

Wall Construction

STAKE OUT THE WALL

Have a surveyor stake out the wall's placement. Verify the locations with the project supervisor.

EXCAVATION – Diagram 1

Excavate for the leveling pad to the lines and grades shown on the approved plans, and excavate enough soil from behind the wall for the geosynthetic reinforcement material. The trench for the leveling pad should be at least 24 inches wide and a minimum of 14 inches deep, enough to bury the first course below grade plus 6 inches for the leveling pad. Ensure that a minimum of 8 inches or 10 percent of the total wall height (whichever is greater) is below grade.

LEVELING PAD – Diagram 2

An aggregate leveling pad is made of compactible base material of 3/4-inch minus with fines. If the planned grade along the wall front will change elevation, the leveling pad may be stepped up by the height of the block (typically 8-inch increments) to match the grade change. Always start at the lowest level and work upward. Compact the aggregate, making sure it's level front to back and side to side. Mist lightly with water before compaction, if needed.

BASE COURSE – Diagram 3

This is the most important step in the installation process. Bury the base course of block. Begin laying block at the lowest elevation of the wall. Remove the rear lip of the block so that it will lie flat on the leveling pad. Place the blocks side by side, flush against each other, and make sure the blocks are in full contact with the leveling pad. Level front to back and side to side. If the wall is on an incline, don't slope the blocks. Step them up so they remain consistently level. Use string to check for proper alignment.

CONSTRUCTION OF THE NEXT COURSE – Diagrams 4 and 5

You must fill cores with 3/4-inch clean drainage stone prior to laying the next course of block. Clean any debris off the top of the blocks. Place the second course of blocks on top of the base course. Maintain running bond. Pull each block forward as far as possible to ensure the correct setback. Fill all voids between and within blocks with drainage aggregate. Backfill with drainage aggregate directly behind the block, adding 6 to 8 inches at a time, followed by proper compaction. Add soil fill behind the aggregate. Compact before the next course is laid. Don't drive heavy equipment near the wall. Self-propelled compaction equipment should not be used within 3 feet of the back of the wall. You'll need partial units to stay on bond. A masonry saw is recommended for cutting partial units. Use safety glasses and other protective equipment when cutting.

DRAINAGE DESIGN – Diagram 6

Each project is unique. The grades on your site will determine at what level to install the drain tile. Place the drain tile (4-inch perforated piping) so water drains down and away from the wall into a storm drain, or daylight just above grade. Fill in the area behind the blocks with clean drainage aggregate, at least 12 inches from the wall. You may need to place and backfill several courses to achieve the proper drainage level. The drain tile outlet pipes should be spaced not more than every 50 feet and at low points of the wall. In order for the drainage aggregate to function properly, it must keep clear of regular soil fill.

COMPACTION – Diagram 7

Shovel the backfill soil behind the drainage aggregate and compact the backfill with a hand-operated compactor. Make sure the aggregate is level with or slightly below the top of the base course. Place soil in front of the base course and compact. Base course should be buried. Continue to fill and compact after each course is laid.

REINFORCEMENT (IF REQUIRED)

Geosynthetic reinforcement is recommended for walls taller than 40 inches or walls situated in poor soils, supporting a driveway, etc. Consult an engineer for design assistance. Check the wall construction plan to determine which courses will need reinforcement. Clean any debris off the top layer of blocks. Measure and cut the reinforcement to the design length in the plans. The reinforcement has a design strength direction, which must be laid perpendicular to the wall. Place the front edge of the material on the top course, 1 to 2 inches from the face of the block. Apply the next course of blocks to secure it in place. To keep it from wrinkling, pull the reinforcement taut and pin the back edge in place with stakes or staples. Add drainage aggregate behind the blocks, then add the infill soil and compact it. Remember to place the front edge of the reinforcement on top of the block, making sure it's within 1 to 2 inches of the face of the block. Correct placement ensures that you maximize the connection strength and keep the batter consistent. A minimum of 6 inches of backfill is required prior to operating vehicles on the reinforcement.

CAPPING A WALL

Always start capping from the lowest elevation. If your wall elevation changes, caps can be stacked where the wall steps up. Begin laying caps at the elevation change and work back toward the previous step up. Cut caps with diamond-blade saw to fit, as needed. Carefully adhere with a high-strength concrete adhesive.

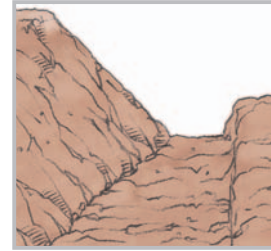
FINISH GRADE AND SURFACE DRAINAGE – Diagram 8

Protect the wall with a finished grade at the top and bottom. To ensure proper water drainage away from the wall, use 6 inches of soil with low permeability and seed to stabilize the surface. Consult the wall design engineer if water may be directed behind the wall. If needed, create a swale to divert water away from the wall. This will minimize water seeping into the soil and drainage aggregate behind the wall.

SITE CLEANING AND RESTORATION

Brush off the wall and pick up any debris left from the construction process. Notify the job superintendent in writing of the completion and that it is ready for final inspection and acceptance. Planting vegetation in front and on top of the wall will help reduce the chance of erosion. Following these Best Practices for construction will ensure the success of your Anchor Wall Systems retaining wall. These instructions are meant as general guidelines. Site-specific conditions may warrant additional installation requirements. Anchor Wall Systems recommends you consult a professional engineer to design walls over 48 inches and have your compaction tested by a qualified geotechnical engineer.

SAFETY NOTE: Always use appropriate equipment, including safety glasses or goggles and respirators, when splitting, cutting or hammering units.



Dia. 1 – Excavation



Dia. 2 – Leveling Pad



Dia. 3 – Base Course



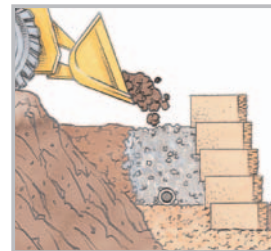
Dia. 4 – Core Fill



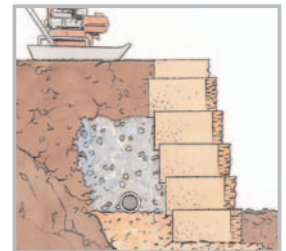
Dia. 5 – Next Course Const.



Dia. 6 – Drainage



Dia. 7 – Compaction



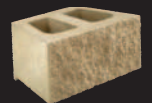
Dia. 8 – Finish Grade

PRODUCT LINE

Diamond Pro™

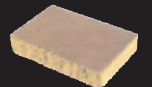
STRAIGHT FACE STYLE*

Nominal Dimensions**: 8" x 18" x 12"
Coverage: 1 sq. ft.
Setback/Batter: 1" / 7.13"
Weight: 80 lbs.



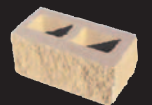
CAP

Nominal Dimensions**: 4" x 18" x 12"
Weight: 68 lbs.



CORNER

Nominal Dimensions**: 8" x 18" x 9"
Weight: 86 lbs.



*Beveled face style available upon request.

**Nominal Dimensions. Actual dimensions and weight may vary from these nominal dimensions due to variations in manufacturing processes. Specifications may change without notice. See your Anchor representative for details, color options, block dimensions and additional information.

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