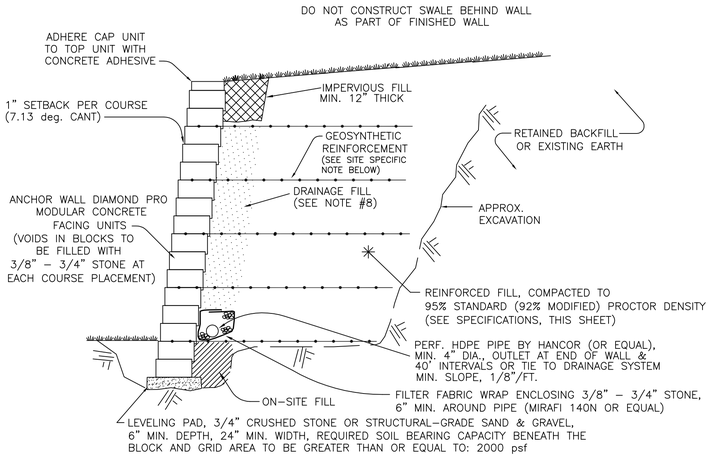


TYPICAL SECTION–REINFORCED
(TYPICAL DETAIL ONLY – SEE WALL FACE DRAWINGS FOR GRID PLACEMENT INFORMATION)

MODULAR CONCRETE UNIT RETAINING WALL
SCALE: NONE

GENERAL NOTES:

1. STRIP ALL VEGETATION, ORGANIC SOILS AND UNSUITABLE FILL SOILS FROM THE WALL AND GRID ALIGNMENT AREA.
2. BENCH CUT ALL EXCAVATED SLOPES.
3. DO NOT OVER EXCAVATE UNLESS DIRECTED TO DO SO BY THE OWNER'S SITE REPRESENTATIVE IN ORDER TO REMOVE UNSUITABLE SOIL. IF OVEREXCAVATING TO IMPROVE BEARING CAPACITY, THE EXCAVATION SHALL EXTEND AT A 1H:1V SLOPE IN FRONT OF THE WALL FACE AND AT LEAST AS FAR BEHIND THE WALL AS THE LONGEST GEOGRID LENGTH.
4. THE OWNER'S SITE REPRESENTATIVE SHALL VERIFY FOUNDATION SOILS AS BEING COMPETENT PER THE DESIGN STANDARDS AND PARAMETERS.
5. LEVELING PAD SHALL CONSIST OF COMPACTED, STRUCTURAL–GRADE SAND & GRAVEL (OR 3/4" CRUSHED STONE), MINIMUM 6" DEPTH. AN OPTION IS TO PLACE A THIN PAD (MAX. 3" THICK) OF LEAN CONCRETE, UNREINFORCED, TO USE AS A BASE LEVELING PAD.
6. MINIMUM EMBEDMENT OF WALL BELOW FINISH GRADE SHALL BE AS INDICATED ON THE WALL FACE DRAWING.
7. FOLLOW APPLICABLE PROVISIONS OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS, ESPECIALLY WITH REGARDS TO LEVELING OF BLOCKS AND BASE.
8. DRAINAGE FILL 12" THICK SHALL BE INSTALLED BEHIND THE WALL. THIS MATERIAL SHALL BE CLEAN (LESS THAN 10% FINES), STONE, WITH SIZES NOT TO EXCEED 3/4".
9. WHERE PERFORATED HDPE DRAINS ARE USED, PROVIDE OUTLETS AT THE ENDS OF THE WALL AND AT 40' INTERVALS, OR TIE TO A CLOSED DRAINAGE SYSTEM. (ALTERNATE OUTLET METHODS MAY BE APPROVED BY THE DESIGN ENGINEER.)
10. BACKFILL AND COMPACT THE FILL MATERIAL BEHIND THE WALL AS THE WALL IS INSTALLED.
11. COMPACTION TESTS SHALL BE TAKEN AS THE WALL IS INSTALLED. THE MINIMUM NUMBER OF TESTS SHALL BE DETERMINED BY THE OWNER'S SITE REPRESENTATIVE.
12. COMPACTION SHALL BE TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY (92% MODIFIED, ASTM D–1557) OF THE FILL MATERIAL.
13. PULL GEOGRID TIGHT PRIOR TO BACKFILLING.
14. PROVIDE LATERAL DRAINAGE SWALES TO DIRECT FLOWS AROUND THE ENDS OF THE WALL AND AWAY FROM THE WALL DURING CONSTRUCTION. DO NOT CONSTRUCT SWALES BEHIND WALLS AS PART OF FINISHED CONSTRUCTION. GRADE TO ALLOW WATER TO FLOW OVER WALL FACE (OR TO A POINT MORE THAN 10 FEET BEYOND THE LONGEST GEOGRID LENGTH).
15. TURF, OR SOME ACCEPTABLE FORM OF SOIL EROSION PROTECTION, SHOULD BE ESTABLISHED AT THE TOP OF THE WALL (WHERE REQUIRED) BY THE LANDSCAPE CONTRACTOR AS SOON AS THE WALL IS COMPLETED.
16. FINAL WALL ALIGNMENT SHALL BE LOCATED IN THE FIELD BY THE OWNER'S SITE REPRESENTATIVE.
17. SEE NOTE 5, SHEET 2 OF THIS SET FOR GUARDRAIL/FENCE POST INSTALLATION GUIDELINES.
18. WHERE CATCH BASINS ARE PLACED IN CLOSE PROXIMITY TO THE WALL, THE CONTRACTOR SHOULD CONSIDER THE USE OF ECCENTRIC CONES IN ORDER TO MINIMIZE THE POSSIBLE IMPACT ON THE GEOGRID LAYERS IN THE WALL.
19. RECOMMENDED COMPACTION EQUIPMENT WITHIN 15 FEET OF THE BACK OF THE WALL IS AS FOLLOWS:
    0 – 4 FEET HAND TAMP OR VIBRATORY PLATE COMPACTOR
    4 – 15 FEET NOTHING LARGER THAN TWO–DRUM, WALK–BEHIND VIBRATORY ROLLER
    (LARGER ROLLERS CAN BE USED STATICALLY, PROVIDED LIFT SIZE DOES NOT COMPROMISE ACHIEVEMENT OF NECESSARY COMPACTION RATES.)
20. THIS WALL HAS BEEN DESIGNED WITH CONSIDERATION OF SEISMIC LOADINGS.

IF CONDITIONS ARE DIFFERENT THAN THOSE STATED IN THESE DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR MUST CONTACT THE DESIGN ENGINEER PRIOR TO PROCEEDING WITH THE CONSTRUCTION OF THE WALL.

SITE SPECIFIC NOTE: THE WALL HEIGHTS AT THIS SITE VARY AND ARE SHOWN ON THE WALL FACE DRAWINGS ON SHEET 2 OF 2. THE GEOGRID SHALL BE MIRAGRID PRODUCTS AS DETAILED ON THE WALL FACE DETAIL DRAWINGS.
THE CUT LENGTHS OF THE GEOGRID LAYERS, AND THE PLACEMENT ELEVATIONS OF THE GEOGRID LAYERS ARE SHOWN ON THE WALL FACE DETAIL DRAWINGS.
THE GEOGRID SHALL PROVIDE 100% COVERAGE.
THE CONTRACTOR SHOULD CONTACT THE DESIGN ENGINEER WITH ANY QUESTIONS.

REINFORCED BACKFILL
GENERAL REQUIREMENTS

SIEVE SIZE	% PASSING
3"	100%
1/2"	50–85%
#4	40–75%
#50	8–28%
#200	0–10%

NOTE: THE DESIGN ENGINEER MUST BE MADE AWARE WHENEVER THE PERCENT PASSING THE #200 SIEVE EXCEEDS 10%. GROUNDWATER CONTROL METHODS MAY BE REQUIRED.

IMPERVIOUS MATERIAL
GENERAL REQUIREMENTS

SIEVE SIZE	% PASSING
3"	100%
#4	80–100%
#40	50–90%
#100	40–80%
#200	30–80%

8" OF TOPSOIL IS AN ACCEPTABLE ALTERNATE FOR IMPERVIOUS FILL ALONG THE TOP OF THE WALL.

DESIGN ASSUMPTIONS

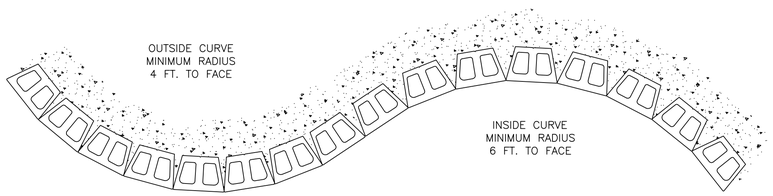
SOIL	SOIL UNIT WEIGHT	ϕ
REINFORCED SELECT FILL	128	34
RETAINED EARTH	125	32
FOUNDATION SOIL	125	32

APPLIED SURCHARGE LOADING = 100 psf

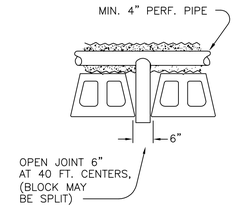
SEISMIC ACCELERATION = 0.16

MINIMUM FACTORS OF SAFETY

OVERTURNING	2.0
SLIDING	1.5
GEOGRID PULLOUT	1.5
BEARING CAPACITY	2.0

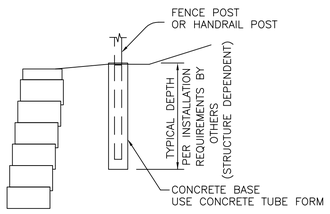


ANCHOR DIAMOND PRO – STRAIGHT UNITS
TYPICAL CURVES
(NOT TO SCALE)



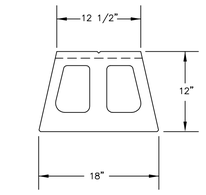
DRAIN DETAIL – TYPICAL
WALLS OVER 4'
(NOT TO SCALE)

(THE PREFERED ALTERNATIVE IS TO MOVE THE POSTS/RAILS TO A DISTANCE BEHIND THE WALL WHICH IS BEYOND THE GEOGRID LENGTH)

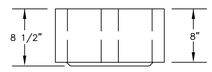


POST DETAIL 1
TYPICAL HANDRAIL, FENCE OR GUARDRAIL POST (WHERE REQUIRED)
(NOT TO SCALE)

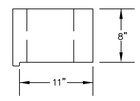
NOTE: FORCING SQUARE–EDGED POSTS THROUGH GEOGRID LAYERS MAY JEOPARDIZE THE INTEGRITY OF THE WALL SYSTEM. SEE NOTE 5, SHEET 2 OF THIS SET, FOR POST INSTALLATION GUIDELINES.



TOP VIEW



FRONT VIEW

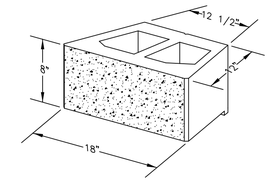


SIDE VIEW

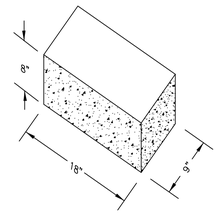
ANCHOR DIAMOND PRO
STRAIGHT UNIT 3–D VIEW
(NOT TO SCALE)

COMPACTION NOTE: WHERE THE RETAINING WALL PASSES OVER ANY UTILITY LINES, COMPACTION OF THE SOIL WITHIN THE UTILITY TRENCH IS CRITICAL IN ORDER TO PREVENT SETTLEMENT OF THE WALL. COMPACTION OF ALL FILL MATERIAL IN UTILITY TRENCHES WHICH PASS UNDER THIS RETAINING WALL MUST BE AT LEAST 95% OF THE MAXIMUM DENSITY OF THE FILL MATERIAL.

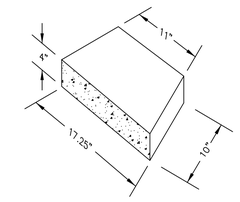
GRID OVERLAP AT CORNERS: AT OUTSIDE CORNERS WHERE GRID WILL OVERLAP, THE INSTALLER SHALL PLACE 2"–3" OF FILL MATERIAL BETWEEN THE LAYERS OF OVERLAPPING GEOGRID. GRID–ON–GRID CONTACT SHALL BE MINIMIZED. MAX. SIZE PARTICLES BETWEEN THE GRID SHALL BE 2".



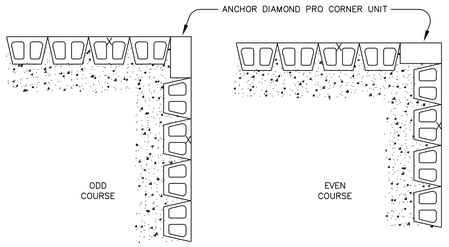
ANCHOR DIAMOND PRO
ISOMETRIC VIEW – STRAIGHT BLOCK
(NOT TO SCALE)



ANCHOR DIAMOND PRO
CORNER UNIT ISOMETRIC
(NOT TO SCALE)

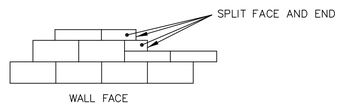


ANCHOR DIAMOND PRO
CAP UNIT ISOMETRIC
(NOT TO SCALE)



NOTE: USE ADHESIVE ON EXPOSED PARTIAL UNITS; CUT UNITS (X) TO MAINTAIN RUNNING BOND

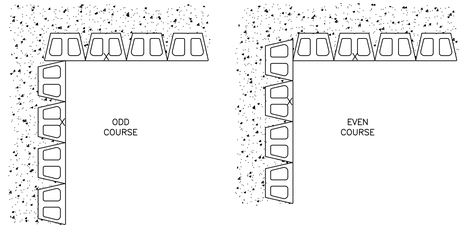
ANCHOR DIAMOND PRO – STRAIGHT UNITS
TYPICAL 90 DEG. OUTSIDE CORNER
(NOT TO SCALE)



1. ALWAYS START CAPPING WALL FROM THE LOWEST ELEVATION.
2. LAYOUT CAPS PRIOR TO USING ADHESIVE.
3. CUT CAPS TO FIT. VARIOUS COMBINATIONS OF LONG AND SHORT CAP FACES WILL BE NECESSARY FOR RADII GREATER THAN THE MINIMUM.
4. ALTERNATE SHORT AND LONG CAP FACES EVERY OTHER CAP TO ACHIEVE A STRAIGHT ROW OF CAPS.
5. USE EXTERIOR–GRADE CONSTRUCTION ADHESIVE TO SECURE CAPS.

ANCHOR WALL CAP BLOCK
(NOT TO SCALE)

NOTE: USE ADHESIVE ON EXPOSED PARTIAL UNITS; CUT UNITS (X) TO MAINTAIN RUNNING BOND



ANCHOR DIAMOND PRO – STRAIGHT UNITS
TYPICAL 90 DEG. INSIDE CORNER
(NOT TO SCALE)

NOTE: ALL DETAILS AND DESIGN CALCULATIONS ARE INTERCHANGEABLE WITH ANCHOR WALL DIAMOND PRO BEVELED UNITS

New England's SVE Retaining Wall Designers

COMMONWEALTH OF MASSACHUSETTS
RANDALL H. BRAGDON
CIVIL
No. 35217
REGISTERED PROFESSIONAL ENGINEER

NOTE: THIS DRAWING WAS PREPARED FOR USE WITH ANCHOR WALL (TM) RETAINING WALL SYSTEMS. CONTACT GENEST CONCRETE AT (207) 324–3250.

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WILSON STREET, PO BOX 151, SANFORD, ME 04073

PROJECT: PROPOSED LANDSCAPE WALLS
79 SHORNECLIFFE ROAD, NEWTON, MA

SHEET TITLE: RETAINING WALL DESIGN SHEET 1

DATE: MARCH 3, 2014 SCALE: AS SHOWN PROJECT No.: 14–121

SHEET 1 OF 2