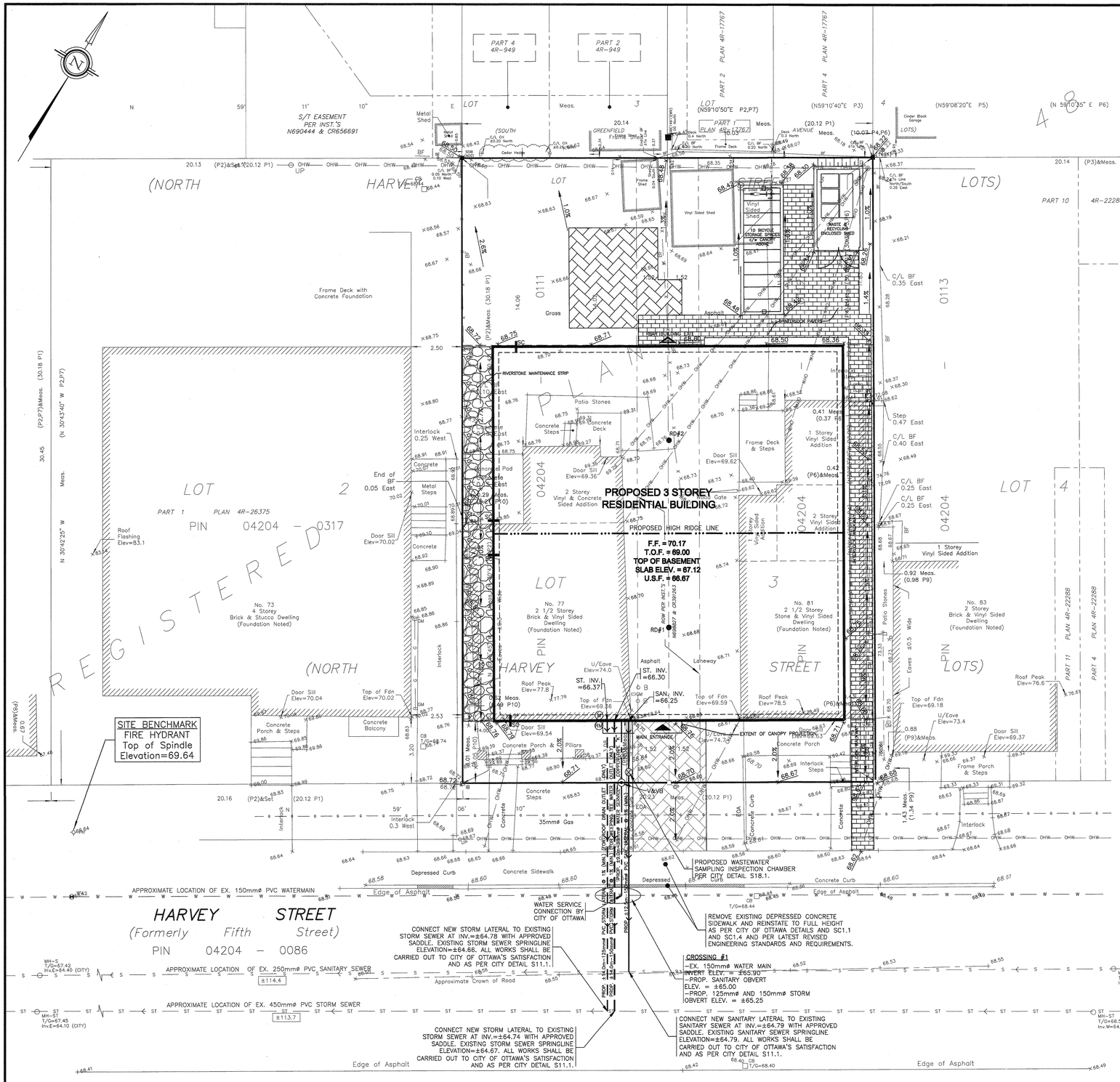
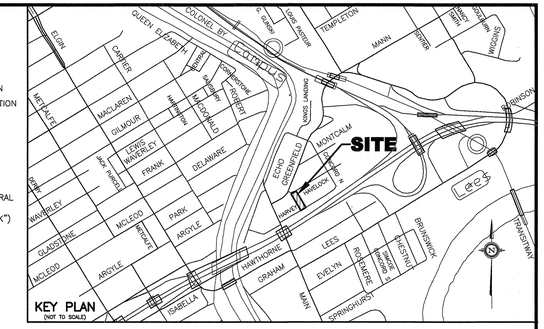


LEGEND

- 68.79 — PROPOSED ELEVATION
- ×68.41 — EXISTING ELEVATION
- F.F. — PROPOSED TOP OF GROUND FLOOR ELEVATION
- T.O.F. — PROPOSED TOP OF CONCRETE FOUNDATION ELEVATION
- U.S.F. — PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION
- D/W — PROPOSED DRIVEWAY
- —S— EXISTING SANITARY SEWER
- —ST— EXISTING STORM SEWER
- —W— EXISTING WATERMAIN
- PROPOSED 150mmø PVC SANITARY LATERAL SERVICE @ 1% (MIN.) SLOPE
- PROPOSED 125mmø AND 150mmø PVC STORM LATERAL SERVICE @ 1% (MIN.) SLOPE
- PROPOSED 38mmø WATER SERVICE (COPPER TYPE "K")
- MH-SAN — EXISTING SANITARY MANHOLE
- MH-STM — EXISTING STORM MANHOLE
- CB — EXISTING CATCH BASIN
- WV — EXISTING WATER VALVE
- FH — EXISTING FIRE HYDRANT
- UP — EXISTING UTILITY POLE
- OHW — EXISTING OVERHEAD WIRES
- V&VB — PROPOSED VALVE AND VALVE BOX (V&VB)
- PROPOSED GENERAL DIRECTION OF LOT GRADING AND SURFACE FLOW
- PROPOSED WASTEWATER SAMPLING INSPECTION CHAMBER LOCATION (PER CITY DETAIL S18.1)
- M — PROPOSED WATER METER LOCATION
- RM — PROPOSED REMOTE WATER METER LOCATION
- RD#1 — PROPOSED ROOF DRAIN NUMBER AND LOCATION
- SC — PROPOSED ROOF SCUPPER LOCATION
- PROPOSED HIGH RIDGE LINE



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 ALSO TO THE SITE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY PATERSON GROUP ENTITLED GEOTECHNICAL INVESTIGATION – REPORT No. PG5089–1 (DATED DECEMBER 3, 2019).

3. EXISTING BUILDING AND STRUCTURE LOCATION, TOPOGRAPHICAL INFORMATION ON THIS DRAWING, GEODETIC SITE BENCHMARK, SEWER AND MANHOLE LOCATIONS, ETC. SHOWN ON THIS PLAN WERE PROVIDED BY FARLEY SMITH AND DENIS SURVEYING LIMITED (FILE No. 400–19 DATED AUGUST 23, 2019). SANITARY AND STORM SEWER INVERT INFORMATION ALONG HARVEY STREET WERE TAKEN FROM THE CITY'S PLAN AND PROFILE DRAWING ENTITLED HARVEY–CONCORD–HAVELOCK–PLAN AND PROFILE STA. 1+000 TO 1+140 DATED MARCH 2012 DWG. No. 5051–08 SHEET 8 OF 18 REV. No. 3 PREPARED BY THE CITY OF OTTAWA. THE CONTRACTOR SHALL FIELD SURVEY AND VERIFY THIS INFORMATION TO HIS OR HER SATISFACTION PRIOR TO CONSTRUCTION. 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.

4. SITE LAYOUT AND DETAILS FOR GRADING AND SWM DESIGN WERE PROVIDED BY THE OWNER'S ARCHITECT FIGURR ARCHITECTS COLLECTIVE AS DETAILED ON THEIR SITE PLAN DWG. No. A105 REV. No 1 DATED OCTOBER 28, 2019 AND RECEIVED ON NOVEMBER 15, 2019. BUILDING EXTERIOR ELEVATION PLANS DWG. No. A201 AND A202 RECEIVED FROM THE ARCHITECT ON NOVEMBER 15, 2019 WAS USED TO ESTABLISH THE F.F., T.O.F., TOP OF BASEMENT SLAB AND U.S.F. ELEVATIONS.

5. ALL GRADES SHOWN ARE GEODETIC AND METRIC (SEE FARLEY SMITH AND DENIS SURVEYING LIMITED'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 38mmø WATER SERVICE TO THE EXISTING 150mmø WATERMAIN ON HARVEY STREET 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 WATERMAINS, WATER SERVICES, SANITARY AND STORM SEWER SYSTEMS IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARD OTHERWISE AS PER OPSS 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 (100mmø, 125mmø AND 150mmø) SHALL BE PVC DR–28 OR EQUIVALENT. SEWER CONNECTION DETAILS PER CITY DETAIL S11.1 FOR FLEXIBLE PIPES AND S11 FOR RIGID PIPES.

13. ALL WATER SERVICES/MAINS SHALL HAVE 2.4m COVER (MIN.). THE 25mmø 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 AWWA 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 S/M RIGID INSULATION (SEE CITY DETAIL DRAWING No. W23).

15. STORM MANAGEMENT NOTES
- REFER TO PROPOSED ROOFTOP STORMWATER MANAGEMENT PLAN (DWG. No. 819–74 SWM–1) FOR ROOFTOP 5 YEAR AND 100 YEAR HWL.
- SEE STORM DRAINAGE REPORT No. R–819–74 DATED JANUARY 2020 ALSO FOR DETAILS.
- CONTROLLED ROOF DRAIN FLOW RATE FOR EACH DRAIN SHALL BE 0.946 L/s OR 15.0 U.S. GAL/MIN.

16. ALL PROPOSED BUILDING SANITARY, STORM AND WATER SERVICES SHALL TERMINATE ±1.0m OUTSIDE THE FOUNDATION WALL AND CONNECTION TO PLUMBING BY OTHERS.

17. IT IS REQUIRED THAT A CITY APPROVED BACKWATER VALVE BE INSTALLED AT THE NEW 125mm DIA. AND 150mm DIA. (FOUNDATION DRAINS) STORM LATERAL SERVICE AND A FULL PORT BACKWATER VALVE BE INSTALLED FOR THE NEW SANITARY LATERAL SERVICE AS PER CITY DETAIL S14, S14.1, AND S14.2.

18. 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.

19. 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.

20. 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.

21. 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, OPSS & 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 REVISED STANDARDS IN HIS PRICE BID FOR THIS PROJECT. THE CONTRACTOR SHALL INFORM THE ENGINEERS OF ANY CHANGES PRIOR TO COMMENCEMENT OF THE WORKS.

22. PROPOSED GROUND FLOOR, TOP OF CONCRETE FOUNDATION, TOP OF BASEMENT SLAB AND UNDERSIDE OF FOOTING ELEVATIONS SHALL BE REVIEWED AND APPROVED BY FIGURR ARCHITECTS COLLECTIVE PRIOR TO CONSTRUCTION.

23. IF EXISTING GRADES ALONG ANY EXISTING ABUTTING PROPERTY LIMITS EXCEED THE PROPOSED GRADES ON THIS PROPERTY BY A HEIGHT DIFFERENTIAL THAT EXCEEDS TERRACING OF 3H TO 1V, THEN INSTALL A RETAINING WALL AS PER OWNER'S REQUIREMENTS.

24. SITE SERVICING BEDDING, BACKFILL REQUIREMENTS ALONG WITH ROADWAY AND PARKING LOT PAVEMENT STRUCTURES SHALL MEET RECOMMENDATIONS AND REQUIREMENTS SET OUT IN THE OWNER'S SOILS ENGINEER'S REPORT. ALL 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.

25. CONCRETE BARRIER CURB AND DEPRESSED CURB DETAILS AS PER CITY OF OTTAWA STANDARDS (DWG. No. SC1.1 AND SC1.4 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.

26. CONCRETE SIDEWALK, DEPRESSED CURB, AND DEPRESSED CONCRETE SIDEWALK DETAILS AS PER CITY OF OTTAWA STANDARDS (DWG. No. SC1 AND SC1.4 REV. DATE MARCH 2007, SC4 REV. DATE MARCH 2007 AND SC7.1 REV. DATE MARCH 2007). CONCRETE CURB AND 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.

27. THE EXISTING CONCRETE CURB AND SIDEWALK ON HARVEY STREET IF DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REINSTATED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF OTTAWA AND IN ACCORDANCE WITH THE LATEST REVISED CITY ENGINEERING STANDARDS.

28. THE CONTRACTOR, UPON COMPLETION OF THE NEW DRIVEWAY, SHALL RESTORE THE EXISTING HARVEY STREET ROADWAY BOULEVARD DISTURBED BY CONSTRUCTION WORKS ON THIS PROPERTY. ADDITIONALLY, THE ROADWAY GRADING SHALL BE RESTORED AND REGRADED TO DRAIN POSITIVELY TO EXISTING STORMWATER OUTLET AS REQUIRED BY THE CITY INSPECTOR.

29. WHERE FROST COVER FROM UNDERSIDE OF BUILDING CONCRETE FOOTING TO PROPOSED FINISHED GROUND 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 FROST 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 ARCHITECT'S INSULATION DETAILS AS SHOWN ON THEIR ARCHITECTURAL DRAWINGS AND CONFIRMED BY THE OWNER'S SITE SOILS ENGINEER.

30. INSULATE THE PROPOSED HOUSE SERVICE LATERALS ON PRIVATE PROPERTY FROM PROPERTY LINE TO THE HOUSE AND WITHIN THE ROAD RIGHT OF WAY WITH RIGID STYROFOAM INSULATION (50mm THICK MINIMUM) AND ANY OTHER LOCATION WHERE GROUND COVER IS LESS THAN 2.4m FOR WATER, STORM, AND SANITARY SERVICES. INSULATION THICKNESS AND WIDTH REQUIREMENTS SHALL BE AS PER CITY'S ENGINEERING STANDARDS AND PER REQUIREMENTS OF THE CITY OF OTTAWA AND OWNER'S SOILS ENGINEER.

31. EXISTING LATERALS AND WATER SERVICE PIPING HAVE BEEN AND/OR SHALL BE ABANDONED. THE WATER SERVICE SHALL BE BLANKED AND CAPPED AT THE MAIN AS PER CITY'S REQUIREMENTS. THE SEWER LATERAL(S) SHALL BE CAPPED AND/OR PLUGGED AT THE FRONT PROPERTY LINE. ALL WATER AND SEWER LATERAL WORKS SHALL BE CARRIED OUT TO THE CITY'S SATISFACTION..

32. ANY TREES AND UTILITY PLANT PROPOSED BY THE DEVELOPER'S ARCHITECT SHALL MAINTAIN A 2.0m (MIN.) CLEARANCE TO THE PROPOSED WATER SERVICE AND BUILDING LATERAL TRENCH.

33. 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 219.110 AND ASSOCIATED SPECIFICATIONS) ALONG THE PROPERTY LIMITS OF THE PROPOSED DEVELOPMENT AND ALL OTHER AREAS THAT SHEET DRAIN OFF SITE. MAINTENANCE HOLE SEDIMENT BARRIERS TO BE AMOCO 4555 NONWOVEN GEOTEXTILE OR APPROVED EQUIVALENT.

34. NO EXCESS DRAINAGE, DURING AND AFTER CONSTRUCTION, WILL BE DIRECTED TOWARDS THE NEIGHBORS' PROPERTIES.

35. 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–LAWS' AND THE 'URBAN TREES CONSERVATION BY–LAW' AS AMENDED FROM TIME TO TIME.

36. THERE WILL BE NO ALTERATION TO THE EXISTING GRADE AND DRAINAGE PATTERN ON THE PROPERTY LINES.

NO.	REVISION	DATE	BY

LICENSED PROFESSIONAL ENGINEER — 01/3/20 — TONI L. MAK

SCALE
0 1 3 5m
1:100 HORIZONTAL
VERTICAL

DESIGN	T.L.M.
CHECKED	T.L.M.
DRAWN BY	P.M.
CHECKED	T.L.M.
APPROVED	T.L.M.

PROJECT
77–81 HARVEY STREET
LOT 3
(NORTH HARVEY STREET)
REGISTERED PLAN 48
CITY OF OTTAWA

DRAWING TITLE
PROPOSED GRADING AND SERVICING PLAN

T.L. MAK ENGINEERING CONSULTANTS LTD.
CONSULTING ENGINEERS

PROJECT No.	DATE	DRAWING No.
819–74	OCTOBER 2019	G–1