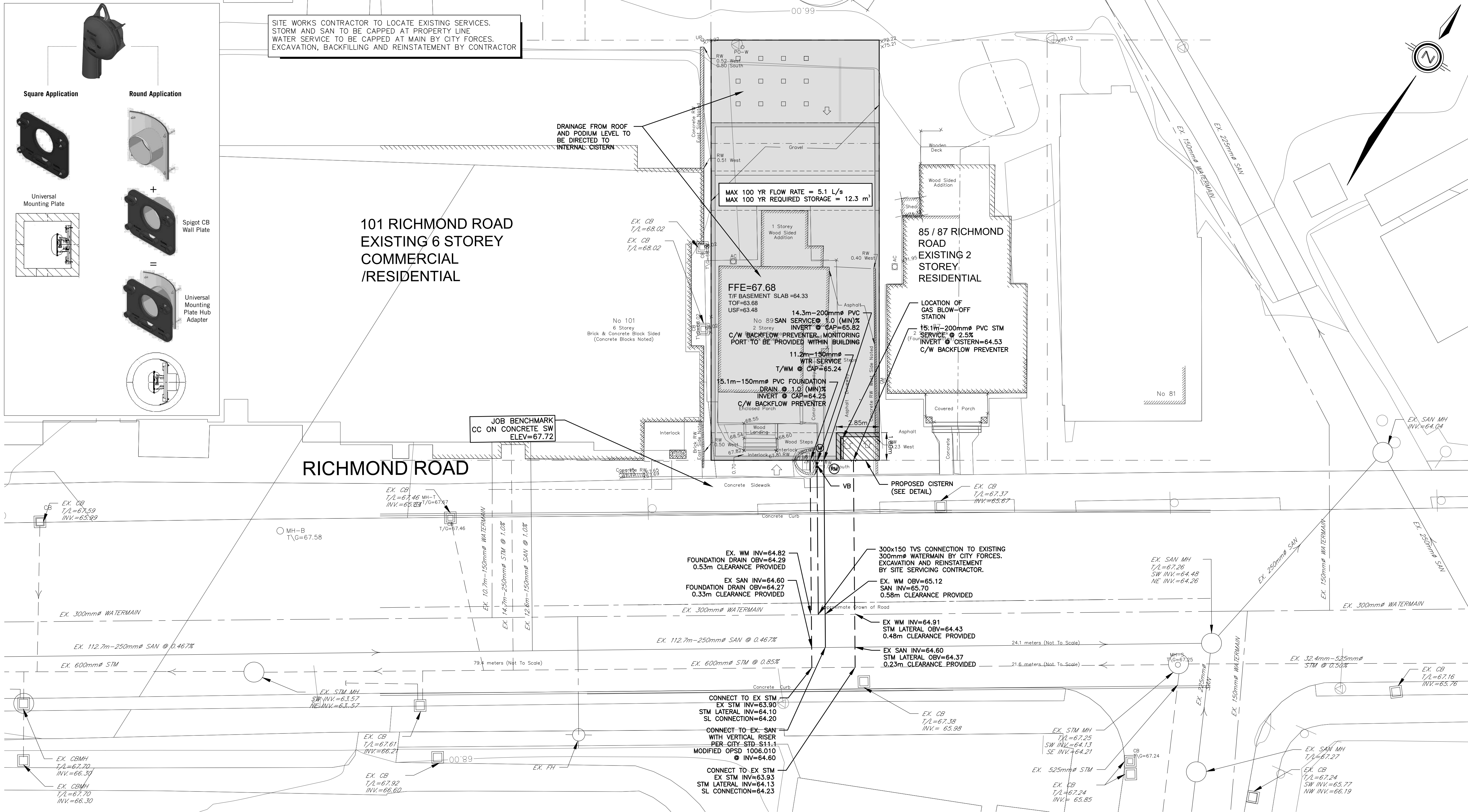


TEMPEST LMF 60 ICD DETAIL



GENERAL NOTES

- ALL WORKS AND MATERIALS SHALL CONFORM TO THE LATEST REVISION OF THE STANDARDS AND SPECIFICATIONS FOR THE CITY OF OTTAWA AND THE PROVINCE OF ONTARIO (OPSS), WHERE APPLICABLE. LOCAL UTILITY STANDARDS AND REGULATIONS OF THE MINISTRY OF TRANSPORTATION SHALL APPLY WHERE REQUIRED.
- THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE SITE AND ADJACENT WORK AREAS, THE LOCATION OF WHICH IS NOT KNOWN TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY SERVICES OR UTILITIES DISTURBED BY THE CONSTRUCTION OF THE PROJECT.
- ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE AUTHORITY HAVING JURISDICTION PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES LOCATIONS AND NOTIFY ENGINEER OF POSSIBLE CONFLICTS PRIOR TO CONSTRUCTION WILL BE AT THE CONTRACTORS EXPENSE.
- ANY WORK BEYOND THE SITE OF THE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION.
- RELOCATION OF EXISTING SERVICES AND/OR UTILITIES SHALL BE AS SHOWN ON THE DRAWINGS OR DIRECTED BY THE ENGINEER AT THE SITE.
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS. THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE "CONTRACTOR" AS DEFINED IN THE ACT.
- THE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TRANSPORTATION OF ONTARIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PER LATEST AMENDMENT.
- ALL CONSTRUCTION SHALL BE COMPLETED WITHIN THE PERIOD OF THIS CONTRACT. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES TO PREVENT CONFLICTS.
- ALL DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WRITTEN APPROVAL IF RECEIVED FROM THE ENGINEER.
- ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT.
- FOR DETAILS RELATING TO STORMWATER MANAGEMENT AND ROOF DRAINAGE REFER TO THE SITE SERVING AND STORMWATER MANAGEMENT DRAWINGS.
- ALL SEWERS CONNECTED WITH GRADES LESS THAN 1.0% SHALL BE INSTALLED USING LASER ALIGNMENT AND CHECKED WITH LEVEL.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED TO BEAR THE COST OF THE SAME.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL BEDDING, OR ADDITIONAL STRENGTH PIPE IF THE MAXIMUM TRENCH WIDTH AS SHOWN ON THE DRAWINGS IS EXCEEDED.
- ALL PIPE / CURB/ STREET SIZES REFER TO INSIDE DIMENSIONS.
- SHOULD DEEPLY BURIED ARCHAEOLOGICAL REMAINS BE FOUND ON THE PROPERTY DURING CONSTRUCTION ACTIVITIES, THE HERITAGE AND CULTURAL DIVISION OF THE CITY OF OTTAWA MUST BE NOTIFIED IMMEDIATELY.
- ALL NECESSARY CLEARING AND GRUBBING SHALL BE COMPLETED BY THE CONTRACTOR. REVIEW WITH CONTRACT ADMINISTRATOR AND THE ENGINEER PRIOR TO CONSTRUCTION.
- DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL SITE PLAN.
- THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER ONE SET OF AS CONSTRUCTED SITE SERVING AND GRADING DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND SERVICES NOT ALTERED OR DISTURBED AND THAT THEIR RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION DEPICTED ON THIS PLAN.

SANITARY AND STORM SEWER NOTES

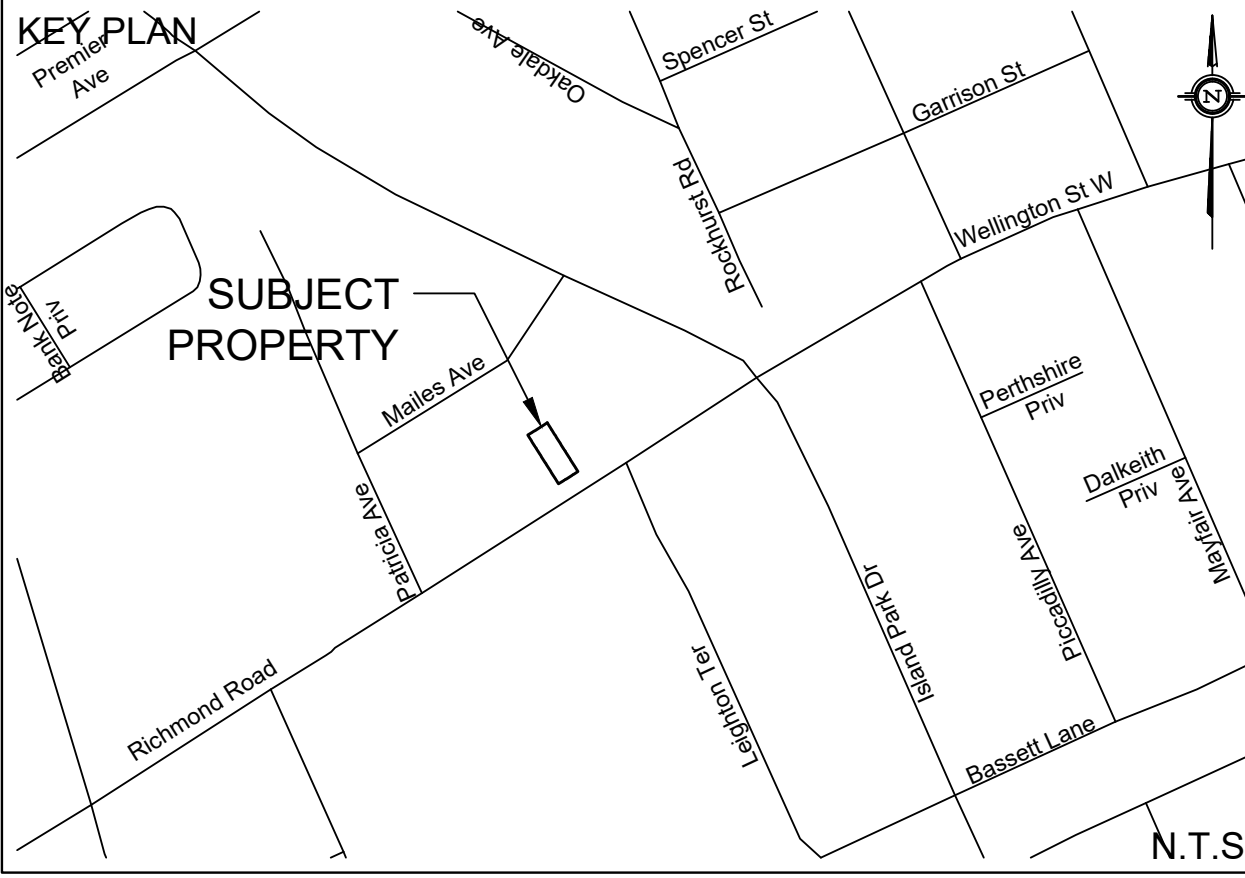
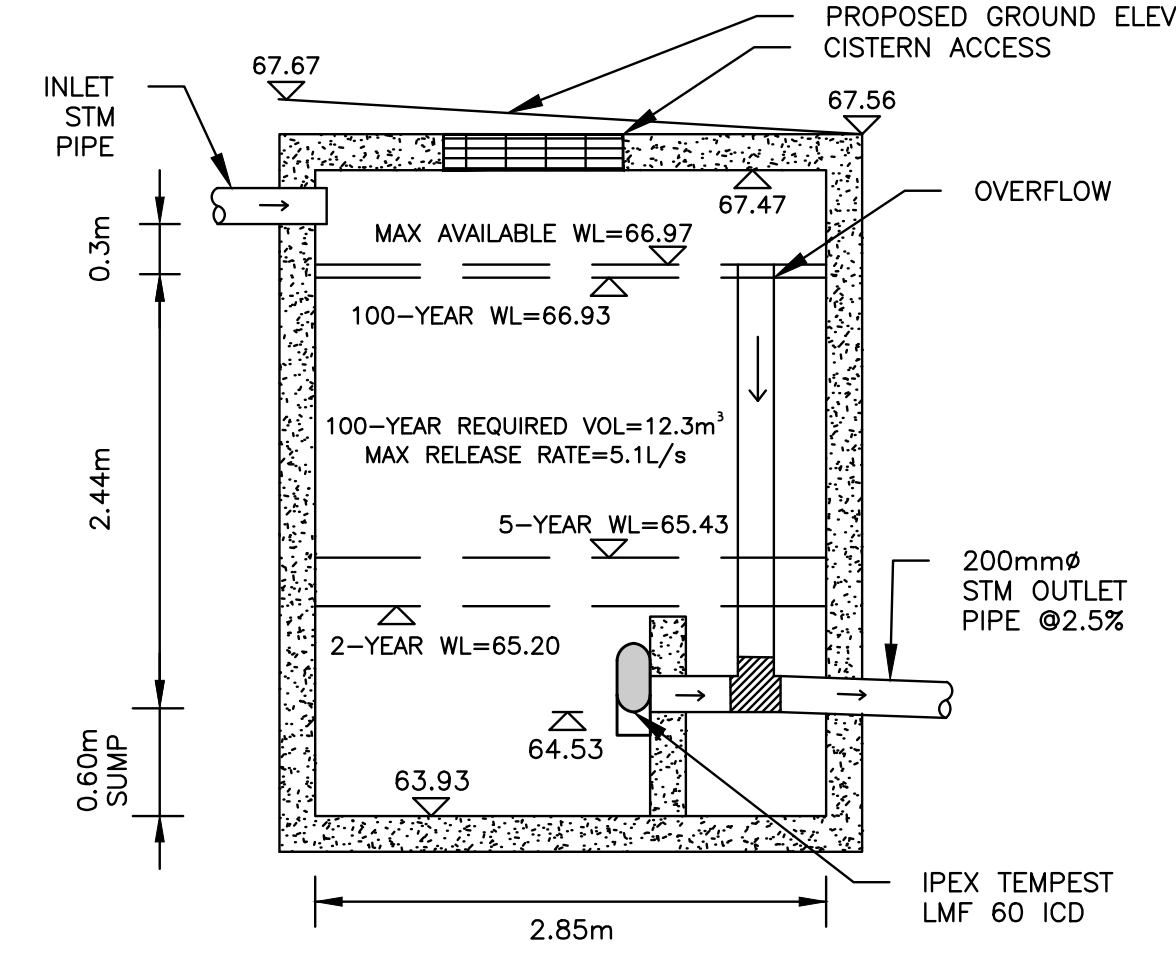
GENERAL

1. LATER ALIGNMENT CONTROL TO BE UTILIZED ON ALL SEWER INSTALLATIONS.
 2. ALL RAYS SHALL BE INSTALLED AS PER CITY STANDARD DRAWING SR-8. THE SEALS SHOULD BE AT LEAST 1.5m LONG (IN THE TRENCH DIRECTION) AND SHOULD EXTEND FROM THE TRENCH WALL TO TRENCH WALL. THE SEALS SHOULD EXTEND FROM THE FIRST LINE AND FULLY PENETRATE THE BEDDING, SUB-BEDDING, AND COVER MATERIAL. THE SEALS SHALL BE INSTALLED TO THE TRENCH WALLS AND SHALL BE PLACED AT 10m INTERVALS. ALL CLAY PLAYS SHALL BE MANUFACTURED IN ENGLISHMAN LIFTS AND COMPACTED TO A MINIMUM OF 95% SDP.
 3. THE CLAY SEALS SHOULD BE PLACED AT THE SITE BOUNDARIES AND AT 60m INTERVALS IN THE SERVICE TRENCHES.
 4. SERVICES TO BUILDINGS TO BE TERMINATED 1.0m FROM THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
 5. ALL MANHOLE STRUCTURE AND CATCH BASIN EXCAVATIONS TO BE BACKFILLED WITH GRANULAR MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY, A MINIMUM OF 300mm AROUND STRUCTURES.
 6. "MODULOG" OR APPROVED PRE-CAST MAINTENANCE STRUCTURE AND CATCH BASIN ADJUSTERS TO BE USED IN LIEU OF BRICKING. PARGE ADJUSTING UNITS ON THE OUTSIDE OF STRUCTURES TO BE USED TO ADJUST THE COVER TO THE FINISHED GRADE.
 7. SAFETY PLATFORMS SHALL BE PER OPSF 40A.02.
 8. DROP STRUCTURES SHALL BE IN ACCORDANCE WITH OPSF 100A.01 AND 100A.02, IF APPLICABLE.
 9. THE CONTRACTOR IS TO PROVIDE CCTV CAMERA INSPECTIONS OF ALL SEWERS INCLUDING PIPEWORK, PORET, ONE (1) CD COPY AND TWO (2) VIDEO RECORDINGS IN A FORMAT ACCEPTABLE TO THE ENGINEER. ALL SEWERS ARE TO BE FLUSHED PRIOR TO CAMERA INSPECTION. "ASPHALT" WEAR COAT SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION IS COMPLETED.
 10. CONTRACTOR SHALL PERFORM LEAKAGE TESTING, IN THE PRESENCE OF THE CONSULTANT, FOR SANITARY SEWERS IN ACCORDANCE WITH OPSF 41.0 AND OPSF 40.02.
 11. CONTRACTOR SHALL PERFORM VIDEO INSPECTION OF ALL SEWERS. A COPY OF THE VIDEO AND INSPECTION REPORT SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT.
 12. FROST PROTECTION RECOMMENDATIONS FOR STORM SEWERS WITH LESS THAN 1.5m AND SANITARY SEWERS WITH LESS THAN 1.8m FROM GROUND SURFACE TO PIPE OVERTOP TO BE PROVIDED BY GEOTECHNICAL ENGINEER.
- SANITARY:**
1. ALL SANITARY SEWER INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE CITY OF OTTAWA AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSP).
 2. ALL SANITARY GRAVITY SEWER SHALL BE PVC SDR 35, PIPEX "RING-TITE" (OR APPROVED EQUIVALENT) PER CSA STANDARD B182.2 OR LATEST AMENDMENT, UNLESS SPECIFIED OTHERWISE.
 3. EXISTING MAINTENANCE STRUCTURES TO BE RE-BENCHED WHERE A NEW CONNECTION IS MADE.
 4. SANITARY GRAVITY SEWER TRENCH AND BEDDING SHALL BE PER CITY OF OTTAWA STD. S6 AND STD. 57, GLASS "B" BEDDING, UNLESS SPECIFIED OTHERWISE.
 5. SANITARY MAINTENANCE STRUCTURE FRAME AND COVER SHALL BE PER CITY OF OTTAWA STD. S24 AND S25.
 6. SANITARY MAINTENANCE STRUCTURES SHALL BE BENCHMARKED PER OPSF 701.021.
- STORM:**
1. ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.2, OR LATEST AMENDMENT, ALL NON-REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.1, OR LATEST AMENDMENT. PIPE SHALL BE JOINED WITH STD. RUBBER GASKETS AS PER CSA A257.3, OR LATEST AMENDMENT.
 2. ALL STORM SEWER TRENCHES SHALL BE BENCHMARKED WITH CITY OF OTTAWA STD. S6 AND 57, CLASS "B" BEDDING, UNLESS OTHERWISE SPECIFIED. BEDDING AND COVER MATERIAL SHALL BE SPECIFIED BY PROJECT GEOTECHNICAL ENGINEER.
 3. ALL PVC STORM SEWERS TO BE SDR 35 APPROVED PER C.S.A. B182.2 OR LATEST AMENDMENT, UNLESS OTHERWISE SPECIFIED.
 4. STORM BASINS SHALL BE IN ACCORDANCE WITH OPSF 801.01.
 5. CATCH BASIN LEADS SHALL BE 200MM DIA. AT 1% SLOPE (MM) UNLESS SPECIFIED OTHERWISE.
 6. ALL CATCH BASINS SHALL HAVE 600MM DIA. 18" SLOPE SLEEVES SPECIFIED OTHERWISE.
 7. ALL CATCH BASIN LEAD INVERTS TO BE 1.5m BELOW FINISHED GRADE UNLESS SPECIFIED OTHERWISE.
 8. STORM MAINS LASSES HAVE BEEN DESIGNED BASED ON BEDDING CONDITIONS SPECIFIED ABOVE, WHERE THE SPECIFIED TRENCH WIDTH IS EXCEEDED, THE CONTRACTOR IS REQUIRED TO PROVIDE AND SHALL BE RESPONSIBLE FOR EXCAVATION, TEMPORARY AND/OR PERMANENT REPAIRS MADE NECESSARY BY THE WIDENED TRENCH.
 9. ALL STORM MAINS SHALL BE BENCHMARKED WITH CITY OF OTTAWA STD. S24 AND S25, UNLESS OTHERWISE NOTED.
 10. REINFORCED SUBDRAIN FOR SEWER YARD AND LANDSCAPING APPLICATIONS SHALL BE INSTALLED PER OPSF S29, S30, AND S31.
 11. RIP-RAP TREATMENT FOR SEWER AND CULVERT OUTFALLS PER OPSF 810.010.
 12. ALL STORM SEWERS / CULVERTS TO BE INSTALLED WITH FROST TREATMENT PER OPSF 803.010 FOR CITY APPLICATION.
 13. STORM MAINTENANCE STRUCTURE FRAME AND COVERS SHALL BE PER CITY OF OTTAWA STD. S24 AND S24.1, UNLESS OTHERWISE NOTED.
 14. CATCH BASIN FRAME AND COVER SHALL BE PER OPSF 400.02 AND CITY STD. S19.1, UNLESS OTHERWISE NOTED.











WATERMAIN NOTES

- ALL WATERMAIN INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE CITY OF OTTAWA AND THE ONTARIO STANDARD SPECIFICATIONS FOR SEWER AND WATER MAINS.
- ALL P.V.C. WATERMAINS SHALL BE AWWA C-900 CLASS 150, STD 18 OR APPROVED EQUIVALENT.
- WATERMAIN TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W/1 UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROJECT REQUIRED ENGINEERING.
- ALL WATERMAINS SHALL BE INSTALLED WITH A 10 GAUGE STRANDED COPPER TYP. OR 100% TRACER W/1. IN ACCORDANCE WITH CITY OF OTTAWA STD. W/36.
- CATHODIC PROTECTION IS REQUIRED ON ALL METALLIC FITTINGS PER CITY OF OTTAWA STD. W/40 AND W/42.
- VALVE BOXES SHALL BE INSTALLED WITH CITY OF OTTAWA STD. W/24.
- WATERMAIN IN FILL AREAS TO BE INSTALLED WITH RESTRAINED JOINTS PER CITY OF OTTAWA STD. W/25.5 AND W/26.
- THRUST BLOCKING OF WATERMAINS TO BE INSTALLED PER CITY OF OTTAWA STD. W/25.3 AND W/25.4.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS, BLOW-OFFS, AND NOZZLES REQUIRED FOR PROTECTION OF EXPOSED WATERMAINS.
- WATERMAIN CROSSING OVER AND BELOW SEWERS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. W/25.2.
- WATER SERVICES ARE TO BE INSULATED PER STD W/23 WHERE SEPARATION BETWEEN SERVICES AND MAINTENANCE HOLES IS LESS THAN 2.4m.
- WATERMAIN CROSSING UNDER SEWERS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. W/25.1. FOR CROSSING UNDER SEWERS, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWERS IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF THE SEWERS. THE JOINTS SHALL BE LOCATED AT LEAST 1.0m FROM THE POINT OF CROSSING TO ENSURE THAT THE JOINTS WILL BE EQUITABLE AND AS FAR AS POSSIBLE FROM THE SEWERS.
- ALL WATERMAINS SHALL HAVE A MINIMUM COVER OF 2.4m, HOWEVER, THERMAL INSULATION IS REQUIRED AS PER STD W/23.
- GENERAL WATER PLANT TO UTILITY CLEARANCE AS PER STD D/20 R20 AND R22.
- FIRE HYDRANT INSTALLATION AS PER STD D/19 W/1. AT BOTTOM OF HYDRANT PLANK ELEVATIONS TO BE PROVIDED TO THE CONTRACTOR FOR PROTECTION OF THE HYDRANT. FIRE HYDRANT SHALL AS PER STD D/19 W/1 UNLESS OTHERWISE NOTED.
- ALL WATERMAINS TO BE EXPOSED SHALL PROTECT THE FACE OF THE EXPOSING UNLESS OTHERWISE NOTED AND SHALL BE RESTRAINED A MINIMUM OF 12cm BACK FROM STUB.
- ALL WATERMAINS SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO STANDARD SPECIFICATIONS FOR SEWER AND WATER MAINS. TESTING SHALL BE PRIOR TO THE WATERMAIN BEING PROVIDED.
- ALL WATERMAINS SHALL BE BACTERIOLOGICALLY TESTED IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO GUIDELINES. ALL CHLORINATED WATER TO BE DISCHARGED AND PRETREATED TO ACCEPTABLE LEVELS PRIOR TO BE DISCHARGED TO THE ENVIRONMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MUNICIPAL DISCHARGES ARE IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO GUIDELINES.
- ALL WATERMAIN STUBS SHALL BE TERMINATED WITH A PLUG AND 50mm BLOW OFF UNLESS OTHERWISE NOTED.

CISTERN DETAIL
(TO BE DESIGNED BY STRUCTURAL ENGINEER)
TOTAL STORAGE VOL. PROVIDED = 12.5m³
N.T.S.



LEGEND

- | | | | |
|--|-----------------------------|---|---------------------------|
| — — — — — | PROPERTY LINE |  | PROPOSED STORM MANHOLE |
| — — — — — | PROPOSED WATERMAIN |  | PROPOSED SANITARY MANHOLE |
| — — — — — | PROPOSED SANITARY SEWER |  | PROPOSED CATCH BASIN |
| — — — — — | PROPOSED STORM SEWER |  | PROPOSED CB 'T' |
|  VB | PROPOSED VALVE BOX | | |
|  CS | PROPOSED CURB STOP | | |
|  — | PROPOSED FIRE HYDRANT | | |
|  | PROPOSED SIAMESE CONNECTION | | |
|  (RM) | PROPOSED REMOTE WATER METER | | |
|  (M) | PROPOSED WATER METER | | |

EXISTING UNDERGROUND SERVICES AND UTILITY LOCATIONS DERIVED FROM THE BEST AVAILABLE DATA, AS-CONSTRUCTED DRAWINGS, UTILITY DRAWINGS AND INFRASTRUCTURE MAPPING PROVIDED BY THE CITY OF OTTAWA.

CONTRACTOR TO CONFIRM ELEVATIONS AND LOCATIONS OF EXISTING UNDERGROUND SERVICES AND UTILITIES WITHIN THE RIGHT OF WAY PRIOR TO INSTALLATION OF SITE SERVICING INFRASTRUCTURE.

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 THE FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

SUBJECT TO APPROVAL

TOPOGRAPHIC INFORMATION

TOPOGRAPHIC INFORMATION PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD
 PROJ. NO. 18438-17
 DATED JANUARY 26, 2018

SITE PLAN INFORMATION

SITE PLAN PROVIDED BY RLA ARCHITECTURE
PROJ. NO. 1734
DATED AUGUST 28, 2019

SITE SERVICING AND STORMWATER MANAGEMENT STUDY

SERVICING AND STORMWATER MANAGEMENT RECOMMENDATIONS PROVIDED BY DSE
PROJ. NO. 18-1068
DATED AUGUST 2019

BENCH MARK

SITE BENCHMARK LOCATED ON CONCRETE SIDEWALK AT FRONTAGE OF SITE
ELEVATION=67.62

3	A.A.S.	19.08.28	ISSUED FOR 2nd SUBMISSION
2	A.A.S.	19.08.19	ISSUED FOR COORDINATION
1	A.A.S.	18.11.22	ISSUED FOR 1st SUBMISSION
No.	BY	YY.MM.DD	DESCRIPTION

PROJECT No.18-1068

SITE SERVICING PLAN

89 RICHMOND ROAD

© DSE

SAAISH INC

648 Mansfield Ave
Ottawa, ON K2A 2T6
Tel. (613) XXX-XXXX

DSEL
david schaeffer engineering llc
SMART SUBDIVISIONS

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Stittsville, Ontario, K2S 1E5
Tel. (613) 836-0856
Fax. (613) 836-7183
www.DSEL.ca

DRAWN BY:	A.W.T.	CHECKED BY:	S.L.M.	DRAWING NO.	SHEET NO.
DESIGNED BY:	B.N.C.	CHECKED BY:	A.D.F.	SSP-1	3 of 5
SCALE:	1:150	DATE:	OCTOBER 2018		