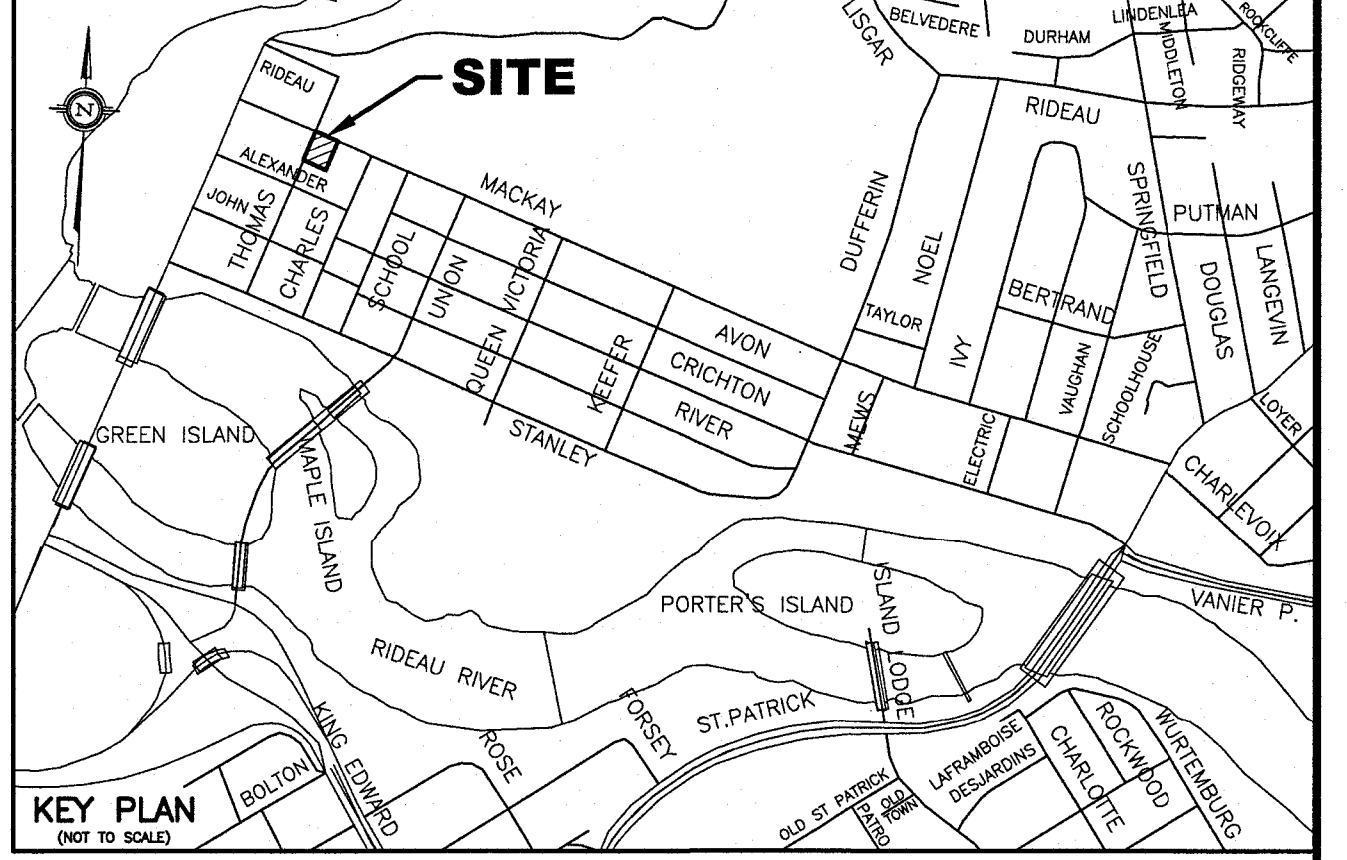


LEGEND

PROPOSED ELEVATION	—
EXISTING ELEVATION	—
PROPOSED TOP OF GROUND FLOOR ELEVATION	—
PROPOSED TOP OF CONCRETE FOUNDATION ELEVATION	—
PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION	—
PROPOSED DRIVEWAY	—
EXISTING SANITARY SEWER	—
EXISTING STORM SEWER	—
EXISTING WATERMAIN	—
PROPOSED 135mm PVC SANITARY 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	→
PROPOSED CONCRETE SPLASH PAD LOCATION FOR WEeping TILE WATER DISCHARGE	⊕
PROPOSED WEeping TILE SUMP PIT LOCATION C/W DUPLEX SUMP PUMPS	⊕
PROPOSED SANITARY HOLDING TANK LOCATION C/W DUPLEX SEWAGE PUMPS	⊕
PROPOSED DEPRESSED CURB	—



NOTES

- 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, AND CHECK WITH AUTHORITIES AND UTILITIES TO HIS SATISFACTION BEFORE DIGGING.
- 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 BUILDING.
- SITING DETAILS FOR THE PROPOSED NEW SINGLE DETACHED BUILDING WERE PREPARED BY ARDINGTON AND ASSOCIATES DESIGN INC. AS SHOWN ON THEIR SITE PLAN (DWG. NO. A1 REV. 5 DATED SEPTEMBER 3, 2024) RECEIVED ON OCTOBER 25, 2024. FOR THE TOP OF FINISHED FLOOR, TOP OF CONCRETE FOUNDATION, TOP OF FOOTING, AND UNDERSIDE OF FOOTING ELEVATIONS OF THE PROPOSED BUILDING, REFER TO ARDINGTON AND ASSOCIATES DESIGN INC.'S ARCHITECTURAL DRAWINGS ENTITLED FRONT ELEVATION (DWG. NO. A7 REV. 1 DATED NOVEMBER 7, 2024) RECEIVED ON NOVEMBER 8, 2024 FOR DETAILS.
- EXISTING HORIZONTAL AND VERTICAL SURVEY DATA SHOWN ON THIS PLAN INCLUDING SITE BENCHMARK, ROAD ELEVATIONS, SEWER INVERTS, SEWER LOCATIONS, AND TOPOGRAPHICAL INFORMATION OF THE LOT WERE PROVIDED BY STANTEC GEOMATICS LTD. AS DEPICTED ON THEIR TOPOGRAPHICAL SURVEY PLAN (PROJ. NO. 161614786-111 COMPLETED ON AUGUST 18, 2024) RECEIVED ON SEPTEMBER 24, 2024. T.L. MAK ENGINEERING CONSULTANTS LTD. DOES NOT TAKE ANY RESPONSIBILITY FOR THE SURVEY INFORMATION SHOWN HEREIN FOR INFORMATION ABOUT THE SANITARY INVERT ELEVATION AT MANHOLES, AND SEWER AND WATERMAIN LOCATION AND SIZE, THE CONTRACTOR SHALL ALSO REFER TO THE CITY OF OTTAWA PLAN AND PROFILE DRAWING ENTITLED "THOMAS STREET" FROM STA. 170.00 TO STA. 320.00 CONTRACT NO. 94C2732 PLAN NO. 2732 SHEET 5 OF 7 DATED JANUARY 1996 FOR ADDITIONAL DETAILS.
- ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA.
- ALL GRADES SHOWN ARE GEODETIC AND METRIC.
- SANITARY SERVICE BENDS AND RISERS MUST BE CONSTRUCTED TO CITY OF OTTAWA'S SATISFACTION.
- CONSTRUCT ALL SANITARY AND STORM PIPES IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARD, OTHERWISE AS PER OPSS AND OPSD SPECIFICATIONS.
- ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ENGINEERING STANDARDS AND AS PER CITY OF OTTAWA'S REQUIREMENTS.
- CONTRACTOR SHALL CONSTRUCT AND ENSURE THAT THE 25mm WATERMAIN SERVICE ON THIS LOT SHALL HAVE A MINIMUM OF 2.0m OF GROUND COVER, OTHERWISE INSULATE WITH RIGID S/M STYROFOAM IN ACCORDANCE WITH THE SOILS 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.
- 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 CITY OF OTTAWA DESIGNER'S APPROVED SITE PLAN FOR EXACT DIMENSIONS REGARDING BUILDING LOCATION LAYOUT.
- WHERE ROOF EAVESDROUGHS ARE INSTALLED, ROOF DOWNSPOUTS SHALL BE DIRECTED TO OUTLET DISCHARGE TO FRONT YARD ONLY, WHERE POSSIBLE.
- ALL WATERMAIN SERVICE AND FITTINGS SHALL CONFORM TO APPROVED ANWA AND/OR CSA STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS TO COMPLETE THE WORKS.
- EXISTING LOCATION OF THOMAS STREET WATERMAIN AND SANITARY SEWER SHOWN ON THIS PLAN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY IN THE FIELD TO CONFIRM ITS EXACT LOCATION BEFORE EXCAVATION. (SEE ALSO NOTE#24).
- 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.
- WATER SERVICE CONNECTION ON THOMAS STREET SHALL BE DONE BY THE CITY OF OTTAWA. ALL CONNECTIONS AND OTHER RELATED WORKS TO WATERMAIN SHALL BE MADE BY THE CITY, AND EXCAVATION, BACKFILLING, AND REINSTATEMENTS BY CONTRACTOR. ALL WATERWORKS SHALL BE CARRIED OUT TO CITY OF OTTAWA'S SATISFACTION.
- IF WATER SERVICE IS LESS THAN 2.4m FROM SEWER, MANHOLE, OR CATCHBASIN, CONTRACTOR IS REQUESTED TO INSULATE BETWEEN THEM WITH S/M RIGID INSULATION (AS PER CITY DETAIL W22 AND W23).
- PIPE SIZES SHOWN ON THIS PLAN ARE METRIC.
- WATER SERVICE AND WATERMAIN TRENCH DETAILS AS PER CITY W17 DETAIL.
- PROPOSED SANITARY SERVICE LATERALS SHALL BR PVC DR-28 OR EQUIVALENT.
- IT IS REQUIRED THAT A FULL PORT BACKWATER VALVE BE INSTALLED FOR THE NEW SANITARY LATERAL SERVICE UNDER THE CURRENT REGULATION OF THE ONTARIO PLUMBING CODE, AND AS PER CITY DETAIL S14, S14.1 AND S14.2.
- BEDDING FOR SEWERS AND WATERMAIN INSTALLATION SHALL BE TYPE "B" COMPACTED TO 95% DRY 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 SERVING TRENCHES.
- DETAILS OF EXISTING SEWERS AND WATERMAIN SHOWN ON THOMAS STREET AND MACKAY STREET 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 INSPECT THE SEWER ELEVATIONS IN FRONT OF THIS 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.) 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.
- FOR DEVELOPMENT OF THIS SITE, THE CONTRACTOR MUST FIRST CONSTRUCT THE UNDERGROUND SANITARY, STORM, AND WATER SERVICE 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.
- 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 2.4m FOR SANITARY AND STORM GRAVITY SEWERS. MINIMUM GROUND COVER OVER HOUSE SERVICE PIPES SHALL NOT BE LESS THAN 2.4m. EXACT INSULATION THICKNESS SHALL BE DETERMINED BY THE CITY INSPECTOR ON SITE AND/OR OWNER'S SOILS ENGINEER. ALL INSULATION WORKS SHALL BE CARRIED OUT AS PER CITY OF OTTAWA'S CURRENT ENGINEERING STANDARDS.
- 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.
- LOCATION AND ELEVATION OF EXISTING SANITARY MANHOLES SHOWN ON THIS DRAWING WERE TAKEN FROM STANTEC GEOMATICS LTD'S TOPOGRAPHICAL SURVEY PLAN. CONTRACTOR SHALL OBTAIN AND REVIEW THESE PLANS AND SATISFY HIM/HERSELF AND OBTAIN LOCATES OF THESE SERVICES BEFORE CONSTRUCTION.
- EXISTING CONCRETE DRIVEWAY SHALL BE REMOVED AND REPLACED WITH SOFT LANDSCAPING.
- 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.
- UPON COMPLETION OF NEW SERVICE LATERALS FOR THE PROPOSED DWELLING AND NEW DRIVEWAY, CONTRACTOR SHALL RESTORE EXISTING ROADWAY DITCH AND BOULEVARD, DRAINAGE ACROSS THIS LOT TO DRAIN POSITIVELY TO ITS EXISTING OUTLET. WORKS SHALL BE CARRIED OUT TO SATISFACTION OF CITY OF OTTAWA.

SUMP PUMP – To Drain Water at Footing Level

Because NO STORM SEWER exist in street

CAUTION: SUMP PUMP USE

Because no City Municipal Storm service exists along this street, we have proposed to install a sump pump 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 services 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 relation to the impact on footings and/or basement drainage issues (at time of excavation or future) due to this design.

- 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.
- CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES REGARDING LOCATION OF EXISTING OVERHEAD UTILITY WIRES FOR RELOCATION AND POSSIBLE CONFLICT CLEARANCE BEFORE CONSTRUCTION.
- WHERE SERVICE LATERALS PASS UNDER FRONT PORCHES AND DRIVEWAYS THE CITY OF OTTAWA RECOMMENDS SLEEVING TO BE PROVIDED. ALSO, PROPOSED SANITARY SERVICE LATERALS ARE TO BE SLEEVED THROUGH FOUNDATION WALL.
- ROOF TYPE OF PROPOSED NEW DWELLING IS PITCHED.
- 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 AS PER OPSD 219.10 AND ASSOCIATED SPECIFICATIONS ALONG THE PROPOSED LIMITS OF PROPOSED DEVELOPMENT AND ALL OTHER AREAS THAT DRAIN OFF SITE. MAINTENANCE HOLE SEDIMENT BARRIERS TO BE AMCO 4555 NONWOVEN GEOTEXTILE OR EQUIVALENT.
- ON GIVEN THE ARCHITECTURAL REQUIREMENTS FOR THE PROPOSED DWELLINGS, THE UNDERSIDE OF CONCRETE FOOTING IS BELOW THE PROPOSED SANITARY LATERAL INVERT WHICH OUTLET TO THE THOMAS STREET SANITARY SEWER. THE OWNER'S ARCHITECT IS AWARE OF THIS CONSTRAINT. THE DEVELOPER AND HIS ARCHITECT WILL MAKE INTERNAL HOUSE PUMPING PROVISIONS TO PUMP SANITARY BASEMENT SEWAGE UP TO THE SANITARY LATERAL FROM A SANITARY SEWAGE TANK PUMPING SYSTEM FOR EACH OF THE DWELLING UNITS. LICENSE WITH THE STORM PIPE/WEeping TILE DRAINAGE SYSTEM, THE ARCHITECT WILL MAKE PROVISIONS TO PUMP THE WEeping TILE WATER UP FROM A SUMP PIT AND/OR TANK COMPLETE WITH PUMPING SYSTEM IN ORDER TO DISCHARGE WEeping TILE WATER TO THE SURFACE OF THE LOT AND ONTO A SPLASH PAD AND THEN BE DIRECTED TO A SUITABLE OUTLET (THOMAS STREET ROADWAY) AND AS DETERMINED BY OWNER AND CITY. SEE LATEST REVISED ARCHITECTURAL PLANS FOR OUTLET LOCATION, DISCHARGE PIPE HEIGHT DETAILS, SEWAGE PIT/TANK SIZE, AND PUMPING SYSTEM FOR THIS BUILDING. IT IS RECOMMENDED THAT THE SANITARY SEWAGE TANK AND/OR STORMWATER SEWAGE TANK BE OVERSIZED. A DUPLEX PUMPING SYSTEM SHALL BE IN THE SANITARY AND STORM TANKS.
- THE ARCHITECT AND OWNER'S/DEVELOPER'S MECHANICAL ENGINEER SHALL ENSURE THAT SANITARY SEWAGE FLOW FROM FLOOR LEVELS ABOVE THE BASEMENT LEVEL FOR EACH UNIT SHALL BE DIRECTED AND OUTLETTED TO THE PROPOSED GRAVITY FLOW SANITARY LATERAL PIPE AND NOT INTO THE BASEMENT SEWAGE TANK FOR PUMPING.
- THE PROPOSED SANITARY SEWAGE TANK AND PUMPING SYSTEM ARE FOR DRAINAGE OF BASEMENT FIXTURES AND FLOOR DRAINS AS PER ARCHITECT'S DRAWINGS IN ACCORDANCE WITH THE LATEST REVISED ONTARIO BUILDING CODE.
- THE OWNER'S ARCHITECT/DEVELOPER SHALL INFORM THE OWNERS OF THE DWELLING UNITS THAT AN ONGOING YEAR-ROUND MAINTENANCE PROGRAM IS REQUIRED FOR THIS BUILDING TO ENSURE THAT THE SEWAGE TANKS AND DUPLEX PUMPS SHALL BE ANNUALLY INSPECTED AND CLEANED IF NECESSARY. ALL PUMPS USED IN THIS BUILDING ARE TO BE DETERMINED BY THE OWNER'S MECHANICAL ENGINEER AND/OR PLUMBER BASED ON THEIR SPECIFIC USAGE UNDER THE PRESENT PLUMBING CODE AND CITY REQUIREMENTS.
- THE ARCHITECT/DEVELOPER SHALL INFORM THE OWNERS OF THE DWELLING UNITS TO HAVE AVAILABLE AT ALL TIMES A BACKUP GENERATOR ON STANDBY AT THE BUILDING IN THE EVENT OF A POWER BLACKOUT OR OTHER EMERGENCIES.
- CONTRACTOR SHALL REFER TO OWNER'S ARCHITECT'S FINAL WORKING DRAWING FOR DETAILS OF ANY PROPOSED HOUSE FOUNDATION CHECK DOWNS, RAISED TOP OF FOUNDATION, RAISED AND STEPPED FOOTING ETC. BEFORE CONCRETE POURING.
- CONCRETE BARRIER CURB AND DEPRESSED CURB DETAILS AS PER CITY OF OTTAWA STANDARDS (DWG. NO. SC1.1 MARCH 2007). CONCRETE CURB CONSTRUCTION AND REINSTATEMENT SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA AND IN ACCORDANCE WITH THE LATEST REVISED CITY OF OTTAWA ENGINEERING STANDARDS.
- CONSTRUCT CONCRETE SIDEWALK AND DEPRESSED CONCRETE SIDEWALK ALONG THOMAS STREET FOR DEVELOPMENT OF THIS PROPERTY IN ACCORDANCE WITH CITY OF OTTAWA'S ENGINEERING STANDARDS AND REQUIREMENTS DWG. NO. SC2 REV. DATE MARCH 2007. ALL WORKS SHALL BE CARRIED OUT TO CITY OF OTTAWA'S SATISFACTION.
- NO EXCESS DRAINAGE, DURING AND AFTER CONSTRUCTION, WILL BE DIRECTED TOWARDS NEIGHBOUR'S PROPERTIES.
- ALL TREES ON THE RIGHT OF WAY ARE TO BE MAINTAINED BEFORE AND AFTER CONSTRUCTION, ALL TREES WITHIN THE PROPERTY SHALL BE PROTECTED AS PER THE "MUNICIPAL TREES AND NATURAL AREAS PROTECTION BYLAWS" AND THE "URBAN TREES CONSERVATION BYLAW" AS AMENDED FROM TIME TO TIME.
- THERE WILL BE NO ALTERATION OF EXISTING GRADE AND DRAINAGE PATTERNS ON THE PROPERTY LINES.

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.

APPROVED T.L.M.

PROJ. TITLE 35 MACKAY STREET LOT 4 AND PART OF LOT 5 (BLOCK 5) REGISTERED PLAN 70 CITY OF OTTAWA

DRAWING TITLE PROPOSED LOT GRADING AND SERVICING PLAN

T.L. MAK ENGINEERING CONSULTANTS LTD.
CONSULTING ENGINEERS

PROJECT No. 824-121 DATE OCTOBER 2024 DRAWING No. G-1

