CORNERSTONE® POSITIVE

CornerStone Positive Installation Guide

> > > GEOGRID REINFORCED

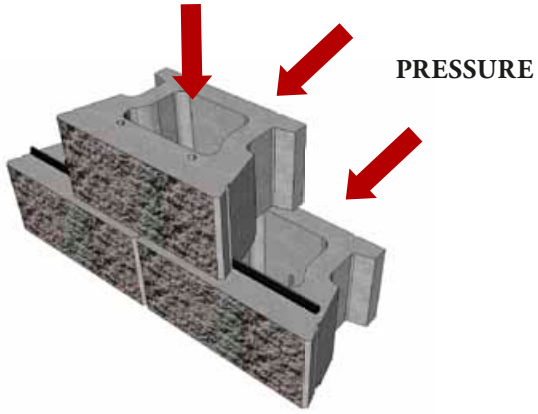
Incredible connection strength... naturally beautiful...

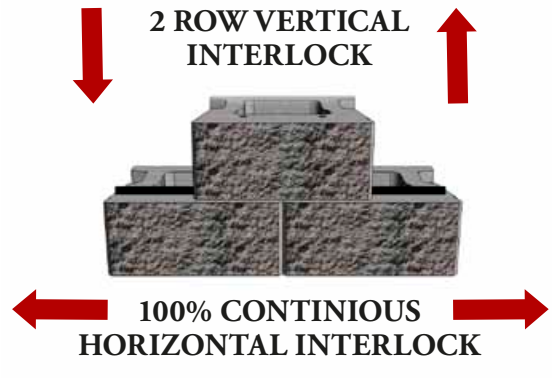
CORNERSTONE
WALL SOLUTIONS INC.
cornerstonewallsolutions.com

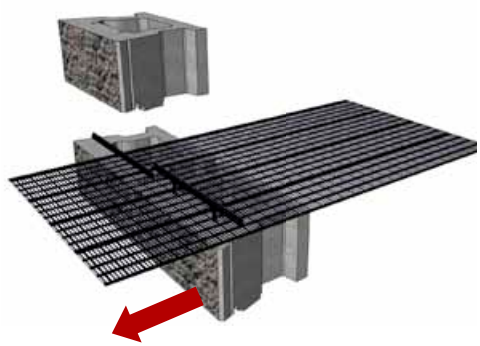
CornerStone® Positive is a vertical system designed for installations that demand retaining walls with superior strength such as highway and railway embankments, critical water applications and projects in regions where earthquakes are prevalent. It features a unique geosynthetic positive connecting system that connects units both horizontally and vertically at every reinforcement layer. Units at the geosynthetic layers are connected not only side by side, but also vertically, giving the wall superior positive structural strength.

CornerStone Postive Connector

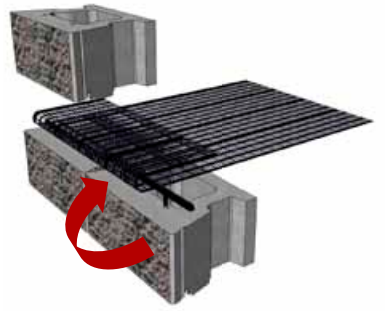
CornerStone 100% Positive Mechanical Connector bar is made fromhigh strength, flexible polyethylene.







1 Pull geogrid 25.4cm - 30.5cm past the block and place the connector



2 Wrap the Geogrid over the connector bar

3 Flatten the grid over the connector bar

4 Place next row of blocks over the connector bar and wrapped Geogrid

> > > STEP 1

PLANNING

· Follow the proper procedures for base preperation in the CornerStone Installation guide steps 1 to 14

> > > STEP 2

CUT GEOGRID

· Cut the Geogrid Reinforcement to the length specified in the design and add an extra 10” - 12" for the 180 degree wrap over the Positive connector bar

· Geogrids are manufactured in two directions Uni-axial or bi-axial. Uni-axial grid has one direction of strength and that direction has to be oriented perpendicular to the face of the wall during installation. Bi-Axial grid can be laid in two directions, perpendicular and lengthwise to the face of the wall (ensure that the lengthwise direction is still in accordance to the length specified by the Engineer’s design)

· Correct geogrid orientation, strength and length is crucial to the success of the wall project

· Each Geogrid length should be laid parallel and adjacent to each other but never overlapping

> > > STEP 3

LAY GEOGRID

· Place the connector bars through the geogrid apertures and into the 2 holes of each CornerStone unit along the full lengh of the Geogrid source

> > > STEP 4

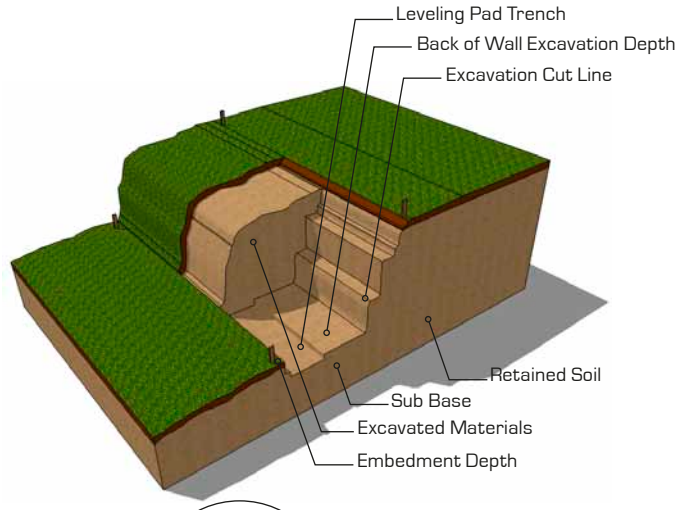
REINFORCED BACKFILL

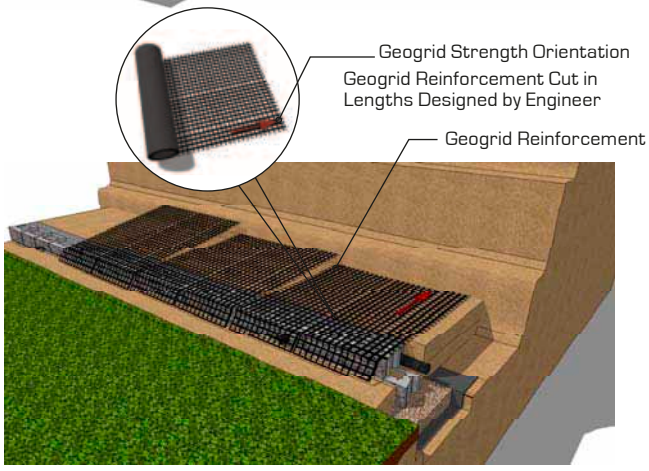
· Wrap the 10" - 12” Geogrid overlap back over

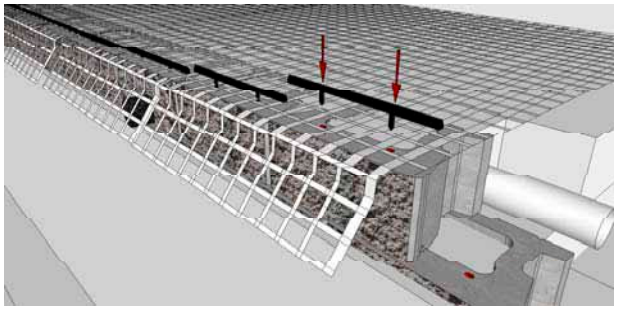
the ConrerStone Positive connector bar. Ensure that the Geogrid is smooth and tight around the connector and prevent bunching

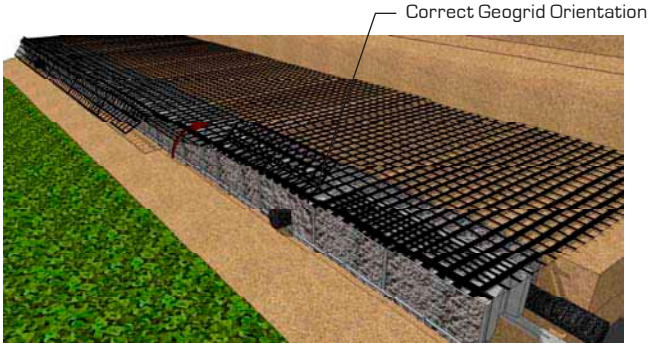
· Place the next course of CornerStone Positive Units on top of the lower units and Geogrid wrap. Positive Connectors at a half bond.

· Tap units with a rubber mallet to ensure that theconnector is securely inside the groove and that the units sit tight to the lower course and level









> > > STEP 5

TITLE

· Place the next course of CornerStone units on top of the lower units, geogrid and Positive connector at a half bond

· The two secure lugs will fit securely into the hollow cores of the two units below and lock the geogrids into the gravel core

· Pull the unit forward to engage and align the securelug and Positive Connectors

· Pull the geogrid taught. It is important for all geogrid layers to be level, tight and square

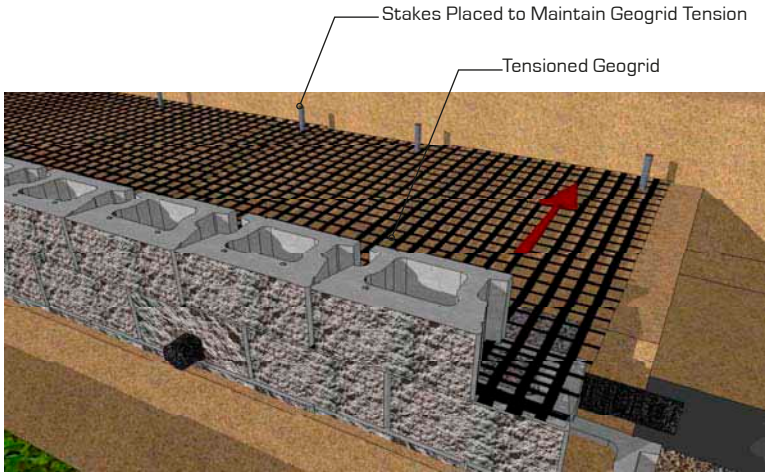
· Complete the installation of the units on the Positive Geogrid reinforced courses

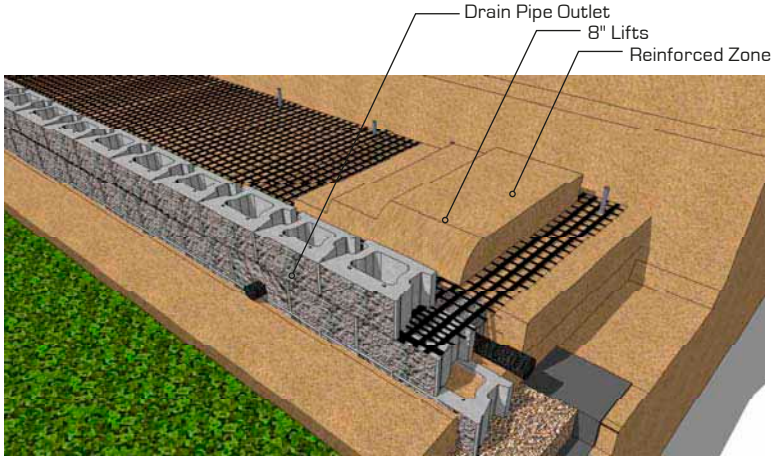
· Make sure each unit is installed against the next unit leaving no gaps between joints

· Tension the geogrid in such a way a NOT to disturb the alignment of the upper units

· Use the stakes or backfill materials to maintain the tension during backfilling

· Do not drive equipment directly on top of geogrid





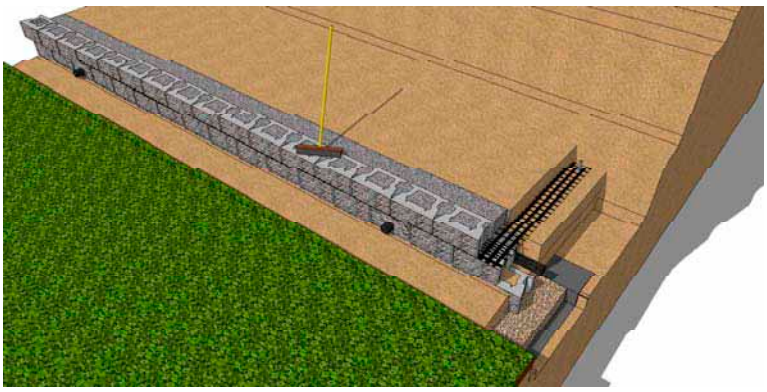
> > > STEP 5

TITLE

· Backfill and compact the Reinforced Zone by placing materials from the back of the wall towards the end of the geogrid

· Install drainage gravel in the cores and 6” to 12” behind the units after placing and compacting backfill materials

· Install and compact backfill materials in 8” Lifts until wall is complete



Inside Corner

> > > STEP 1

INSIDE FIRST COURSE

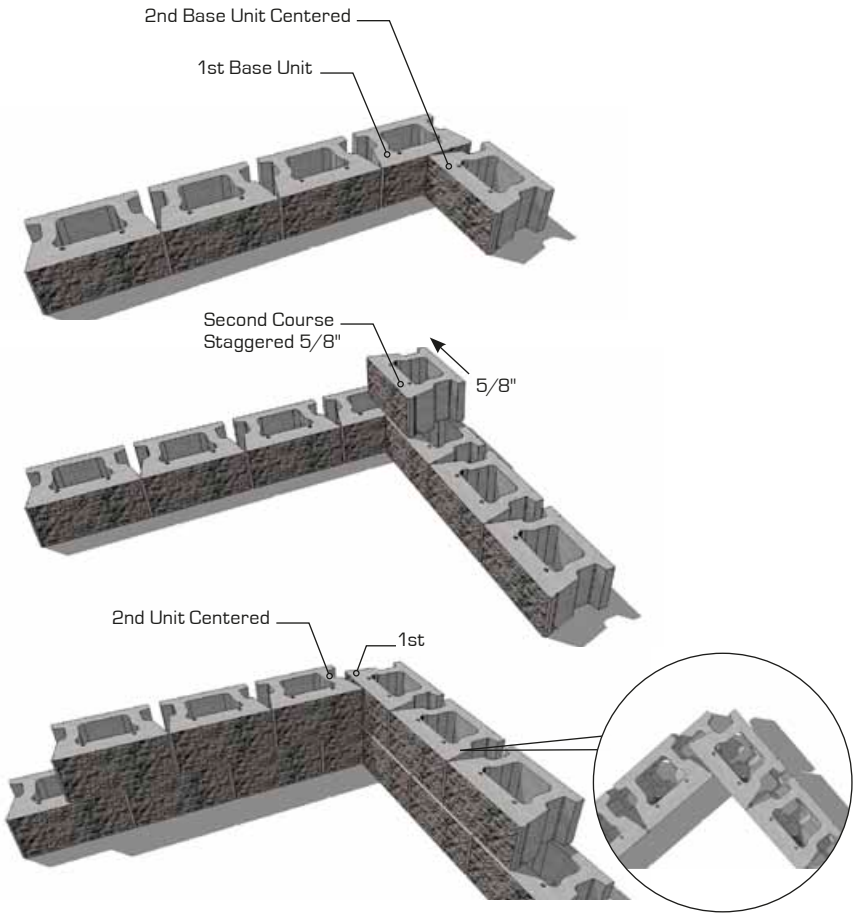
· Place the second unit at right angle and centered to the first **CornerStone®** base unit. Continue to install the **CornerStone®** base units right and left of the first inside corner units

· Place the second unit at right angle and centered to the 1st unit on the second course

· Make sure second course units are placed at a 5/8" setback to the lower inside corner

· Continue to install the units left and right of the inside corner to complete the second course of the wall

· Repeat the above step by step installation until the wall height is completed or until reaching the first geogrid layer



> > > STEP 2

INSIDE GEOGRID CORNER

· Each geogrid length should be laid perpendicularly to the wall face

· Geogrid should not overlap on the **CornerStone®** units

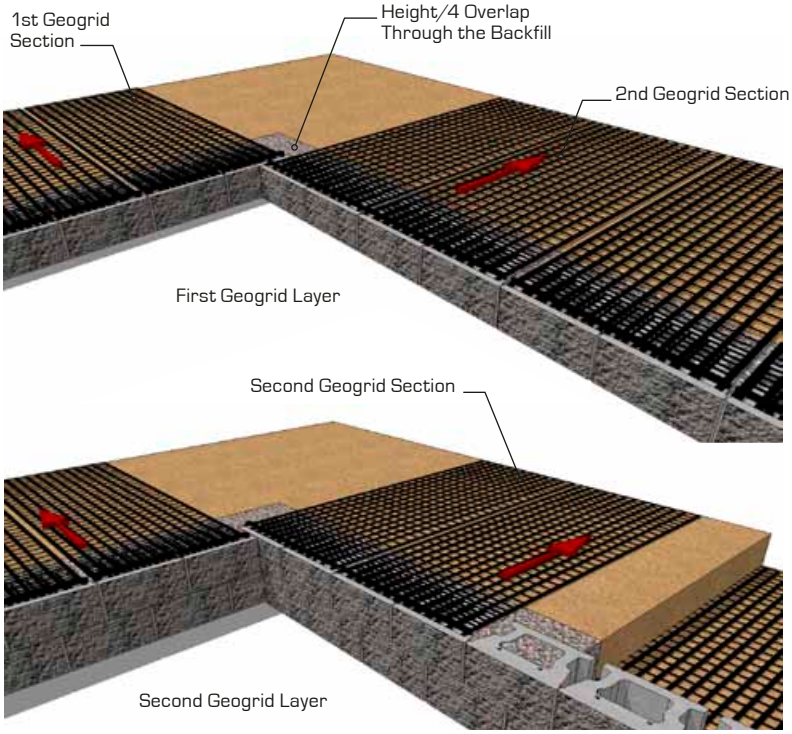
· Lay the 1st geogrid corner section perpendicularly to one side of the corner and overlap h/4 through the backfill (Height of Wall ÷ 4)

· Lay the 2nd geogrid section perpendicularly to the 1st geogrid

· Lay the second geogrid layer perpendicularly and overlap h/4 through the backfill opposite to the first geogrid layer

· The h/4 overlap will alternate layer to layer to properly secure the inside corner

· **Correct geogrid orientation, strength and length is crucial to the success of the wall project**



Outside Corner

> > > STEP 1
OUTSIDE FIRST COURSE

· Use a **90° Corner** unit to build an outside corner

· Place the first **90° Corner** unit on the base leveling pad to start the outside corner

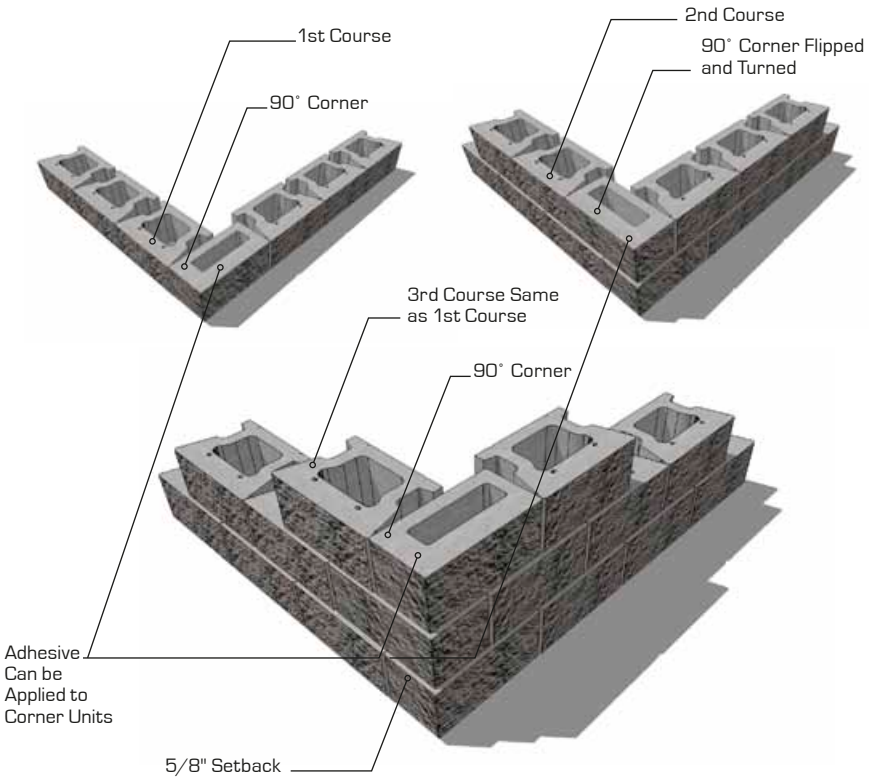
· Place a CornerStone® unit on either side against the **90° Corner** unit

· Continue to lay the **CornerStone®** base course on either side of the corner until first course is completed

· Flip and turn the second course **90° Corner** overlapping the short side and half of the **CornerStone®** base unit. This unit should be pushed back 5/8" to achieve proper setback

· Continue to lay the **CornerStone®** second course on either side of the corner until second course is completed

· The **90° Corner**s can be glued or concrete core filled to ensure a proper course to course outside corner interlock



> > > STEP 2
OUTSIDE GEOGRID CORNER

· Each geogrid length should be laid perpendicularly to the wall face

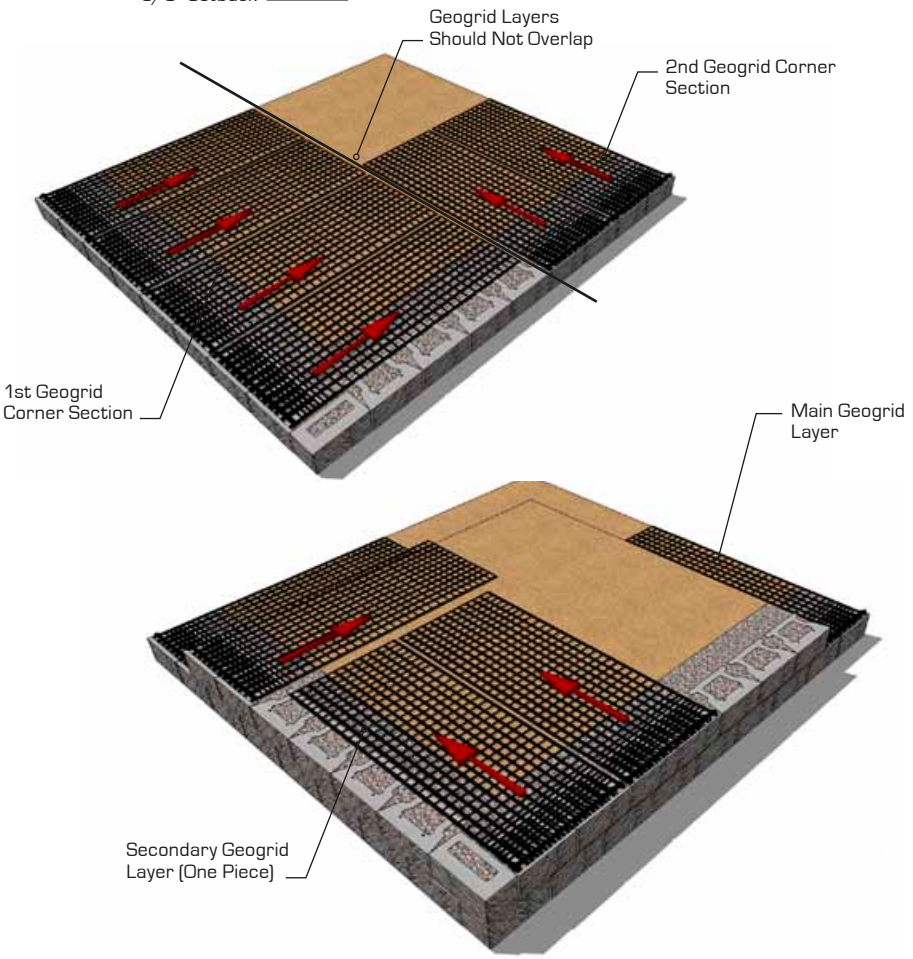
· Geogrid should not overlap on the **CornerStone®** units

· Lay the 1st geogrid corner section perpendicularly to one side of the corner

· Lay the 2nd geogrid section perpendicularly to the other side of the corner but not overlapping the 1st geogrid section

· Lay the secondary geogrid layer one course above and perpendicular to the lower main geogrid layer directional strength

· **Correct geogrid orientation, strength and length is crucial to the success of the wall project**



Convex/Outside Curves

> > > STEP 1

CONVEX FIRST COURSE

· If possible, start building a curve from the center and work left and right through the curve

· Use **PVC Flex Pipes** to create smooth and accurate **Convex** curves

· Use the back of the unit for alignment

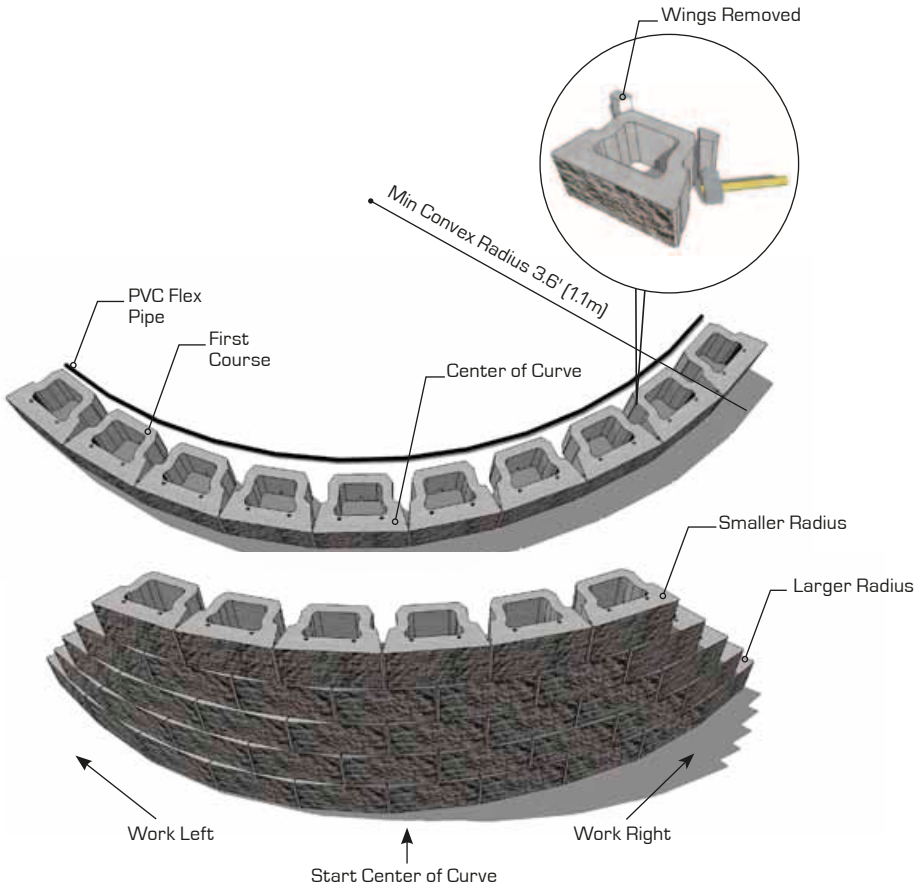
· Remove one or both **CornerStone®** wings when building a **Convex** curve

· Build each course of units by starting at the same place and the same bond as the last course

· **Convex** curves have a slight increase in batter or setback to the standard 5/8"

· The taller the wall the larger the **Convex** first course needs to be. The radius of each additional course will be slightly smaller than the lower course

· **CornerStone®** minimum **Concave** curve is approximately 3.6 foot radius



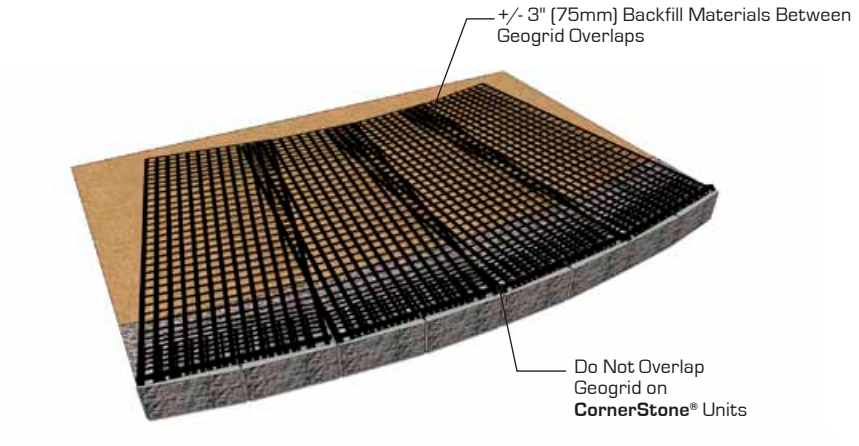
> > > STEP 2

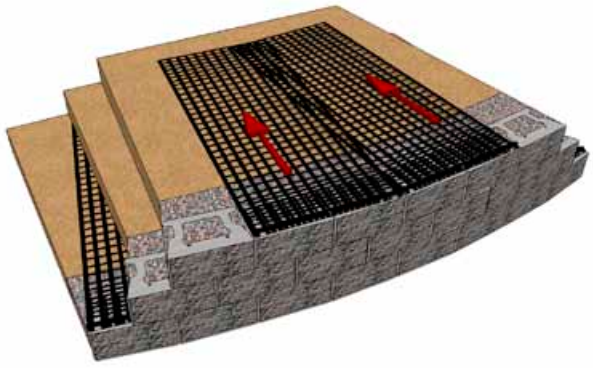
CONVEX GEOGRID CURVE

· Each geogrid length should be laid perpendicularly to the wall face

· Geogrid should not overlap on the **CornerStone®** units

· **Correct geogrid orientation, strength and length is crucial to the success of the wall project**





Concave/Inside Curves

> > > STEP 1
CONCAVE FIRST COURSE

· If possible, start building a curve from the center and work left and right through the curve

· Use **PVC Flex Pipes** to create smooth and accurate **Concave** curves

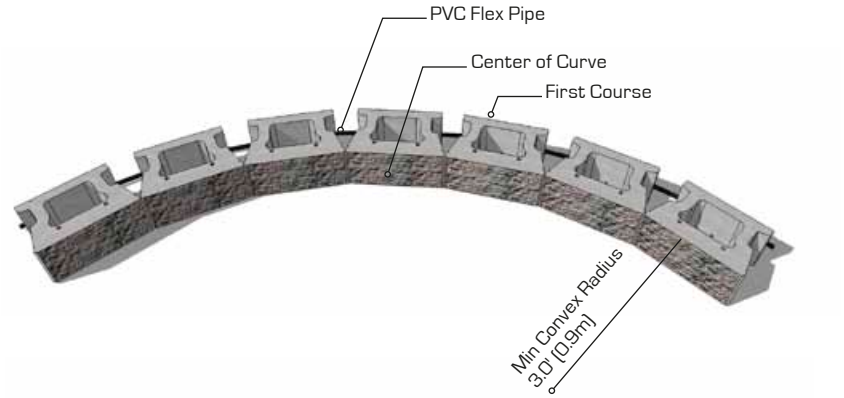
· Use the back of the unit for alignment

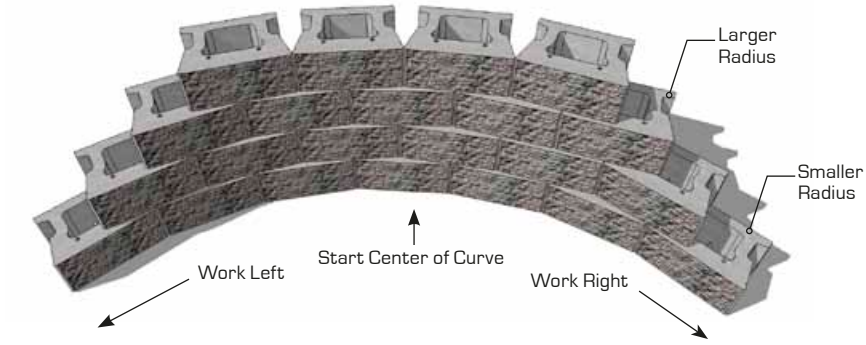
· Build each course of units by starting at the same place and the same bond as the last course

· **Concave** curves have a slight decrease in batter or setback to the standard 5/8"

· The taller the wall the smaller the **Concave** first course needs to be. The radius of each additional course will be slightly larger than the lower course

· **CornerStone**® minimum **Concave** curve is approximately 3.6 foot radius





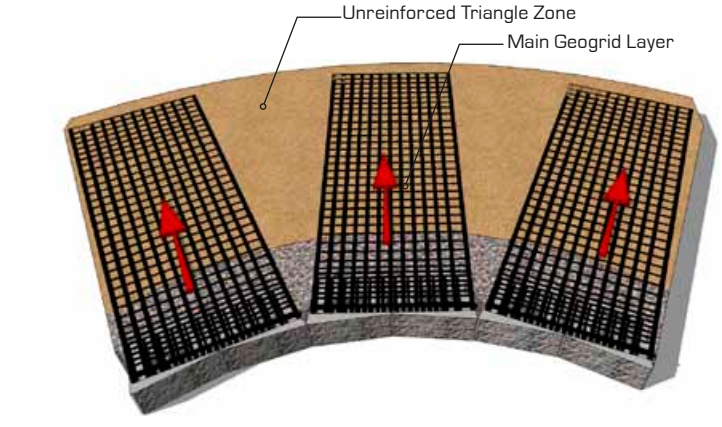
> > > STEP 2
CONCAVE GEOGRID CURVE

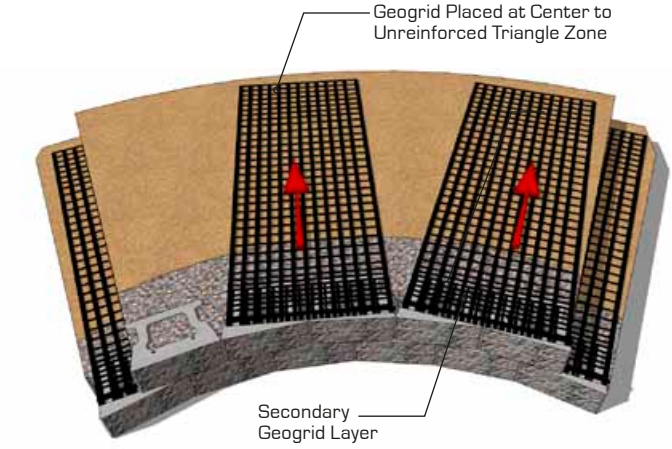
· Each geogrid length should be laid perpendicularly to the wall face

· Geogrid should not overlap on the **CornerStone**® units

· To ensure 100% coverage, place a second layer of geogrid centered to the unreinforced triangle zone one course above the main geogrid layer

· **Correct geogrid orientation, strength and length is crucial to the success of the wall project**





CORNERSTONE® POSITIVE MARKETING MATERIALS

If you require more information on CornerStone® please visit our website at cornerstonewallsolutions.com.

CornerStone Website

Project Solutions

General Brochure

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