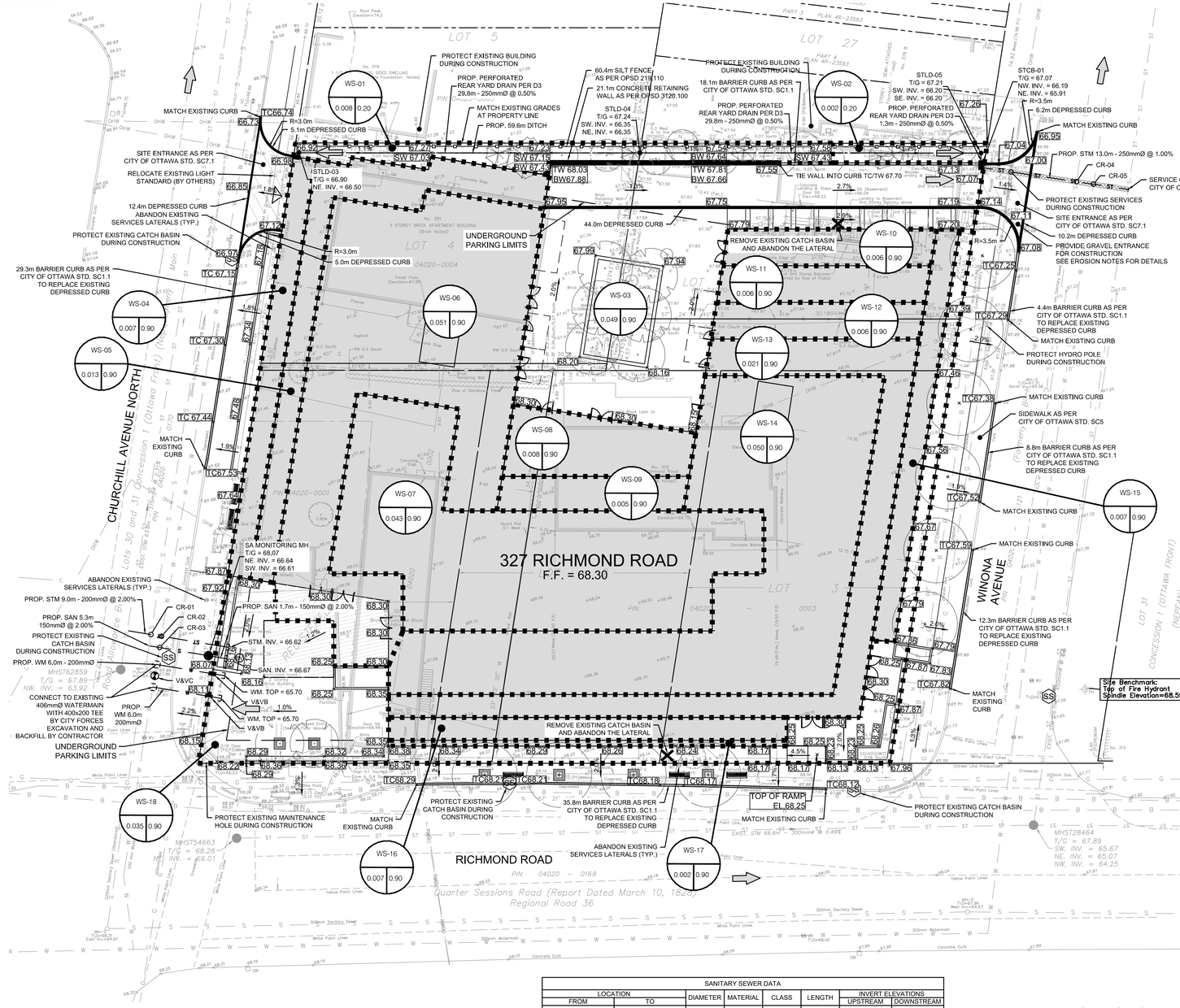
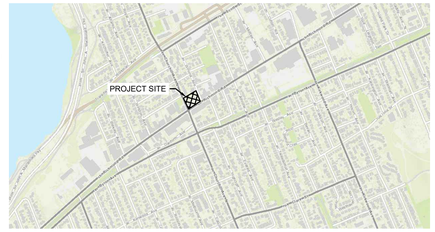


KEY PLAN



NOTES: GENERAL

1. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
2. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
3. JOB BENCH MARK - REFER TO SURVEY BY AOV LTD. CONFIRM WITH CONTRACT ADMINISTRATOR PRIOR TO UTILIZATION OF BENCH MARK.
4. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
5. STRIP AND REMOVE ALL TOPSOIL FROM IMPROVED AREAS.
6. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
7. 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 PER CITY OF OTTAWA STD. R10.
8. CURBS TO BE CONCRETE BARRIER, CONSTRUCTED AS PER CITY OF OTTAWA DETAIL SC1.1. ELEVATIONS AT CURB INDICATE THE GRADE AT THE FINISHED ROAD SURFACE UNLESS NOTED OTHERWISE.
9. RESTORE PAVEMENT STRUCTURE AND SURFACES ON EXISTING ROADS TO A CONDITION AT LEAST EQUAL TO ORIGINAL AND TO THE SATISFACTION OF THE MUNICIPAL AUTHORITIES.
10. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
11. ABUTTING PROPERTY GRADE TO BE MATCHED.
12. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
13. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
14. FILTER FABRIC TO BE INSTALLED AND MAINTAINED BETWEEN THE FRAME AND COVER OF ALL CATCHBASINS AND CATCHBASIN MANHOLES DURING THE CONSTRUCTION PERIOD TO MINIMIZE SEDIMENTS ENTERING THE STORM SEWER SYSTEM. ALL GRASSED AREAS MUST BE COMPLETED PRIOR TO THE REMOVAL OF THE FILTER FABRIC IN THE CATCH BASINS.
15. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS. ANY CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
16. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS BUT NOT LIMITED TO; ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC.
17. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH AND SIZE OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES.
18. REFER TO ARCHITECT AND LANDSCAPE ARCHITECTS DRAWINGS FOR BUILDING, LANDSCAPE, AND HARD SURFACE AREAS AND DIMENSIONS.
19. CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.

NOTES: SEWER

20. SUPPLY AND INSTALL ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
21. SEWER BEDDING AS PER CITY OF OTTAWA STANDARD S6 FOR SINGLE TRENCH AND CITY OF OTTAWA STANDARD S7 FOR COMBINED TRENCH.
22. ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407, AND 410.
23. CONTRACTOR TO CONFIRM ELEVATION OF EXISTING STORM AND SANITARY SEWERS AT PROPOSED CONNECTION POINTS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE COMMENCING ANY WORK.
24. ALL SEWERS WITH LESS THAN 1.5m OF COVER ARE SUBJECT TO INSULATION DETAIL.
25. STORM AND SANITARY LATERALS SHALL BE EQUIPPED WITH BACKWATER VALVES IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS.
26. CONTRACTOR TO CCTV ALL NEW SEWERS, 250mmØ OR GREATER, TO ENSURE THEY ARE CLEAN AND OPERATIONAL UPON COMPLETION OF CONTRACT. THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS.
27. PROVIDE SANITARY BACKWATER VALVES IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S14,1 AND FOUNDATION DRAIN BACKWATER VALVE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S14.
28. SEWER CONNECTIONS TO BE MADE ABOVE THE SPRINGLINE OF THE SEWER AS PER CITY OF OTTAWA STANDARD S11, S11.1, AND S11.2.

NOTES: WATERMAIN

29. SUPPLY AND INSTALL ALL WATERMAIN AND APPURTENANCES IN ACCORDANCE WITH MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
30. ALL WATER MAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE REQUIRED, PROVIDE INSULATION IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W22 AND W23.
31. WATER MAIN BEDDING AS PER CITY OF OTTAWA STANDARD W17.
32. CONCRETE THRUST BLOCKS AND RESTRAINING AS PER DETAILS ON DRAWING C103.
33. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS.
34. 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.
35. EXCAVATION, INSTALLATION, AND BACKFILL BY CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN BY CITY.

EROSION AND SEDIMENT CONTROL MEASURES:

- CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES. 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 MEASURE MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- SEDIMENT AND EROSION CONTROL PLAN OBJECTIVES:
- PREVENT SOIL EROSION. THIS CAN RESULT FROM STREAMING RAIN WATER OR WIND EROSION DURING CONSTRUCTION.
- PREVENT SEDIMENT DEPOSITS IN THE SEWER PIPES AND NEARBY COLLECTING STREAMS (AS APPLICABLE).
- PREVENT AIR POLLUTION FROM PARTICULATE MATTER AND DUST.

1. PRIOR TO START OF CONSTRUCTION:

PRIOR TO THE REMOVAL OF ANY VEGETATIVE COVER, MOVING OF SOIL AND CONSTRUCTION:

- INSTALL FILTER CLOTH ON DOWNSTREAM MANHOLE COVERS.
- INSTALL SILTSACK FILTERS IN ALL CONCRETE CATCH BASINS STRUCTURES.
- INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.
- THE CONTRACTOR MUST SET UP THE MEASURES INDICATED ON THE PLAN, INSPECT THEM FREQUENTLY AND CLEAN AND REPAIR OR REPLACE THE DETERIORATED STRUCTURES. AT THE END OF THE CONSTRUCTION PERIOD, THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF THE TEMPORARY STRUCTURES AND RECONDITIONING THE AFFECTED AREAS

2. DURING CONSTRUCTION:

- SEDIMENT AND EROSION CONTROL MEASURES TO BE CONSTRUCTED AS PER OPSS 805.
- WHEN SEDIMENT AND EROSION CONTROL MEASURES MUST BE REMOVED TO COMPLETE A PORTION OF THE WORK, THE SAME MEASURES MUST BE REINSTATED UPON THE WORK'S COMPLETION.
- WORK TO BE DONE IN THE VICINITY OF MAJOR WATERWAYS TO BE CARRIED OUT FROM JULY AND SEPTEMBER ONLY.
- MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE.
- PROTECT DISTURBED AREAS FROM RUNOFF.
- PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED SHORTLY.
- INSPECT STRAW BALE FLOW CHECK DAMS, SILT FENCES, SILT SACKS, AND CATCH BASIN SUMPS REGULARLY AND AFTER EVERY MAJOR STORM EVENT, CLEAN AND REPAIR WHEN NECESSARY.
- PLAN 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). WHEN STORING SOIL ON SITE IN PILES THE CONTRACTOR MUST COVER EACH PILE WITH TARPS, STRAW OR A GEOTEXTILE FABRIC TO AVOID FINE PARTICLE TRANSPORT BY WIND AND/OR STREAMING RAIN WATER.
- CONTROL WIND-BLOWN DUST OFF SITE TO ACCEPTABLE LEVELS BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED). FOR DUST CONTROL, CONTRACTOR TO APPLY CALCIUM CHLORIDE (TYPE I – OPSS 2501 AND CAN/CGSB-15-1) AND WATER WITH EQUIPMENT APPROVED BY THE OWNER'S REPRESENTATIVE AT RATE IN ACCORDANCE TO OPSS 506 WHEN DIRECTED BY OWNER'S REPRESENTATIVE.
- ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN DESTABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER. SEDIMENT CAPTURE SILT SACKS MUST BE MAINTAINED AND CANNOT BE REMOVED UNTIL ALL LANDSCAPING AREAS ARE COMPLETED.
- NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVES BY THIS CONSULTING ENGINEER AND THE TOWN DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR RESPONSIBLE FOR MUNICIPAL ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING ETC. AT THE END OF EACH WORK DAY.
- DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPED.
- 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.
- PROVIDE GRAVEL ENTRANCE WHEREVER EQUIPMENT LEAVES THE SITE TO PROVIDE MUD TRACKING ONTO PAVED SURFACES. GRAVEL BED SHALL BE A MINIMUM OF 10m LONG, 4m WIDE, AND 0.15m DEEP AND SHALL CONSIST OF COARSE MATERIAL. MAINTAIN GRAVEL ENTRANCE IN CLEAN CONDITION.

3. AFTER CONSTRUCTION:

- PROVIDE PERMANENT COVER CONSISTING OF TOPSOIL AND SEED TO DISTURBED AREAS.
- ALL SEDIMENT AND EROSION CONTROL MEASURES TO BE REMOVED BY THE CONTRACTOR FOLLOWING THE COMPLETION OF WORK AND AFTER DISTURBED AREAS HAVE BEEN REHABILITATED AND STABILIZED, THIS INCLUDES REMOVE STRAW BALE FLOW CHECK DAMS, SILT FENCES AND FILTER CLOTHS ON CATCH BASINS AND MANHOLE COVERS.
- INSPECT AND CLEAN CATCH BASIN SUMPS AND STORM SEWERS.

LEGEND:

- EXISTING PROPERTY LINE
- EXISTING CONCRETE CURB
- PROPOSED CONCRETE CURB
- PROPOSED DEPRESSED CURB
- PROPOSED BUILDING OR STRUCTURE
- EXISTING WATERMAIN
- EXISTING V&VB
- EXISTING CURBSTOP
- EXISTING FIRE HYDRANT
- PROPOSED WATERMAIN
- PROPOSED V&VB
- PROPOSED FIRE HYDRANT
- EXISTING SANITARY SEWER AND MANHOLE
- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER AND MANHOLE
- PROPOSED CATCH BASIN AND LANDSCAPE DRAIN
- PROPOSED SUBDRAIN
- PROPOSED PIPE INSULATION
- PROPOSED BACKWATER VALVE
- PROPOSED REMOTE METER
- PROPOSED WATER METER
- PROPOSED DITCH
- EXISTING GRADE (113.40)
- PROPOSED GRADE (114.40)
- PROPOSED BOTTOM OF WALL GRADE (BW 114.40)
- PROPOSED TOP OF WALL GRADE (TW 114.40)
- PROPOSED TOP OF CURB GRADE (TC 114.40)
- PROPOSED TERRANCING (MAX 3:1 SLOPE)
- PROPOSED RETAINING WALL
- PROPOSED TWSI AS PER SC7.3
- PROPOSED SILT FENCE AS PER OPSD 219.110
- SILT SACKS IN CATCH BASIN GRATE PER DETAIL D1
- PROPOSED STORM DRAINAGE AREA
- OVERLAND FLOW ROUTE
- STORM DRAINAGE AREA ID
- RUNOFF COEFFICIENT
- DRAINAGE AREA (Ha)

SANITARY SEWER DATA

LOCATION		DIAMETER	MATERIAL	CLASS	LENGTH	INVERT ELEVATIONS	
FROM	TO					UPSTREAM	DOWNSTREAM
CAP	SA MONITORING MH	150mm	PVC	SDR-35	1.7m	66.67	66.64
SA MONITORING MH	TEE	150mm	PVC	SDR-35	5.3m	66.61	66.50*

*INVERT AT TOP BEND. CONNECT TO EXISTING PIPE AS PER CITY OF OTTAWA STD. S11, S11.1, AND S11.2.

STORM SEWER DATA

LOCATION		DIAMETER	MATERIAL	CLASS	LENGTH	INVERT ELEVATIONS	
FROM	TO					UPSTREAM	DOWNSTREAM
CAP	TEE	200mm	PVC	SDR-35	9.0m	66.62	66.44*
STLD-03	STLD-04	250mm	HDPE	-	29.8m	66.50	66.35
STLD-04	STLD-05	250mm	HDPE	-	29.8m	66.35	66.20
STLD-05	STCB-01	250mm	HDPE	-	1.3m	66.20	66.19
STCB-01	TEE	250mm	PVC	SDR-35	13.0m	65.91	65.78*

* INVERT AT TOP BEND. CONNECT TO EXISTING PIPE AS PER CITY OF OTTAWA STD. S11, S11.1, AND S11.2.

CROSSING TABLE

CROSSING No.	SEWER ELEV. AT CROSSING	SEWER ELEV. AT CROSSING	CLEARANCE
CR-01	STM, INV. 66.48	SAN, TOP. ±64.39	2.09m
CR-02	STM, INV. 66.50	WM, TOP. ±66.00	0.50m
CR-03	SAN, INV. 66.52	WM, TOP. ±66.02	0.50m
CR-04	STM, INV. 65.82	SAN, TOP. ±64.51	1.31m
CR-05	STM, INV. 65.81	WM, TOP. ±65.31	0.50m

STORM MAINTENANCE HOLE DATA

STRUCTURE	COVER	SIZE	STANDARD	ELEVATION	
				T/G	INVERT
STCB-01	S19	600x600mm	OPSD 705.010	67.07	NW 66.19 (250mm) NE 65.91 (250mm)
STLD-03	S31	300mm	S31	66.93	NW 66.50 (250mm)
STLD-04	S30	300mm	S30	67.24	SW 66.35 (250mm) NE 66.35 (250mm)
STLD-05	S30	300mm	S30	67.21	SW 66.20 (250mm) SE 66.20 (250mm)

SANITARY MAINTENANCE HOLE DATA

STRUCTURE	COVER	SIZE	STANDARD	ELEVATION	
				T/G	INVERT
SA MONITORING MH	S24	1200mm	OPSD 701.010	68.07	NE 66.64 (150mm) SW 66.61 (150mm)

ROOF DRAIN DATA

LOCATION	No. OF DRAINS	CONTROLLED FLOW (L/s)		MAX PONDING DEPTH (mm)		STORAGE VOLUME (cu.m)	
		5 YEAR	100 YEAR	5 YEAR	100 YEAR	5 YEAR	100 YEAR
BUILDING	17	18.0	23.9	101.4	134.9	30.0	69.7

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No.	Revision	Date
01	ISSUED FOR SPA	JUNE 11, 2020

Stamp: REGISTERED PROFESSIONAL ENGINEER — M.E. MACSWEEN — 100104372 — JUNE 11, 2020 — PROVINCE OF ONTARIO

Stamp: REGISTERED PROFESSIONAL ENGINEER — S. L. STERLING — 100232952 — JUNE 11, 2020 — PROVINCE OF ONTARIO

Project:

327 RICHMOND ROAD

OTTAWA, ONTARIO

Drawing: SITE SERVICING, GRADING, AND EROSION AND SEDIMENT CONTROL PLAN

Scale:	Date:
1:200	MAY 2020
Design By: MM	Drawn By: SS
Project Number: 477093	Sheet Number: C101