Wall Characteristics

TYPE OF BLOCK	INSTALLATION	MAXIMUM HEIGHT AT THE TOP OF WALL INCLUDING BURIED UNIT WITHOUT OVERLOAD		MINIMUM POSSIBLE RADIUS		WALL ANGLE	AMOUNT OF WALL UNITS REQUIRED	
		FT	M	FT	M	DEGREE	/FT^2	/M^2
Tandem System (Lafitt, Melville)	Angled	3.5	1.1	4.0	1.2	9	variable	variable
	Vertical	2.2	0.67	4.0	1.2	0	variable	variable
Celtik® 90 Wall	Angled	3.5	1.1	3.0	0.9	9	variable	variable
	Vertical	2.2	0.67	3.0	0.9	0	variable	variable
Grande Wall (see note)	375, 750, 1125 units	8.5	2.6	65	20	0	5	0.46
	375, 750, 1125 units	10.5	3.2	65	20	9	5	0.46
	375, 750, 1125 units	13.1	4.0	65	20	17	5	0.46
Keystone Wall (see note)	Compact	3.0	0.9	4.0	1.2	0 or 9	22 and/ or 11	2 and/ or 1
Orion Wall	Vertical	2.3	0.72	-	-	0	variable	variable
RB wall	Angled	2.4	0.60	-	-	9.6	3.10	33.40
Split-face Universal* Slope Block Wall	Without joints	5.0	1.5	5.0	1.5	10	35	3.2
	50 mm - 2 in. joints	4.25	1.3	5.0	1.5	10	28	2.6
	100 mm - 4 in. joints	3.7	1.1	5.0	1.5	10	24	2.2
Universal* Slope Wall	Without joints	4.00	1.20	5.0	1.5	15	35	3.2
	50 mm - 2 in. joints	3.25	1.00	5.0	1.5	15	28	2.6
	100 mm - 4 in. joints	2.75	0.80	5.0	1.5	15	24	2.2
Urbano Wall	Angled	2.4	0.72	-	-	3	variable	variable
	Vertical	2	0.60	-	-	0	variable	variable
Vario Wall (90 - 180 mm)	Angled	3.5 - 2.3	1.08 - 0.72	-	-	9.46	variable	variable
	Vertical	2.3 - 1.75	0.72 - 0.54	-	-	0	variable	variable
Wallstone Wall	Angled	16	0.40	-	-	14	3.10	33.40
	Vertical	16	0.40	-	-	0	3.10	33.40
Wedgestone Wall	Angled	16	0.40	2.0	0.6	14	variable	variable
	Vertical	16	0.40	2.0	0.6	0	variable	variable

NOTE: The walls can be installed with other height and overload specifications than those above. Specific designs for special proiect conditions are available. Consult your Permacon Sales Representative for details.

Wallstone and Wedgestone Walls

DESCRIPTION

Wallstone and Wedgestone wall can be used separately or in combination for greater flexibility.

Suitable for gravity or grid, vertical or setback, straight or curved walls. All Wallstone and Wedgestone wall component units come pre-split. End grooves on Wallstone standard units maintain interlock between courses, even when placed vertically. Two thirds of standard units are also double rock-faced.

Wedgestone wall units are 100% double rock-faced and reversible for inside and outside curves. Units create a 600 mm - 2 in. outside radius without cutting.
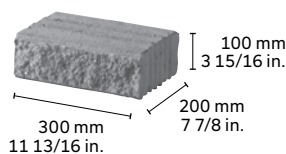
TIP

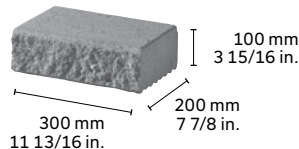4 Wedgestone wall units are required for a rounded 90° corner, 16 pcs for a full circle.

Patterned Wallstone walls can be stacked vertically up to 6 courses high (7 courses if using a Wallstone double unit in the base) or up to 8 courses if 50% of units have at least a one groove setback and a Wallstone double unit is used in the base course.
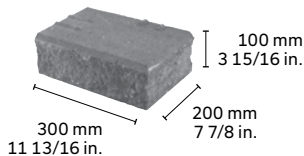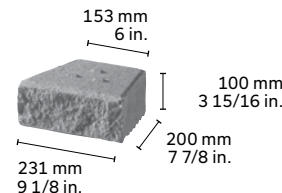
WALLSTONE UNITS

STANDARD UNIT

100 mm
3 15/16 in.

200 mm
7 7/8 in.

300 mm
11 13/16 in.

12 IN. CAPPING UNIT

100 mm
3 15/16 in.

200 mm
7 7/8 in.

300 mm
11 13/16 in.

CORNER/COLUMN UNIT

100 mm
3 15/16 in.

200 mm
7 7/8 in.

300 mm
11 13/16 in.

WEDGESTONE UNITS

STANDARD UNIT

153 mm
6 in.

100 mm
3 15/16 in.

200 mm
7 7/8 in.

231 mm
9 1/8 in.

CAPPING UNIT

153 mm
6 in.

100 mm
3 15/16 in.

200 mm
7 7/8 in.

231 mm
9 1/8 in.
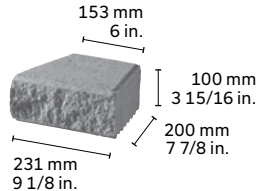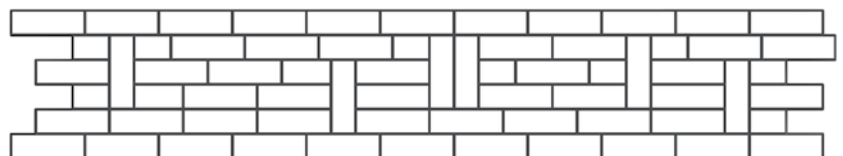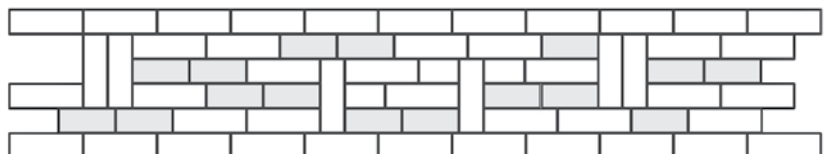
PATTERNS

PATTERN 1
Place Wallstone standard units vertically and horizontally to create interesting patterns within the wall.

PATTERN 2
Add an additional dimension to your wall by including Wedgestone wall units in your pattern (shaded).
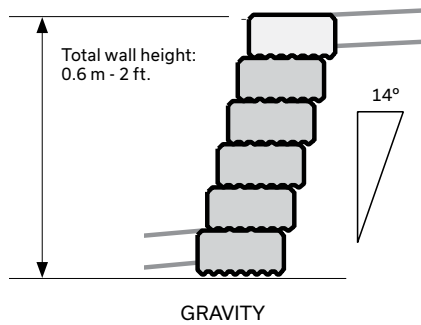
Consider recessing blocks to add further distinction. Except for the capping course, it is not recommended to set units forward beyond the front of the base course.
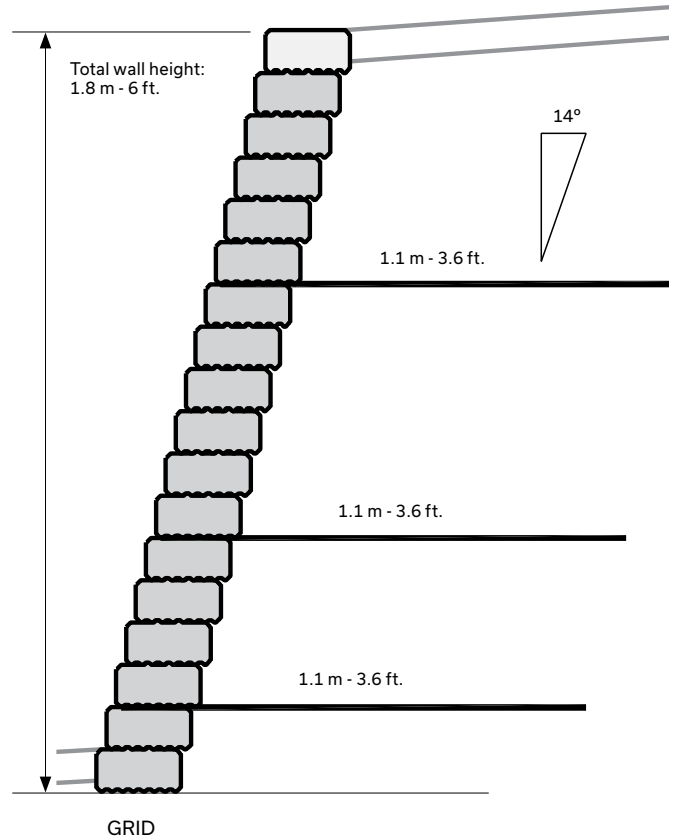
WALLSTONE AND WEDGESTONE WALLS
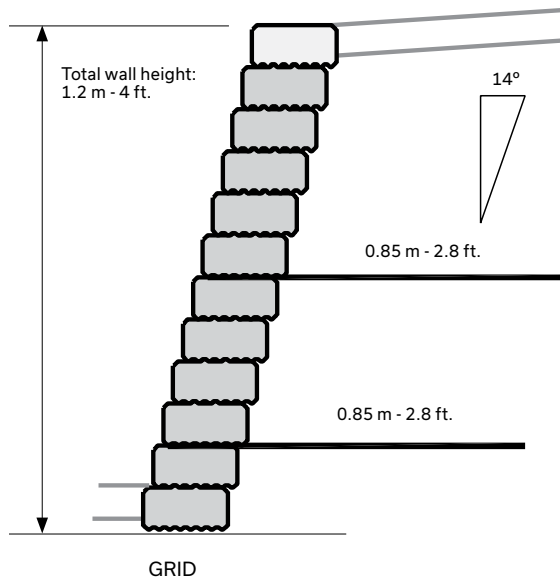
CROSS-SECTION -SETBACK GRAVITY WALL

2 FOOT WALL HEIGHT

Total wall height:
0.6 m - 2 ft.

14°

GRAVITY

4 FOOT WALL HEIGHT

Total wall height:
1.2 m - 4 ft.

14°

0.85 m - 2.8 ft.

0.85 m - 2.8 ft.

GRID

6 FOOT WALL HEIGHT

Total wall height:
1.8 m - 6 ft.

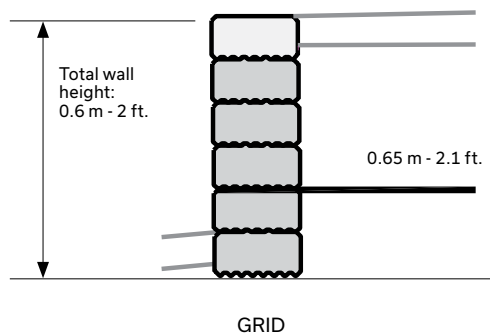14°

1.1 m - 3.6 ft.

1.1 m - 3.6 ft.

1.1 m - 3.6 ft.

GRID

NOTES:

01 - Sample designs based on 2.4 kPa (50 psf) pedestrian surcharge. Use as preliminary design only when actual soil and surcharge conditions are conservatively represented by the standard engineering. In all cases, designs should be reviewed by a geotechnical engineer to ensure applicability to site.

02 - Designs consider free draining sand and gravel backfill material compacted to 95% SPMDD to a minimum depth of 375 mm – 15 in. behind the wall or to full extent of geogrid reinforcement, whichever is greater. Backfill materials to have less than 8% passing through the # 200 sieve.

03 - Designs consider 19 mm – 0 to 3⁄4 in. well graded, crushed angular granular materials for a minimum depth of 200 mm – 8 in. under the wall compacted to 98% SPMDD. Material to have less than 8% passing through the # 200 sieve.

04 - Designs consider minimum bearing capacity in subgrade soil below wall of 150 kPa (3000 psf).

05 - Different batter configurations, surcharge conditions or wall heights require different design configurations.

06 - No provision has been made for overall global stability of the designs.

07 - Minimum 100 mm – 4 in. of product must be buried in all situations. Design may require more depending on soil conditions or toe slope.

08 - Grid lengths are measured from front face of wall.

09 - Geogrid used in designs is Miragrid 2XT or 3XT.

10 - Designs for wall heights, batters and surcharges not represented on these pages can be attained from Permacon.

11 - Refer to standard engineering drawings for further details.

12 - Total wall height for Wallstone wall does not include capping unit.

13 - Sample designs are not designed for handrail, guard or fence loading. In these cases, design modifications will be required.

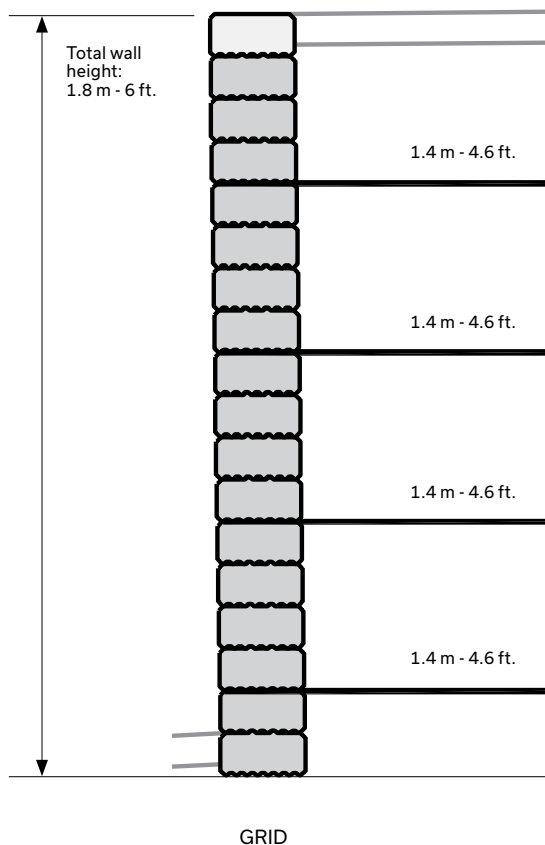14 - Poor soil conditions and excessive moisture will require drainage and design modifications.

WALLSTONE AND WEDGESTONE WALLS

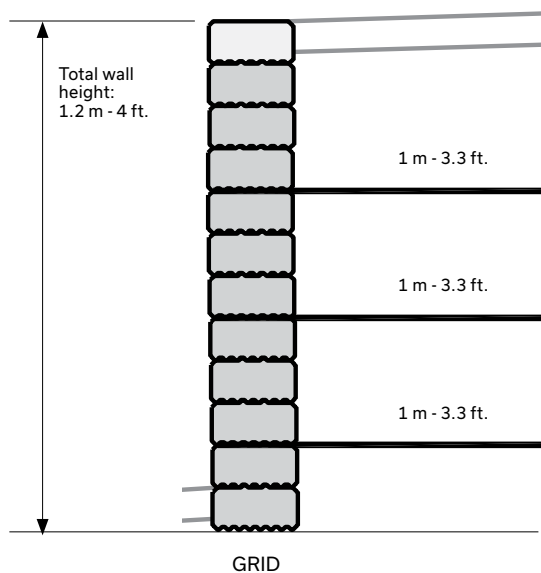## CROSS-SECTION -SETBACK VERTICAL WALL

2 FOOT WALL HEIGHT

Total wall height: 0.6 m - 2 ft.

0.65 m - 2.1 ft.

GRID

4 FOOT WALL HEIGHT

Total wall height: 1.2 m - 4 ft.

1 m - 3.3 ft.

1 m - 3.3 ft.

1 m - 3.3 ft.

GRID

6 FOOT WALL HEIGHT

Total wall height: 1.8 m - 6 ft.

1.4 m - 4.6 ft.
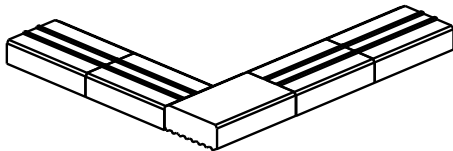
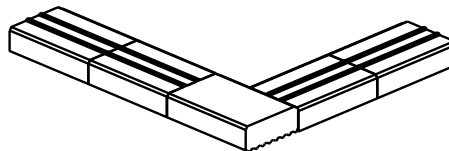1.4 m - 4.6 ft.

1.4 m - 4.6 ft.

1.4 m - 4.6 ft.

GRID

NOTES:

01 - Sample designs based on 2.4 kPa (50 psf) pedestrian surcharge. Use as preliminary design only when actual soil and surcharge conditions are conservatively represented by the standard engineering. In all cases, designs should be reviewed by a geotechnical engineer to ensure applicability to site.

02 - Designs consider free draining sand and gravel backfill material compacted to 95% SPMDD to a minimum depth of 375 mm – 15 in. behind the wall or to full extent of geogrid reinforcement, whichever is greater. Backfill materials to have less than 8% passing through the # 200 sieve.

03 - Designs consider 19 mm – 0 to 3⁄4 in. well graded, crushed angular granular materials for a minimum depth of 200 mm – 8 in. under the wall compacted to 98% SPMDD. Material to have less than 8% passing through the # 200 sieve.

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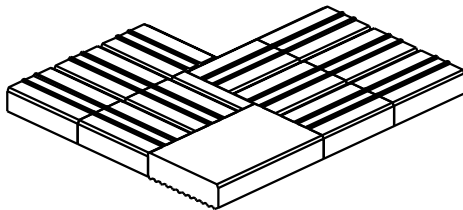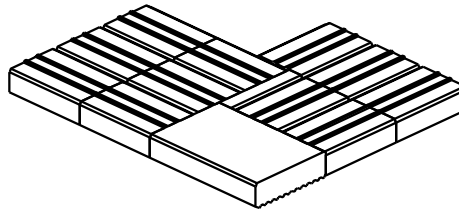**CORNER - SINGLE DEPTH**

ROW A

ROW B

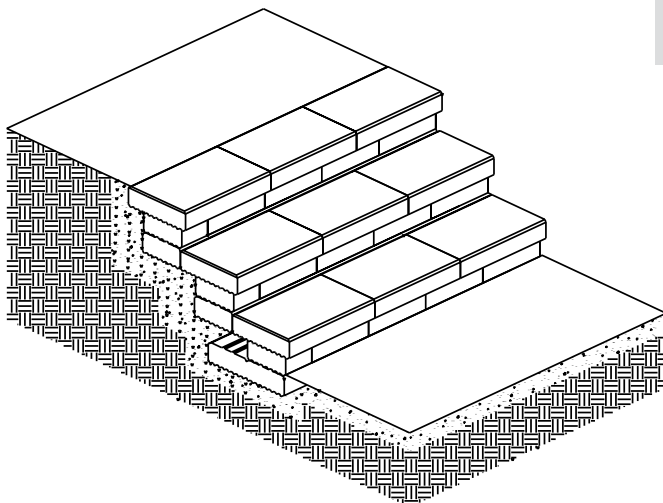**CORNER - MULTI DEPTH**

ROW A

ROW B

STEPS

A double unit in the base of the bottom of the riser adds stability. Use 12 in. capping units as the stair tread.

TO CALCULATE PRODUCT REQUIREMENTS:

Double units = step width x 1
Standard units = step width x 2 x # of risers + step width x 1
Capping units = step width ÷ by capping width x # of risers