BLOCK COUNT:

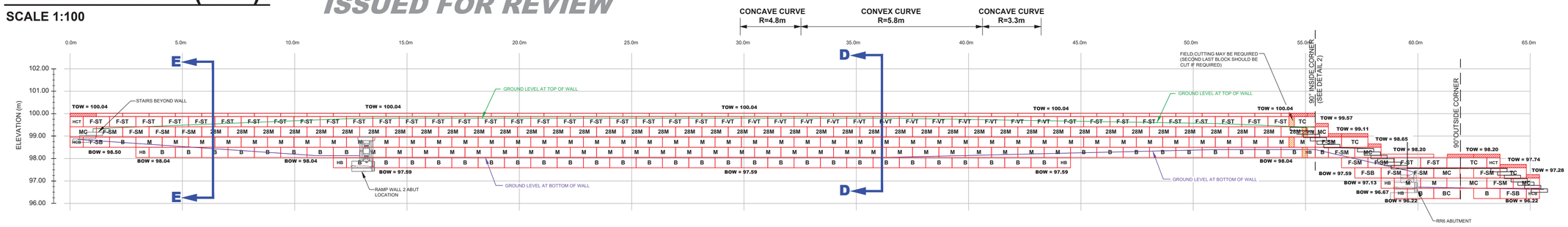
N.T.S.

F-ST	43
F-VT	13
F-SM	12
F-SB	3
28T	35
28M	42
28HM	1
28HB	1
41M	96
41B	108
41HB	13
F-HC	30
F-HCHC	1
TC	9
MC	8
BC	2
HCT	7
HCB	2
3-SIDE CAP	17
1/2 3S CAP	4
2-SIDE CAP	68
1/2 2S CAP	5

PROFILE VIEW (RR5):

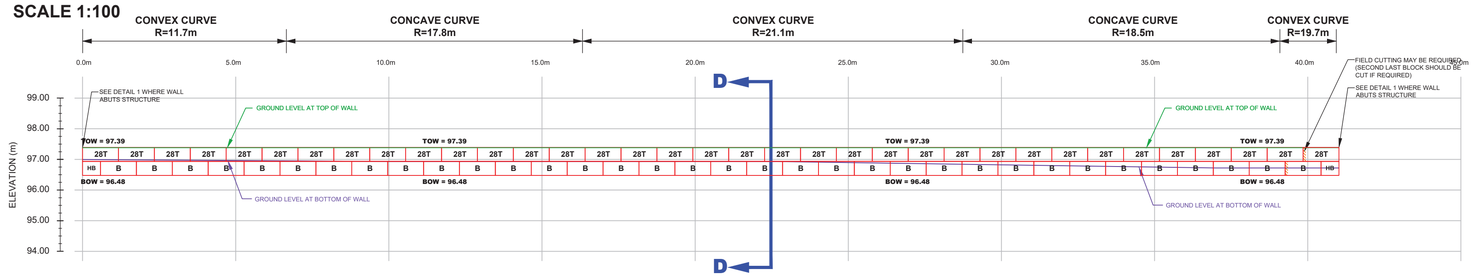
SCALE 1:100

ISSUED FOR REVIEW



PROFILE VIEW (RR6):

SCALE 1:100



NOTES:

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR UTILITY CLEARANCES AND CONSTRUCTION SITE SAFETY. 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:

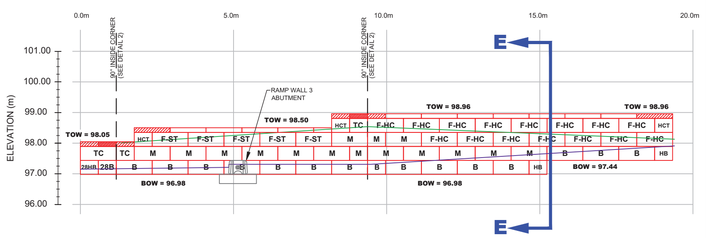
PROPERTY	RETAINED FILL	FOUNDATION MEDIUM
FRICTION ANGLE - ϕ	40°	33°
UNIT WEIGHT - γ	22 kN/m3	18 kN/m3
COHESION - C	0	0 kPa
SOIL TYPE	OPSS GRANULAR B TYPE II	APPROVED FILL

MATERIAL PROPERTIES ARE BASED ON SITE EVALUATION BY PATERSON GROUP AND DISCUSSIONS WITH THE CONTRACTOR. SEISMIC LOADING WAS EVALUATED ACCORDING TO THE CURRENT NBCC 2020 WITH A PEAK GROUND ACCELERATION VALUE OF 0.343.

3. THE DESIGN ELEVATIONS USED WERE BASED ON A GRADING PLAN PROVIDED BY NAK, JOB No. 21-195, SHEET No. L-08, AMENITY SPACE (COORDINATION) REVISION 6 DATED JUNE 30, 2023. THE WALL BASE DESIGN ASSUMES A BEARING RESISTANCE AT SLS OF 100 kPa ON SITE GENERATED FILL. PATERSON GROUP ENGINEER SHOULD OBSERVE THE BEARING CONDITIONS AND ADJUST THE THICKNESS OF THE GRANULAR BASE TO ACCOMMODATE THE SITE CONDITIONS, IF NECESSARY.
4. THE DESIGN HAS BEEN REVIEWED FOR THE STABILITY OF THE PRECAST MODULAR RETAINING WALL SYSTEM AND GLOBAL STABILITY WITH A FACTOR OF SAFETY OF 1.5 FOR STATIC CONDITIONS AND 1.1 UNDER SEISMIC CONDITIONS. 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 DESIGN IS VERIFIED OR MODIFIED IN THE APPLICABLE AREA.
5. PRECAST UNITS SHALL BE REDI-ROCK RETAINING WALL UNITS MANUFACTURED UNDER LICENSE FROM REDI-ROCK.
6. THE WALL BASE FOR THE WALL SHALL CONSIST OF A MIN. 300mm THICK OPSS GRANULAR A COMPACTED TO MIN. 98% OF THE MATERIALS SPMDD AND TESTED BY PATERSONGROUP GEOTECHNICAL PERSONNEL AT THE TIME OF CONSTRUCTION. 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.
7. WALL IS DESIGNED WITH A MIN. 200mm TOE EMBEDMENT WITH A MIN. HORIZONTAL LEDGE WITH A GRANULAR BEDDING LAYER EXTENDING A MIN. 300mm BEYOND THE FACE AND HEEL OF THE BASE BLOCK
8. INSTALL 100mm DIAMETER PERFORATED PIPE WRAPPED WITH A GEOSOCK DRAIN BEHIND HEEL OR UNDER THE WALL. PROVIDE CLEAR STONE SURROUND TO PROTECT PIPE FROM CLOGGING AND DAMAGE. PROVIDE OUTLETS THROUGH WALL, NO FURTHER APART THAN 10.0m ON CENTRES. THE DRAINAGE PIPE SHOULD BE CONNECTED TO A POSITIVE OUTLET ON BOTH ENDS OF THE RETAINING WALL SUCH AS AN EXISTING DITCH OR CATCH BASIN.
9. THE CONDITIONS WILL BE EVALUATED BY THE GEOTECHNICAL ENGINEER DURING PREPARATION FOR WALL CONSTRUCTION IN EACH AREA. WHERE GRANULAR BEDDING WILL NOT BE SUFFICIENT THE USE OF CONCRETE BEDDING MAY BE REQUIRED.
10. ALIGNMENT OF THE BOTTOM WALL UNIT COURSE SHOULD BE PLANNED TO CONSIDER THAT A NOMINAL 41mm AUTOMATIC SETBACK WILL OCCUR WITH EACH 0.46m INCREMENT OF HEIGHT.
11. BACKFILL MATERIAL SHALL BE APPROVED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO USE AND SHOULD CONSIST OF OPSS GRANULAR A OR B TYPE II FOLLOWED BY SUITABLE BACKFILL MATERIAL. ALL FILL WITHIN A 1H:1V ZONE UP AND BACK FROM THE HEEL SHOULD ALSO BE COMPACTED. BACKFILL SHALL BE PLACED IN MAXIMUM 300mm LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF SPMDD. MOISTURE CONTENT SHOULD BE CONTROLLED AND MAINTAINED WITHIN -3 TO +4 PERCENT OF OPTIMUM.
12. MAINTAIN TEMPORARY GRADES TO DIVERT SURFACE WATER AWAY FROM THE RETAINING WALL EXCAVATION. SLOPE FINAL BACKFILL TO PROVIDE POSITIVE DRAINAGE AND TO ELIMINATE PONDING.
13. BACKSLOPE SHOULD BE CUT BACK TO A MINIMUM OF 2H:1V TO 3H:1V TO MAINTAIN A LONG TERM SAFE SLOPE BEHIND THE RETAINING WALL. IT SHOULD BE NOTED THAT WHERE TREES ARE PRESENT WITHIN THE TOP OF SLOPE, A MINIMUM 1.0m SET BACK IS REQUIRED FOR EXCAVATION FROM THE EDGE OF THE TREE LINE WHERE PRESENT.
14. EXCAVATION SIDE SLOPES SHOULD BE PROTECTED TEMPORARILY DURING CONSTRUCTION FROM PRECIPITATION EVENTS BY PLACEMENT OF TARPS.
15. ALL RETAINING WALL RELATED INSPECTIONS (BEARING SURFACE, COMPACTION, BLOCK INSTALLATION, ETC.) MUST BE COMPLETED BY PATERSON GROUP. ONCE THE WALL CONSTRUCTION IS COMPLETED AND REVIEWED BY PATERSON DURING CONSTRUCTION, A CERTIFICATE LETTER WILL BE ISSUED BY PATERSON GROUP.
16. ANY CUTTING OF BLOCKS TO SUIT SITE CONDITIONS OR WALL DESIGN WILL BE RESPONSIBILITY OF THE CONTRACTOR.
17. IF WINTER CONSTRUCTION IS CONSIDERED, HEAT MUST BE MAINTAINED WHEN THE BASE IS EXPOSED. THE WALL BASE MUST COVERED WITH HIGH GRADE INSULATION TARPS TO MAINTAIN HEAT AND PROTECT THE BASE FROM POTENTIAL FROST HEAVE. ONCE THE BASE IS BACKFILLED, THE TOP OF THE WALL MUST BE COVERED WITH INSULATION TARPS OVERNIGHT UNTIL THE WALL CONSTRUCTION IS COMPLETED. ADDITIONAL INSPECTIONS WILL BE REQUIRED DURING WINTER CONSTRUCTION TO ENSURE THE WALL CONSTRUCTION IS IN GENERAL CONFORMANCE WITH PATERSON'S RECOMMENDATIONS.
18. ANY SERVICE LINE PLACED BELOW THE RETAINING WALL SHOULD BE ENCASED IN A LARGER SIZE AND HIGHER GRADE PVC CASING EXTENDING A MINIMUM OF 1.0m BEYOND THE LATERAL SUPPORT ZONE OF THE RETAINING WALL (1H:1V).
19. ANY INADEQUATE PERFORMING SUBGRADE SHOULD BE SUB-EXCAVATED AND REPLACED WITH OPSS GRANULAR B TYPE II COMPACTED TO 98% OF THE MATERIAL'S SPMDD.
20. THE CONTRACTOR SHOULD REFER TO THE INSTALLATION MANUAL PROVIDED FOR THE RETAINING WALL BLOCK TYPE PROVIDED HEREIN FOR ADDITIONAL DETAILS ON ACCEPTABLE INSTALLATION PRACTICES.
21. WALL CONSTRUCTION SHOULD START FROM STAIR UNITS AND WORK AWAY, DUE TO PRECAST SIZE LIMITATION RETAINING WALL MAY EXTEND SLIGHTLY PASS EXTENT OF LINE INDICATED ON GRADING PLAN. SITE CUTTING AND FITTING MIGHT BE REQUIRED IN SOME LOCATIONS AND SHOULD BE REVIEWED AT TIME OF CONSTRUCTION.

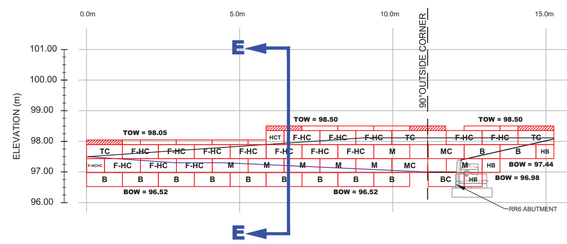
PROFILE VIEW (RAMP WALL 1):

SCALE 1:100



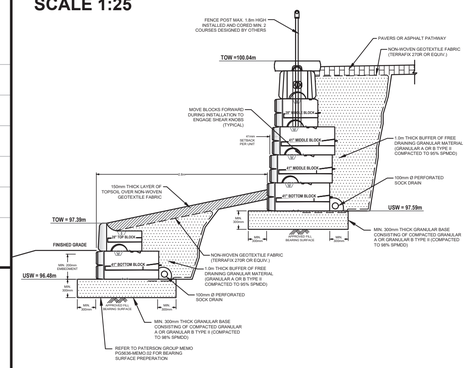
PROFILE VIEW (RAMP WALL 2):

SCALE 1:100



CROSS SECTION D-D:

SCALE 1:25

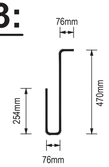


PROFILE VIEW (RAMP WALL 3):

SCALE 1:100

DETAIL 3:

N.T.S.



DETAIL 2:

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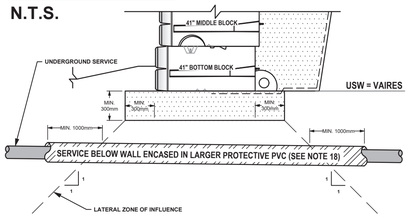
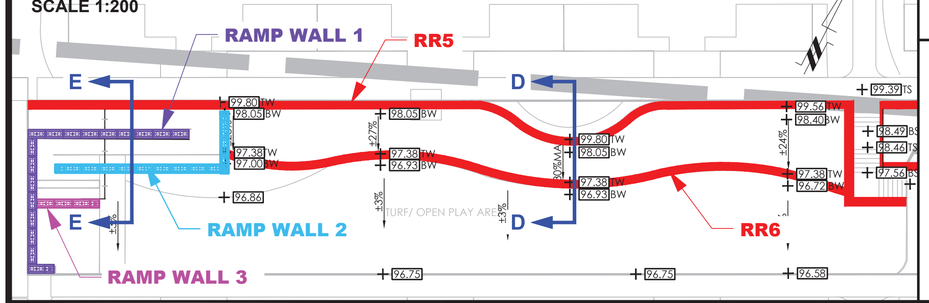


DETAIL 1:

N.T.S.

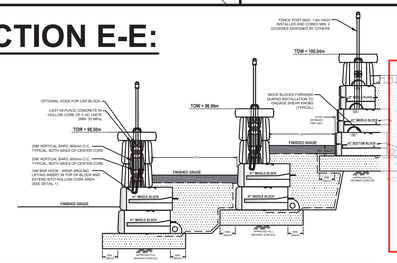
GRADING PLAN:

SCALE 1:200



CROSS-SECTION E-E:

SCALE 1:60

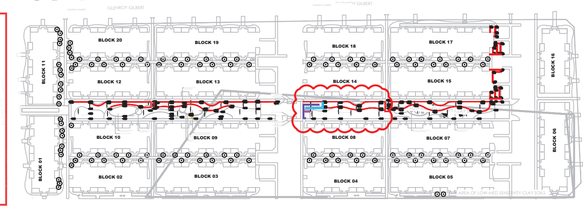


APPROVED
By Lily Xu at 12:40 pm, Apr 03, 2024

LILY XU, MCIP, RPP
MANAGER, DEVELOPMENT REVIEW SOUTH
PLANNING, INFRASTRUCTURE & ECONOMIC
DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

KEY PLAN:

SCALE 1:2000



PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
2	AS PER CLIENT COMMENTS	02/10/2023	JV
1	AS PER CLIENT COMMENTS	21/09/2023	JV

MINTO COMMUNITIES

PROPOSED RESIDENTIAL DEVELOPMENT - BARRHAVEN TOWN CENTRE
CHAPMAN MILLS DRIVE AND RIOCAN AVENUE

OTTAWA, ONTARIO

Title:

REDI-ROCK RETAINING WALL DESIGN (RR5 & RR6)

Stamp: LICENSED PROFESSIONAL ENGINEER 02/10/2023 F. I. ABOU-SEIDO 100156744 PROVINCE OF ONTARIO

Stamp: LICENSED PROFESSIONAL ENGINEER 02/10/2023 J. R. VILLENEUVE 100504344 PROVINCE OF ONTARIO

Scale:	AS SHOWN
Drawn by:	NFRV
Checked by:	JV
Approved by:	FA
Date:	08/2023
File No.:	PG5636
Drawing No.:	PG5636-7
Revision No.:	2

p:\autocad drawings\geotechnical\pg5xxx\pg5636\rr5 rr6 rock designs (oct. 2023).dwg