



LIGHT GRAVITY RETAINING, PLANT SUPPORTIVE



NEAR VERTICAL COMPOSITE WALL



ROUNDFACE:



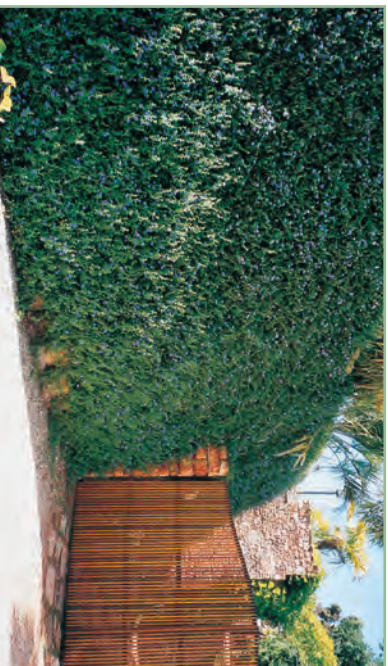
OR SPLITFACE FINISH



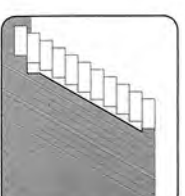
STABILISING AND LANDSCAPING OF CUT AND FILL SLOPES



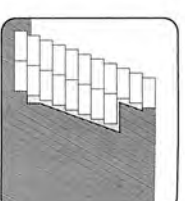
COMPOSITE WALLS IN SPLIT FACE FINISH



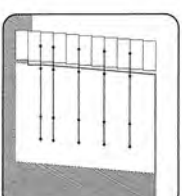
HIGH, COMPOSITE RETAINING, FULL PLANT COVER



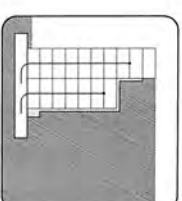
LIGHT GRAVITY WALL



HEAVY GRAVITY WALL



COMPOSITE STRUCTURE



VERTICAL R.C. FILLED WALL

## PLANNING ALTERNATIVES

Terraforce offers unequalled design options to cope with most site conditions.



## WHY TERRAFORCE?

**LIVING WALL:** The unique design allows you to make plants part of your wall.  
**DURABILITY:** Concrete will not rot and weaken over time, and no chemical preservatives are required.

**MORTARLESS INTERLOCKING SYSTEM:** The units are simply stacked up without mortar to provide a cost effective, do-it-yourself system.  
**LAYOUT FLEXIBILITY:** The half moon interlock gently handles convex and concave curves, and the wall angle can vary from vertical to shallow slopes.

Create steps by reversing the block.  
**COLOURS & TEXTURES:** Round or flat face for wall front.  
 Consult your **Local Supplier** about available colours.

# TERRAFORCE®

VERSATILE LANDSCAPE RETAINING WALL SYSTEM



## THE LIVING WALL

View more benefits, features and case studies on:  
[www.terraforce.com](http://www.terraforce.com)



## BRIEF INSTALLATION GUIDELINES

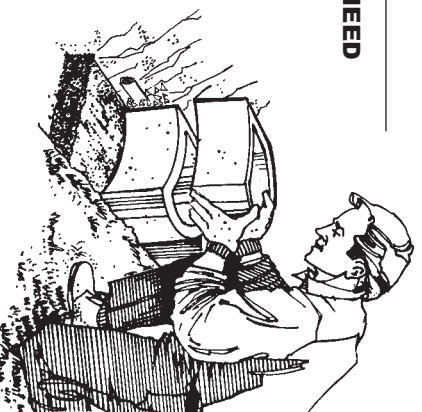
Develop a precise plan for your Terraforce wall by analyzing your site, noting slopes, drainage and shape of wall. Measure the length and vertical height to obtain the surface area and thus the number of units required. **Remember that retaining walls require professional design / supervision input and must comply with local building regulations. Refer to Terraforce design and installation manuals.**

1. Prepare a level foundation, gravel or concrete as directed by site conditions. Compacted gravel foundations are usually sufficient for structures not higher than (1) one meter. On sloping sites the foundation may be stepped by block height at intervals to suit the slope.
2. Place first row of blocks to required alignment and ensure that the units are level in all directions. A small amount of mortar will assist with accurate levelling on a concrete foundation. **Note:** Stretcher bond is preferred but not always possible. Stack bond is allowed.
3. Install drainage pipe with outlet and free draining backfill as specified behind first row of blocks. A length of flexible pipe will assist in setting out smooth curves.

### TOOLS YOU MAY NEED

- Shovel or spade
- Line and level
- Towel
- and occasionally a disc cutter.

Your supplier will recommend a qualified installer for that professional finish.



4. Fill blocks with good quality soil or soil compost mix and tamp lightly. In this instance the round face elevation was chosen.

5. Continue construction, row by row while backfilling and compacting free draining material as each row is completed with topsoil infill. In situ or precast interlocking keys to be installed when directed by the engineer.

6. When specified, install geogrid-geofabric on compacted backfill and wedged between blocks (or cut and folded into blocks) as indicated by the engineer.

7. Terraced walls must also be well founded.

8. The completed installation can now be turned into a growing investment by your imaginative choice of plants.

## MAXIMUM WALL HEIGHTS (IN BLOCK HEIGHT, METRES) AND SETBACK CHART FOR THE TERRAFORCE L11 BLOCK RETAINING WALL SYSTEM

RETAINED SOIL	BACKSLOPE ABOVE CREST OF RETAINING WALL	WALL INCLINATION FROM HORIZONTAL									inclination mm setback inches setback
		60°	65°	70°	75°	80°	85°	90°			
FIRM CLAY & COMPACT SILT 30° INT. FRICTION ANGLE	0°	13	10	7	6	5	4	4	4	4	L11 blocks metres
	10°	2.93	2.25	1.58	1.35	1.13	0.90	0.90	0.90	0.90	metres
SILTY SAND & SAND 36° INT. FRICTION ANGLE	0°	9.60	7.39	5.17	4.43	3.69	2.96	2.96	2.96	2.96	L11 blocks metres
	10°	11	9	6	5	4	4	3	3	3	L11 blocks metres
	22°	2.48	2.03	1.35	1.13	0.90	0.90	0.68	0.68	0.68	L11 blocks metres
	22°	8.13	6.65	4.43	3.69	2.96	2.96	2.22	2.22	2.22	L11 blocks metres
	22°	9	7	5	4	3	3	3	3	3	L11 blocks metres
	22°	2.03	1.58	1.13	0.90	0.68	0.68	0.68	0.68	0.68	L11 blocks metres
	22°	6.65	5.17	3.69	2.96	2.22	2.22	2.22	2.22	2.22	L11 blocks metres
	22°	18	13	10	9	7	5	4	4	4	L11 blocks metres
	22°	4.05	2.93	2.25	2.03	1.58	1.13	0.90	0.90	0.90	L11 blocks metres
	22°	13.30	9.60	7.39	6.65	5.17	3.69	2.96	2.96	2.96	L11 blocks metres
	10°	17	12	10	8	6	5	4	4	4	L11 blocks metres
	10°	3.83	2.70	2.25	1.80	1.35	1.13	0.90	0.90	0.90	L11 blocks metres
	10°	12.56	8.87	7.39	5.91	4.43	3.69	2.96	2.96	2.96	L11 blocks metres
	22°	15	10	8	7	5	4	4	4	4	L11 blocks metres
	22°	3.38	2.25	1.80	1.58	1.13	0.90	0.90	0.90	0.90	L11 blocks metres
	22°	11.08	7.39	5.91	5.17	3.69	2.96	2.96	2.96	2.96	L11 blocks metres

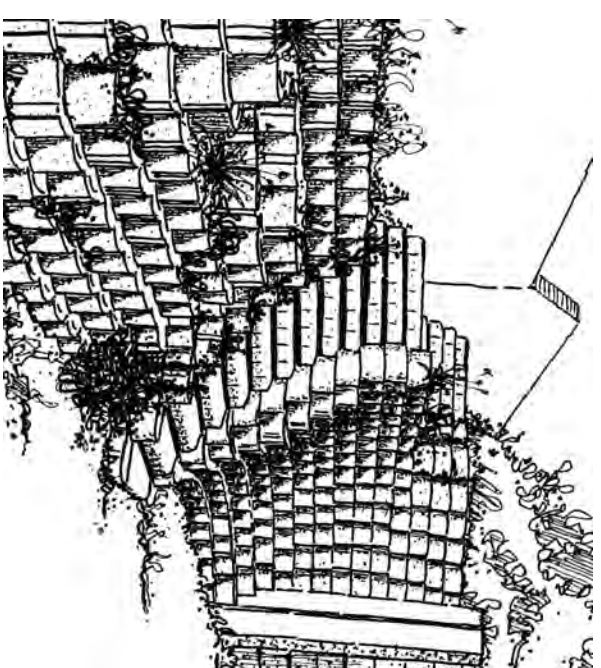
1. Wall height measured from top of foundation / leveling pad.
2. Top of foundation / leveling pad a minimum of 150mm / 0.5 ft below ground level.
3. No allowance made for surcharge above wall.
4. Factors of safety for shear and overturning = 1.5

1. These Terraforce Design Charts give an indication of internal gravity retaining wall stability only and are intended for conceptual design and estimation purposes alone. They do not take into account external and overall slope stability or boundary conditions such as the presence of groundwater.

2. Users of Terraforce walls should seek the advice of an professional geotechnical and/or civil engineer for the assessment of appropriate site and soil parameters. Terraforce cannot accept responsibility for the actual design or construction of a wall unless otherwise agreed.

3. Copies of design manuals / software, case studies and test results are available on request. Contact your local nursery for advice on suitable plants.

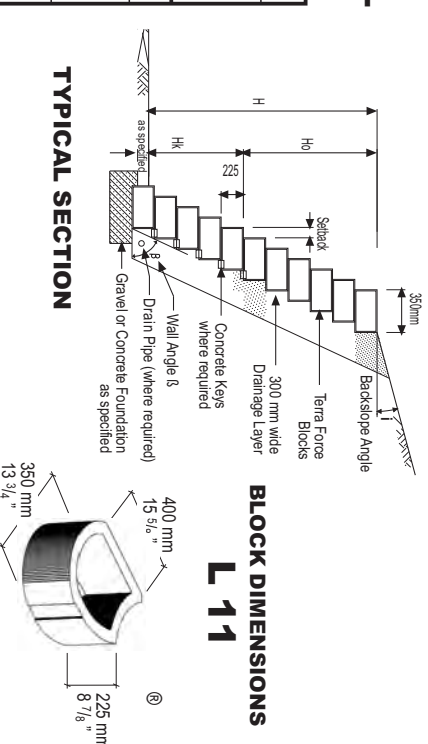
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**Note:** These tables indicate the total allowable height when walls are to be constructed without vertical interlocking keys.

## BLOCK DIMENSIONS

### L 11



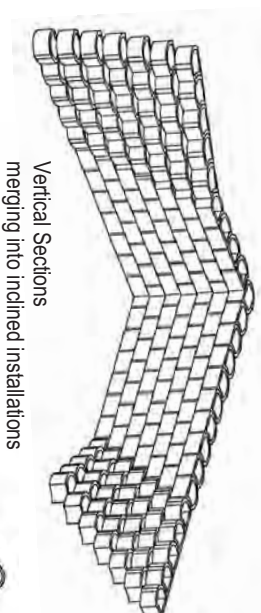
## TYPICAL SECTION

METRIC	UNITS	BLOCK MASS PER m <sup>2</sup> (ft <sup>2</sup> )	BLOCK MASS kg/(lb)	BLOCK INFILL VOLUME m <sup>2</sup> (ft <sup>3</sup> )	MASS OF WALL INCL. SOIL kg/m <sup>2</sup> (lb/ft <sup>2</sup> )
1	11	29	0.016	583	119
IMPERIAL	1	64	0.56		

Wall Angle β 50° 55° 60° 65° 70° 75° 80° 85°

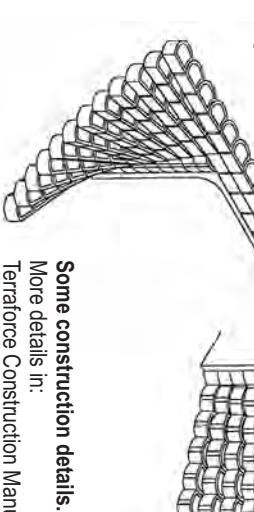
Setback mm 189 158 130 105 82 60 40 20

Wall Details and Setback Chart • allow for small variations



Vertical Sections merging into inclined installations

Bridge Abutments and Culvert Wing Walls



Some construction details.

More details in: Terraforce Construction Manual.