



- NOTES**
- 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, UNDERGROUND STRUCTURES AND CHECK WITH AUTHORITIES AND UTILITIES TO HIS SATISFACTION BEFORE DIGGING.
 - 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 No. PG6242-1 DATED AUGUST 11, 2022).
 - EXISTING HORIZONTAL AND VERTICAL SURVEY DATA SHOWN ON THIS PLAN INCLUDING GEODETIC SITE BENCHMARK, ROAD ELEVATIONS, STORM AND WATERMAIN LOCATION AND THE TOPOGRAPHICAL INFORMATION OF THE LOT WERE PROVIDED BY ANIS O'SULLIVAN VOLLEBECK LTD. AS DEPICTED ON THEIR TOPOGRAPHICAL SURVEY PLAN (JOB No. 21122-20 COMPLETED JANUARY 7, 2021). 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 WATERMANS LOCATION AND SIZE, THE CONTRACTOR SHALL FIELD CHECK EXISTING SANITARY SEWER, STORM SEWER, AND WATERMAIN DEPTH TO HIS SATISFACTION AND REFER TO CITY PLAN AND PROFILE DRAWING ENTITLED MURRAY STREET - RECONSTRUCTION STA. 0+400 TO STA. 0+525 DWG. No. R1730-R-10 REV. No. 3 DATED 27/02/92 SHEET 10 OF 26 CONTRACT No. 89-507 FOR ADDITIONAL DETAILS.
 - SITE LAYOUT AND DETAILS FOR GRADING AND SERVING DESIGN WERE PROVIDED BY THE OWNER'S ARCHITECT REDLINE ARCHITECTURE INC. AS DETAILED ON THEIR SITE PLAN (SHEET No. AD DATED MAY 11, 2021) RECEIVED ON MAY 20, 2022 AND UPDATED ON NOVEMBER 7, 2023. BUILDING DETAILS BY E-MAIL AND RECEIVED FROM THE ARCHITECT ON MAY 9, 2023 AND UPDATED ON MAY 23, 2023 WAS USED TO ESTABLISH THE TOP OF GROUND FLOOR, TOP OF FOUNDATION, TOP OF BASEMENT SLAB, TOP OF FOOTING AND U.S.F. ELEVATIONS FOR THE MAIN BUILDING.
 - ALL GRADES SHOWN ARE GEODETIC AND METRIC (SEE ANIS O'SULLIVAN VOLLEBECK LTD.'S TOPOGRAPHICAL PLAN). ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA.
 - PIPE SIZES SHOWN ON THIS PLAN ARE METRIC.
 - 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.
 - CONNECTION OF THE 150mm WATER SERVICE TO THE EXISTING 200mm MURRAY STREET WATERMAIN SHALL BE CARRIED OUT BY THE CITY OF OTTAWA. EXCAVATION, BACKFILLING, AND RESTORATION SHALL BE CARRIED OUT BY OWNER'S CONTRACTOR. CONNECTION SHALL BE CARRIED OUT AS PER CITY OF OTTAWA DWG. No. W50 DETAILS. ALL WATERWORKS TO BE CONSTRUCTED TO THE CITY OF OTTAWA WATER ENGINEERING STANDARDS AND SPECIFICATIONS.
 - CONSTRUCT ALL WATERMANS, WATER SERVICES, SANITARY AND STORM SEWER SYSTEMS IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARD OTHERWISE AS PER OPS5 REQUIREMENT AND DONE TO THE SATISFACTION OF THE CITY.
 - BEDDING AND HAUNCHING MATERIAL FOR SEWER INSTALLATIONS TO BE GRANULAR "A" INSTALLED AND COMPACTED AS PER CITY STANDARD DETAIL DWG. No. S6 AND S7.
 - STORM AND SANITARY LATERALS (150mm) SHALL BE PVC DR-28 OR EQUIVALENT.
 - ALL WATER SERVICES/MANS SHALL HAVE 2.4m COVER (min.). THE 150mm WATER SERVICE SHALL BE PVC CL 150 DR-18. WATER SERVICE AND WATERMAIN TRENCH DETAILS AS PER CITY OF OTTAWA W17 AND W22. THRUST BLOCK DETAILS ARE AS PER CITY DETAIL W25.3 DATED MAY 2001. FITTINGS SHALL CONFORM TO APPROVED ANWA AND/OR CSA STANDARDS.
 - 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 (SEE CITY DETAIL DRAWING No. W23).
 - ALL PROPOSED BUILDING SANITARY, STORM AND WATER SERVICES SHALL TERMINATE ± 1.0m OUTSIDE THE FOUNDATION WALL AND CONNECTION TO PLUMBING BY OTHERS.
 - SANITARY BUILDING DRAIN TO BE EQUIPPED WITH A FULL PORT BACKWATER VALVE AND INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. STORMWATER DRAIN TO BE EQUIPPED WITH A BACKWATER VALVE AND INSTALLED AS PER CITY'S REQUIREMENTS.
 - PRIOR TO CONSTRUCTING FOOTING AND FOUNDATION POURING, THE OWNER AND/OR CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SUBGRADE ON THIS LOT IS SUFFICIENT TO SUPPORT THE PROPOSED BUILDING.
 - 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 POURING 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.
 - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY EQUIPMENT, LABOUR AND MATERIALS RELATING TO THE CIVIL WORKS REQUIRED FOR INSTALLATION OF NEW SITE SERVICES. PROVISIONAL HEALTH AND SAFETY REGULATIONS MUST BE FOLLOWED DURING CONSTRUCTION.
 - 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, OPS5 AND OPS6 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.
 - PROPOSED TOP OF ENTRY, TOP OF FOUNDATION, TOP OF BASEMENT SLAB, UNDERSIDE OF FOOTING ELEVATIONS SHALL BE REVIEWED AND APPROVED BY OWNER'S ARCHITECTS PRIOR TO CONSTRUCTION.
 - IF EXISTING GRADES ALONG ANY EXISTING ADJUTING 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.
 - SITE SERVING 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.
 - THE EXISTING CONCRETE CURB ON MURRAY STREET IF DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REINSTITATED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF OTTAWA AND IN ACCORDANCE WITH THE LATEST REVISED CITY ENGINEERING STANDARDS.
 - THE CONTRACTOR, UPON COMPLETION OF THE NEW DRIVEWAY, SHALL RESTORE THE EXISTING MURRAY STREET ROADWAY BOULEVARD DISTURBED BY CONSTRUCTION WORKS ON THIS PROPERTY. ADDITIONALLY, THE ROADWAY GRAVING SHALL BE RESTORED AND REGRADED TO DRAIN POSITIVELY TO EXISTING STORMWATER OUTLET AS REQUIRED BY THE CITY INSPECTOR.
 - CONSTRUCT DEPRESSED CURBING AND DEPRESS ANY EXISTING CONCRETE/ASPHALT SIDEWALKS FOR THE NEW DRIVEWAY ENTRANCE ALONG MURRAY STREET FOR DEVELOPMENT OF THIS PROPERTY IN ACCORDANCE WITH THE CITY OF OTTAWA ENGINEERING STANDARDS, REQUIREMENTS AND DETAILS PER CITY DWG. No. SC13 DATED MARCH 2006. ALL WORKS SHALL BE CARRIED OUT TO THE CITY'S SATISFACTION.
 - CONCRETE BARRIER CURB AND DEPRESSED CURB DETAILS AS PER CITY OF OTTAWA STANDARDS (DWG. No. SC11, MARCH 2007 AND SC6). 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.
 - 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.
 - 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.

PROFILE TABLE FOR 150mm WATER SERVICE

STATION	ITEM DESCRIPTION	EXISTING/PROPOSED GROUND ELEVATION (m)	PROPOSED TOP OF WATER SERVICE (m)
0+00	CONNECTION TO EXISTING 200mm WATERMAIN	EX. C ROAD ±58.01	EXISTING ±55.61
0+03	150mm WATER SERVICE	57.99	55.59
0+06	150mm V&VB AT PROPERTY LINE	58.11	55.71
0+10.5	150mm WATER SERVICE AT BUILDING LINE	58.27	55.87

NO.	REVISION	DATE	BY
5	REVISIONS AS PER CITY'S REVIEW COMMENTS OF FEBRUARY 6, 2023 AND ARCHITECT'S LATEST REVISED SITE PLAN OF MARCH 11, 2023	04/08/23	T.L.M.
4	REVISIONS AS PER CITY'S REVIEW COMMENTS OF AUGUST 31, 2023	12/04/23	T.L.M.
3	REVISIONS AS PER ARCHITECT'S REVISED SITE PLAN PROVIDED ON NOVEMBER 7, 2023	11/08/23	T.L.M.
2	REVISIONS AS PER ARCHITECT'S BUILDING ELEVATIONS DETAILS OF MAY 9, 2023	06/28/23	T.L.M.
1	REVISIONS AS PER ARCHITECT'S REVIEW COMMENTS OF MARCH 21, 2023	03/24/23	T.L.M.

SCALE

0 1 3 5m

1:100 HORIZONTAL

VERTICAL

DESIGN

T.L.M.

CHECKED

T.L.M.

DRAWN BY

P.M.

APPROVED

T.L.M.

T.L.M.

PROFESSIONAL ENGINEER

04/08/23

TONY L. MAK

PROVINCE OF ONTARIO

FOR SPC APPLICATION

PROJECT

168-174 MURRAY STREET
LOT 23 (SOUTH MURRAY STREET)
REGISTERED PLAN 42482
CITY OF OTTAWA

DRAWING TITLE

PROPOSED SITE GRADING
AND SERVING PLAN

PROJECT No. 822-43

DATE MAY 2022

DRAWING No. G-1

T.L. MAK ENGINEERING CONSULTANTS LTD.
CONSULTING ENGINEERS

#19225