

NOTE:
CRUSHED STONE UNIT COMPACT WITH HAND OPERATED FLATE COMPACTOR
FILL ALL VOIDS INCLUDING PIN HOLES AFTER BLOCKS ARE ALIGNED. ALIGN EACH BLOCK COURSE PRIOR TO PLACING ADDITIONAL COURSE.

BASE LEVELING PAD NOTES:
1. THE LEVELING PAD IS TO BE CONSTRUCTED OF CRUSHED STONE OR 15 MPA UNREINFORCED CONCRETE.
2. THE BASE FOUNDATION IS TO BE APPROVED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE LEVELING PAD.

NOTE:
1. CHECK WITH MANUFACTURER SPECIFICATIONS ON CORRECT DIRECTION OF ORIENTATION FOR GEOGRID TO OBTAIN PROPER STRENGTH.

1. SHOP DRAWING ACTION STAMP:

1.1. THIS IS AN ENGINEERED SHOP DRAWING DESIGN BASED UPON INFORMATION PROVIDED BY OTHERS. THE WALL DESIGN DEPICTED HEREIN SHOULD BE REVIEWED BY THE SITE DESIGNER OR OTHERWISE RESPONSIBLE ENTITY TO VERIFY COMPLIANCE WITH THE GENERAL INTENT OF THE SITE DESIGN WITH RESPECT TO GRADING, WALL ALIGNMENT AND GEOMETRY, WALL STEPS, ETC.
1.2. THIS DESIGN IS BASED UPON INFORMATION PROVIDED BY OTHERS. SHOULD VARIATIONS BE ENCOUNTERED THE CONTRACTOR, SITE DESIGNER OF RECORD, OR OTHER RESPONSIBLE ENTITY SHALL NOTIFY THE OWNER/ENGINEER AND ASSOCIATED DESIGN PARTNERS, INC. (ADP) TO MAKE APPROPRIATE ADJUSTMENTS.

2. WALL DESIGN NOTES:

2.1. THE WALL DESIGN(S) REPRESENTED HEREIN ARE BASED ON THE PROCEDURES DESCRIBED IN THE INDUSTRY STANDARD PUBLICATION **NOMA TR122A "DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS, 2ND ED"**.

2.2. IN ACCORDANCE WITH NOMA TR127A "DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS, 2ND ED" SEC. 5.1.4, EXTERNAL GLOBAL STABILITY HAS NOT BEEN ADDRESSED AS PART OF THIS RETAINING WALL DESIGN. EXTERNAL GLOBAL STABILITY CALCULATIONS ARE TYPICALLY PROVIDED BY THE OWNER'S GEOTECHNICAL ENGINEER OF RECORD.

2.3. THE WALL STABILITY ANALYSES IS BASED ON SOIL DESIGN VALUES AS ASSUMED BASED UPON ANTICIPATED SUBSURFACE CONDITIONS. A SUMMARY OF DESIGN VALUES IS INCLUDED IN THE DESIGN VALUES TABLE (BELOW).

3. FILL SOIL COMPACTION:

3.1. ALL GRANULAR SOIL FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D1557 MODIFIED PROCTOR.

3.2. STONE IN WALL BASE PAD AND IN FILL LOCATIONS TO BE CONSOLIDATED TO 100% OF DRY RODDED UNIT WEIGHT PER ASTM C-29. ROUNDED ROCK OR PEA STONE IS SPECIFICALLY NOT ALLOWED AT CRUSHED STONE FILL LOCATIONS.

4. GENERAL:

4.1. PLACE KEYSTONE BLOCKS ON A 8" DEEP BASE FOOTING OF CONSOLIDATED 3/4" CRUSHED STONE. LEAN CONCRETE MAY ALSO BE USED FOR THE BASE FOOTING. IF LEAN CONCRETE IS USED IT SHALL BE PLACED ON 6" OF CRUSHED STONE, WITH SMOOTH FORMED VERTICAL SURFACES, BELOW ANTICIPATED FROST DEPTH.

4.2. LOCK GEOGRID INTO BLOCKS BY HOOKING GRID MATERIAL OVER THE FIBERGLASS PINS IN THE KEYSTONE BLOCK.

4.3. INSTALL GEOGRID REINFORCING FABRIC AT LOCATIONS AND ELEVATIONS SHOWN ON THE PROFILE ELEVATION DRAWINGS.

4.4. ROLL GEOGRID OUT WITH STRONG FIBER (MACHINE DIRECTION) DIRECTION PERPENDICULAR TO WALL FACE TO EMBEDMENT LENGTH (LE) AS SPECIFIED ON THE PROFILE ELEVATIONS. IMPORTANT: GRID MUST BE LAID SMOOTH, FREE OF WRINKLES, PULLED TAUT AND STAKED PRIOR TO FILL PLACEMENT.

4.5. PLACE A MINIMUM OF 6" OF SOIL OVER GRID BEFORE ALLOWING MACHINERY ON THE REINFORCEMENT AREA.

4.6. GENERAL SOIL COMPACTION GUIDELINES: SITE EXCAVATION CONTRACTOR IS RESPONSIBLE FOR THE METHODS AND RESULTS OF THE COMPACTION PROCESS. THE FOLLOWING IS A SUGGESTED METHOD OF INSTALLATION.

4.6.1. PLACE SOIL IN MAXIMUM 8" LOOSE LIFT THICKNESS AND COMPACT TO 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557, MODIFIED PROCTOR. USE ONLY HAND OPERATED ROLLER OR PLATE COMPACTORS WITHIN 5' OF THE BACK OF WALLS FOR LESS THAN 15' HIGH AND WITHIN 10' OF WALLS GREATER THAN 15' HIGH.

4.7. LAY SUCCESSIVE COURSES OF BLOCK AND LAYERS OF GEOGRID ACCORDING TO PLANS AND PROFILE ELEVATIONS.

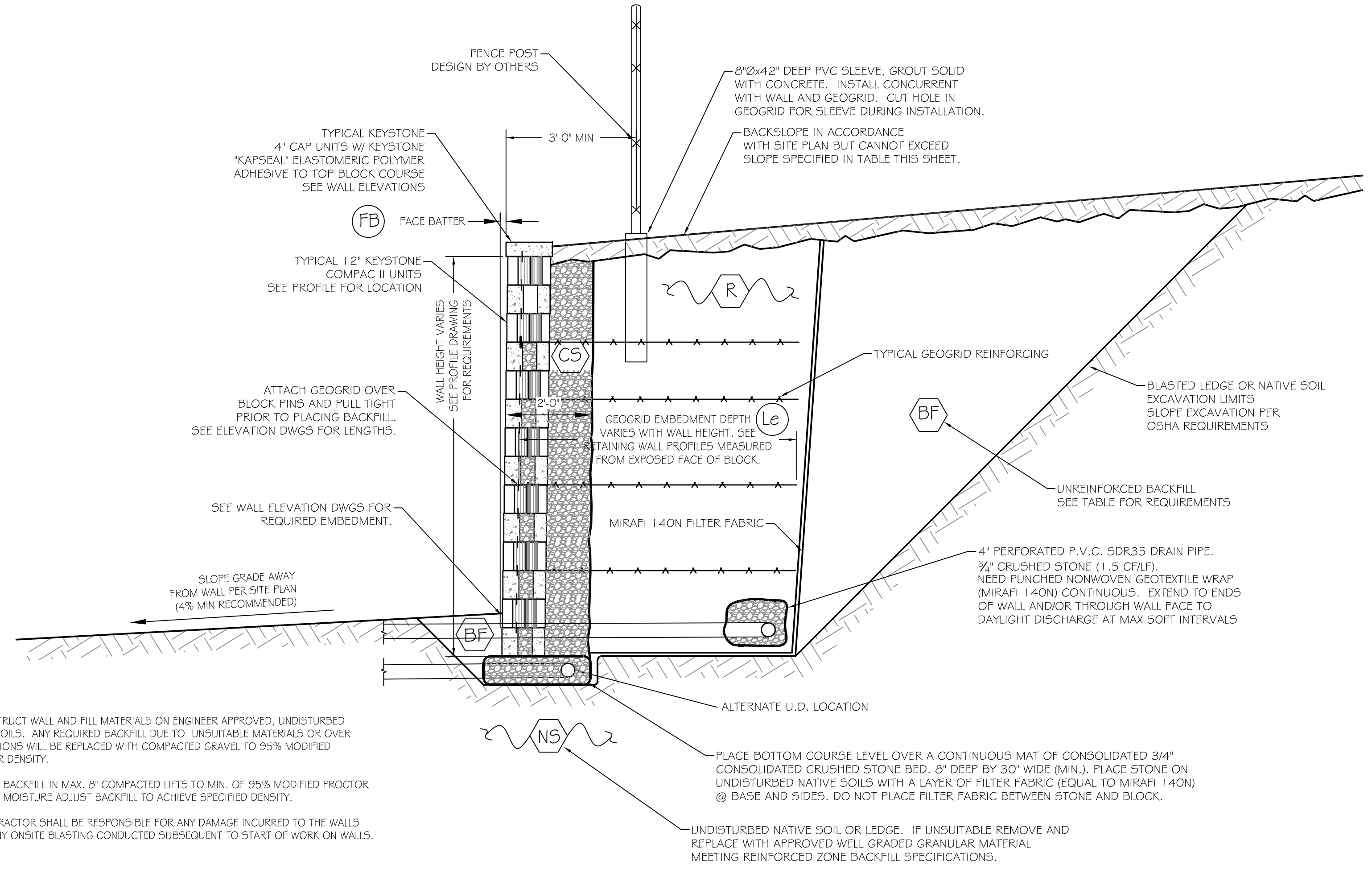
4.8. NOTIFY ENGINEER IMMEDIATELY IF ACTUAL SITE GRADES/CONTOURS DIFFER BY MORE THAN 1'-0" FROM THOSE INDICATED ON THESE SITE PLANS. VERTICAL AND HORIZONTAL DIMENSIONS AND THIS SPECIFIC WALL(S) DESIGN IS BASED UPON APPROXIMATE SITE GRADES TAKEN FROM SITE PLANS PREPARED BY OTHERS. IT IS COMMON FOR ACTUAL GRADES TO DIFFER FROM THOSE AS REPRESENTED BY CONTOURS OR SPOT GRADES SHOWN ON SITE DESIGN PLANS. VARIATIONS OF MORE THAN 1'-0" WILL EFFECT THE DESIGN OF THIS WALL. (SEE NOTE #1.2)

4.9. CONTRACTOR TO PROVIDE TWO DENSITY TESTS PER COMPACTED LIFT TO ENSURE CONFORMANCE WITH GRADATION AND COMPACTION SPECIFICATIONS INDICATED. CONTRACTOR TO PROVIDE SEIVE ANALYSIS AND SHEAR TEST FOR ALL PROPOSED BACKFILL. SUBMIT FINAL TEST REPORTS FOR COMPACTION TESTING TO ASSOCIATED DESIGN PARTNERS, INC. FOR OUR RECORDS AND ALSO SUBMIT FINAL TEST REPORTS TO THE OWNER FOR THEIR RECORDS.

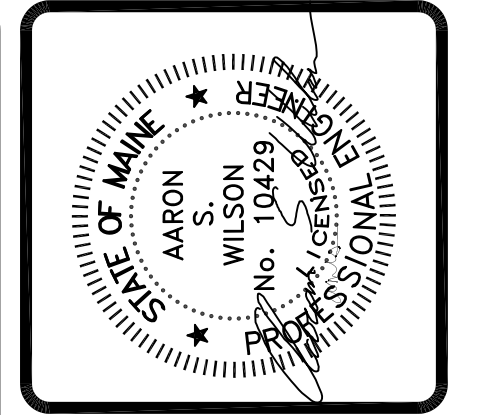
PROJECT SPECIFIC DESIGN VALUES

DETAIL REFERENCE LETTER	DESIGN VALUES DESCRIPTION	E/P A/C	VALUE	UNITS	CONSTRUCTION COMPLIANCE CONFIRMED
NS	NATIVE SOIL SUBGRADE ALLOWABLE BEARING CAPACITY	E/A	2000	P.S.F.	
	NATIVE SOIL SUBGRADE INTERNAL FRICTION ANGLE	E/A	28°	DEGREES	
	NATIVE SOIL SUBGRADE UNIT WEIGHT TOTAL ±5 P.C.F.	E/A	120	P.C.F.	
	NATIVE SOIL SUBGRADE COHESION	E/A	N/A	P.C.F.	
R	REINFORCED FILL MATERIAL INTERNAL FRICTION ANGLE	P	32	DEGREES	
	REINFORCED FILL MATERIAL UNIT WEIGHT TOTAL ±5 P.C.F.	P	130	P.C.F.	
	REINFORCED FILL MATERIAL MAXIMUM PARTICLE SIZE	P	3	INCHES	
BF	REINFORCED FILL MATERIAL MAXIMUM FINES PASSING 200 SIEVE	P	5	PERCENT	
	UNREINFORCED BACKFILL MATERIAL INTERNAL FRICTION ANGLE	P	30	DEGREES	
	UNREINFORCED BACKFILL UNIT WEIGHT	P	125	P.C.F.	
	UNREINFORCED BACKFILL MATERIAL MAXIMUM PARTICAL SIZE	P	6	INCHES	
CS	UNREINFORCED BACKFILL MATERIAL MAXIMUM FINES PASSING 200 SIEVE	P	20	PERCENT	
	CRUSHED STONE UNIT FILL MEDIAN PARTICLE SIZE	P	3/4	INCHES	
BS	TOP OF WALL MAXIMUM BACKSLOPE ANGLE	P	5	DEGREES	
FB	FACE BATTER	P	4.0	DEGREES	
K	SIZE OF KEYSTONE UNITS STANDARD OR COMPAC (SMALL)	P	STRAIGHT-FACE COMPAC II	BLOCK	COLOR: TBD BY OWNER

LEGEND
E - EXISTING CONDITION OR VALUE
P - PROPOSED CONDITION OR VALUE
A - ASSUMED VALUE BASED UPON ANTICIPATED SITE CONDITIONS
D - DERIVED VALUE GIVEN BY OTHERS BASED UPON EXPLORATION, TESTING, OR OBSERVATION
PCF - POUNDS PER CUBIC FOOT
PSF - POUNDS PER SQUARE FOOT



NOTES:
1. CONSTRUCT WALL AND FILL MATERIALS ON ENGINEER APPROVED, UNDISTURBED NATIVE SOILS. ANY REQUIRED BACKFILL DUE TO UNSUITABLE MATERIALS OR OVER EXCAVATIONS WILL BE REPLACED WITH COMPACTED GRAVEL TO 95% MODIFIED PROCTOR DENSITY.
2. PLACE BACKFILL IN MAX. 8" COMPACTED LIFTS TO MIN. OF 95% MODIFIED PROCTOR DENSITY. MOISTURE ADJUST BACKFILL TO ACHIEVE SPECIFIED DENSITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE INCURRED TO THE WALLS FROM ANY ONSITE BLASTING CONDUCTED SUBSEQUENT TO START OF WORK ON WALLS.



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PROJECT: **CUMBERLAND AVE., MSE PORTLAND, MAINE**
SHEET TITLE: **KEYSTONE WALL SECTION, DESIGN VALUES CONSTRUCTION NOTES, & DETAILS**

REVISIONS	DATE
No.	BY

DATE : 11-2-16
SCALE : AS NOTED
DESIGN BY: ASW
DRAWN BY: RSC
PROJECT NUMBER:
16350
SHEET NO:
RT1

