MACWALL DIAMOND®

SITE PREPARATION

1) Set out line and level of wall in preparation for foundation excavation. Excavate trench to minimum dimensions indicated on engineering cross section, typically 300mm min. depth and 750mm min. width. For ease of construction commence construction at the lowest point on the wall.

2) Place a good quality granular fill (eg. DMRB Type 1) in the trench in 150mm layers and compact to achieve suitable density, typically 95% max. dry density (Figure 2a). Repeat the process until the required base thickness is achieved. Check to ensure that the foundation surface is level in readiness to receive the base course of blocks.

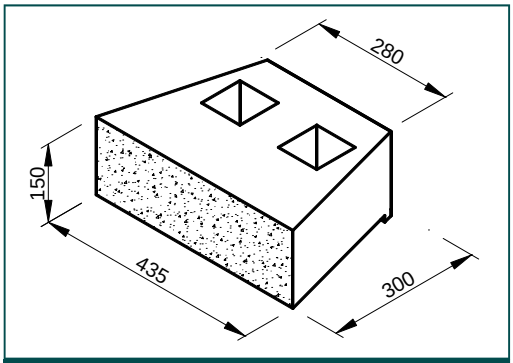

Figure 1

BASE COURSE & DRAINAGE

3) Place the first layer of blocks on the prepared foundation (The block lips must be manually knocked off units before placement). Position the units side by side, in full contact with the foundation and with each other along vertical edges of the front face of the blocks. On straight wall construction, placing a string line against the back of the units helps maintain alignment (Figure 2b). Check level in both directions. Backfill immediately behind and within the blocks with granular fill & compact (Figure 2c). For taller walls it may be convenient to place the base course in a foundation of lean-mix concrete.

4) Once the compacted foundation is in place and the base course completed, construction of the second course of blocks may commence. Sweep off the base course, making sure that the tops of the units are free from debris. Place new course in a staggered relationship to the course beneath (running bond), pulling each unit forward until secure (Figure 3).

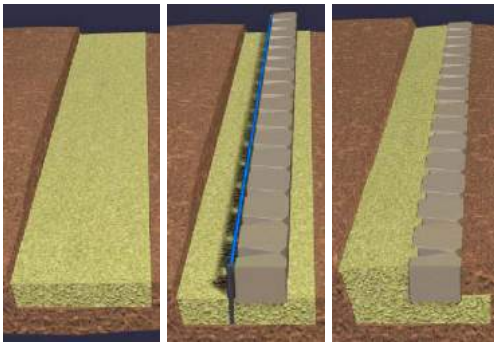
Figure 2a, 2b & 2c

5) Place a perforated, flexible drainpipe directly behind the units (Figure 4b). As an alternative, the drainpipe can be daylighted through the face of the wall. The pipe must be cut and have a 'T' fitting attached to it. Part of a face unit should be cut to allow the 'T' to daylight through the face of the wall. Place 300mm of free draining aggregate directly behind the wall and over the drainpipe. Once the drainage installation is complete, the main wall construction can commence.

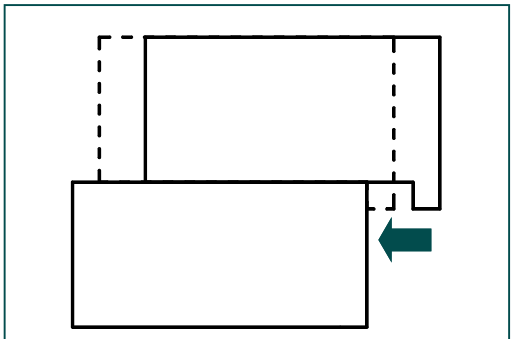
Figure 3

WALL CONSTRUCTION

6) Sweep off each course, making sure that the tops of the units are free from debris and construct the subsequent course of the wall by 'centering' a unit directly above the vertical joints of the course below (Running Bond). Pull the unit forward until the upper block locating lip is in contact with the back of the lower block as before.

7) Place a free draining aggregate directly behind the blocks to form a drainage column, also filling the voids within the blocks (Figure 4c). When the construction drawings show a geotextile required between the drainage aggregate and the reinforcement soil fill, considerations should be given to using temporary lightweight timber shuttering. The shuttering is removed prior to laying a geogrid layer.

8) Fill all the remaining area behind the drainage aggregate with a suitable granular fill. The fill should be placed in layers not exceeding the height of the block and compacted to achieve a suitable density, typically 95% max. dry density.

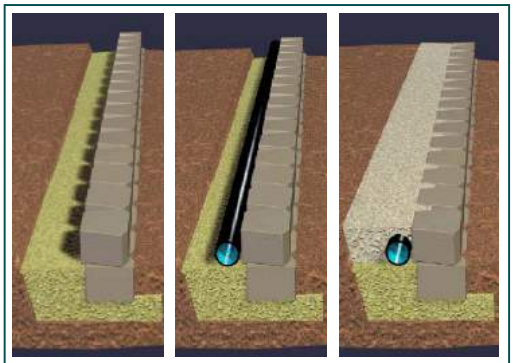
Figure 4a, 4b, & 4c

9) Where ParaGrid™ is required, cut the geogrid to the appropriate length shown on the drawings. Place the geogrid flat over the compacted backfill and to within 25mm of the front face of the block (Figure 5). Ensure that the geogrid is taught and flat on the compacted surface prior to placing of subsequence granular layers and block courses.

NOTE: the geogrid is always placed with the roll direction (direction of strength) perpendicular to the wall face. When filling over the geogrid, a minimum of 100mm of fill must be placed over the geogrid before driving plant over it.

10) Repeat steps 6 to 9 until designed height is achieved, introducing ParaGrid™ at the levels shown on the construction drawings.

11) Finish the wall by laying the cap units on the wall. Beginning at the lowest elevation of the completed wall, lay the cap units on top of each of the wall units, alternating the wide and narrow sides of the unit. Placement of caps will vary according to the wall design; they may be aligned with the front or back of the wall units. Adhere the capping units to the wall by applying a high quality construction adhesive. e.g. Febset NF. NOTE: Cap units should not be adhered until the wall layout is complete.

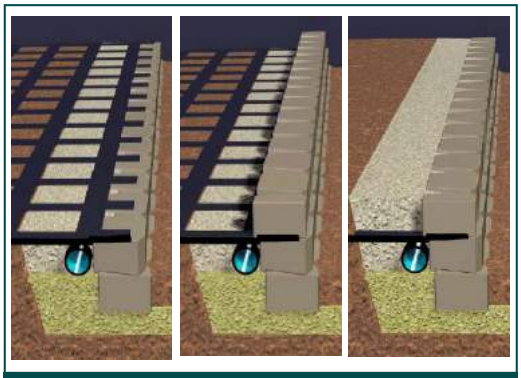

Figure 5

Figure 6

Figure 7

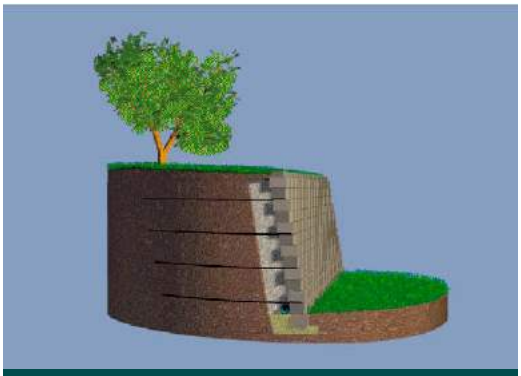

Figure 8

FINISHING DETAILS

The finishing detail for MacWall Diamond structures can have a significant influence on the overall appearance of the structure (Figure 6 & 7). A number of finishing ideas and methods are available upon request. These include steps in the wall elevation, corners, curves, steps and graded walls. Contact Maccaferri for further information.

NOTES

- For walls greater than 1.5m in height engineering advice should be sought.
- All walls should be constructed upon competent ground. Although segmental walls can accommodate some movement, additional measures may be required in poor ground.
- Careful consideration of the finishing details result in the best looking walls.

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