



MANORSTONE® ELITE



Introducing ManorStone® Elite, from the ManorStone family of retaining wall blocks and caps.

Our new ManorStone Elite retaining wall blocks are designed with a hollow middle, making them lighter and easier to handle which can help save you time, budget and labor costs. At 35% lighter blocks, your crew will thank you as lifting the blocks and building requires less energy and time. Plus, your walls have no visible difference from ManorStone blocks.

Achieve the same gravity function of the ManorStone tapered blocks by filling the hollow cores of the ManorStone Elite with crushed rock for unreinforced walls up to 3' 6" high. Complete your project with our ManorStone tapered cap units for a beautifully finished retaining wall, a perfect addition to any landscape design.

PRODUCT DATA*

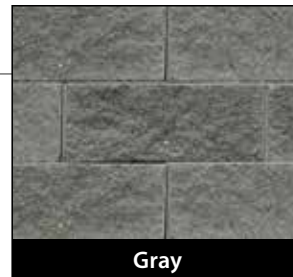
	Coverage	Units / Pallet	Coverage / Pallet	Weight / Piece	Weight / Pallet
Flat Face Tapered-Sides	1.5 pcs / ft ² (16.2 pcs / m ²)	54	36 ft ² (3.34 m ²)	46 lb (21 kg)	2,484 lb (1,126.7 kg)
Cap Unit	0.8 pcs/Ln ft	72	90 Ln ft	45 lb (20.4 kg)	3,290 lb (1,493 kg)
12" Coping Unit [§]	2 Ln ft / pc (0.6 Ln m / pc)	36	72 Ln ft (19.5 Ln m)	62 lb (30.8 kg)	2,262 lb (1,010 kg)

All Weight per Pallet noted above include a 50 lb pallet weight.
Maximum wall height: 3' 6". Minimum radius: 2' 8".

AVAILABLE COLORS

For more information on custom colors, please contact a Mutual Materials sales representative. Custom colors may be restricted by the size of the order or project.

*Flat Face Tapered Cap Unit is also available in Charcoal.



Flat Face Tapered
6" x 16" x 12" (15.2 cm x 40.6 cm x 30.5 cm)



Flat Face Tapered Cap Unit[†]
3" x 18" x 13" (7.6 cm x 45.7 cm x 33 cm)



Coping Unit[†]
3" x 23 3/8" x 12" (7.6 cm x 60 cm x 33 cm)



PROJECT ESTIMATION

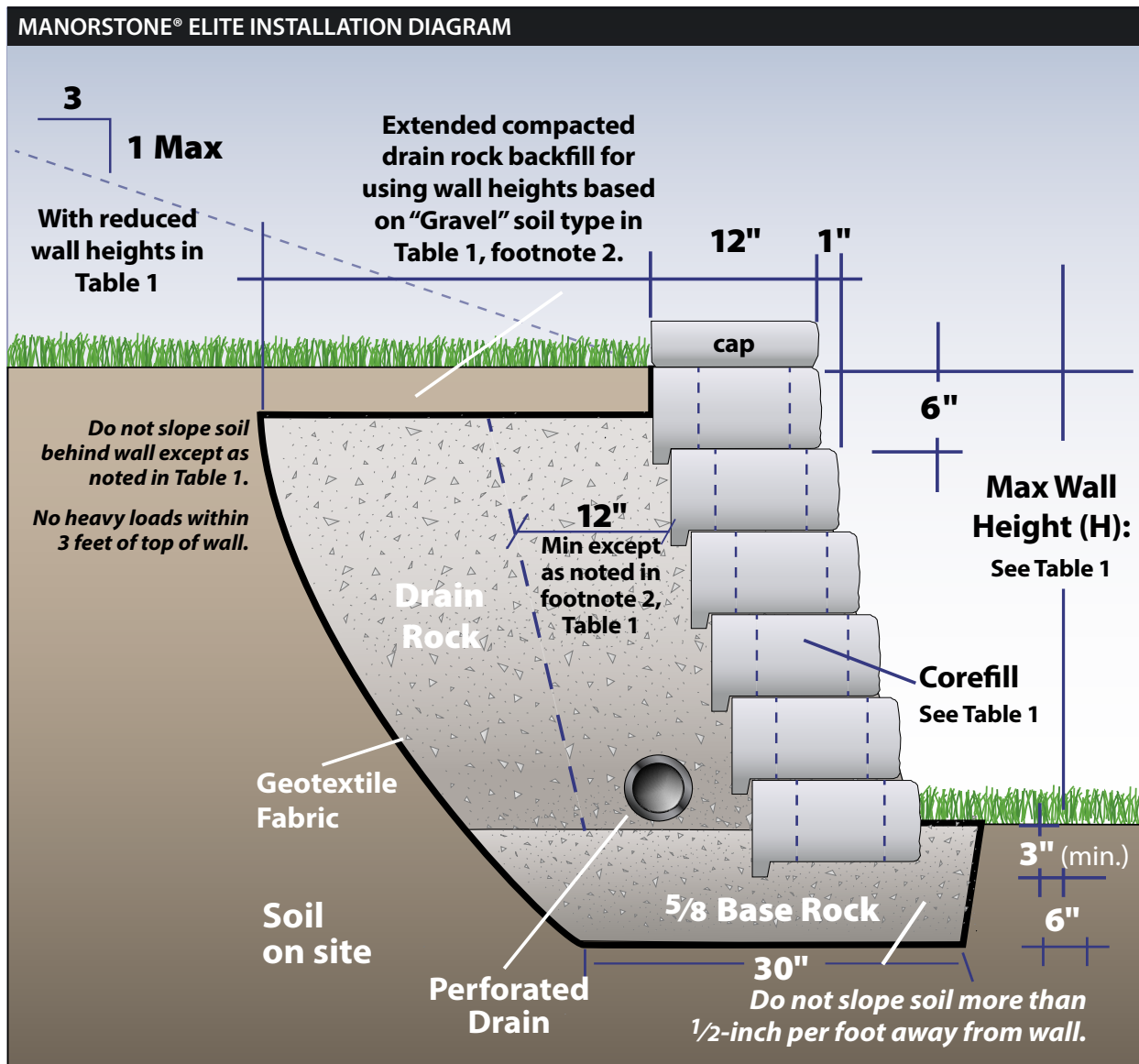
NOT TO EXCEED 3' 6"		WALL LENGTH (0.75 units per lineal foot)					
WALL HEIGHT	COURSES	10 ft	15 ft	20 ft	25 ft	30 ft	35 ft
1'	2	15	23	30	38	45	53
1' 6"	3	23	34	45	57	68	79
2'	4	30	45	60*	75	90	105
2' 6"	5	38	57	75	92	113	132
3'	6	45	68	90	113	135	158

*Example: It takes 60 ManorStone to build a wall 20' long and 2' tall.

TABLE 1

LOAD CASE ³	MAX. WALL HEIGHT (H) ¹ (SEE CROSS SECTION)		
	SOIL TYPE		
	CLAY ² Φ=28°	SILTY SAND ² Φ=32°	GRAVEL Φ=36°
LEVEL BACKFILL WITH CRUSHED ROCK CORE-FILL	2' 6"	2' 6"	3' 6"
LEVEL BACKFILL WITH <u>NO COREFILL</u>	1' 6"	2'	2'
<u>3H:1V MAX SLOPED</u> BACKFILL WITH CRUSHED ROCK COREFILL	1' 6"	2'	2' 6"

1. Tabulated heights are NOT for construction. Wall construction shall be performed per design provided by a local registered Professional Engineer, based on actual site conditions.
2. Wall heights may be increased to that shown for the GRAVEL soil type, by extending the drainage layer horizontally, to match the total height of blocks, subject to review and approval by a local registered Professional Engineer. Compact the crushed rock drainage layer, to 6" max loose lifts.
3. No surcharge loads, or seismic loads, are included in the load cases shown.



INSTALLATION INSTRUCTIONS

For more specific and detailed instructions, please contact your Mutual Materials sales representative.)

Maximum gravity wall height: See Table 1

Minimum radius circle: 2' 8"

- 1. Excavation:** First mark the area of the wall with chalk or spray paint and then string a line. Dig out a trench that is a minimum of 9" (230 mm) deep plus one inch for every foot of wall height. Allow 12" (305 mm) of space behind the wall for 5/8" minus angular washed drain rock (this means your trench should be 30" wide). Roots and large rocks must be removed from the trench.
- 2. Base Preparation:** The project requires a perforated drain, cover the back and the bottom of the trench with a geotextile to prevent soil from blocking the drainage system. Measure geotextile fabric with excess length of about 12" (305 mm) at the top of the bank, which will be folded over the completed drainage fill.
- 3. Foundation:** Install a 4" (102 mm) diameter perforated drain in this foundation and connect it to the existing drainage system. Next, prepare a 6" (152 mm) deep foundation with 5/8" minus or 3/4" minus crushed rock. Add 1"-2" of 5/8" minus or 3/4" minus crushed rock, rake smooth and compact with plate compactor. Base rock should have a certain amount of moisture content. Repeat steps until final 6" base elevation is achieved.
- 4. First Course:** Lay the base course of retaining wall blocks. Using a string line at the back of the units for alignment, place units side by side on the gravel checking for level in both directions. Begin laying block at the lowest point of the wall and/or 90° corner. It is easier to start at a straight section of the wall. Complete the base course before proceeding to the second course. Be aware that the blocks have a 1" set back. When curves are laid out, space the base course block slightly apart to allow for their set back.

NOTE: Before installing additional courses, it is recommended that the installer front fills and backfills the first course with base rock and compacts to ensure stability of the wall. Use 5/8" minus clean/washed crushed rock to fill cores in blocks, except as noted in Table 1.

- 5. Second & Additional Courses:** Sweep top of underlying course and stack next course in running bond pattern so the middle of the unit is above the joint between adjacent blocks below. To cut blocks for the ends of the wall or in tight curved sections, use a hammer and chisel to score the unit on all sides. Always wear eye protection when splitting stones. If many cuts are needed, a masonry saw may be the better option.
- 6. Backfilling:** After each course is laid, backfill behind the wall with 3/4" washed drain rock. This improves drainage and prevents soil from leaching through the wall face.
- 7. Top Course:** Use concrete adhesive to secure the cap course. Apply the adhesive with a caulking gun. Lay the cap down and press firmly. Finish backfilling behind the wall.

MUTUAL MATERIALS LOCATIONS

For product information and customer service, call 1-888-MUTUALØ (688-8250).

WASHINGTON		OREGON	IDAHO	MONTANA
Auburn	Port Orchard	Bend	Boise	Missoula
Bellevue	South Seattle	Clackamas	Hayden	
Bellingham	Spokane	Durham		
Marysville	Tacoma (Parkland)	Portland		
Olympia (Tumwater)	Vancouver, WA	Salem		



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