



- LEGEND**
- PROPOSED ELEVATION
 - 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 135mm PVC SANITARY LATERAL SERVICE @ 1% (MIN.) SLOPE
 - PROPOSED 100mm PVC STORM LATERAL SERVICE @ 1% (MIN.) SLOPE
 - PROPOSED 25mm WATER SERVICE (COPPER TYPE "K")
 - EXISTING SANITARY MANHOLE
 - EXISTING STORM MANHOLE
 - EXISTING CATCH BASIN
 - EXISTING WATER VALVE
 - EXISTING FIRE HYDRANT
 - EXISTING UTILITY POLE
 - EXISTING OVERHEAD WIRES
 - PROPOSED VALVE AND VALVE BOX (V&VB)
 - PROPOSED GENERAL DIRECTION OF LOT GRADING AND SURFACE FLOW
 - DC PROPOSED DEPRESSED CURB
 - PROPOSED RETAINING WALL
 - T/W PROPOSED TOP OF RETAINING WALL ELEVATION
 - B/W PROPOSED BOTTOM OF RETAINING WALL ELEVATION
 - PROPOSED WEeping TILE SUMP PIT LOCATION
 - C/W DUPLEX SUMP PUMPS (REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS)

- NOTES**
1. EXISTING SERVICES AND UTILITIES SHOWN ON THIS DRAWING WERE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT ARE INCOMPLETE. CONTRACTOR IS REQUIRED TO CHECK IN THE FIELD FOR LOCATION AND ELEVATION OF PIPES, UNDERGROUND STRUCTURES, ETC. AND CHECK WITH AUTHORITIES AND UTILITIES TO HIS SATISFACTION BEFORE DIGGING.
 2. CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY BEFORE POURING OF CONCRETE FOOTING AND FOUNDATION. THE OWNER AND/OR CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SUBGRADE ON THIS LOT IS SUFFICIENT TO SUPPORT PROPOSED RESIDENTIAL BUILDINGS.
 3. SITING DETAILS FOR THE PROPOSED SEMI-DETACHED DWELLING UNIT WERE PREPARED BY THE OWNER'S HOUSE DESIGNER CLEAR DRAFTING AS SHOWN ON THE SITE PLAN DETAILS (SHEET No. A1 REV. No. 1 DATED JUNE 28, 2023) RECEIVED ON JUNE 30, 2023. NO INFORMATION WERE AVAILABLE REGARDING PROPOSED THE TOP OF FINISHED FLOOR, TOP OF CONCRETE FOUNDATION, TOP OF BASEMENT SLAB, TOP OF FOOTING, AND UNDERSIDE OF FOOTING ELEVATIONS OF THE PROPOSED BUILDING, WE ASSUMED A BASEMENT DEPTH OF 8 FT. 10 INCHES FROM TOP OF FOUNDATION TO TOP OF FOOTING.
 4. EXISTING HORIZONTAL AND VERTICAL SURVEY DATA SHOWN ON THIS PLAN INCLUDING SITE BENCHMARK, ROAD ELEVATIONS, SEWER LOCATIONS, AND TOPOGRAPHICAL INFORMATION OF THE LOT WERE PROVIDED BY ANNIS O'SULLIVAN VOLLEBECK LTD. AS SHOWN ON THEIR TOPOGRAPHICAL SURVEY PLAN (JOB No. 23988-23 COMPLETED ON JUNE 23, 2023) RECEIVED ON JUNE 29, 2023. T.L. MAK ENGINEERING CONSULTANTS LTD. DOES NOT TAKE ANY RESPONSIBILITY FOR THE SURVEY INFORMATION SHOWN HERE. FOR INFORMATION ABOUT THE STORM AND SANITARY INVERT ELEVATION AT MANHOLES AND WATERMAIN LOCATION AND SIZE, THE CONTRACTOR SHALL FIELD CHECK EXISTING SANITARY SEWER, STORM SEWER, AND WATERMAIN DEPTH TO THEIR SATISFACTION, AND REFER TO AVAILABLE CITY OF OTTAWA'S PLAN AND PROFILE PLANS FOR ADDITIONAL DETAILS.
 5. ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA.
 6. ALL GRADES SHOWN ARE GEODETIC AND METRIC.
 7. SANITARY SERVICE BENDS AND RISERS USED MUST BE CONSTRUCTED TO CITY OF OTTAWA'S SATISFACTION.
 8. CONSTRUCT ALL SANITARY AND STORM PIPES IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARD, OTHERWISE AS PER OPS AND OPSD SPECIFICATIONS.
 9. ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ENGINEERING STANDARDS AND AS PER CITY OF OTTAWA'S REQUIREMENTS.
 10. CONTRACTOR SHALL CONSTRUCT AND ENSURE THAT THE 25mm WATERMAIN SERVICE ON THIS LOT SHALL HAVE A MINIMUM OF 2.4m OF GROUND COVER, OTHERWISE INSULATE WITH RIGID 5/M STYROFOAM IN ACCORDANCE WITH THE SOIL ENGINEER'S REQUIREMENTS AND AS PER CITY DETAIL W22. WATER SERVICE INSTALLATION SHALL BE COPPER TYPE "K" AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST CITY OF OTTAWA STANDARDS.
 11. THIS LOT GRADING DESIGN PLAN WAS PREPARED FOR THE OWNERS FOR BUILDING PERMIT ISSUANCE. ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ENGINEERING STANDARDS AND PER CITY OF OTTAWA'S REQUIREMENTS. THIS GRADING PLAN SHALL NOT BE USED FOR BUILDING CONSTRUCTION PURPOSES. REFER TO HOUSE DESIGNER'S APPROVED SITE PLAN FOR EXACT DIMENSIONS REGARDING BUILDING LOCATION LAYOUT.
 12. WHERE ROOF EAVESTROUGHS ARE INSTALLED, ROOF DOWNSPOUTS SHALL BE DIRECTED TO OUTLET DISCHARGE TO FRONT YARD ONLY, WHERE POSSIBLE.
 13. ALL WATERMAIN SERVICE AND FITTINGS SHALL CONFORM TO APPROVED AWWA AND/OR CSA STANDARDS.
 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS TO COMPLETE THE WORKS.
 15. EXISTING LOCATION OF AVENUE "Q" WATERMAIN AND SANITARY AND STORM SEWER SERVICE ON THIS PLAN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY IN THE FIELD TO CONFIRM ITS EXACT LOCATION BEFORE EXCAVATION. (SEE ALSO NOTE #24).
 16. PROPOSED SURFACE GRADE SHALL BE 7% MAXIMUM. WHERE THE GROUND DROPS OFF STEEPLY, TERRACE THE GROUND AT 3H MAXIMUM TO 1V AS NECESSARY TO MEET CITY OF OTTAWA'S GRADING REQUIREMENTS.
 17. WATER SERVICE CONNECTION ON AVENUE "Q" SHALL BE DONE BY THE CITY OF OTTAWA. ALL CONNECTIONS AND OTHER RELATED WORKS TO WATERMAIN SHALL BE MADE BY THE CITY. EXCAVATION, BACKFILLING, AND REINSTATEMENT BY CONTRACTOR. ALL WATERWORKS SHALL BE CARRIED OUT TO CITY OF OTTAWA'S SATISFACTION.
 18. IF WATER SERVICE IS LESS THAN 2.4m FROM SEWER, MANHOLE, OR CATCHBASIN, CONTRACTOR IS REQUESTED TO INSULATE BETWEEN THEM WITH 5/M RIGID INSULATION (AS PER CITY DETAIL W22 AND W23).
 19. PIPE SIZES SHOWN ON THIS PLAN ARE METRIC.
 20. WATER SERVICE AND WATERMAIN TRENCH DETAILS AS PER CITY W17 DETAIL.
 21. PROPOSED SANITARY AND STORM SERVICE LATERALS SHALL BE PVC DR-28 OR EQUIVALENT.
 22. IT IS REQUIRED THAT A FULL PORT BACKWATER VALVE BE INSTALLED FOR THE NEW SANITARY LATERAL SERVICE AND A BACKWATER VALVE BE INSTALLED FOR THE NEW STORM LATERAL SERVICE UNDER THE CURRENT REGULATION OF THE ONTARIO PLUMBING CODE, AND AS PER CITY DETAIL S14, S14.1 AND S14.2.
 23. BEDDING FOR SEWERS AND WATERMAIN INSTALLATION SHALL BE TYPE 'B' COMPACTED TO 95% PROCTOR DENSITY. FOR THE SEWER LATERALS USE 300mm THICK APPROVED GRANULAR COVER MATERIAL COMPACT TO 95% DRY PROCTOR DENSITY. TRENCH BACKFILL WITH NATIVE MATERIAL AND COMPACT TO 95% DRY PROCTOR DENSITY MINIMUM. NO FROZEN MATERIALS ARE TO BE USED AS BACKFILL IN THE SERVICING TRENCHES.
 24. DETAILS OF EXISTING SEWERS AND WATERMAIN SHOWN ON AVENUE "Q" FROM THE CITY OF OTTAWA MAY NOT BE CURRENT. CONTRACTOR SHALL REFER TO THE CITY OF OTTAWA'S SEWER AND WATERMAIN DRAWINGS FOR DETAILS BEFORE DIGGING. THE CONTRACTOR IS ADVISED TO EXCAVATE AND INVESTIGATE THE SEWER ELEVATIONS IN FRONT OF THE PROPERTY FIRST TO ENSURE THAT 1% (MIN.) PIPE SLOPE OF THE SANITARY AND STORM LATERALS CAN BE ACHIEVED USING THE PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION. IF 1% (MIN.) PIPE SLOPE IS NOT POSSIBLE FROM THE BUILDING TO THE SEWER, THEN THE CONTRACTOR SHOULD INFORM THE OWNER'S PROJECT MANAGER AND THE CITY ACCORDINGLY FOR FURTHER DIRECTION.
 25. FOR DEVELOPMENT OF THIS SITE, THE CONTRACTOR MUST FIRST CONSTRUCT THE UNDERGROUND SANITARY AND WATER SERVICES FROM THE SEWER AND WATERMAIN TO THE PROPERTY. PRIOR TO BUILDING CONCRETE FOUNDATION POURING THE CONTRACTOR SHALL VERIFY SEWER DEPTHS TO ENSURE THAT SEWER LATERALS CAN ACHIEVE A SLOPE OF 1% (MINIMUM) AND STILL BE BELOW PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION. IF THIS IS FOUND NOT POSSIBLE, THE CONTRACTOR SHALL CONTACT THE OWNER AND HIS OR HER PROJECT MANAGER TO REPORT THE FINDING IN ORDER TO ADJUST THE BUILDING FOUNDATION GRADES PRIOR TO CONCRETE POURING.
 26. INSULATE HOUSE SERVICE LATERALS WITHIN PRIVATE PROPERTY AND ROAD RIGHT OF WAY WHERE GROUND COVER FOR FROST PROTECTION IS LESS THAN 2.4m. FOR WATER SERVICE AND 2.0m FOR SANITARY GRAVITY SEWERS. MINIMUM GROUND COVER OVER HOUSE SERVICE PIPES SHALL NOT BE LESS THAN 2.0m. EXACT INSULATION THICKNESS SHALL BE DETERMINED BY THE OWNERS' SOILS ENGINEER. ALL INSULATION WORKS SHALL BE CARRIED OUT AS PER CITY OF OTTAWA'S CURRENT ENGINEERING STANDARDS AND AS PER CITY DETAIL W22.

27. WHERE FROST COVER FROM UNDERSIDE OF HOUSE CONCRETE FOOTING TO PROPOSED FINISHED GROUND ELEVATION IS LESS THAN 1.5m, IT IS RECOMMENDED THAT INSULATION (50mm) THICK MINIMUM BE INSTALLED AT BUILDING FOOTING AND FOUNDATION OF HOUSE TO PROVIDE SUFFICIENT FROST COVER FOR FOUNDATION STRUCTURES. INSULATION REQUIREMENTS SHALL BE REVIEWED AND RECOMMENDED BY OWNER'S SOILS ENGINEER. EXACT INSULATION REQUIREMENTS SHALL BE CONFIRMED BY OWNER'S HOUSE DESIGNER AND SITE SOILS ENGINEER TO CONTRACTOR BEFORE INSTALLATION.
28. LOCATION AND ELEVATION OF EXISTING SANITARY AND STORM MANHOLES SHOWN ON THIS DRAWING WERE TAKEN FROM ANNIS O'SULLIVAN VOLLEBECK LTD.'S TOPOGRAPHICAL SURVEY PLAN. CONTRACTOR SHALL OBTAIN AND REVIEW THESE PLANS AND SATISFY HIM/HERSELF AND OBTAIN LOCATES OF THESE SERVICES BEFORE CONSTRUCTION.
29. EXISTING ASPHALT DRIVEWAY NOT TO BE RE-USED SHALL BE REMOVED AND REPLACED WITH SOFT LANDSCAPING.
30. CONTRACTOR SHALL BE RESPONSIBLE FOR REINSTATEMENT OF ALL AREAS DISTURBED DURING CONSTRUCTION, AND SUCH REINSTATEMENT MUST BE UNDERTAKEN IN ACCORDANCE WITH CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
31. UPON COMPLETION OF NEW SERVICE LATERALS FOR THE PROPOSED BUILDING AND NEW DRIVEWAYS, THE CONTRACTOR SHALL RESTORE THE EXISTING ROADWAY BOULEVARD ACROSS THIS LOT TO DRAIN POSITIVELY TO ITS EXISTING OUTLET. ALL WORKS SHALL BE CARRIED OUT TO SATISFACTION OF CITY OF OTTAWA.
32. AT THE TIME OF CONSTRUCTION OF DRIVEWAY FOR NEW HOUSE, REGRADE ROADWAY BOULEVARD TO OUTLET INTO EXISTING STORM OUTLET TO CITY OF OTTAWA'S SATISFACTION AND REQUIREMENTS.
33. CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES REGARDING LOCATION OF EXISTING OVERHEAD UTILITY WIRES FOR RELOCATION AND POSSIBLE CONFLICT CLEARANCE BEFORE CONSTRUCTION.
34. ROOF TYPE OF PROPOSED NEW SEMI-DETACHED DWELLING IS PITCHED.
35. HOUSE WEeping TILE WATER DRAINAGE FOR THE NEW SEMI-DETACHED DWELLING UNIT SHALL BE SUMP-PUMPED VIA FORCEMAIN FROM BASEMENT SUMP PIT DIRECTLY TO THE PROPOSED 100mm DIAMETER PVC STORM LATERAL THAT OUTLET TO THE CITY STORM SEWER AT AVENUE "Q". ALL WORKS SHALL BE CARRIED OUT TO CITY'S REQUIREMENTS AND IN COMPLIANCE WITH LATEST REVISED ENGINEERING STANDARDS.
36. DETAILS OF PROPOSED SUMP-PUMP AND PIT LOCATION IN THE BUILDING SHALL BE REFERENCED FROM OWNER'S HOUSE DESIGNER'S FINAL PLANS. SUMP-PIT WATER SHALL BE DISCHARGED TO APPROVED OUTLET AS REQUIRED BY CITY OF OTTAWA.
37. THE OWNER'S HOUSE DESIGNER SHALL INFORM THE OWNER(S) THAT AN ONGOING YEAR ROUND MAINTENANCE PROGRAM IS REQUIRED FOR THIS BUILDING TO ENSURE THAT THE HOLDING TANKS IN PARTICULAR SHALL BE ANNUALLY INSPECTED AND CLEANED, IF NECESSARY. ALL PUMPS USED IN THIS BUILDING ARE TO BE DETERMINED BY THE OWNER'S MECHANICAL ENGINEER/PLUMBER BASED ON THEIR SPECIFIC USAGE UNDER THE PRESENT PLUMBING CODE AND CITY REQUIREMENTS.
38. THE HOUSE DESIGNER SHALL INFORM THE OWNER(S) TO HAVE AVAILABLE AT ALL TIMES A BACKUP GENERATOR ON STANDBY AT THE BUILDING IN THE EVENT OF A POWER BLACKOUT OR OTHER EMERGENCIES. ALTERNATIVELY, THE ARCHITECTS AND/OR OWNER MAY WISH TO SPECIFY A WATER POWERED BACKUP PUMP (THE SUMPJET MODEL NO. SJ10) OR EQUAL THAT MEETS THE ONTARIO BUILDING AND PLUMBING CODE REQUIREMENTS.
39. PROPOSED STORM LATERAL SHALL BE INSTALLED WITH SLEEVING THROUGH FOUNDATION WALL.
40. a) CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE 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 (AS PER OPSD 219.10 AND ASSOCIATED SPECIFICATIONS) ALONG THE PROPERTY LIMITS OF PROPOSED DEVELOPMENT AND ALL OTHER AREAS THAT DRAIN OFF SITE. MAINTENANCE HOLE SEDIMENT BARRIERS TO BE AMOCO 4555 NONWOVEN GEOTEXTILE OR APPROVED EQUIVALENT.
- b) THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE 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 MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
41. EXISTING HOUSE LATERALS AND WATER SERVICE PIPING HAVE BEEN AND/OR SHALL BE ABANDONED. WATER SERVICE SHALL BE BLANKED AT THE MAIN AS PER CITY'S REQUIREMENTS. SERVICE LATERAL SHALL BE CAPPED AT THE FRONT PROPERTY LINE. ALL WATER AND SEWER LATERAL WORKS SHALL BE CARRIED OUT TO CITY'S SATISFACTION AND AS PER CITY DETAIL S11.4.
42. NO EXCESS DRAINAGE, DURING AND AFTER CONSTRUCTION, WILL BE DIRECTED TOWARDS NEIGHBOUR'S PROPERTIES.
43. ALL TREES ON THE RIGHT OF WAY ARE TO BE MAINTAINED BEFORE AND AFTER CONSTRUCTION. ALL TREES WITHIN THE RIGHT OF WAY SHALL BE PROTECTED AS PER THE "MUNICIPAL TREES AND LANDSCAPE PROTECTION BYLAWS" AND THE "URBAN TREES CONSERVATION BYLAW" AS AMENDED FROM TIME TO TIME.
44. THERE WILL BE NO ALTERATION OF EXISTING GRADE AND DRAINAGE PATTERNS ON THE PROPERTY LINES.
45. THE RETAINING WALL TO BE CONSTRUCTED AND MATERIAL TYPE SHALL BE SPECIFIED BY THE OWNER'S HOUSE DESIGNER 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 OF OTTAWA BEFORE CONSTRUCTION.

SUMP PUMP – To Drain Water at Footing Level

Because existing Storm Sewer Elevation is too high in street

CAUTION: SUMP PUMP USE

Because the City Municipal Storm service exists along this street is at too high an elevation to be gravity drained from the proposed storm lateral at the house to the existing storm main, we have proposed a sump pump to be installed to drain the water at the footing level. The proposed underside of footing (USF) elevation (which has been calculated based on architectural plan parameters/basement heights and/or at the instruction of client/agent) has the potential to be too low for this development with respect to possible water drainage issues at footing levels.

The Normal High Ground Water Table (NHGWT) elevation must be verified prior to/or at time of excavation (per City of Ottawa Building Code service requirements). If it is determined that the proposed footing elevation(s) will be below the NHGWT elevation it will be the responsibility of the owner and their representatives to mitigate/rectify the situation by either raising the footing elevation above the NHGWT elevation or demonstrate the use of appropriate foundation water proofing methods as per current building code requirements. The owners and their representatives must apply for and receive any applicable permits from the City before proceeding with the aforementioned works.

T.L. Mak Engineering Consultants Ltd. assumes no responsibility or liability in regards to the impact on footings and/or basement drainage issues (at time of excavation or future) due to this design.

SUBJECT TO EASEMENT INST. OT27757

NO.	REVISION	DATE	BY

SCALE

0 1 2 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

1346 AVENUE Q
LOTS 735 AND 736
REGISTERED PLAN 320
CITY OF OTTAWA

DRAWING TITLE

PROPOSED LOT GRADING
AND SERVICING PLAN

T.L. MAK ENGINEERING CONSULTANTS LTD.
CONSULTING ENGINEERS

PROJECT No. 823-80 **DATE** JULY 2023 **DRAWING No.** G-1