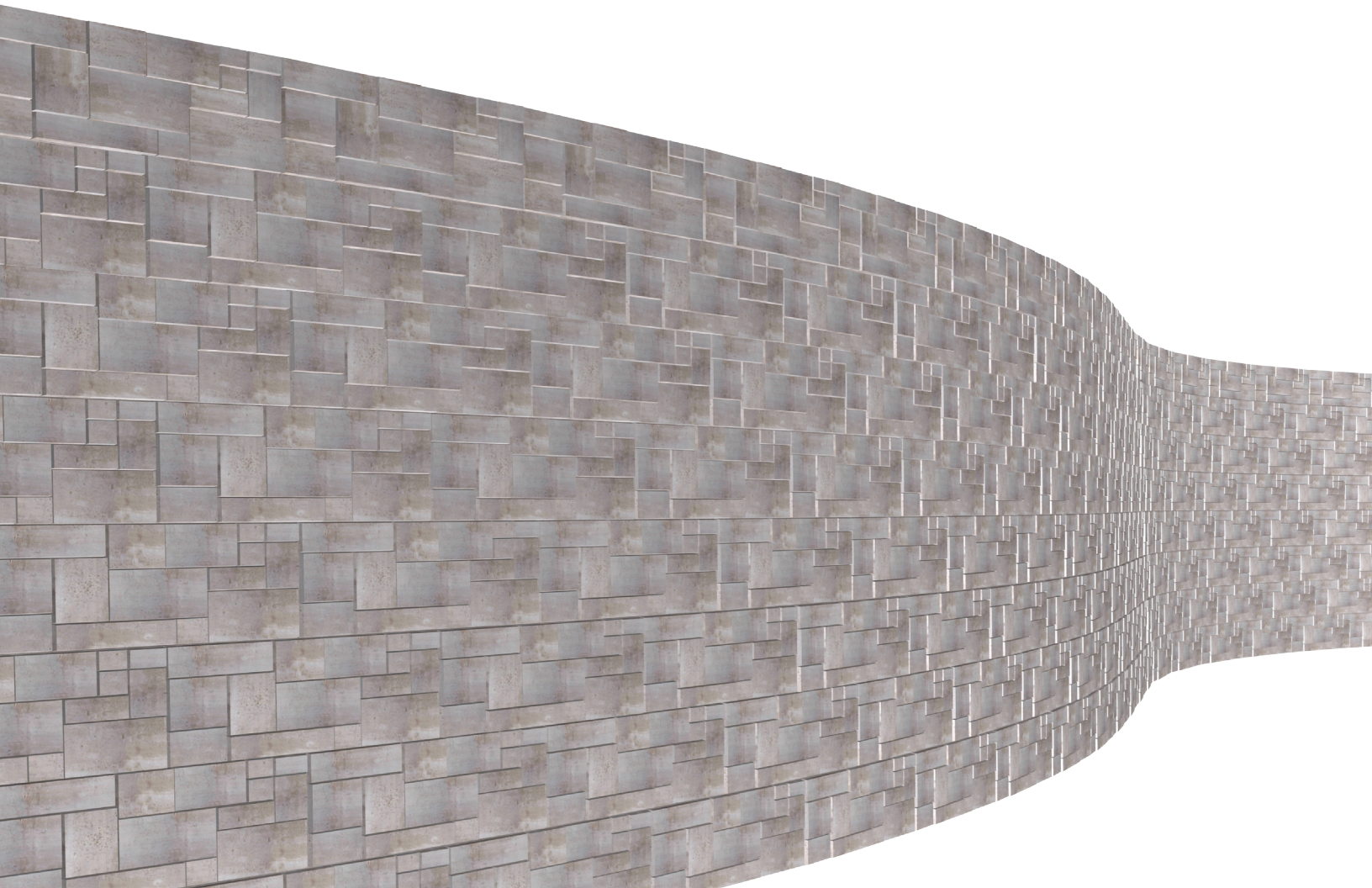




INSTALLATION MANUAL





The Mega Wall Installation Manual is intended to provide designers and installers valuable information to help them design, construct, and estimate cost for the installation of this wall system. Proper installation technique will ensure an aesthetically pleasing and durable wall. Please read through this entire reference guide and contact Oldcastle Precast with any questions. Pre-construction meetings are recommended to review installation tips and best practices.

This manual is intended to be used as a tool and aid in the construction and installation of MegaWall MSE. It does not intend to address all safety matters, issues and concerns which may affect this project. Refer to and adhere to all local, state and federal safety codes which pertain to this project.

This manual is not intended to be all inclusive and is a reference guide only.

Standard Blocks	1
Standard Materials.....	2
Required Tools.....	2
Block Handling & Safety	3
Preparation	4
Installing the First Course.....	5
Reinforcement Installation	6
Remaining Courses	7
Step Assembly	7
Curved Assembly	8
Corner Assembly	9
Drainage Outlet	9
Field Cutting	9
Preconstruction Checklist	10





STANDARD BLOCKS

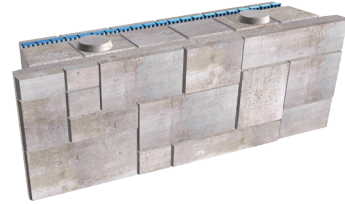
Full Block

Dimensions: 66" x 30" x 16" *

Weight: 2,050 lbs.

Coverage: 13.75 sq ft.

1" Set Back (1:30 batter)



Quarter Block

Dimensions: 33" x 15" x 16.5" *

Weight: 530 lbs.

Coverage: 3.44 sq ft.

.5" Set Back (1:30 batter)



Full Top Block

Dimensions: 66" x 30" x 16" *

Weight: 1,871 lbs.

Coverage: 13.75 sq ft.

1" Set Back (1:30 batter)



Quarter Top Block

Dimensions: 33" x 15" x 16.5" *

Weight: 458 lbs.

Coverage: 3.44 sq ft.

.5" Set Back (1:30 batter)



Notes:

Dimension does not include form-liner relief. Standard form-liner shown above has 1.5" relief.

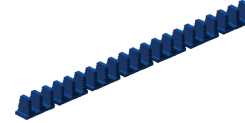
Weight may vary depending on the form-liner.



STANDARD MATERIALS

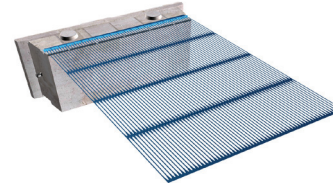
Wedge Connector

3 pcs. per full block
60 pcs. per box
Weight: 60 lbs per box
Material: ABS Plastic



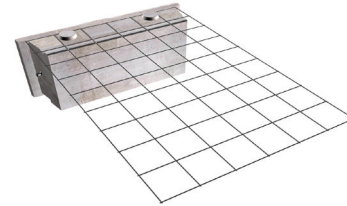
Tensar™ Geogrid

Roll Sizes: 4.36' x 200'/250'
Weight: 87-170 lbs per roll



Welded Wire Mesh

Dimensions: 10" x 10"



Soil Separation Fabric

Rolls: 15' x 360'

Vertical Joint Fabric

Rolls: 15' x 360'

Drainage Pipe

REQUIRED TOOLS

- Drainage Pipe
- Spreader Bar
- Chains
- Level
- String line
- Mallet
- Shovel
- Come along
- Wire snips
- Partner saw

BLOCK HANDLING AND SAFETY

- Follow all OSHA Guidelines.
- Dimensions and weights as shown on previous pages.
- Use equipment capable of safely lifting, moving and/or otherwise handling heaviest pick at furthest extension.
- The concrete units are delivered on pallets and off-loaded by the contractor. Delivery vehicles must have firm ground and a stable, level area to off-load. A forklift can be used to off-load full pallets or pieces can be off-loaded piece by piece. The pallets must be stored for return to Oldcastle Precast. Standard 40,000 lb truck will have 20 blocks.
- Blocks may be stacked in a staging area two high *if* contractor verifies it is *safe* to do so. Dunnage must separate blocks.
- Blocks must be placed on a dunnage in storage area, not directly on the ground.
- Use spreader bar, sling, and rigging all capable of safely handling heaviest pick.
- Use shackle size of 1 1/2" for lifting.
- Only lift pieces by using both EZ Lift anchors.
- The wedge connectors are shipped in boxes of 60 and should be stored in a secure, dry location.
- Geogrids are shipped in rolls and welded wire mesh in mats. Contractor is responsible for off-loading.
- Geogrids and/or Welded Wire Mesh (WWM) should be stored in a secure, dry location.
- Contractor will verify quantities and condition of all materials shipped once delivered.
- Heavy Equipment needs to stay a minimum distance of 3' from face of the wall.

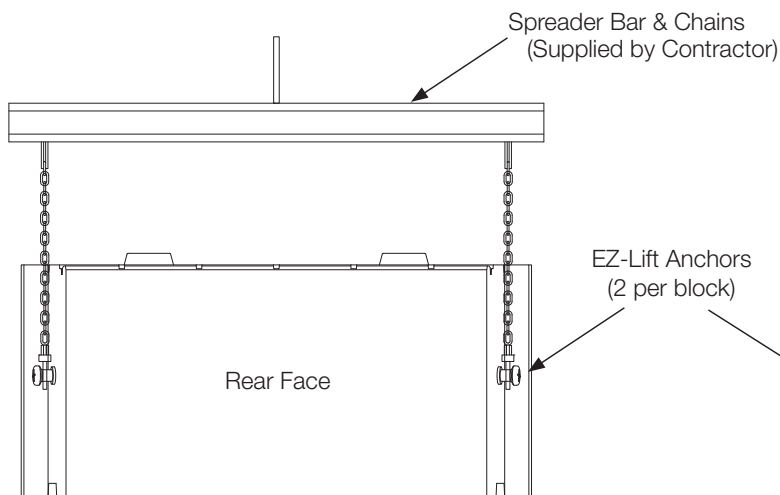


Figure 1: Lifting with spreader bar

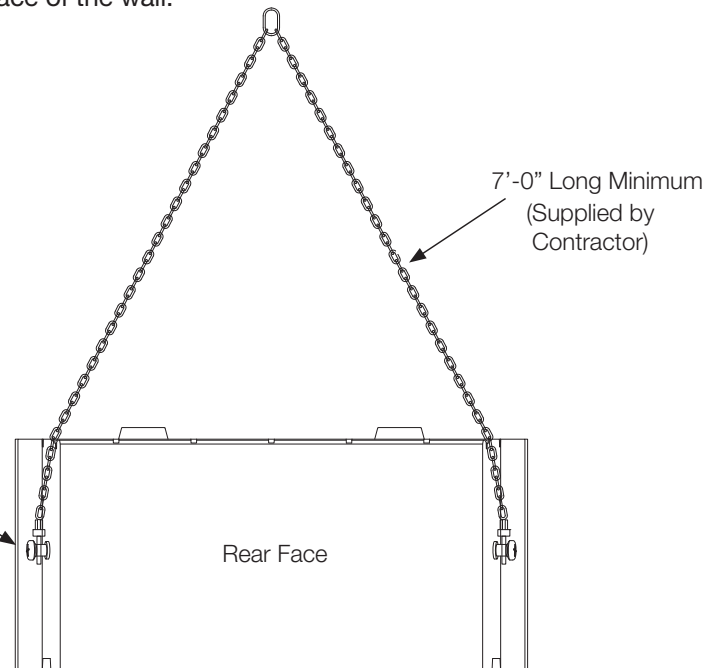


Figure 2: Lifting with chains

Legal Notice

The products and concepts disclosed herein are proprietary to Oldcastle Precast, Inc. and are protected under applicable U.S. Patent, Trademark, and Copyright Laws. Any violations thereof will be prosecuted to the fullest extent that the law allows.

PREPARATION

Bearing Pad

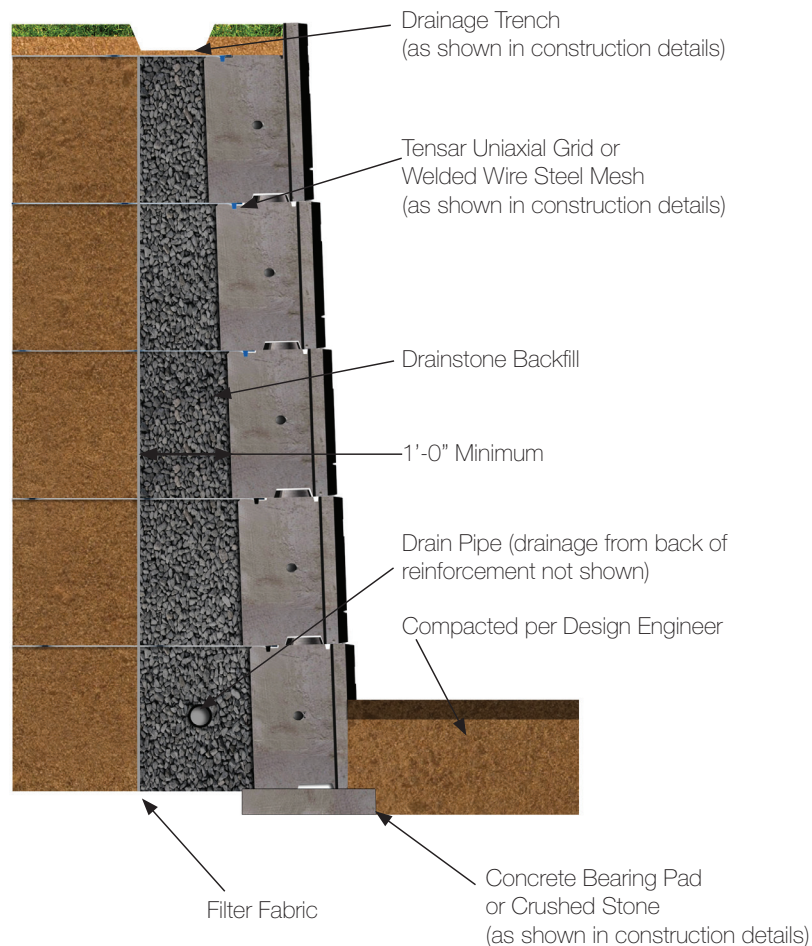
- Bearing pad shall be either concrete or crushed stone as shown in construction details
- Bearing pad shall be placed on undisturbed native soils or suitable fill as defined by design engineer
- Subgrade shall be compacted per construction details
- Bearing pad shall be installed to the line and grade as shown on plans

Tensar and Welded Wire Mesh Reinforcement

Oldcastle Precast's MegaWall MSE system may use either Tensar uniaxial geogrids or 10" x 10" WWM soil reinforcement. Use only the soil reinforcing product which is shown in construction details. See Page 6 for details.

- Precut lengths based on construction details.
- If different lengths and/or grid strengths are required, separate each grid length/strength with seaparate colors for easy identification

Figure 3: Wall Construction Detail



INSTALLING THE FIRST COURSE

- If there is a corner, start with corner piece at appropriate location and build out in both directions (See Page 9).
- If there is not a corner, start on either end and build towards the other end.
- Pick and set first piece directly on bearing pad (Figure 4).
- Pick and set second piece butting up next to first piece.
- Continue process along length of wall, following line and grade as shown on plans.
- Add filter fabric at each vertical joint (Figure 8).
- Install drainage pipe as shown in construction details (Figure 3).
- Install backfill drainage gravel and compact as shown in construction details (Figure 3).
- Install backfill and compact as shown in construction details (Figure 3).
- Bring backfill and drainage aggregate to top of block and compact as shown in construction details (Figure 3).



Figure 4: First Course

If a quarter block is used on the first level, it shall be placed 0.5" in front of the full block to correct the batter offset difference. See alignment details below.

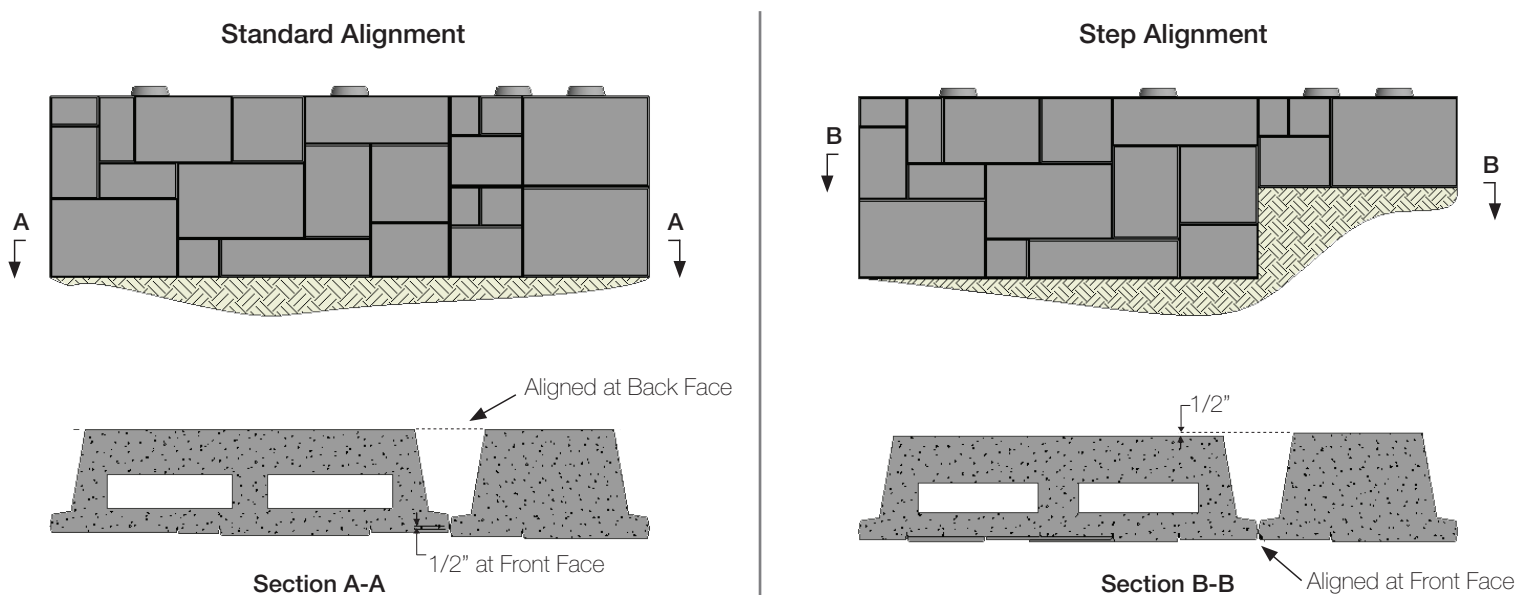


Figure 5: Alignment

INSTALLING THE FIRST COURSE (CONT.)

Tensar Soil Reinforcement

If required at this elevation, lay prepared tensar section in appropriate slots, allowing room for the transverse bar to be fully indexed in the block (Figure 6).

- Keep all heavy equipment beyond 3 feet of the back of the MegaWall blocks.
- Do not use vibratory equipment during construction.
- Tracked or sheep foot equipment should not be operated directly on the Geogrid.
- Rubber tire equipment may be operated on the Geogrid as long as the subgrade is not pumping or rutting. Turning should be minimized to prevent damage. Limit speed to 5 mph.
- If the Tensar needs to overlap each other, at corners for example, separate grids with 3 inches of soil between them.

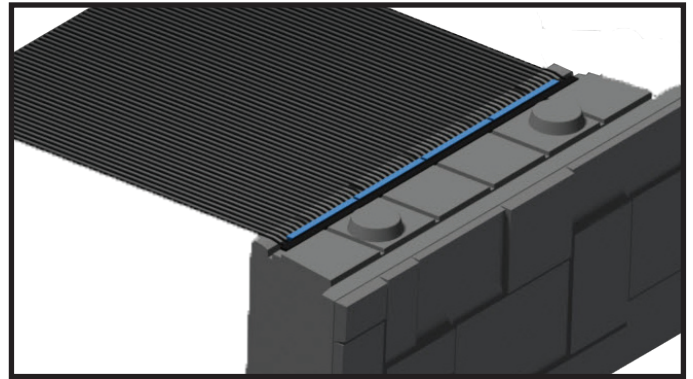
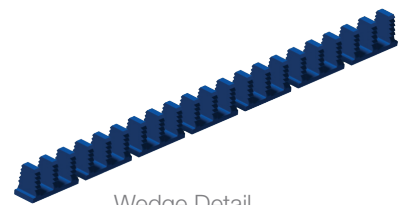


Figure 6: Proper Installation



Wedge Detail

Install the Wedge: (Figure 6)

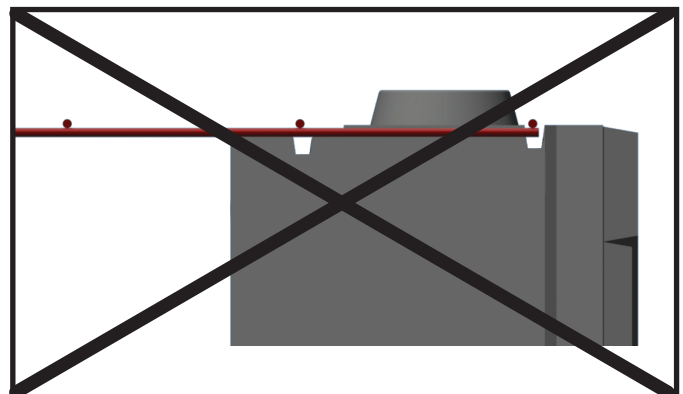
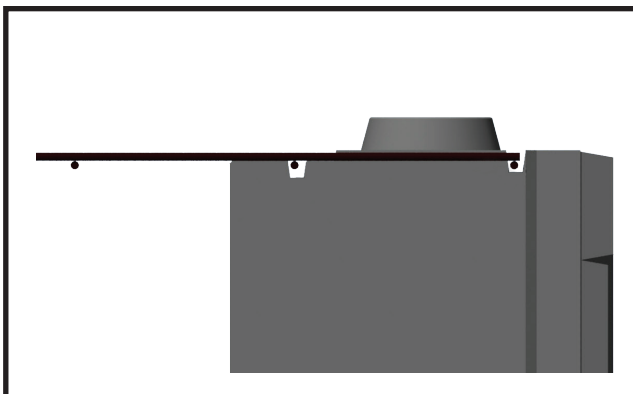
- Index each tooth of the wedge in a separate grid aperture, making sure each tooth is indexed appropriately.
- Use a mallet to fully set the wedge into the connector channel.

Welded Wire Mesh Reinforcement

If required at this elevation, install prepared Welded Wire Mesh section in block indexes as shown below.

- Keep all heavy equipment beyond 3 feet of the back of the concrete blocks.
- Do not use vibratory equipment during construction.
- Tracked or sheep foot equipment should not be operated directly on the Welded Wire Mesh.
- Rubber tire equipment may be operated on the Welded Wire Mesh as long as the subgrade is not pumping or rutting. Turning should be minimized to prevent damage. Limit speed to 5 mph.
- If the Welded Wire Mesh needs to overlap each other, at corners for example, separate mesh with 3 inches of soil between them.
- Lay out required length across previously compacted backfill
- Set WWM in precast indexes at top of block

Figure 7: Proper Welded Wire Mesh Installation



REMAINING COURSES

- Continue building the wall in a running bond fashion with each successive course.
- Follow line and grade as shown on the plans.
- Install Tensar/WWM at required vertical intervals as shown on construction details.
- Add filter fabric of each vertical joint (Figure 8).
- Backfill material compacted as detailed in construction details.

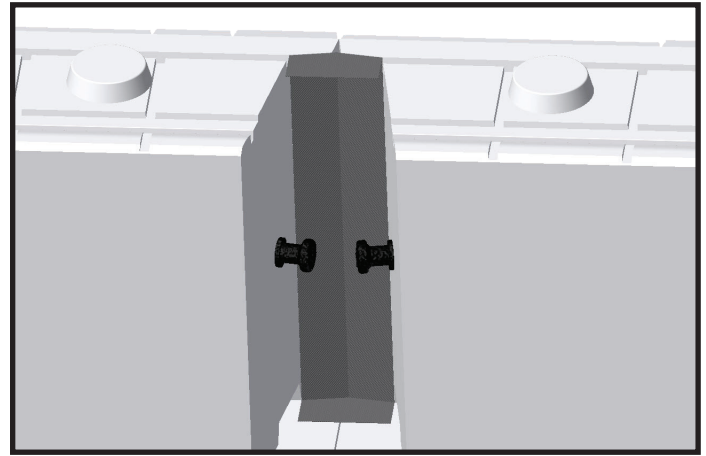


Figure 8: Filter Fabric

SPECIAL ASSEMBLY

Step Assembly

Top Step

- In some instances, the top blocks need to step down, as shown on construction details.
- If a top block sits on the top of another top block, a cube connector can be used as a spacer when put sideways as shown below.

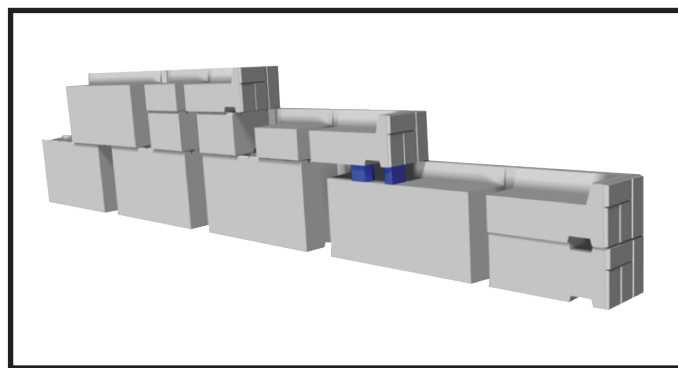


Figure 9: Step Install

Bottom Step

- Bottom step can be made in 15" increments using the quarter block.
- When using a quarter block to address a bottom step, align the face of the quarter block with the face of the block next to it (as shown in Section B-B on page 5).

Curved Assembly

- Follow line and grade as shown on plans.
- Make certain the end of each block is in full contact with the preceeding block.
- The alignment locks of the bottom block always need to be properly indexed in the channel of the blocks on top of it.
- Add filter fabric of each vertical joint (Figure 8).
- Minimum radii are shown in Table 1 below.

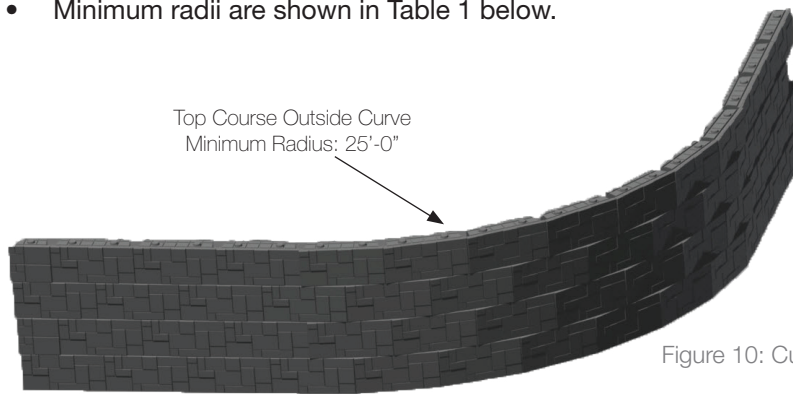


Figure 10: Curved Assembly

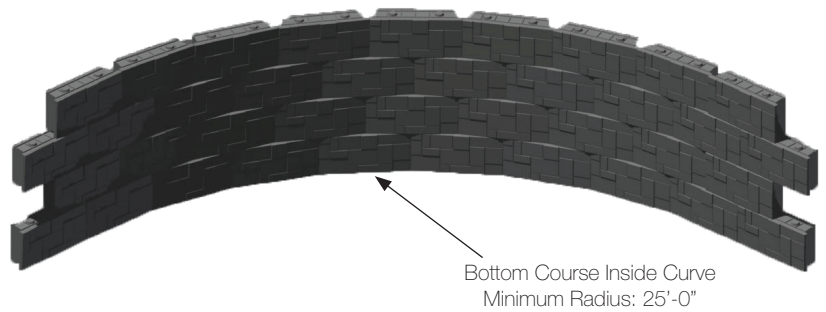


Table 1: Minimum Radii

Number of Courses	Wall Height (ft)	Inside Curve Top Course Min. Radius (ft)	Outside Curve Bottom Course Min. Radius (ft)
1	2.5	25.00	25.00
2	5.0	25.13	25.13
3	7.5	25.25	25.25
4	10.0	25.38	25.38
5	12.5	25.50	25.50
6	15.0	25.63	25.63
7	17.5	25.75	25.75
8	20.0	25.88	25.88
9	22.5	26.00	26.00
10	25.0	26.13	26.13
11	27.5	26.25	26.25
12	30.0	26.38	26.38

Corner Assembly

Always follow the corner block layout provided in the construction drawings. Follow block assembly details as shown in construction drawings. Use the pieces in a manner which will allow the use of standard blocks as fast as possible.

Drainage Outlet Through Wall

- All outlets shall be located as shown in construction details.
- Hole for drainage outlet will be formed at the vertical seam of where two blocks meet (Figure 11).
- Locate each drainage pipe center point on each block (Figure 11).
- Measure up and down 3.4" on each block from center point (Figure 11).
- Measure in 3.125" on each block from center point (Figure 11).
- Snap line between two points.
- Cut along each snap line.
- Install blocks following proper line and grade.
- Install 4" diameter outlet pipe through created hole.
- Install filter fabric between pipe and block.
- Grout annulus between pipe and block.

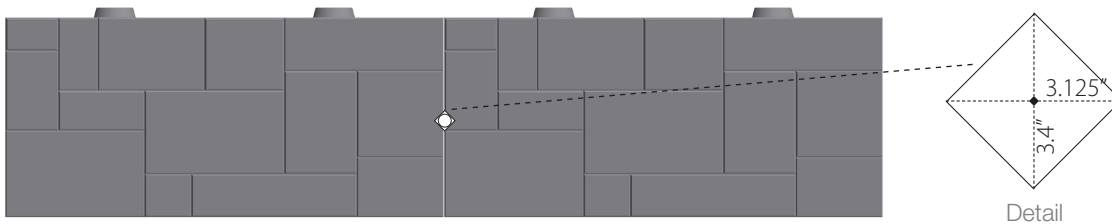


Figure 11: Drainage Outlet

Field Cutting

The wall has been designed and laid out as shown in the construction details to minimize field cutting. If field cutting is necessary, follow the instructions below:

- Follow all OSHA guidelines.
- Measure amount to be cut. Each block has two "wings" which are 3 1/8" long.
- If the distance to be cut exceeds 6 1/4", it's best to cut two blocks at the wings instead of cutting all the way through the middle of one block.
- Snap a vertical line where block is to be cut.
- Use appropriate concrete cutting tools.
- Be sure to not cut through lifting device.
- Install cut block.
- Add filter fabric to each vertical joint (Figure 8).



PRECONSTRUCTION CHECKLIST

- ☐ Safety Discussions (Local, State, Federal)
- ☐ Block weights/contractor has equipment capable of lifting and moving blocks from required distance.
- ☐ Spreader bar and/or proper lifting chains/slings
- ☐ Shackle size for EZ Lift Anchors
- ☐ Contractor has approved construction details from Engineer
- ☐ Block Delivery, Unloading and Handling
- ☐ Material Storage
- ☐ Bearing pad type and dimensions
- ☐ Compaction requirements for backfill and bearing pad per construction details
- ☐ Heavy equipment 3' from face of wall
- ☐ Drainage Requirements
 - ☐ Top Swale
 - ☐ Back of Wall
 - ☐ Outlets
- ☐ Step Alignment (if required)
- ☐ Wedge/Grid Installation
- ☐ Welded Wire Mesh Installation
- ☐ Fabric at vertical seams
- ☐ Curve Assembly
- ☐ Corner Assembly

