WOODLAND LIMITED.
20. CIVIL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, LANDSCAPE AND LEGAL DRAWINGS.
21. ALL NECESSARY CLEARING AND GRUBBING SHALL BE COMPLETED BY THE CONTRACTOR.
22. STREET LIGHTING SHALL BE TO CITY OF OTTAWA STANDARDS.
23. SANITARY SEWER MATERIALS AND INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
24. ALL SANITARY SEWERS SHALL BE PVC SDR 35, IPEX "RING-TITE" (OR EQUIVALENT), AS PER CSA STANDARD 8182.2 OR LATEST AMENDMENT.
25. SANITARY SEWER TRENCH AND BEDDING SHALL BE AS PER CITY OF OTTAWA STD. S6 AND S7, CLASS 'B' BEDDING UNLESS OTHERWISE NOTED.
26. ALL SANITARY LATERALS ARE TO BE PVC SDR 28, IPEX "RING-TITE" (OR EQUIVALENT).
27. SEWER BEDDING AS PER CITY STANDARD S6 & S7.
28. SANITARY SEWER MANHOLES SHALL BE BENCHED AS PER OPSD 701.021.
29. THE CONTRACTOR SHALL CONDUCT INFILTRATION/EXFILTRATION (AS PER CURRENT OPSS) TESTING ON ALL NEWLY INSTALLED SANITARY SEWERS.
30. THE CONTRACTOR SHALL CONDUCT CCTV INSPECTION OF ALL NEWLY INSTALLED SANITARY SEWERS AND EXISTING SEWERS CONNECTED TO.
31. ALL SERVICE CONNECTIONS TO BE CONSTRUCTED AS PER CITY STANDARD S11 & S11.1.
32. THE CONTRACTOR SHALL CONSTRUCT FLEXIBLE SANITARY SEWERS IN ACCORDANCE WITH OPSD 802.010 AND 802.013.
33. ALL SANITARY BUILDING DRAINS TO BE EQUIPPED WITH SANITARY BACKWATER VALVES.
34. WITHIN THE FROST ZONE, THE BACKFILL IN THE SERVICE TRENCHES SHOULD MATCH THE SOIL ON SIDES TO MINIMIZE DIFFERENTIAL FROST HEAVING.
35. MINIMUM SOIL COVER TO BE 2.1m TO PROTECT SEWERS FROM FROST DAMAGE.
36. SANITARY SEWER MATERIALS AND INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
37. ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.2 (LATEST AMENDMENT).
38. ALL PVC STORM SEWERS ARE TO BE SDR 35 APPROVED PER C.S.A. 8182.2 OR LATEST AMENDMENT.
39. THE CONTRACTOR SHALL CONSTRUCT FLEXIBLE STORM SEWERS IN ACCORDANCE WITH OPSD 802.010 AND 802.013.
40. SEWER BEDDING AS PER CITY STANDARD S6 & S7.
41. ALL STORM LATERALS SHALL BE PVC SDR 28, WHITE IN COLOR AND MARKED WITH A 50mm X 100mm WOODEN MARKER.
42. ALL SERVICE CONNECTIONS TO BE CONSTRUCTED AS PER CITY STANDARD S11 & S11.1.
43. WITHIN THE FROST ZONE, THE BACKFILL IN THE SERVICE TRENCHES SHOULD MATCH THE SOIL ON SIDES TO MINIMIZE DIFFERENTIAL FROST HEAVING.
44. MINIMUM SOIL COVER TO BE 2.1M TO PROTECT SEWERS FROM FROST DAMAGE.
45. ALL STORM SERVICES TO BE EQUIPPED WITH APPROVED BACKWATER VALVES.
46. STORM MANHOLE FRAME AND COVERS SHALL BE AS PER CITY OF OTTAWA STD. S24, S24.1 AND S25.
47. DROP STRUCTURES SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA SPECIFICATIONS AND OPSD 1003.01.
48. STORM SEWER MANHOLES SERVING LOCAL SEWERS LESS THAN 900MM SHALL BE CONSTRUCTED WITH A 300MM SUMP.
49. SINGLE AND DOUBLE CATCHBASINS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. S1.
50. CURB INLET TYPE CATCH BASIN (CIB) SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. S3.
51. SINGLE AND DOUBLE CATCHBASIN LEADS SHALL BE 200MM AND 250MM DIA (MIN) RESPECTIVELY.
52. ALL CATCHBASINS AND CATCHBASIN MANHOLES SHALL HAVE SUMPS WITH 300MM DEPTH.
53. CONTRACTOR SHALL ENSURE THAT CATCHBASINS ARE INSTALLED AT THE LOW POINT OF SAG CURB WORKS.
54. THE STORM SEWER CLASSES HAVE BEEN DESIGNED BASED ON BEDDING CONDITIONS SPECIFIED.
55. THE CONTRACTOR SHALL CONDUCT CCTV INSPECTION OF ALL NEWLY INSTALLED STORM SEWERS AND EXISTING SEWERS CONNECTED TO.
56. WATERMAIN MATERIALS AND INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
57. NO WORK SHALL COMMENCE UNLESS A CITY WATER WORKS INSPECTOR IS ON SITE.
58. ALL WATERMANS SHALL BE EQUAL TO ANWA C-900 CLASS 150, SDR 18, OR APPROVED EQUAL.
59. WATERMANS TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W17.
60. ALL PVC WATERMANS SHALL BE INSTALLED WITH A 10 GAUGE STRANDED COPPER TWU OR RWU TRACER WIRE.
61. WATER SERVICES ARE TO BE TYPE K SOFT COPPER AS PER CITY OF OTTAWA STD. W26 UNLESS OTHERWISE SPECIFIED.
62. CATHODIC PROTECTION IS REQUIRED ON ALL METALLIC FITTINGS AS PER CITY OF OTTAWA STD. W40 AND W42.
63. VALVE BOXES SHALL BE INSTALLED AS PER CITY OF OTTAWA DETAIL W24.
64. ALL FIRE HYDRANTS TO BE INSTALLED AS PER CITY STANDARD W19 AND LOCATED AS PER CITY STANDARD W18 AND/OR CITY STANDARD CROSS SECTIONS.
65. ALL WATERMANS TO BE INSTALLED AT MINIMUM COVER OF 2.4m.
66. THRUST BLOCKS AND RESTRAINT AS PER CITY OF OTTAWA DWGS: W25.3 AND W25.4, W25.5 AND W25.6.
67. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
68. DISINFECTION AND TESTING OF WATERMAIN TO BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS.
69. WATER METERS TO BE INSTALLED AS PER W30 FOR WATER SERVICES.
70. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS AND BLOW-OFFS AND NOZZLES REQUIRED FOR TESTING AND DISINFECTION OF THE WATERMAIN.
71. INSULATION FOR WATERMAIN CROSSING OVER AND BELOW SEWER SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. W25.2 AND W25, RESPECTIVELY.
72. WHERE THE SEPARATION BETWEEN SERVICES AND MANHOLES IS LESS THAN 1.2m, WATER SERVICES ARE TO BE INSULATED AS PER CITY OF OTTAWA STD. W23.
73. AS PER CITY GUIDELINE, THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER / UTILITY IS 0.25M FOR CROSSING OVER THE SEWER, AS PER CITY STD W25.2.
74. MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER / UTILITY IS 0.50M AS PER CITY STD. W26 FOR CROSSING UNDER SEWER.
75. ADEQUATE STRUCTURAL SUPPORT FOR THE SEWERS IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING.
76. THE LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING SO THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.

STORM SEWER NOTES

- 1. ALL STORM SEWER MATERIALS AND INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
2. ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.2 (LATEST AMENDMENT).
3. ALL PVC STORM SEWERS ARE TO BE SDR 35 APPROVED PER C.S.A. 8182.2 OR LATEST AMENDMENT.
4. THE CONTRACTOR SHALL CONSTRUCT FLEXIBLE STORM SEWERS IN ACCORDANCE WITH OPSD 802.010 AND 802.013.
5. SEWER BEDDING AS PER CITY STANDARD S6 & S7.
6. ALL STORM LATERALS SHALL BE PVC SDR 28, WHITE IN COLOR AND MARKED WITH A 50mm X 100mm WOODEN MARKER.
7. ALL SERVICE CONNECTIONS TO BE CONSTRUCTED AS PER CITY STANDARD S11 & S11.1.
8. WITHIN THE FROST ZONE, THE BACKFILL IN THE SERVICE TRENCHES SHOULD MATCH THE SOIL ON SIDES TO MINIMIZE DIFFERENTIAL FROST HEAVING.
9. MINIMUM SOIL COVER TO BE 2.1M TO PROTECT SEWERS FROM FROST DAMAGE.
10. ALL STORM SERVICES TO BE EQUIPPED WITH APPROVED BACKWATER VALVES.
11. STORM MANHOLE FRAME AND COVERS SHALL BE AS PER CITY OF OTTAWA STD. S24, S24.1 AND S25.
12. DROP STRUCTURES SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA SPECIFICATIONS AND OPSD 1003.01.
13. STORM SEWER MANHOLES SERVING LOCAL SEWERS LESS THAN 900MM SHALL BE CONSTRUCTED WITH A 300MM SUMP.
14. SINGLE AND DOUBLE CATCHBASINS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. S1.
15. CURB INLET TYPE CATCH BASIN (CIB) SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. S3.
16. SINGLE AND DOUBLE CATCHBASIN LEADS SHALL BE 200MM AND 250MM DIA (MIN) RESPECTIVELY.
17. ALL CATCHBASINS AND CATCHBASIN MANHOLES SHALL HAVE SUMPS WITH 300MM DEPTH.
18. CONTRACTOR SHALL ENSURE THAT CATCHBASINS ARE INSTALLED AT THE LOW POINT OF SAG CURB WORKS.
19. THE STORM SEWER CLASSES HAVE BEEN DESIGNED BASED ON BEDDING CONDITIONS SPECIFIED.
20. THE CONTRACTOR SHALL CONDUCT CCTV INSPECTION OF ALL NEWLY INSTALLED STORM SEWERS AND EXISTING SEWERS CONNECTED TO.
21. THE CONTRACTOR SHALL CONDUCT CCTV INSPECTION OF ALL NEWLY INSTALLED STORM SEWERS AND EXISTING SEWERS CONNECTED TO.

WATERMAIN NOTES

- 1. ALL WATERMAIN MATERIALS AND INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
2. NO WORK SHALL COMMENCE UNLESS A CITY WATER WORKS INSPECTOR IS ON SITE.
3. ALL PVC WATERMANS SHALL BE EQUAL TO ANWA C-900 CLASS 150, SDR 18, OR APPROVED EQUAL.
4. WATERMANS TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W17.
5. ALL PVC WATERMANS SHALL BE INSTALLED WITH A 10 GAUGE STRANDED COPPER TWU OR RWU TRACER WIRE.
6. WATER SERVICES ARE TO BE TYPE K SOFT COPPER AS PER CITY OF OTTAWA STD. W26 UNLESS OTHERWISE SPECIFIED.
7. CATHODIC PROTECTION IS REQUIRED ON ALL METALLIC FITTINGS AS PER CITY OF OTTAWA STD. W40 AND W42.
8. VALVE BOXES SHALL BE INSTALLED AS PER CITY OF OTTAWA DETAIL W24.
9. ALL FIRE HYDRANTS TO BE INSTALLED AS PER CITY STANDARD W19 AND LOCATED AS PER CITY STANDARD W18 AND/OR CITY STANDARD CROSS SECTIONS.
10. ALL WATERMANS TO BE INSTALLED AT MINIMUM COVER OF 2.4m.
11. THRUST BLOCKS AND RESTRAINT AS PER CITY OF OTTAWA DWGS: W25.3 AND W25.4, W25.5 AND W25.6.
12. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
13. DISINFECTION AND TESTING OF WATERMAIN TO BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS.
14. WATER METERS TO BE INSTALLED AS PER W30 FOR WATER SERVICES.
15. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS AND BLOW-OFFS AND NOZZLES REQUIRED FOR TESTING AND DISINFECTION OF THE WATERMAIN.
16. INSULATION FOR WATERMAIN CROSSING OVER AND BELOW SEWER SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. W25.2 AND W25, RESPECTIVELY.
17. WHERE THE SEPARATION BETWEEN SERVICES AND MANHOLES IS LESS THAN 1.2m, WATER SERVICES ARE TO BE INSULATED AS PER CITY OF OTTAWA STD. W23.
18. AS PER CITY GUIDELINE, THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER / UTILITY IS 0.25M FOR CROSSING OVER THE SEWER, AS PER CITY STD W25.2.
19. MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER / UTILITY IS 0.50M AS PER CITY STD. W26 FOR CROSSING UNDER SEWER.
20. ADEQUATE STRUCTURAL SUPPORT FOR THE SEWERS IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING.
21. THE LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING SO THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.

ROADWAY SPECIFICATIONS

- 1. ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE STRIPPED WITHIN THE ROAD ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. CONCRETE CURB SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. SC1.1 (BARRIER CURB) AND SC1.3 (MOUNTABLE CURB).
3. ROAD SUBDRAINS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. R1.
4. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. R10 AND OPSD 509.010, OPSS 310.
5. GRANULAR "A" SHALL BE PLACED TO A MINIMUM THICKNESS OF 300MM AROUND ALL STRUCTURES WITHIN PAVEMENT AREA.
6. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO A MINIMUM OF 98% STANDARD PROCTOR DENSITY.
7. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION OF SEWERS & NECESSARY REPAIRS HAVE BEEN CARRIED OUT TO THE SATISFACTION OF THE ENGINEER.
8. SUB- EXCAVATE SOFT AREAS AND FILL WITH GRANULAR "B" COMPACTED IN MAXIMUM 300MM LIFTS.
9. PAVEMENT STRUCTURE: REFER TO THE GEOTECHNICAL INVESTIGATION REPORT DATED 10 JULY, 2019 PREPARED BY PATERSON GROUP.

GENERAL NOTES FOR GRADING

- 1. IT SHALL BE THE BUILDER'S RESPONSIBILITY TO ENSURE THAT GRADING AROUND HYDRANTS, TRANSFORMERS, AND UTILITY PEDESTALS, ETC., MEET CURRENT CITY OF OTTAWA, HYDRO AND UTILITY COMPANY REQUIREMENTS.
2. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
3. CONTRACTOR TO ADJUST EXISTING CATCH BASINS, MANHOLES, FIRE HYDRANTS, VALVE CHAMBERS AND VALVE BOXES TO FINAL GRADE AS REQUIRED.
4. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING FOUNDATIONS OF ADJACENT BUILDINGS DURING EXCAVATION AND CONSTRUCTION PERIOD.
5. GRADING IN GRASSED AREAS WILL BE BETWEEN 2% TO 7%. GRADES IN EXCESS OF 7% WILL REQUIRE A MAXIMUM 3:1 TERRACING.

Table with columns: no., date, revision / issue, by. It contains a list of revisions and issues for the drawing.

grc architects logo and contact information: 47 Clarence Street, Suite 401, Ottawa, Ontario K1V 1S6.

exp Services Inc. logo and contact information: 1111 1111 1111, Ottawa, Ontario K1V 1S6.

Professional stamp for M.A. Ansari, dated 2023/11/10, Province of Ontario.

PROJECT TITLE: NEW QATAR EMBASSY AND CONSULATE, Ottawa, Ontario.

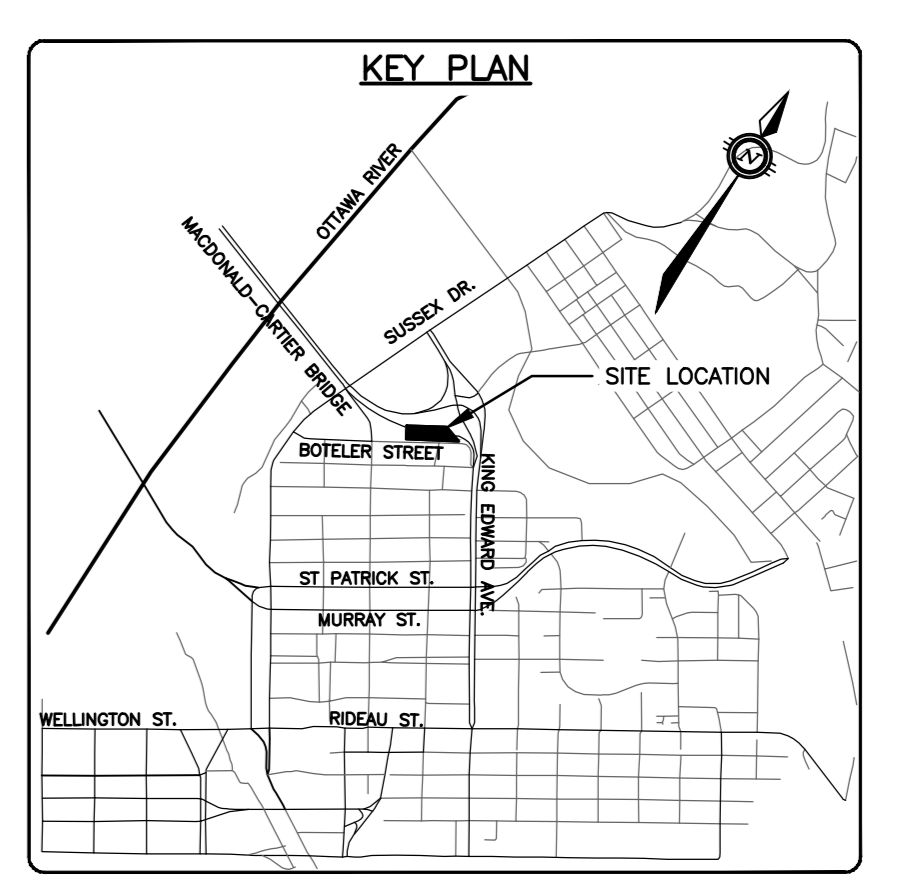
DRAWING TITLE: LEGENDS AND NOTES.

Table with columns: date, scales, drawn, approved, plot date, job no., drawing no., job title. Includes drawing number C-001.

1. DO NOT SCALE THIS DRAWING.
2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
3. THIS DRAWING TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWINGS: STRUCTURAL, MECHANICAL, ELECTRICAL.

**CAUTION**  
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

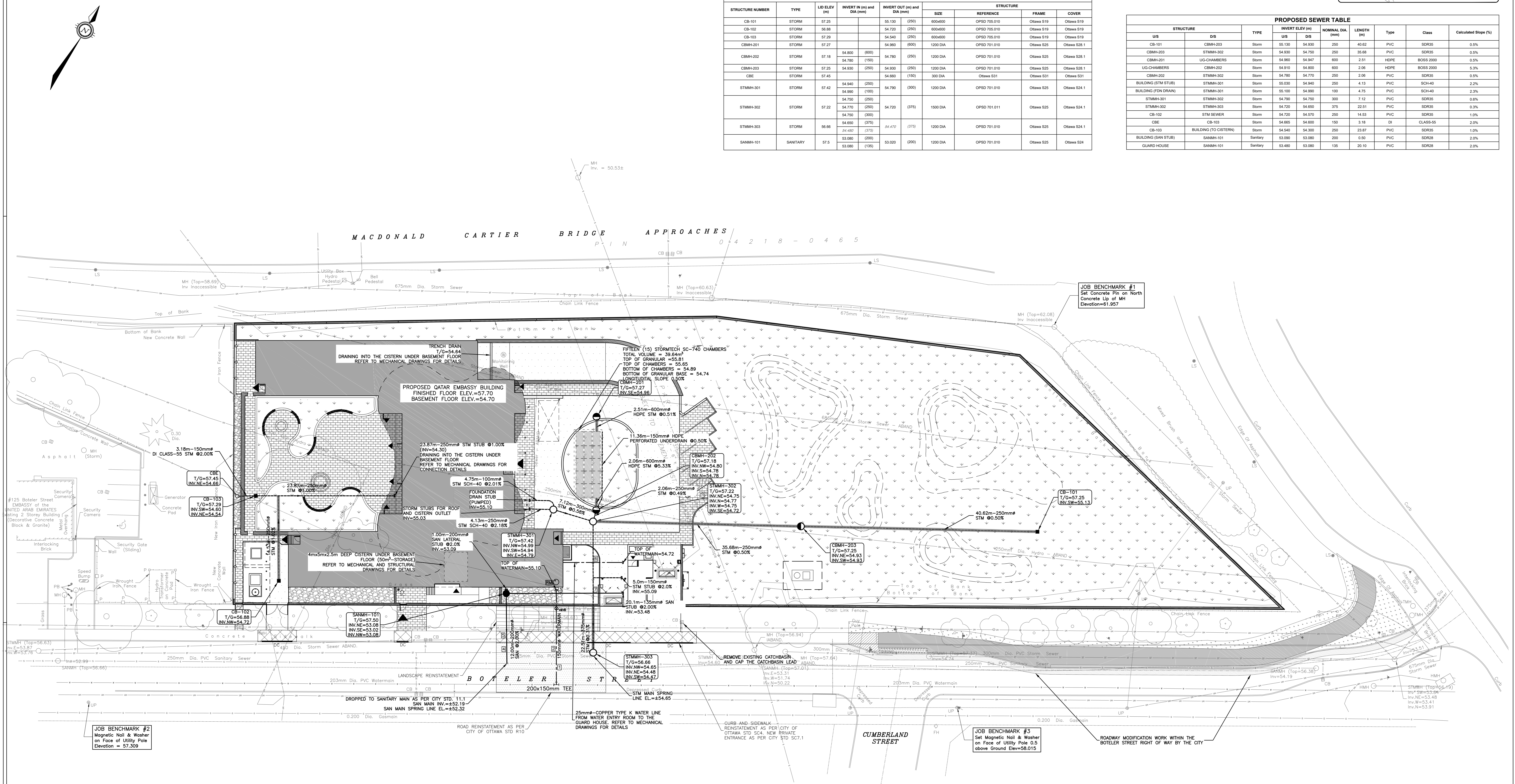
WATERMAIN / SEWER CROSSING TABLE												
LOCATION	FINISHED GRADE (m)	SANITARY SEWER			STORM SEWER			WATERMAIN		CLEARANCES (mm)	COMMENTS	
		INV ELEV (m)	DA (mm)	OBV ELEV (m)	INV ELEV (m)	DA (mm)	OBV ELEV (m)	INV ELEV (m)	DA (mm)			
1	56.51	52.10	250	52.35	54.43	375	54.805	53.78	150	53.93	1610	
2	56.48	53.16	200	53.36	54.38	375	54.755	54.95	150	55.10	1590	
3	57.50	52.82	200	53.02	54.38	375	54.755	54.95	150	55.10	1590	
4	56.47	52.82	200	53.02	54.19 (above)	450	54.64 (above)	55.025	25	54.35	1340	
5	57.36	52.65	200	52.85	54.65	375	55.025	54.325	25	54.35	300	WATER SERVICE BELOW SEWER AS PER CITY STD. W38
7	57.4	53.35	135	53.485	54.64	375	55.015				1155	



ICD SUMMARY TABLE				
Control Location	Prod. Dev. Area No.	Max Flow (L/Sec)	Max Head (m)	Type
CBMH-203	A9, A10	6.00	2.6	Hydrovex
CBMH-202	A7	6.00	0.9	Hydrovex

STRUCTURE TABLE									
STRUCTURE NUMBER	TYPE	LD ELEV (m)	INVERT (m) and DIA (mm)		SIZE	REFERENCE	STRUCTURE		
			INVERT (m)	DIA (mm)			FRAME	COVER	
CB-101	STORM	57.25	56.130	(250)	600x600	OPSD 705.010	Ottawa S19	Ottawa S19	
CB-102	STORM	56.88	54.720	(250)	600x600	OPSD 705.010	Ottawa S19	Ottawa S19	
CB-103	STORM	57.29	54.560	(250)	600x600	OPSD 705.010	Ottawa S19	Ottawa S19	
CBMH-201	STORM	57.27	54.960	(800)	1200 DIA	OPSD 701.010	Ottawa S25	Ottawa S28.1	
CBMH-202	STORM	57.18	54.800	(600)	1200 DIA	OPSD 701.010	Ottawa S25	Ottawa S28.1	
CBMH-203	STORM	57.25	54.930	(250)	1200 DIA	OPSD 701.010	Ottawa S25	Ottawa S28.1	
CBE	STORM	57.45	54.600	(150)	300 DIA	OPSD 531	Ottawa S31	Ottawa S31	
STMHM-301	STORM	57.42	54.960	(200)	1200 DIA	OPSD 701.010	Ottawa S25	Ottawa S24.1	
STMHM-302	STORM	57.22	54.770	(200)	1500 DIA	OPSD 701.011	Ottawa S25	Ottawa S24.1	
STMHM-303	STORM	56.66	54.450	(375)	1200 DIA	OPSD 701.010	Ottawa S25	Ottawa S24.1	
SANMH-101	SANITARY	57.5	53.060	(135)	1200 DIA	OPSD 701.010	Ottawa S25	Ottawa S24	

PROPOSED SEWER TABLE									
STRUCTURE	DI	TYPE	INVERT ELEV (m)	NORMAL DIA (mm)	LENGTH (m)	Type	Class	Calculated Slope (%)	
US	US	US	56.130	56.930	250	48.62	PVC	SDR35	0.5%
CB-101	CBMH-203	Storm	56.130	56.930	250	35.68	PVC	SDR35	0.5%
CBMH-203	STMHM-302	Storm	54.930	54.730	200	2.51	HDPE	BOSS 2000	0.5%
CBMH-201	UG-CHAMBERS	Storm	54.960	54.947	600	2.06	HDPE	BOSS 2000	5.3%
UG-CHAMBERS	CBMH-202	Storm	54.810	54.800	600	2.06	HDPE	BOSS 2000	0.5%
CBMH-202	STMHM-302	Storm	54.790	54.770	200	2.06	PVC	SDR35	0.5%
BUILDING (STM STUB)	STMHM-301	Storm	55.030	54.960	200	4.33	PVC	SCS-40	2.2%
BUILDING (FTCN DRAIN)	STMHM-301	Storm	55.150	54.960	100	4.75	PVC	SCS-40	2.2%
STMHM-301	STMHM-302	Storm	54.790	54.790	300	7.12	PVC	SDR35	0.6%
STMHM-302	STMHM-303	Storm	54.720	54.600	375	22.51	PVC	SDR35	0.3%
CB-102	STM SEWER	Storm	54.720	54.570	250	14.53	PVC	SDR35	1.0%
CBE	CB-103	Storm	54.665	54.600	150	3.16	DI	CLASS-50	2.0%
CB-103	BUILDING (TO CISTERN)	Storm	54.450	54.300	200	23.87	PVC	SDR35	1.0%
BUILDING (SAN STUB)	SANMH-101	Sanitary	53.060	53.060	200	8.50	PVC	SDR35	2.0%
GUARD HOUSE	SANMH-101	Sanitary	53.060	53.060	135	20.10	PVC	SDR35	2.0%



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3	26/08/2022	RE-ISSUED FOR SITE PLAN CONTROL APPLICATION	AJ
2	12/04/2022	ISSUED FOR BUILDING PERMIT	AJ
1	01/03/2022	ISSUED FOR SITE PLAN CONTROL APPLICATION	AJ

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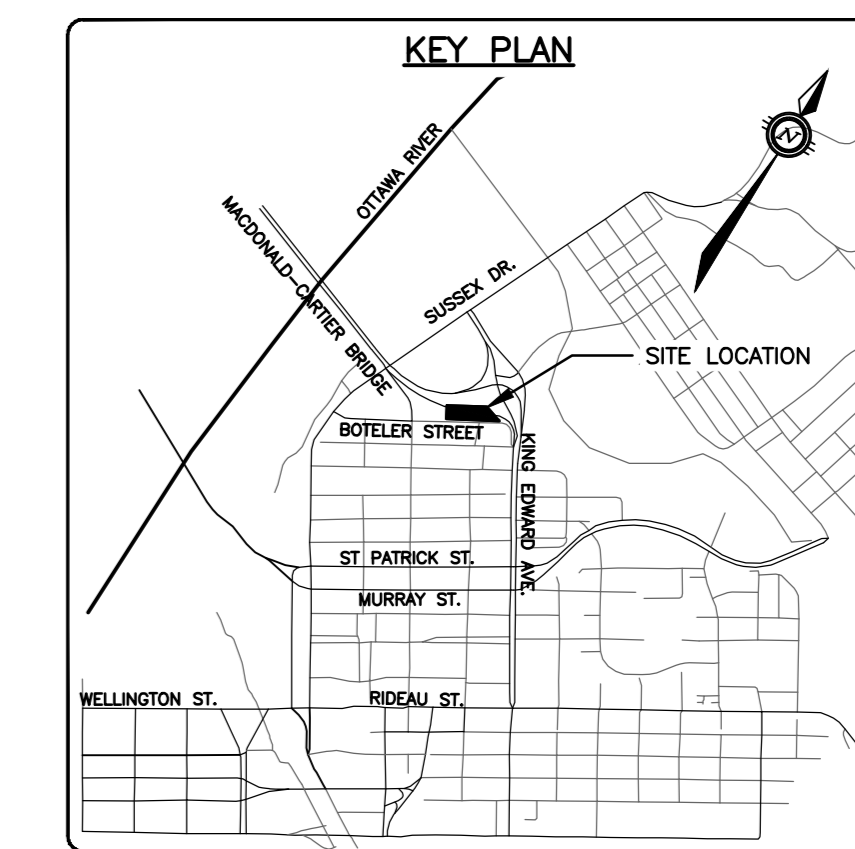
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**Uso Conde**  
M.A. ANSARI  
2023/11/10  
PROFESOR DE OBRAS

PROJECT TITLE  
**NEW QATAR EMBASSY AND CONSULATE**  
Ottawa Ontario

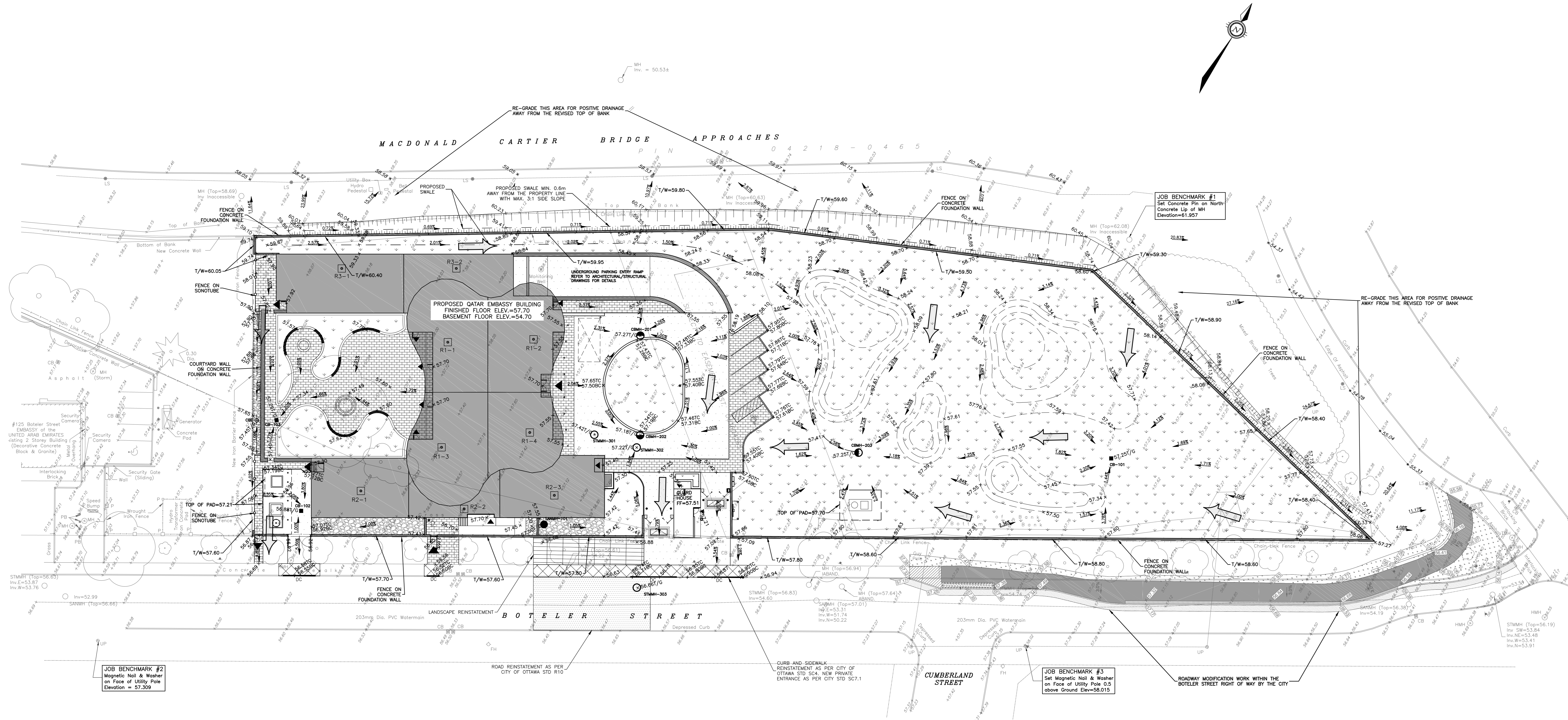
DRAWING TITLE  
**SITE SERVICING PLAN**

date	job no.
05/10/2021	OTT-00261664-AD
drawn A.Jarwal	drawing no.
approved A.Ansari	<b>C-100</b>

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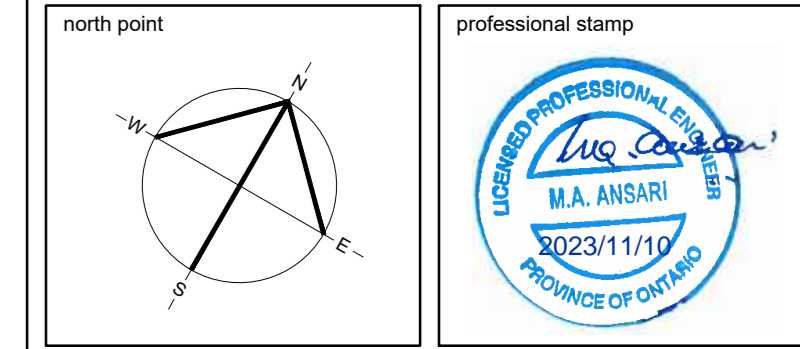
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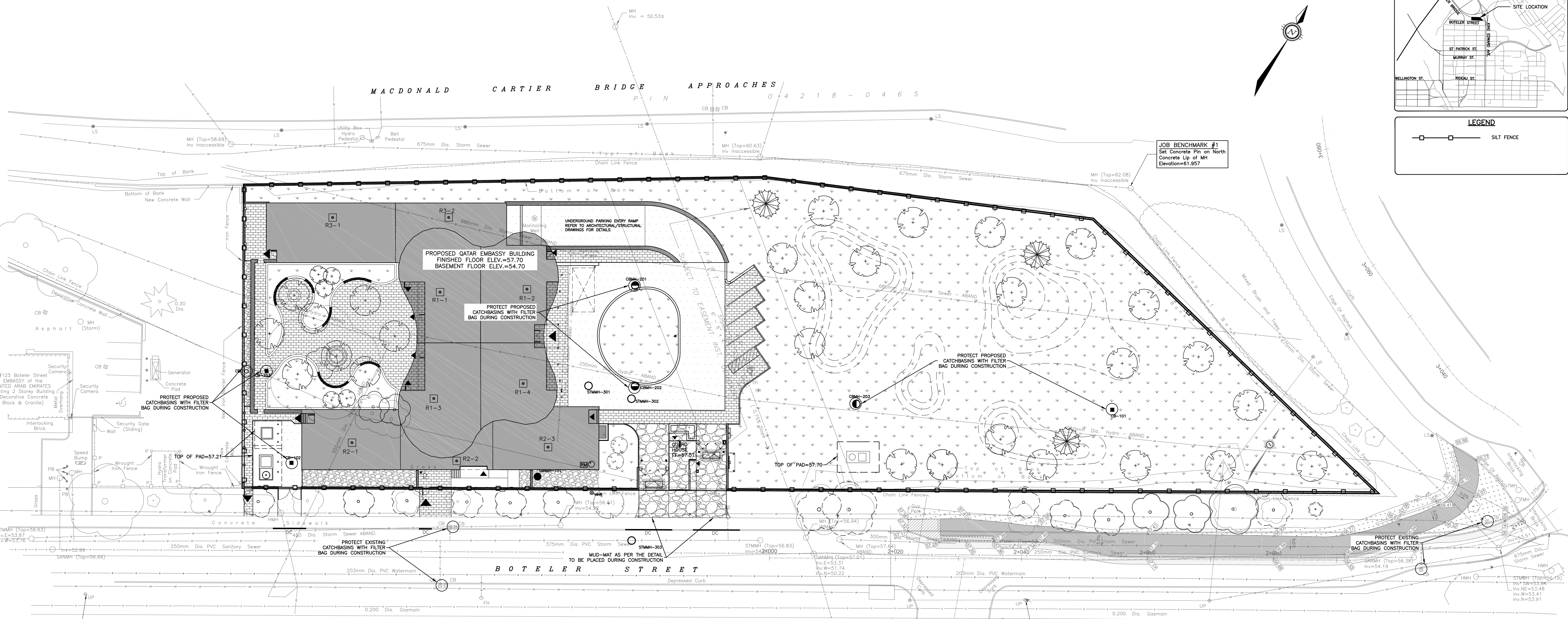
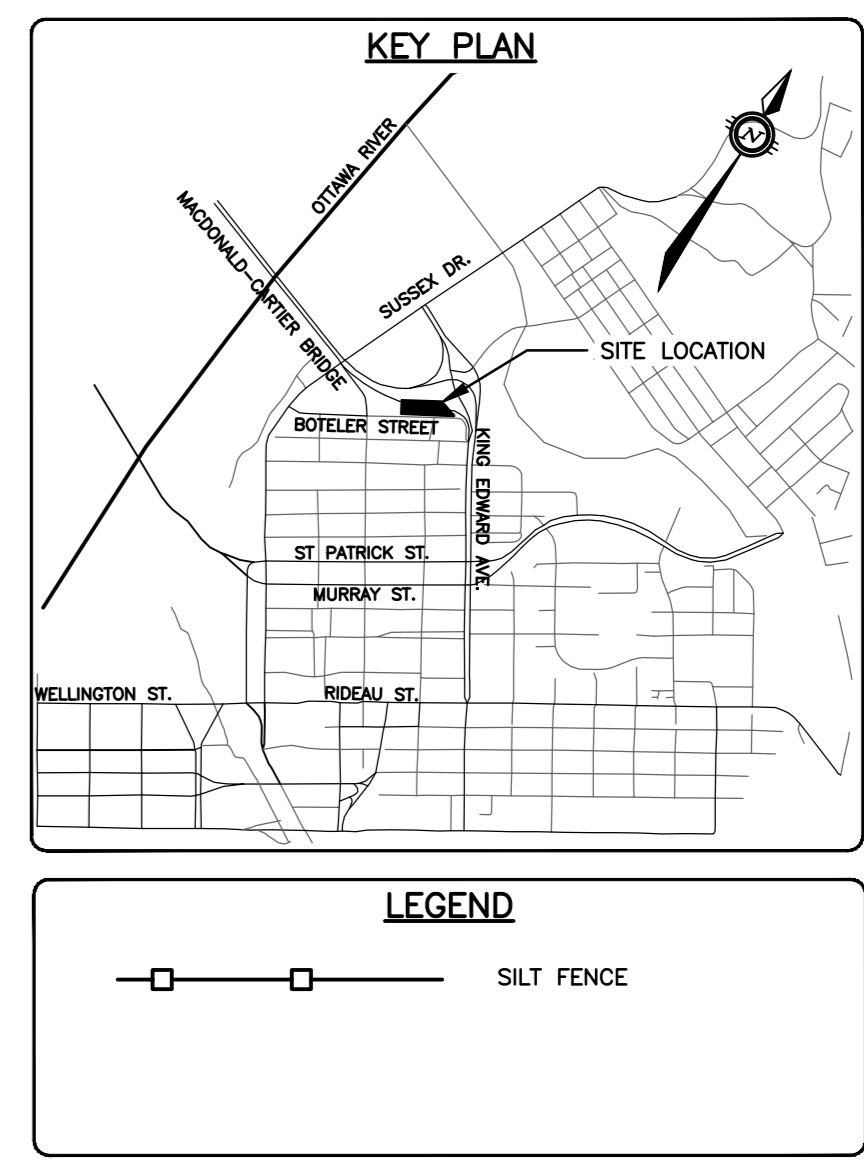
project title  
**NEW QATAR EMBASSY AND CONSULATE**  
Ottawa Ontario

drawing title  
**SITE GRADING PLAN**

date	job no.
1:250	OTT-00261664-AD
drawn A.Jarwal	drawing no.
approved A.Ansari	<b>C-200</b>
plot date 05/10/2021	

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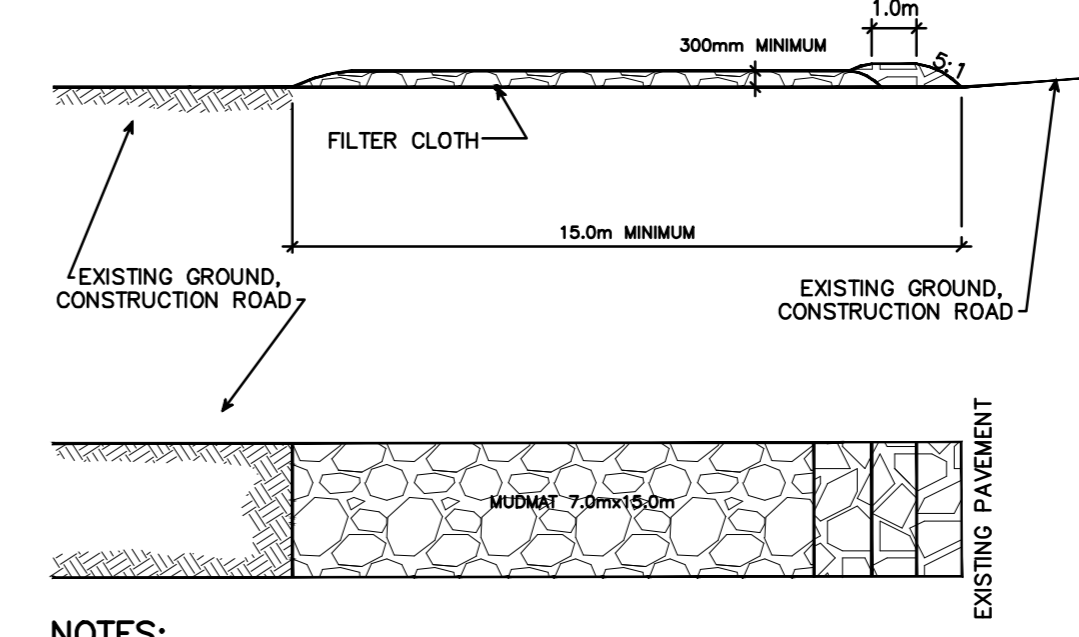
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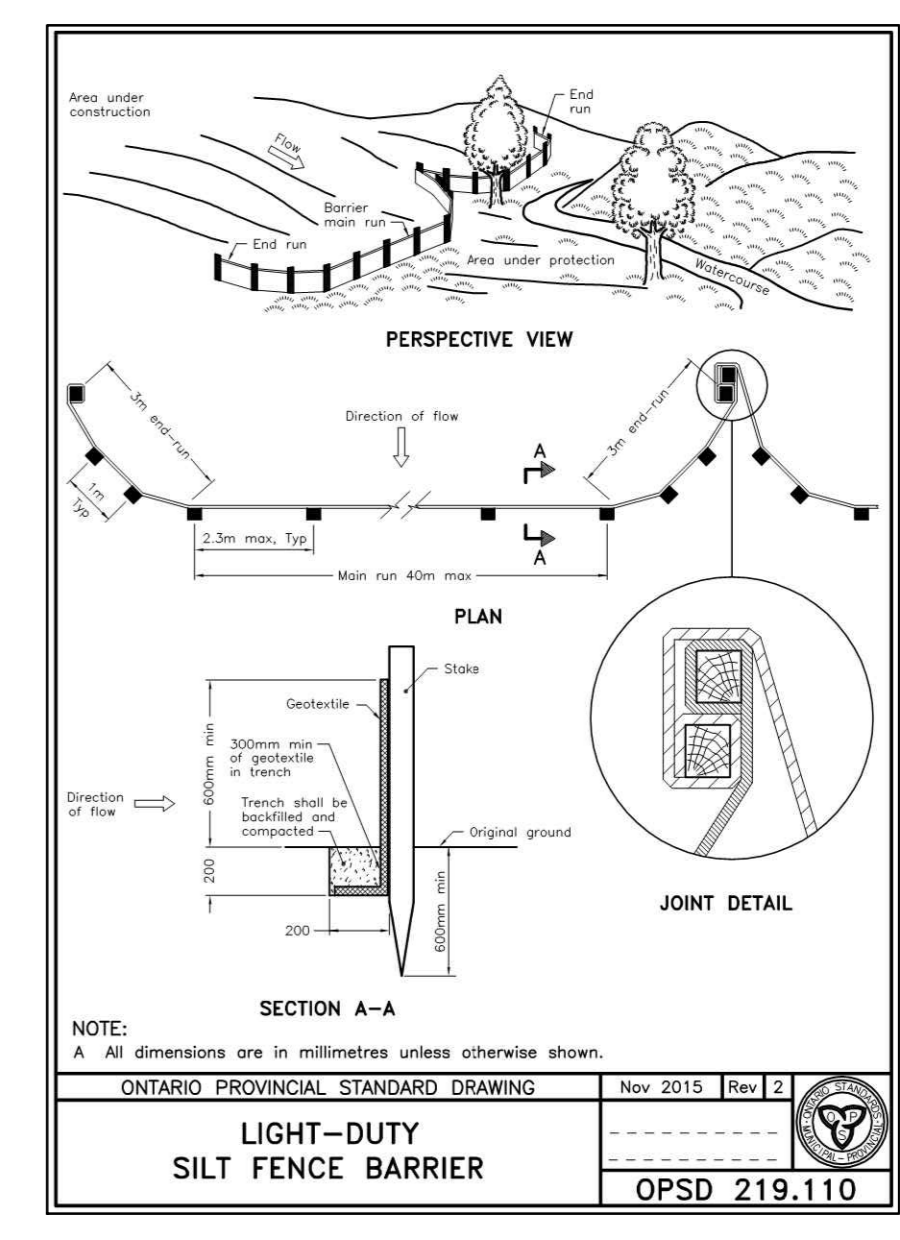
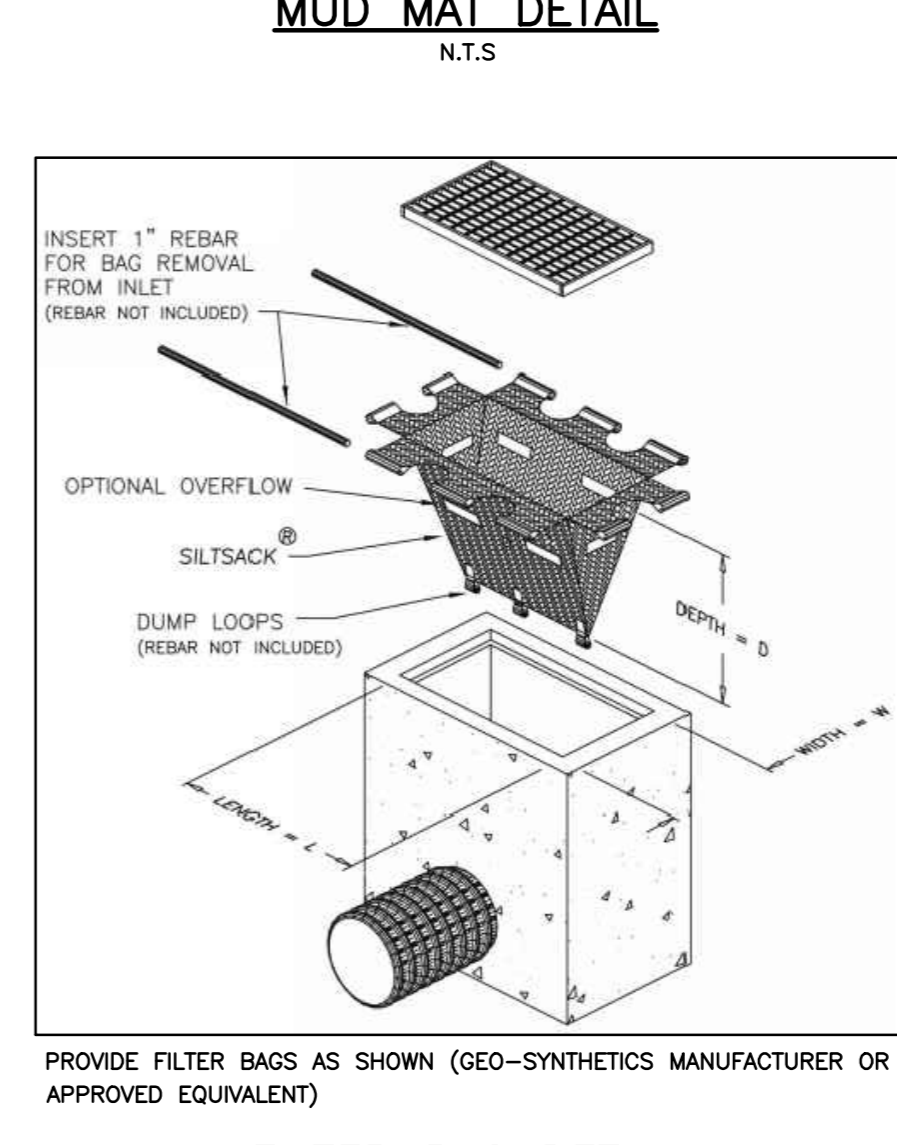
**EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION**

DURING ALL CONSTRUCTION ACTIVITIES, EROSION AND SEDIMENTATION SHALL BE CONTROLLED BY THE FOLLOWING TECHNIQUES:

1. A SILT FENCE TO BE INSTALLED 0.3m INSIDE THE SITE PROPERTY LINE TO LOCATIONS SHOWN ON THIS DRAWING BEFORE ANY TYPE OF EARTH DISTURBANCE BEGINS.
2. MUD MAT TO BE PROVIDED AT THE INGRESS-EGRESS LOCATION AS DETAILED ON THIS DRAWING TO MINIMIZE VEHICLE TRACK-OUT DURING ALL CONSTRUCTION ACTIVITIES.
3. SILT FENCE SHALL BE PROVIDED AROUND STOCKPILED SOIL/SEDIMENT.
4. WATERING AND/OR CALCIUM CHLORIDE SHALL BE USED TO PREVENT BLOWING DUST DURING CONSTRUCTION.
5. ALL EXCAVATED SLOPES SHALL BE COVERED WITH FILTER CLOTH, WHERE PRACTICALLY POSSIBLE. THE SIDE SLOPE OF EXCAVATION SHALL BE KEPT AT MAX. 3:1 TO KEEP THE SLOPE STABLE AND REDUCE SOIL EROSION. SILT FENCE SHALL BE PROVIDED TO TRAP THE SEDIMENTS WHERE PRACTICALLY POSSIBLE.
6. VEHICULAR TRAFFIC SHALL BE AVOIDED IN AREAS WHERE TOPSOIL IS USED. SEEDING SHALL BE DONE AS SOON AS POSSIBLE AFTER LAYING DOWN TOPSOIL IN THE LANDSCAPED AREAS. EXISTING VEGETATION SHALL BE PRESERVED WHERE PRACTICALLY POSSIBLE.
7. VEHICULAR TRAFFIC SHALL BE MINIMIZED WITHIN CONSTRUCTION SITE TO MINIMIZE SOIL COMPACTION WHERE POSSIBLE.
8. LIMIT THE EXTENT OF EXPOSED SOILS AT ANY GIVEN TIME.
9. MINIMIZE THE AREA TO BE CLEARED AND DISRUPTION TO ADJACENT AREAS.
10. INSTALL FILTER CLOTH BETWEEN FRAME AND COVER ON ALL PROPOSED STRUCTURES ON-SITE AND EXISTING STRUCTURES OFF-SITE ALONG THE FLOW ROUTE AS SHOWN ON THIS DRAWING. IN ANY CASE, DIRECT ENTRY OF SEDIMENTS IN TO THE CITY SEWERS SHALL BE AVOIDED.
11. GROUNDWATER SHALL BE TREATED ON-SITE TO MEET THE CITY OF OTTAWA DISCHARGE REQUIREMENTS BEFORE DISCHARGING IT INTO THE CITY SEWER.
12. WASTEWATER FROM CONCRETE WASHOUT, STUCCO, PAINT, OILS, CURING COMPOUNDS AND ANY OTHER CONSTRUCTION MATERIALS WASHOUT, FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLES AND EQUIPMENT, SOAP, SOLVENTS, DETERGENTS, TOXIC OR HAZARDOUS SUBSTANCES SHALL BE PROHIBITED FROM DISCHARGING INTO THE OPEN ENVIRONMENT OR SEWERS. NO FUELING, MAINTENANCE OR WASHING OF EQUIPMENT SHALL BE CARRIED ON SITE. FOR STORAGE, HANDLING OF CONSTRUCTION MATERIAL AND WASTE, PLASTIC COVERING SHALL BE PROVIDED AND MAINTAINED TO PREVENT STORMWATER CONTACT. FOR WASTE DISPOSAL, REGULAR SITE CLEANING AND COLLECTION OF WASTE IN DESIGNATED WASTE CONTAINERS SHALL BE FOLLOWED. IN NO CASE, CONTAMINATED WATER SHALL BE RELEASED IN STORMWATER SYSTEM.
13. A VISUAL INSPECTION SHALL BE COMPLETED DAILY ON SEDIMENT CONTROL BARRIERS BY THE GENERAL CONTRACTOR AND ANY DAMAGE REPAIRED IMMEDIATELY. CARE SHALL BE TAKEN TO PREVENT DAMAGE DURING CONSTRUCTION OPERATIONS.
14. IN SOME CASES SOME BARRIERS MAY BE REMOVED TEMPORARILY TO ACCOMMODATE THE CONSTRUCTION OPERATIONS. THE AFFECTED BARRIERS WILL BE REINSTATED AT NIGHT WHEN CONSTRUCTION IS COMPLETED.
15. THE SEDIMENT CONTROL DEVICES WILL BE CLEANED OF ACCUMULATED SILT AS REQUIRED. THE DEPOSITS WILL BE DISPOSED OF AS PER THE REQUIREMENTS OF THE CONTRACT, REQUIREMENTS OF THE LOCAL MUNICIPALITY OR THE MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS (MECP), WHICHEVER IS MORE STRINGENT.
16. IN THE CASE OF EMERGENCY SPILL OF CONTAMINATED OR HAZARDOUS MATERIALS, MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS (MECP), CITY OF OTTAWA AND THE OWNER SHALL BE NOTIFIED AS SOON AS POSSIBLE. ALL POSSIBLE ACTIONS SHALL BE TAKEN TO PREVENT THE FURTHER SPREAD OF CONTAMINANT INTO THE ENVIRONMENT.
17. DURING THE COURSE OF CONSTRUCTION IF THE ENGINEER BELIEVES THAT ADDITIONAL PREVENTION METHODS ARE REQUIRED TO CONTROL EROSION AND SEDIMENTATION, THE CONTRACTOR WILL INSTALL ADDITIONAL SILT FENCES OR OTHER METHODS AS REQUIRED TO THE SATISFACTION OF THE ENGINEER.
18. CONSTRUCTION AND MAINTENANCE REQUIREMENTS FOR EROSION AND SEDIMENT CONTROLS TO COMPLY WITH ONTARIO PROVINCIAL STANDARD SPECIFICATION (OPSS) 805, AND CITY OF OTTAWA SPECIFICATIONS.
19. SEDIMENT AND EROSION CONTROL MEASURES MAY BE MODIFIED IN THE FIELD AT THE DISCRETION OF THE CITY OF OTTAWA SITE INSPECTOR OR CONSERVATION AUTHORITY.
20. ALL POLLUTION PREVENTION MEASURES SHALL BE INSPECTED ONCE EVERY 7-CALENDAR DAY OR AS REQUIRED BY THE GENERAL CONTRACTOR. DAMAGED MEASURES SHALL BE REPAIRED OR REPLACED BEFORE COMMENCING THE WORK OR EARLIEST POSSIBLE.
21. AREAS WITH GROUND DISTURBANCE, EROSION, AND SEDIMENT CONTROL METHODS, ON SITE OVERLAND FLOW AREAS, DISCHARGE POINTS, STABILIZED AREAS SHALL BE INSPECTED BY THE GENERAL CONTRACTOR. INSPECTION REPORT SHALL BE PREPARED WITHIN 24 HOURS OF INSPECTION BY THE GENERAL CONTRACTOR. DATE STAMPED PHOTOGRAPHS ARE TO BE INCLUDED IN THE REPORT.



- NOTES:**
1. STONE - USE CLEAR CRUSHED 100mm STONE.
  2. LENGTH - AS REQUIRED BUT NOT LESS THAN 15.0m.
  3. THICKNESS - NOT LESS THAN 300mm.
  4. WIDTH - 7.0m MINIMUM, NOT LESS THAN THE WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
  5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
  6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRED PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED OR TRACKED ONTO THE PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
  7. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



- NOTES:**
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO WOOD POSTS WITH WIRE TIES OR STAPLES.
  2. POSTS TO BE SPACED AT 2.3 METRES CENTRE TO CENTRE.
  3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY A MINIMUM OF 500mm.
  4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN 'BULGES' DEVELOP IN THE SILT FENCE.
  5. WOOD POSTS TO BE HARDWOOD TYPE (50mm x 50mm).
  6. GEOTEXTILE TO BE EMBEDDED 200mm INTO GROUND.
  7. GEOTEXTILE TO CONFORM TO OPSS 805 STANDARDS.
  8. SILT FENCE MUST BE INSTALLED BEFORE COMMENCEMENT OF CONSTRUCTION AND IN ACCORDANCE WITH DETAIL. SILT FENCE CAN BE REMOVED AFTER LANDSCAPING IS COMPLETE.
  9. SEDIMENTS MUST BE CLEARED AWAY WHEN THEY REACH HALF THE HEIGHT OF THE FENCE.

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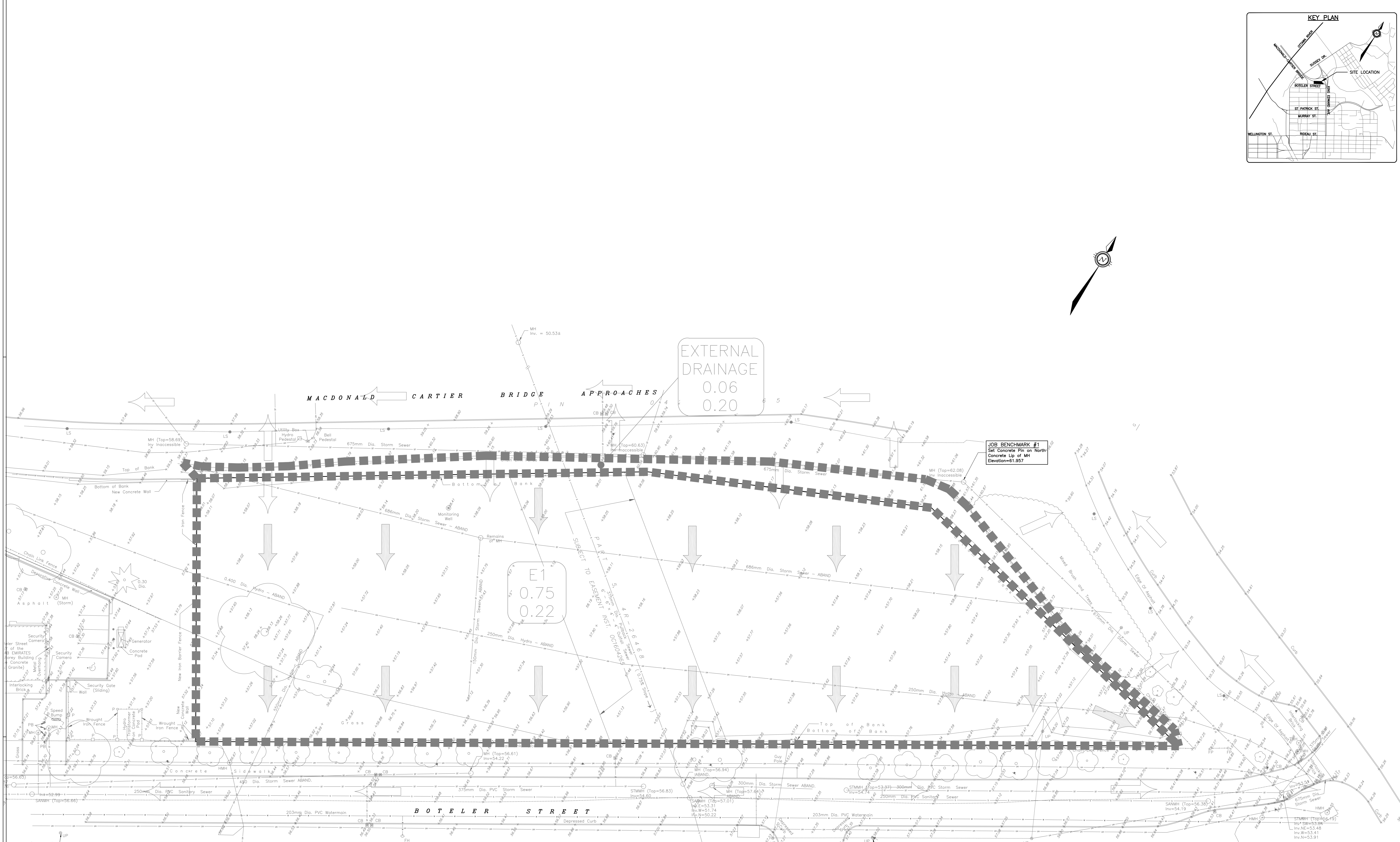
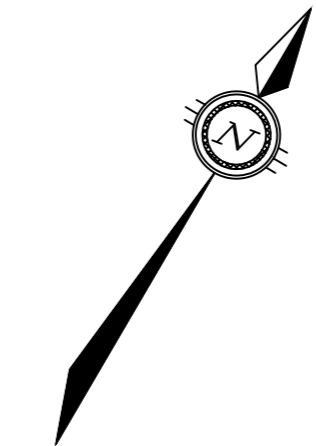
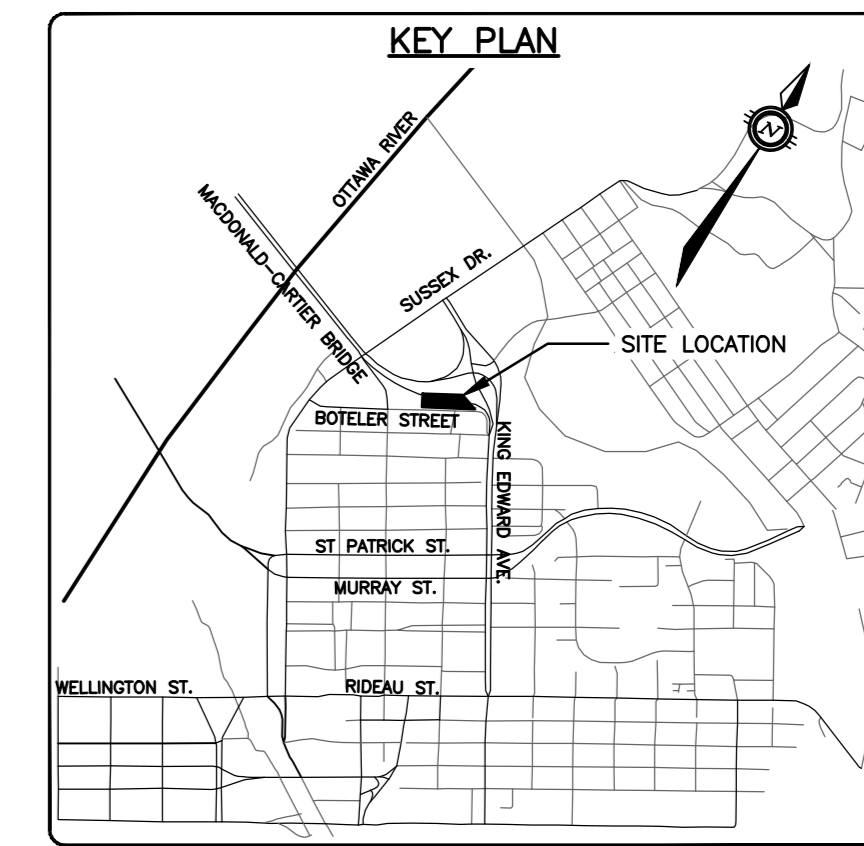
**NEW QATAR EMBASSY AND CONSULATE**  
Ottawa, Ontario

**EROSION AND SEDIMENT CONTROL PLAN**

date	job no.
1/250	OTT-00261664-AD
drawn A.Jarwal	drawing no.
approved A.Ansari	<b>C-300</b>
print date 05/10/2021	

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PROJECT TITLE  
**NEW QATAR EMBASSY AND CONSULATE**  
Ottawa Ontario

DRAWING TITLE  
**PRE-DEV STORMWATER MANAGEMENT PLAN**

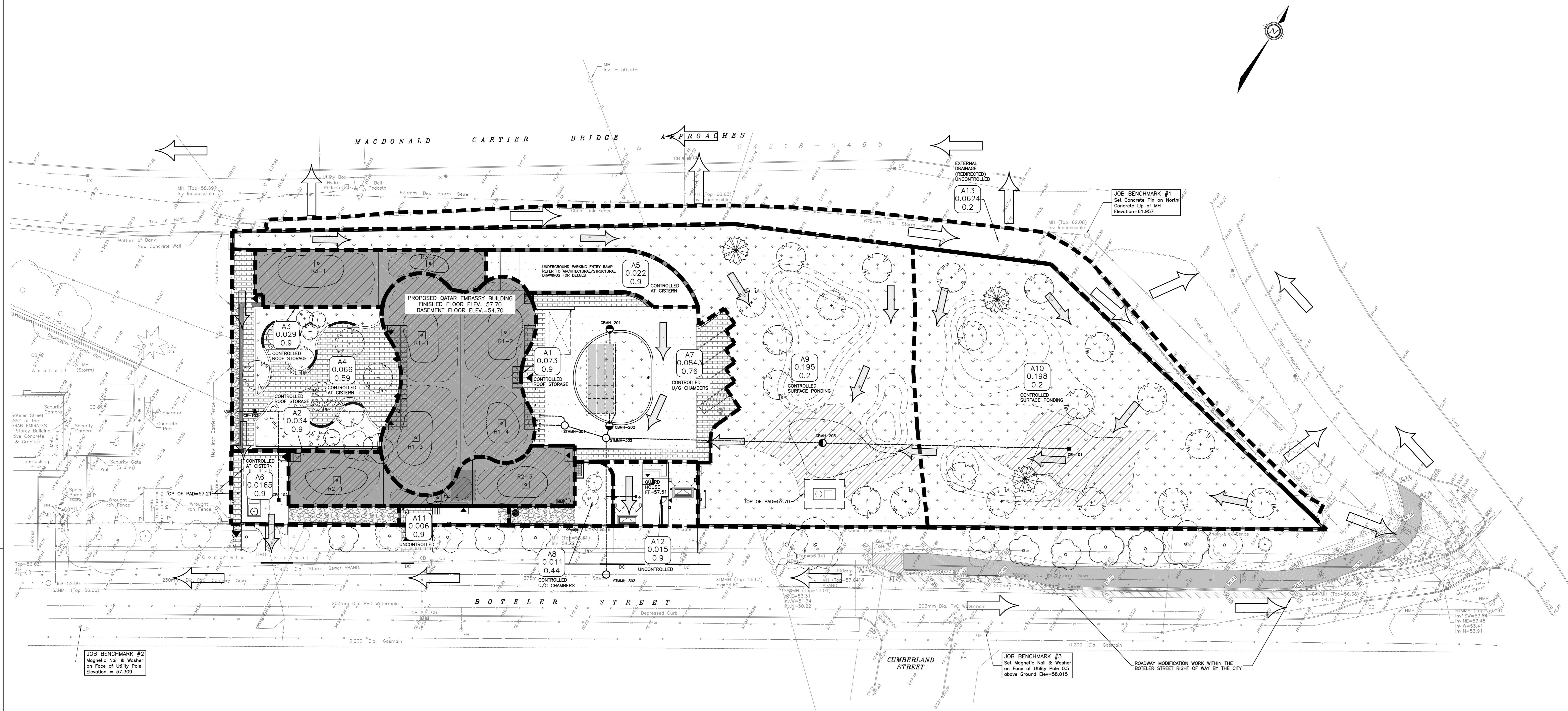
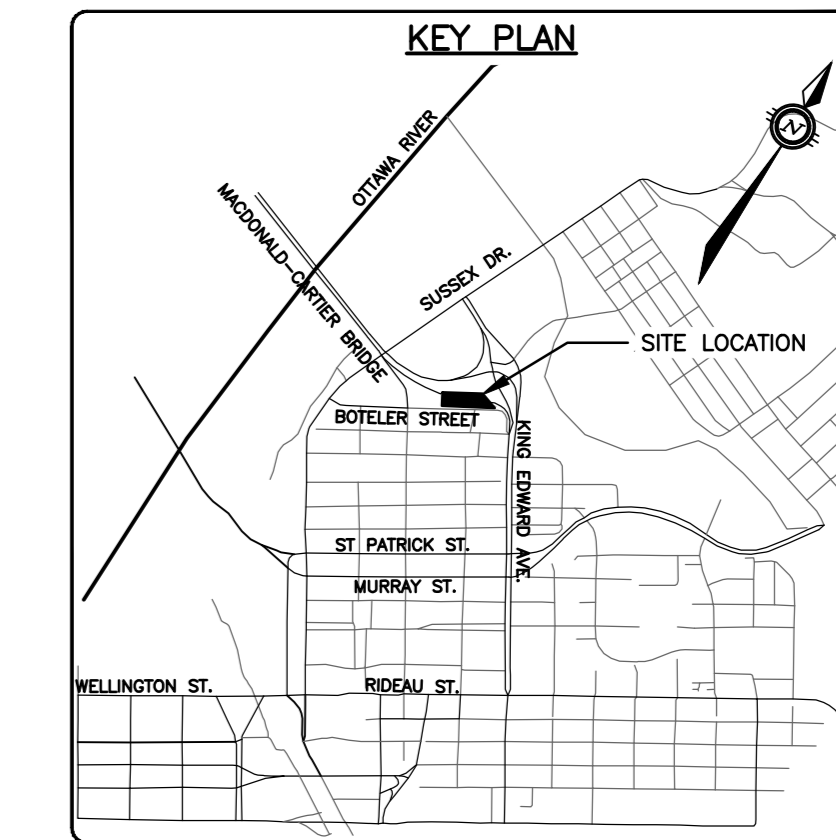
DATE	JOB NO.
1:250	OTT-00261664-AD
DRAWN A.Jarwal	DRAWING NO.
APPROVED A.Ansari	<b>C-400</b>
PLT DATE 05/10/2021	

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ROOF PONDING TABLE					
Area #	2-year Ponding Depth (mm)	100-year Ponding Depth (mm)	Weir Type	No of Weirs per Drain	Weir Position
R1-1	94	144	WATTS ACCUTROL	1	3-1/4 open
R1-2	92	140	WATTS ACCUTROL	1	3-1/4 open
R1-3	93	141	WATTS ACCUTROL	1	3-1/4 open
R1-4	97	138	WATTS ACCUTROL	1	3-1/4 open
R2-1	88	136	WATTS ACCUTROL	1	3-1/4 open
R2-2	85	135	WATTS ACCUTROL	1	3-1/4 open
R2-3	88	136	WATTS ACCUTROL	1	3-1/4 open
R3-1	92	141	WATTS ACCUTROL	1	3-1/4 open
R3-2	81	129	WATTS ACCUTROL	1	3-1/4 open

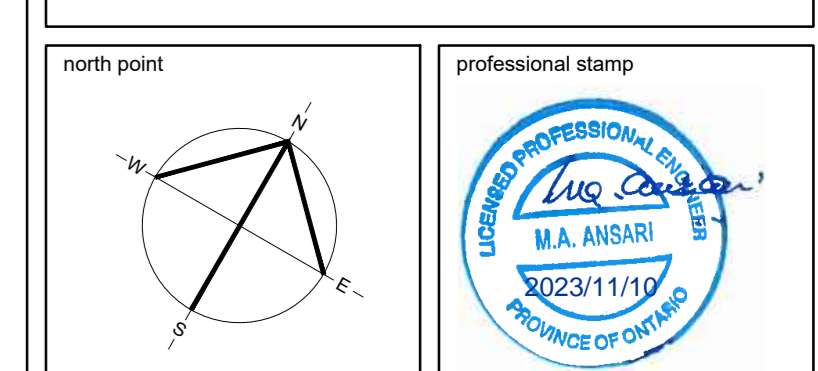
SURFACE PONDING TABLE						
Area #	2-year Ponding Depth (mm)	2-year Ponding Area (m <sup>2</sup> )	100-year Ponding Depth (mm)	100-year Ponding Area (m <sup>2</sup> )	Control Type	Ponding Location
A9	180 (Elev.=57.40)	99	239 (Elev.=57.50)	232	ICD (at CBM-203)	CBM-203 (TO=57.20m)
A10	150 (Elev.=57.40)	96	250 (Elev.=57.50)	254	ICD (at CBM-203)	CB-101 (TO=57.20m)



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**PROJECT TITLE**  
NEW QATAR EMBASSY AND CONSULATE  
Ottawa, Ontario

**DRAWING TITLE**  
POST-DEV STORMWATER MANAGEMENT PLAN

date	job no.
05/10/2021	OTT-00261664-AD
drawn: A.Jarwal	drawing no.:
approved: A.Ansari	<b>C-500</b>

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