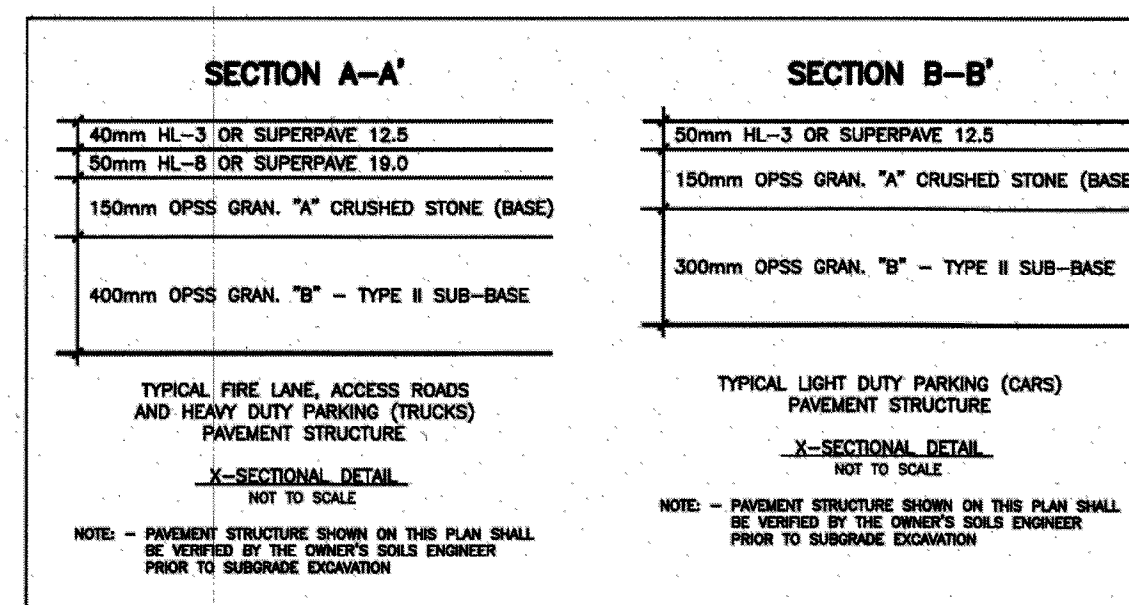
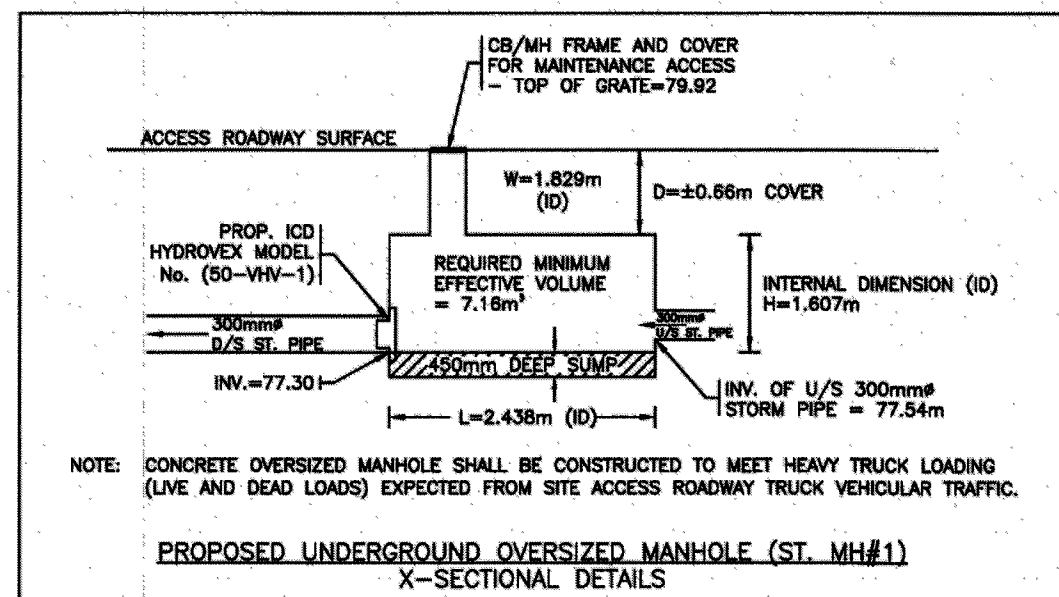
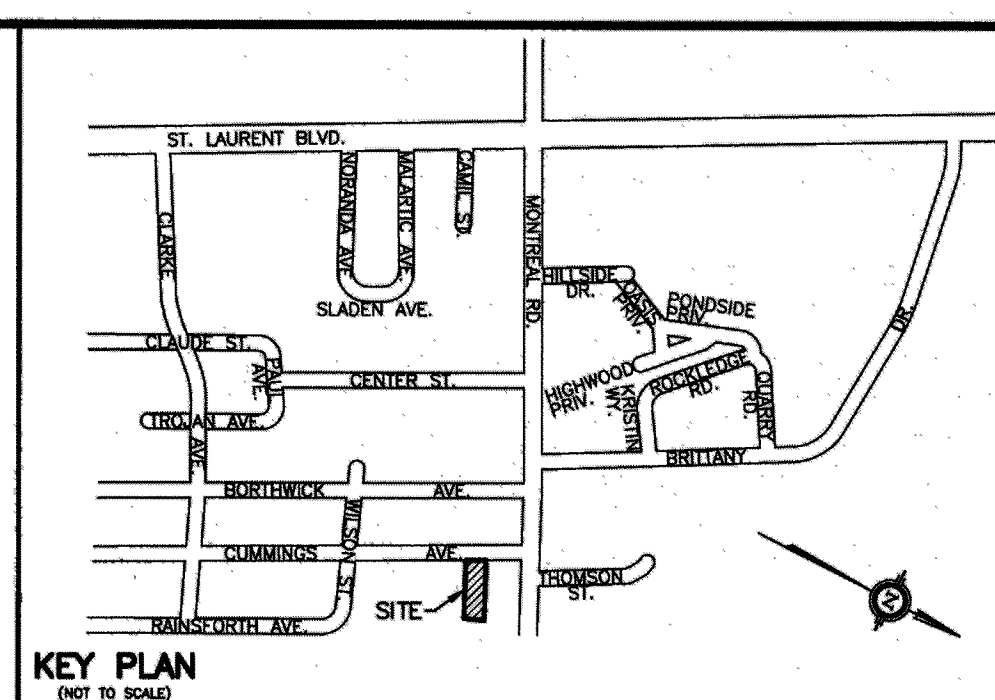


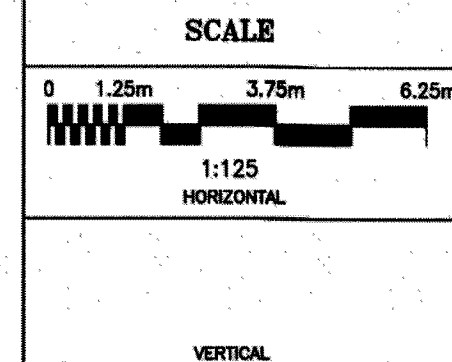
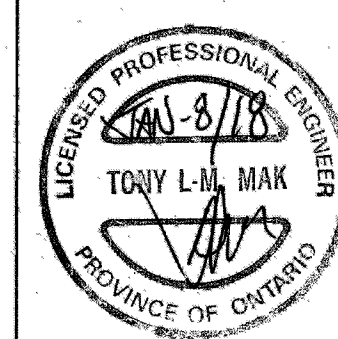
- LEGEND**
- PROPOSED ELEVATION
 - EXISTING ELEVATION
 - T.O.F. TOP OF CONCRETE FOUNDATION ELEVATION
 - PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION
 - D/W PROPOSED DRIVEWAY
 - EXISTING SANITARY SEWER
 - EXISTING STORM SEWER
 - EXISTING WATERMAIN
 - PROPOSED 150mm PVC SANITARY LATERAL SERVICE
 - PROPOSED 125mm/150mm PVC STORM LATERAL SERVICE AND 200mm PVC CB LEAD/300mm PVC STORM PIPE @ 1% (MIN.) SLOPE
 - PROPOSED 38mm WATER SERVICE (COPPER TYPE "K")
 - PROPOSED STORM MANHOLE
 - PROPOSED CATCH BASIN
 - EXISTING SANITARY MANHOLE
 - EXISTING STORM MANHOLE
 - EXISTING UTILITY POLE
 - EXISTING OVERHEAD WIRES
 - EXISTING FIRE HYDRANT
 - PROPOSED V&B
 - PROPOSED GENERAL DIRECTION OF LOT GRADING AND SURFACE FLOW
 - PROPOSED HIGH RIDGE LINE
 - PROPOSED CONTROLLED ROOF DRAIN LOCATION
 - PROPOSED DEPRESSED CURB
 - PROPOSED RETAINING WALL
 - PROPOSED TOP OF RETAINING WALL ELEVATION
 - PROPOSED BOTTOM OF RETAINING WALL ELEVATION
 - PROPOSED ROOF SCUPPER LOCATION
 - 100 YR HIGH WATER LEVEL ON SITE = 79.90m
 - 5 YR HIGH WATER LEVEL ON SITE = 78.00m
 - PROPOSED CLAY DYKE



28. CONCRETE BARRIER CURB AND DEPRESSED CURB DETAILS AS PER CITY OF OTTAWA STANDARDS (DWG. No. SC1.1, MARCH 2007 AND SC6, MAY 2007). CONCRETE CURB AND CONCRETE SIDEWALK CONSTRUCTION AND REINSTATEMENT SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA AND IN ACCORDANCE WITH THE LATEST REVISED CITY ENGINEERING STANDARDS.
29. CONCRETE SIDEWALK, DEPRESSED CURB AND DEPRESSED CONCRETE SIDEWALK DETAILS AS PER CITY OF OTTAWA STANDARDS (DWG. No. SC1 REV. DATE MARCH 2007, SC4 REV. DATE MARCH 2007 AND SC7.1 REV. DATE MARCH 2007). CONCRETE CURB AND CONCRETE SIDEWALK CONSTRUCTION AND REINSTATEMENT SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA AND IN ACCORDANCE WITH THE LATEST REVISED CITY ENGINEERING STANDARDS.
30. THE EXISTING CONCRETE CURB AND SIDEWALK ON CUMMINGS AVENUE IF DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REINSTATEMENT BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF OTTAWA AND IN ACCORDANCE WITH THE LATEST REVISED CITY ENGINEERING STANDARDS.
31. THE CONTRACTOR, UPON COMPLETION OF THE NEW ENTRANCEWAY, SHALL RESTORE THE EXISTING CUMMINGS AVENUE ROADWAY BOUNDARY DISTURBED BY CONSTRUCTION WORKS ON THIS PROPERTY. ADDITIONALLY, THE ROADWAY GRADING SHALL BE RESTORED BY THE CONTRACTOR TO EXISTING STORMWATER OUTLET AS REQUIRED BY THE CITY INSPECTOR.
32. ASPHALT DRIVEWAY PAVEMENT STRUCTURES SHALL MEET THE MINIMUM REQUIREMENTS AS SET OUT AS PER THE OWNER'S SOILS ENGINEER AND APPROVED BY THE CITY AND THIS STRUCTURE MUST ALSO BE APPROVED BY THE OWNER'S SOILS ENGINEER ON SITE PRIOR TO CONSTRUCTION BY THE CONTRACTOR. SITE SOILS ENGINEER SHALL APPROVE ALL ROAD SUBGRADE FROST TAPPING AND TRANSITION WORKS PRIOR TO GRANULAR PLACEMENT.
33. PRIOR TO PLACEMENT OF OPSS GRANULAR "A" AND "B" TYPE II ON THE ROADWAY AND PARKING LOT AREA, THE OWNER'S GEOTECHNICAL ENGINEER MUST APPROVE THE GRANULAR SUBGRADE.
34. WHERE FROST COVER FROM UNDERSIDE OF BUILDING CONCRETE FOOTING TO PROPOSED FINISHED GRADE ELEVATION IS LESS THAN 1.55m, IT IS RECOMMENDED THAT INSULATION (50mm THICK) MINIMUM BE INSTALLED AT THE BUILDING FOOTING AND FOUNDATION TO PROVIDE SUFFICIENT PROTECT COVER FOR THE FOUNDATION STRUCTURES. THE FOOTINGS WILL NEED TO BE REVIEWED FOR INSULATION BY THE OWNER'S SOILS ENGINEER. EXACT INSULATION REQUIREMENTS SHALL BE AS PER HOUSE DESIGNER'S INSULATION DETAILS AS SHOWN ON THEIR ARCHITECTURAL DRAWINGS AND CONFIRMED BY THE OWNER'S SITE SOILS ENGINEER.
35. IT IS RECOMMENDED THAT A FULL PORT BACKWATER VALVE BE INSTALLED FOR THE SANITARY SEWER LATERAL AND A BACKWATER VALVE FOR THE STORM SERVICE LATERAL. PROPOSED TO SERVICE THE NEW BUILDING PER CITY DETAILS S14.1, S14.1.1 AND S14.2 AND UNDER THE CURRENT REGULATION OF THE ONTARIO PLUMBING CODE, THE OWNER'S HOUSE DESIGNER AND PLUMBER SHALL CHECK THE CURRENT ONTARIO PLUMBING CODE FOR REQUIREMENTS FOR A BACKWATER VALVE IN THE BUILDING AND AS PER THE MECHANICAL ENGINEER'S DRAWINGS AT THE SANITARY AND STORM SEWER SERVICE LINES.
36. INSULATE THE BUILDING HOUSE SEWER LATERALS WITHIN THE ROAD RIGHT OF WAY AND ON THE PRIVATE LOT PROPERTY WHERE GROUND COVER FOR FROST PROTECTION AS PER CITY'S REQUIREMENTS. THE SEWER LATERAL(S) SHALL BE CAPPED AND/OR (MIN.) RIGID STYROFOAM INSULATION AND AS PER SOILS ENGINEER'S RECOMMENDATIONS.
37. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE FOR PROTECTION OF THE RECEIVING STORM SEWER DURING CONSTRUCTION ACTIVITIES. THESE PRACTICES ARE REQUIRED TO ENSURE NO SEDIMENT AND/OR ASSOCIATED POLLUTANTS ARE RELEASED TO THE RECEIVING WATERCOURSE. THESE PRACTICES INCLUDE INSTALLATION OF SEDIMENT BARRIERS ON ALL CATCH BASIN AND MAINTENANCE HOLES AND A SILT FENCE BARRIER (AS PER OPSD 218.110 AND ASSOCIATED SPECIFICATIONS) ALONG THE PROPERTY LIMITS OF THE PROPOSED DEVELOPMENT AND ALL OTHER AREAS THAT SHEET DRAIN OFF SITE. MAINTENANCE HOLES SEDIMENT BARRIERS TO BE AMCO 4555 NONWOVEN GEOTEXTILE OR APPROVED EQUIVALENT.
38. THE CONTRACTOR SHALL CONSTRUCT A CLAY DYKE AT THE LOCATION SHOWN ON THIS DRAWING AS PER THE OWNER'S GEOTECHNICAL ENGINEER'S (PATERSON GROUP) REQUIREMENTS AND RECOMMENDATIONS.
39. NO EXCESS DRAINAGE, DURING AND AFTER CONSTRUCTION, WILL BE DIRECTED TOWARDS THE NEIGHBORS' PROPERTIES.
40. ALL TREES ON THE RIGHT-OF-WAY ARE TO BE MAINTAINED BEFORE AND AFTER CONSTRUCTION AND ALL TREES WITHIN THE PROPERTY SHALL BE PROTECTED AS PER THE "MUNICIPAL TREES AND NATURAL AREAS PROTECTION BY-LAW" AND THE "URBAN TREES CONSERVATION BY-LAW" AS AMENDED FROM TIME TO TIME.
41. THERE WILL BE NO ALTERATION TO THE EXISTING GRADE AND DRAINAGE PATTERN ON THE PROPERTY LINES.



- NOTES**
1. EXISTING SERVICES AND UTILITIES SHOWN ON THIS DRAWING WERE TAKEN FROM THE BEST AVAILABLE RECORDS BUT ARE NOT COMPLETE. CONTRACTOR IS REQUESTED TO CHECK IN THE FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH AUTHORITIES AND UTILITIES TO HIS SATISFACTION BEFORE DIGGING.
2. CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY, REFER TO THE SITE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY THE OWNER'S SOILS ENGINEER PATERSON GROUP (REPORT P04326-1 DATED SEPTEMBER 28, 2017). FOR DETAILS OF FOUNDATION STRUCTURE DETAILS, REFER TO PAGES 8 AND 9 OF THE GEOTECHNICAL REPORT.
3. SITING DETAILS FOR THE PROPOSED BUILDING WERE TAKEN FROM THE OWNER'S ARCHITECT'S (VINCENT P. COLIZZA ARCHITECT INC.) SITE PLAN (DWG. No. SP-1 REV. 4 DATED NOVEMBER 27, 2017 PROJECT No. 1217). FOR DETAILS OF THE TOP OF FOUNDATION (T.O.F.) TOP OF BASEMENT SLAB ELEVATION AND UNDERSIDE OF FOOTING (U.S.F.) INFORMATION FOR THE VARIOUS ELEVATION LEVELS OF THE NEW BUILDING, REFER TO THE OWNER'S ARCHITECT'S NORTH AND SOUTH ELEVATION PLAN (DWG. No. A301 DATED JUNE 28, 2017 REV. 1).
4. EXISTING BUILDING AND STRUCTURE LOCATION, TOPOGRAPHICAL INFORMATION ON THIS DRAWING, GEODETIC SITE BENCHMARK, SEWER INVERT AND LOCATION ETC. SHOWN ON THIS PLAN WERE PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBECK LTD. (JOB No. 19517-17 COMPLETED ON MAY 10, 2017 RECEIVED ON SEPTEMBER 8, 2017). T.L. MAK ENGINEERING CONSULTANTS LTD. DOES NOT TAKE ANY RESPONSIBILITY FOR THE SURVEY INFORMATION SHOWN HERE. THE CONTRACTOR IS ADVISED TO OBTAIN AND REVIEW TO HIS SATISFACTION THIS SURVEY/TOPOGRAPHICAL PLAN PRIOR TO CONSTRUCTION. STORM AND SANITARY INVERT INFORMATION WAS TAKEN FROM AVAILABLE CITY OF OTTAWA AS-BUILT PLAN AND PROFILE DRAWING ENTITLED "CUMMINGS AVENUE" FROM MONTREAL ROAD TO STA. 210.00 PLAN No. 2823 SHEET 3 OF 12.
5. ALL GRADES SHOWN ARE GEODETIC AND METRIC (SEE ANNIS, O'SULLIVAN, VOLLEBECK LTD.'S TOPOGRAPHICAL PLAN).
6. PIPE SIZES SHOWN ON THIS PLAN ARE METRIC.
7. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY EQUIPMENT, LABOUR AND MATERIALS RELATING TO ALL CIVIL WORKS REQUIRED FOR THIS SITE AND BY THE CITY OF OTTAWA TO CONNECT INTO THE WATERMAIN.
8. ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA.
9. CONNECTION OF THE 38mm WATER SERVICE TO THE EXISTING 300mm WATERMAIN SHALL BE BY THE CITY OF OTTAWA AND EXCAVATION, BACKFILLING AND REINSTATEMENT SHALL BE CARRIED OUT BY THE CONTRACTOR. ALL WATERWORKS TO BE CONSTRUCTED TO CITY OF OTTAWA WATER ENGINEERING STANDARDS AND SPECIFICATIONS.
10. CONSTRUCT ALL WATERMANS, WATER SERVICES, SANITARY AND STORM SEWER SYSTEMS IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARD OTHERWISE AS PER OPSD REQUIREMENT AND DONE TO THE SATISFACTION OF THE CITY.
11. BEDDING AND HAUNCHING MATERIAL FOR SEWER INSTALLATIONS TO BE GRANULAR "A" INSTALLED AND COMPACTED AS PER CITY STANDARD DETAIL DWG. No. S6 AND S7.
12. STORM AND SANITARY LATERALS (125mm and 150mm) SHALL BE PVC DR-28 OR EQUIVALENT. STORM PIPE SIZE (300mm) SHALL BE PVC DR-35.
13. ALL WATER SERVICES/MAINS SHALL HAVE 2.4m COVER (MIN.). THE 38mm WATER SERVICE SHALL BE COPPER TYPE "K" WATER SERVICE AND WATERMAIN TRENCH DETAILS AS PER CITY OF OTTAWA W17. THRUST BLOCK DETAILS AS PER CITY DETAIL W25.3 DATED MAY 2001. FITTINGS SHALL CONFORM TO APPROVED ANWA AND/OR CSA STANDARDS. CATHODIC PROTECTION FOR NEW WATERMAIN AND SERVICE AS PER CITY DETAIL W40 REV. DATE MARCH 2005.
14. IF WATER SERVICE IS LESS THAN 1.0m FROM SEWER, MANHOLE OR CATCHBASIN, CONTRACTOR IS REQUESTED TO INSULATE BETWEEN THEM WITH 5/YR RIGID INSULATION (SEE CITY DETAIL DRAWING No. W23).
15. INSTALL THE SPECIFIED ICD (INLET CONTROL DEVICE) AT THE DOWNSTREAM PIPE END OF THE PROPOSED 300mm STORM SEWER AT PROPOSED ST. MH #1 AS DETAILED ON THIS DRAWING.
16. THE PROPOSED ST. MH #1 SHALL BE W CON PRODUCTS INC.'S UNDERGROUND CONCRETE OVERSIZED MANHOLE WITH INTERNAL DIMENSION (ID) OF L=2.438m, W=1.828m AND H=1.607m WITH AN EFFECTIVE VOLUME OF 7.18m³. MANHOLE SUMP SHALL BE 0.45m (MIN.).
17. THE CATCH BASIN SHALL BE 800mm x 600mm PRECAST TYPE PER OPSD 705.010 C/W FRAME AND COVER PER OPSD 400.020 INCLUDING ADJUSTMENT RINGS.
18. STORMWATER MANAGEMENT NOTES
- THE 5 YEAR HIGH WATER LEVEL IS ESTIMATED AT ELEVATION = 78.00m CONFINED IN THE UNDERGROUND DRAINAGE STRUCTURES.
 - THE 100 YEAR HIGH WATER LEVEL IS ESTIMATED AT ELEVATION = 79.90m CONFINED IN THE UNDERGROUND STORM PIPES AND DRAINAGE STRUCTURES.
 - SEE STORM DRAINAGE REPORT No. R-817-37 DATED DECEMBER 2017 ALSO FOR DETAILS.
 - INSTALL ICD FLOW RESTRICTOR HYDROVEX MODEL No. (50-WV-1) OR EQUAL AS SHOWN ON THIS DRAWING.
 - CONTROLLED ROOF DRAIN FLOW RATE SHALL BE 0.63L/S OR 10 U.S. GAL/MIN.
19. ALL PROPOSED BUILDING SANITARY, STORM AND WATER SERVICES SHALL TERMINATE ± 1.0m OUTSIDE THE FOUNDATION WALL AND CONNECTION TO PLUMBING BY OTHERS.
20. THE RETAINING WALL TO BE CONSTRUCTED AND MATERIAL TYPE SHALL BE SPECIFIED BY THE OWNER'S ARCHITECT AND/OR HIS STRUCTURAL ENGINEER. ANY RETAINING WALLS BUILT ON THIS LOT EXCEEDING 1.0m IN HEIGHT FROM PROPOSED FINISHED GROUND ELEVATION WILL BE REQUIRED TO BE PREPARED AND CERTIFIED BY THE OWNER'S STRUCTURAL ENGINEER AND APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
21. PRIOR TO CONCRETE FOOTING AND FOUNDATION POURING, THE OWNERS AND/OR CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SUBGRADE ON THIS LOT IS SUFFICIENT TO SUPPORT THE PROPOSED BUILDING.
22. FOR DEVELOPMENT OF THIS LOT, THE CONTRACTOR MUST FIRST CONSTRUCT THE UNDERGROUND SANITARY, STORM AND WATER SERVICES FROM THE SEWER AND WATERMAIN TO SERVICE THE ENTIRE PROPERTY. PRIOR TO BUILDING CONCRETE FOUNDATION POURING, THE CONTRACTOR SHALL VERIFY SEWER DEPTHS TO ENSURE THAT SEWER LATERALS CAN ACHIEVE A SLOPE OF 1% (MIN.) AND STILL BE BELOW PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION. IF THIS IS FOUND NOT POSSIBLE, THE CONTRACTOR SHALL CONTACT THE OWNER TO REPORT THE FINDING IN ORDER TO ADJUST THE BUILDING FOUNDATION GRADES PRIOR TO CONCRETE POURING.
23. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY EQUIPMENT, LABOUR AND MATERIALS RELATING TO THE CIVIL WORKS REQUIRED FOR INSTALLATION OF NEW SITE SERVICES. PROVINCIAL HEALTH AND SAFETY REGULATIONS MUST BE FOLLOWED DURING CONSTRUCTION.
24. IT IS THE RESPONSIBILITY OF THE SITE SERVICES CONTRACTOR TO OBTAIN AND CONSTRUCT THE WORKS TO MEET THE LATEST REVISIONS IN CURRENT CIRCULATION OF THE CITY OF OTTAWA'S ENGINEERING STANDARDS, OPSD & OPSD STANDARDS, AND ONTARIO BUILDING/PLUMBING CODES. WHERE THE LATEST REVISION DIFFERS FROM THE REQUIREMENTS SET OUT IN THIS PLAN, THE CONTRACTOR SHALL PRICE THE WORKS TO MEET LATEST REVISION STANDARDS IN HIS PRICE BID FOR THIS PROJECT. THE CONTRACTOR SHALL INFORM THE ENGINEERS OF ANY CHANGES PRIOR TO COMMENCEMENT OF THE WORKS.
25. PROPOSED TOP OF FOUNDATION, TOP OF BASEMENT SLAB AND UNDERSIDE OF FOOTING ELEVATIONS SHALL BE REVIEWED AND APPROVED BY THE OWNERS AND VINCENT P. COLIZZA ARCHITECT INC. PRIOR TO CONSTRUCTION.
26. IF EXISTING GRADES ALONG ANY EXISTING ADJUTING PROPERTY LIMITS EXCEED THE PROPOSED GRADES ON THIS PROPERTY BY A HEIGHT DIFFERENCE THAT EXCEEDS TERRACING OF 3H TO 1V, THEN INSTALL A RETAINING WALL AS PER OWNER'S REQUIREMENTS.
27. SITE SERVING BEDDING, BACKFILL REQUIREMENTS ALONG ROADWAY AND PARKING LOT PAVEMENT STRUCTURES SHALL MEET RECOMMENDATIONS AND REQUIREMENTS SET OUT IN THE OWNER'S SOILS ENGINEER'S REPORT. THE WORKS TO BE CARRIED OUT BY THE CONTRACTOR ON THE PROPOSED ASPHALT ACCESS LANEWAY AND PRIVATE DRIVEWAY STRUCTURE SHALL BE APPROVED BY SOILS ENGINEER ON SITE PRIOR TO CONSTRUCTION.



DESIGN	T.L.M.
CHECKED	T.L.M.
DRAWN BY	G.U.
CHECKED	T.L.M.
APPROVED	T.L.M.

PROJECT	603 CUMMINGS AVENUE PART OF LOT 25 CONCESSION 1 (OTTAWA FRONT) Geographic Township of Gloucester CITY OF OTTAWA
DRAWING TITLE	PROPOSED GRADING, SERVICING AND STORMWATER MANAGEMENT PLAN

PROJECT No.	817-37	DATE	DECEMBER 2017	DRAWING No.	G-1
T.L. MAK ENGINEERING CONSULTANTS LTD. CONSULTING ENGINEERS					

NO.	REVISION	DATE	BY
1	REVISIONS AS PER ARCHITECT'S REVISED SITE PLAN OF NOVEMBER 27, 2017	11/28/17	TLM