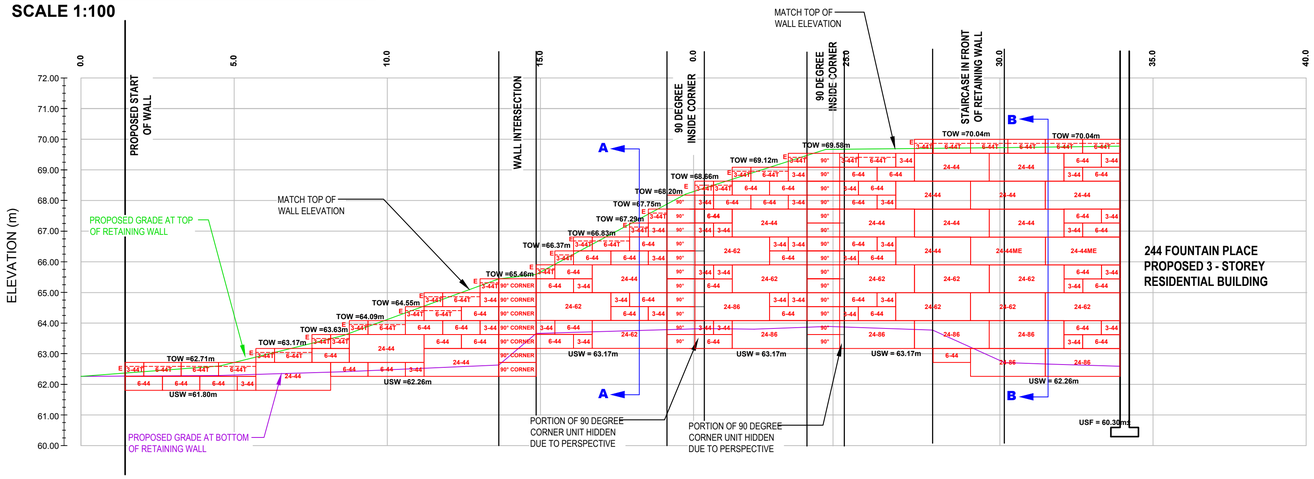
ISSUED FOR CONSTRUCTION

PROFILE VIEW (WALL SS1)

SCALE 1:100



BLOCK COUNT (SS1)

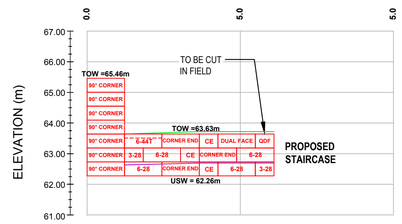
3-44 BLOCK	-	39 UNITS
3-44 TOP BLOCK	-	19 UNITS (16 END UNITS)
6-44 TOP BLOCK	-	15 UNITS
6-44 BLOCK	-	47 UNITS
24-44 BLOCK	-	14 UNITS
24-44 MASS EX	-	2 UNITS
24-62 BLOCK	-	10 UNITS
24-86 BLOCK	-	7 UNITS
90 DEG CORNER	-	32 UNITS

BLOCK COUNT (SS2)

3-28 BLOCK	-	2 UNITS
DUAL FACE UNITS	-	1 FULL UNIT
6-28 TOP BLOCK	-	1 UNITS
6-28 BLOCK	-	4 UNITS
CORNER END UNIT	-	3 UNITS

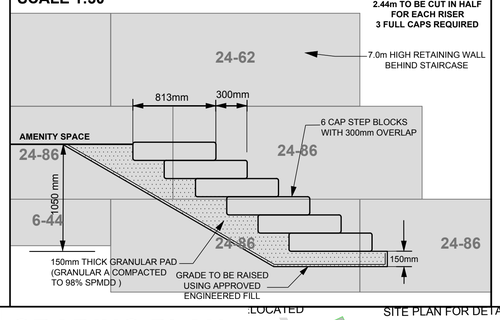
PROFILE VIEW (WALL SS2)

SCALE 1:100



CROSS SECTION C-C

SCALE 1:30



NOTES:

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR UTILITY CLEARANCE AND CONSTRUCTION SITE SAFETY. MCON PRODUCTS INC. AND PATERSON GROUP SHALL NOT BE RESPONSIBLE FOR MEANS OR METHODS OF CONSTRUCTION OR FOR SAFETY OF WORKERS OR OF THE PUBLIC.
2. THIS DESIGN IS BASED ON THE FOLLOWING SOIL PROPERTIES:

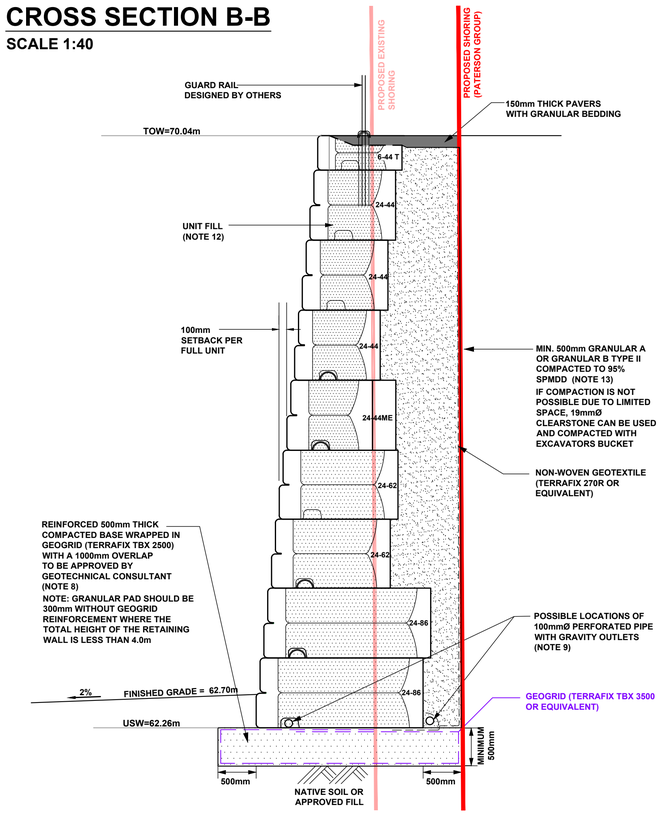
PROPERTY	RETAINED FILL	FOUNDATION MEDIUM
FRICTION ANGLE - PHI	33	33
UNIT WEIGHT -	21 KN/m3	18 KN/m3
COHESION - C	0	5 kPa
SOIL TYPE	GRANULAR B TYPE II & NATIVE FILL	STIFF SILTY CLAY

MATERIAL PROPERTIES ARE BASED ON SITE EVALUATION BY THE PATERSON GROUP. SEISMIC LOADING WAS EVALUATED ACCORDING TO THE ONTARIO BUILDING CODE 2012 WITH A PEAK GROUND ACCELERATION VALUE OF 0.32. NO SURCHARGE LOAD IS APPLICABLE FOR THIS WALL.

3. THE WALL BASE DESIGN ASSUMES A BEARING RESISTANCE AT SLS OF 150 kPa. THE SITE GEOTECHNICAL ENGINEER SHOULD OBSERVE THE BEARING CONDITIONS AND ADJUST THE THICKNESS OF THE GRANULAR BASE OR RECOMMEND CONCRETE BEDDING TO ACCOMMODATE THE SITE CONDITIONS, IF NECESSARY.
4. THE DESIGN IS FOR STABILITY OF THE PRECAST MODULAR RETAINING WALL SYSTEM ONLY, SITE STABILITY (GLOBAL STABILITY), IS THE RESPONSIBILITY OF THE SITE GEOTECHNICAL ENGINEER. WALL GEOMETRY AND GRADE ELEVATIONS ABOVE AND BELOW THE WALL SHOULD CONFORM WITH THE GRADING PLAN PROVIDED HERE IN IF ACTUAL SITE GRADES VARY SIGNIFICANTLY FROM THOSE SHOWN OR IF THE BACK SLOPE DOES NOT CONFORM, INSTALLATION SHALL NOT PROCEED UNTIL THE ALL DESIGN IS VERIFIED OR MODIFIED IN THE APPLICABLE AREA.
5. THE RETAINING WALL DESIGN WAS BASED ON OUR UNDERSTANDING AND REVIEW OF THE PROPOSED SOLDER PILE AND LAGGING SHORING SYSTEM TO BE PLACED BEHIND THE RETAINING WALL ADJACENT TO THE PROPOSED BUILDING. THE SHORING SYSTEM (PERMANENT) SHOULD BE DESIGNED TO HANDLE THE LOAD APPLIED BY THE PROPOSED PARKING AREA, OTHERWISE, THE RETAINING WALL WILL REQUIRE LIGHT WEIGHT FILL TO BE PLACED WITHIN THE BACKFILL TO REDUCE THE SURCHARGE LOAD ON THE RETAINING WALL AND ENSURE ITS STABILITY.
6. HORIZONTAL LAYOUT DIMENSIONS ARE MEASURED ALONG THE FACE OF THE WALL, CORRESPONDING TO A HORIZONTAL REFERENCE ESTABLISHED BY PATERSON GROUP BASED ON DRAWINGS BY STANTEC, PROJECT NO. 160401234, 800 INDUSTRIAL AVENUE, 244 FOUNTAIN PLACE - GRADING PLAN REV. 4.
7. PRECAST UNITS SHALL BE STONE STRONG RETAINING WALL UNITS MANUFACTURED UNDER LICENSE FROM STONE STRONG SYSTEMS. UNITS SHALL HAVE A MOLDED GRANITE FACE. THE BLOCKS MAY BE STAINED IN PLACE TO ACHIEVE THE DESIRED COLOR.
8. THE WALL BASE SHALL CONSIST OF A MINIMUM OF 300 TO 500mm OF OPSS GRANULAR A OR GRANULAR B TYPE II. THE BASE SHALL BE COMPACTED AS TO PROVIDE A LEVEL AND HARD SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. GRANULAR BASE MATERIAL SHALL BE COMPACTED TO A MINIMUM 98% OF STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD). WHERE THE WALL HEIGHT EXCEEDS 4.0m, A REINFORCED GRANULAR PAD WRAPPED IN GEOGRID (TERRAFIX TBX 3500 OR EQUIV.) WITH A 1.0m OVERLAP WILL BE REQUIRED. THE BASE SHALL BE SMOOTHED TO ENSURE COMPLETE CONTACT OF RETAINING WALL UNIT WITH BASE. SURFACE OF GRANULAR BASE MAY BE DRESSED WITH FINER AGGREGATE TO AID LEVELING. ENSURE GRADATION OF DRESSING MATERIAL IS SUCH AS TO PRECLUDE LOSS OF FINES INTO BASE. THE THICKNESS OF DRESSING LAYER SHOULD NOT EXCEED 3 TIMES THE MAXIMUM PARTICLE SIZE USED. THE CONTRACTOR MAY SUBSTITUTE CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 20 MPa AND AIR ENTRAINMENT FOR THE GRANULAR BASE MATERIAL.
9. INSTALL 100 MM DIAMETER PERFORATED PIPE DRAIN UNDER LOWER COURSE OF WALL (OR ALTERNATIVELY BEHIND HEEL OF WALL). PROVIDE CLEAR STONE SURROUNDING THE DRAIN TO PROTECT PIPE FROM CLOGGING AND DAMAGE. PROVIDE OUTLETS THROUGH WALL BASE LAYER AT LOW AREAS, NO FURTHER APART THAN 15m CENTRES.
10. WALL IS DESIGNED FOR A MINIMUM OF 200 mm TOE EMBEDMENT WITH A MINIMUM HORIZONTAL LEDGE OF 300mm BEYOND THE FACE AND REAR OF BASE BLOCK. WHERE GRANULAR BEDDING WILL NOT BE SUFFICIENT, THE USE OF CONCRETE BEDDING MAY BE REQUIRED. EXTRA PRECAUTIONS MUST BE TAKEN TO PROVIDE TOE EMBEDMENT IN AREAS WHERE BASE OF WALL STEPS.
11. THE RETAINING WALL IS A BATTERED WALL. ALIGNMENT OF THE BOTTOM WALL UNIT COURSE SHOULD BE PLANNED TO CONSIDER THAT A NOMINAL 100 mm AUTOMATIC SETBACK WILL OCCUR WITH EACH 0.91 m HIGH UNIT, AS SUCH, THE LOWEST WALL BASE WITHIN A CONTINUOUS SECTION SHOULD BE WITHIN WALL CORRIDOR, INCLUDING REQUIREMENT FOR BASE EXTENT IN FRONT OF WALL. SIMILARLY, THE FACE OF THE HIGHEST WALL (TW LEVEL) WITHIN THE SECTION SHOULD ALSO BE AT LEAST WITHIN 0.5 m WITHIN THE WALL CORRIDOR (OR AS REQUIRED BY OWNER).
12. UNIT FILL SHALL BE A CLEAN, COARSE GRANULAR MATERIAL. UNIT FILL SHALL BE 19mmØ CLEAR STONE MEETING THE SATISFACTION OF THE GEOTECHNICAL ENGINEER. UNIT FILL SHALL FILL CAVITIES WITHIN AND BETWEEN THE UNITS AND MAY EXTEND BEHIND THE FACING UNITS FOR THE CONTRACTOR'S CONVENIENCE.
13. BACKFILL MATERIAL SHALL BE APPROVED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO USE AND SHOULD CONSIST OF OPSS GRANULAR B TYPE II BUFFER OF 1000mm(AS SHOWN) WIDTH. ALL FILL WITHIN A 1H:1V ZONE UP AND BACK FROM THE HEEL SHOULD ALSO BE COMPACTED. BACKFILL SHALL BE PLACED IN MAXIMUM 300 mm LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE MATERIAL'S SPMDD. MOISTURE CONTENT SHOULD BE CONTROLLED AND MAINTAINED WITHIN -3 TO +4 PERCENT OF OPTIMUM.
14. ENSURE EACH COURSE IS COMPLETELY FILLED AND BACKFILL IS PLACED TO THE SAME LEVEL PRIOR TO PROCEEDING TO THE NEXT COURSE. ENSURE ADJACENT UNITS ARE IN CONTACT SO THAT UNIT FILL MAY NOT ESCAPE THROUGH THE JOINT BETWEEN UNITS. GAPS GREATER THAN 6 mm BETWEEN UNITS (AT THE FACE) SHALL NOT BE ALLOWED. AT THE INTERSECTIONS WITH STRUCTURES, CUT UNITS TO OBTAIN A NEAT FIT. PULL BLOCK UNITS FORWARD TO ENGAGE THE ALIGNMENT LOOPS ON THE UNIT BELOW BEFORE INFILLING IN ALL CASES.
15. MAINTAIN TEMPORARY GRADES TO DIVERT SURFACE WATER AWAY FROM THE RETAINING WALL EXCAVATION. SLOPE FINAL BACKFILL TO PROVIDE POSITIVE DRAINAGE AND TO ELIMINATE PONDING. WHERE APPLICABLE, THE UPPER COURSE FOR THE RETAINING WALL CONSISTS OF DUAL FACE (DF) BLOCKS WHICH ALLOW FOR THE GRADE BEHIND THE TOP OF THE WALL TO VARY, WHILE PRESENTING A FINISHED REAR WALL FACE.
16. IF WINTER CONSTRUCTION IS CONSIDERED, HEAT MUST BE MAINTAINED WHEN THE BASE IS EXPOSED. THE WALL BASE MUST BE COVERED WITH INSULATION TARPS TO MAINTAIN HEAT AND PROTECT THE BASE FROM POTENTIAL FROST HEAVE. ONCE THE BASE IS BACKFILLED, THE TOP OF WALL MUST BE COVERED WITH INSULATION TARPS OVERNIGHT UNIT THE WALL CONSTRUCTION IS COMPLETED.
17. THE GEOTECHNICAL CONSULTANT SHOULD BE NOTIFIED AT THE BEGINNING OF THE WALL CONSTRUCTION TO COMPLETE PERIODIC INSPECTIONS AND PROVIDE GEOTECHNICAL RECOMMENDATIONS AS THE WALL CONSTRUCTION PROGRESSES.
18. DURING THE CONSTRUCTION OF THE RETAINING WALL, THE CONTRACTOR MUST ENSURE THAT A SAFE SLOPE IS PROVIDED BEHIND THE RETAINING WALL. PATERSON GROUP SHOULD COMPLETE PERIODIC INSPECTIONS TO ENSURE A PROPER SLOPE IS PROVIDED AS PER THE SITE GEOTECHNICAL RECOMMENDATIONS.
19. ANY INADEQUATE PERFORMING SUBGRADE SHOULD BE SUB-EXCAVATED AND REPLACED WITH OPSS GRANULAR B TYPE II, COMPACTED TO 98% OF THE MATERIALS SPMDD.
20. ANY CUTTING OF BLOCKS TO SUIT SITE CONDITIONS OR WALL DESIGN WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. REMOVAL/CUTTING OF LIFTING LOOPS ON THE FINAL ROW OF BLOCKS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

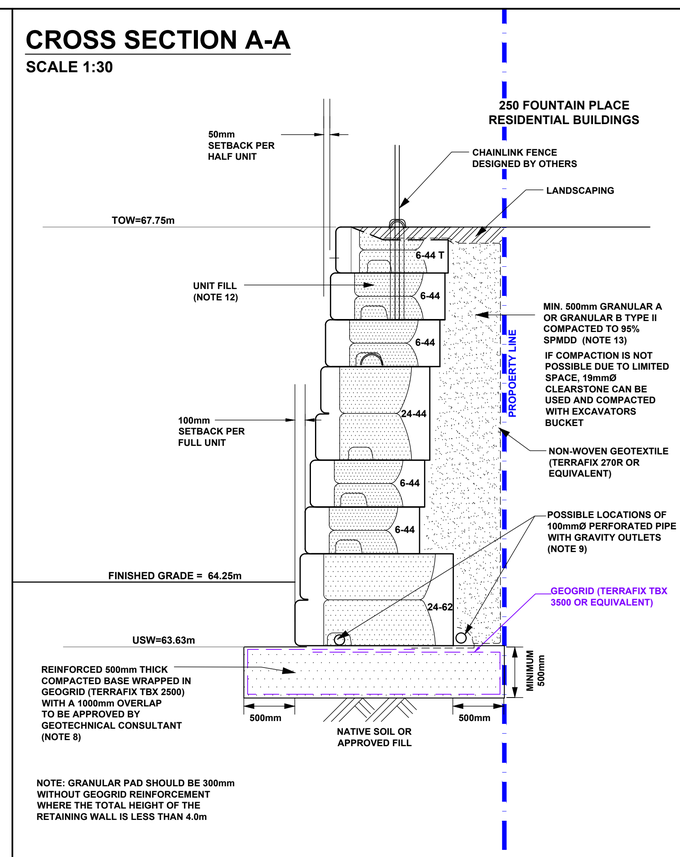
CROSS SECTION B-B

SCALE 1:40



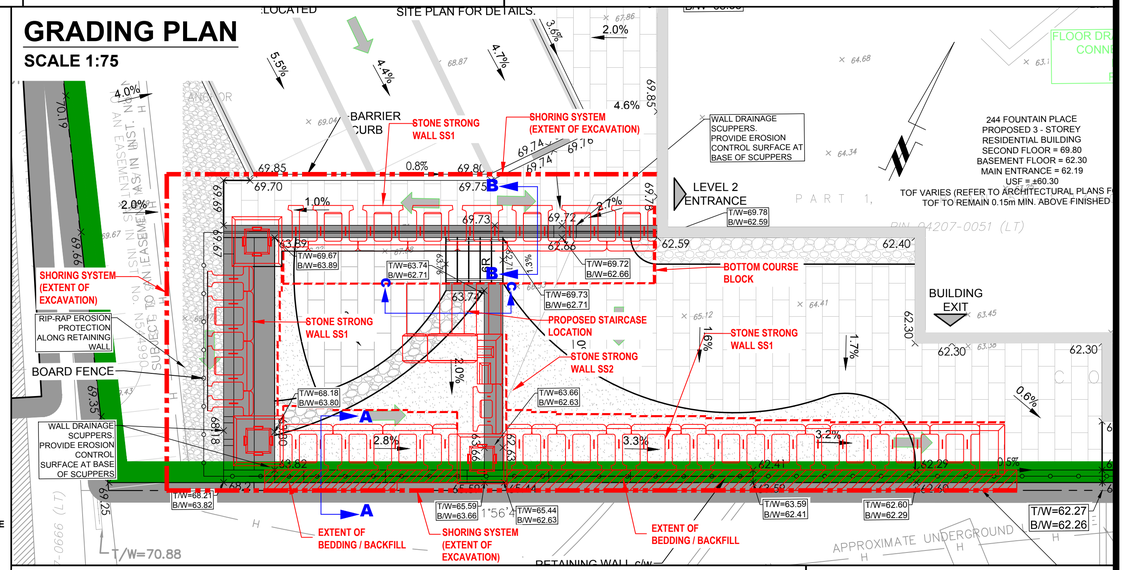
CROSS SECTION A-A

SCALE 1:30

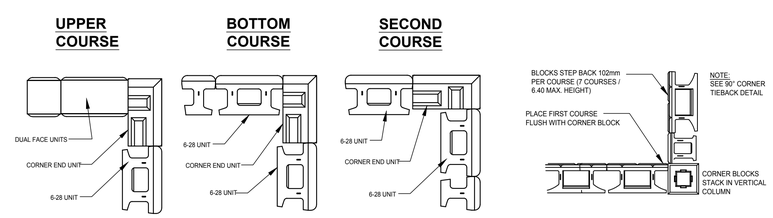


GRADING PLAN

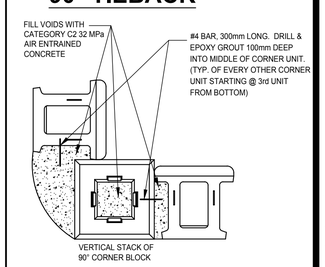
SCALE 1:75



90° CORNER DETAILS



90° TIEBACK



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NO.	REVISIONS	DATE	INITIAL

T.C UNITED GROUP

PROPOSED MULTI-STOREY RESIDENTIAL BUILDING
244 FOUNTAIN PLACE
OTTAWA, ONTARIO

Title:

STONE STRONG RETAINING WALL DESIGN

Stamp: LICENSED PROFESSIONAL ENGINEER 15/10/2019 F. I. ABOU-SEIDO 100156744 PROVINCE OF ONTARIO

Scale: AS SHOWN	Report No.: PG3780
Drawn by: RCG	Drawing No.: PG3780-3
Checked by: FA	
Approved by: FA	
Date: 10/2019	Revision No.:

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