STONELEDGE™

StoneLedge™ Installation Guide

> > > GRAVITY/GEOGRID

Engineered for strength...
designed for beauty

CORNERSTONE
WALL SOLUTIONS INC.
cornerstonewallsolutions.com

6" System

LARGE
6" H x 18" FW x 15" BW x 10" D
(152 H x 457 FW x 381 BW x 254 mm D)
Weight: 58 lb (26 kg)

MEDIUM
6" H x 12" FW x 9" BW x 10" D
(152 H x 305 FW x 229 BW x 254 mm D)
Weight: 38 lb (17 kg)

SMALL
6" H x 6" FW x 3" BW x 10" D
(152 H x 152 FW x 76 BW x 254 mm D)
Weight: 20 lb (9 kg)

Create corner units by splitting the large unit along the splitting groove. The unit will make a 6" and 12" corner unit that can be used for corners or pillars.

CORNER LARGE
6" H x 12" FW x 10.5" BW x 10"D
(152 H x 305 FW x 267 BW x 254 mm D)
Weight: 38 lb (17 kg)
*Corners after splitting 18" Unit

CORNER SMALL
6" H x 6" FW x 4.5" BW x 10" D
(152 H x 152 FW x 114 BW x 254 mm D)
Weight: 20 lb (9 kg)
*Corners after splitting 18" Unit

3" System

LARGE
3" H x 12" FW x 9" BW x 10" D
(76 H x 305 FW x 229 BW x 254 mm D)
Weight: 22 lb (10 kg)

MEDIUM
3" H x 9" FW x 6" BW x 10" D
(76 H x 229 FW x 152 BW x 254 mm D)
Weight: 17 lb (8 kg)

SMALL
3" H x 6" FW x 3" BW x 10" D
(76 H x 152 FW x 76 BW x 254 mm D)
Weight: 11 lb (5 kg)

Create corner units by splitting the large unit along the splitting groove. The unit will make two corner units that can be used for corners or pillars.

3" CORNER
3" H x 6" FW x 4.5" BW x 10" D
(76 H x 152 FW x 114 BW x 254 mm D)
Weight: 12 lb (5 kg)

Standard System

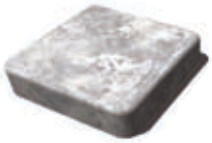
STANDARD
6" H x 18" FW x 15" BW x 12" D
(152 H x 457 FW x 381 BW x 305 mm D)
Weight: 70 lb (32 kg)

Create corner units by splitting the standard unit along the splitting groove. The standard unit will make a 6" and 12" corner unit that can be used for corners or pillars.

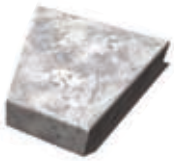
STANDARD CORNER LARGE
6" H x 6" FW x 4.5" BW x 12" D
(152 H x 152 FW x 114 BW x 305 mm D)
Weight: 20 lb (9 kg)

STANDARD CORNER SMALL
6" H x 12" FW x 10.5" BW x 12"D
(152 H x 305 FW x 267 BW x 305 mm D)
Weight: 38 lb (17 kg)

Cap Units



STRAIGHT CAP
3" H x 12" FW x 12" D
(76 H x 305 FW x 305 mm D)
Weight: 20 lb (9 kg)



REVERSIBLE CAP
3" H x 12" FW x 9" BW x 12" D
(76 H x 305 FW x 229 BW x 305 mm D)
Weight: 17 lb (8 kg)

*all dimensions vary between manufacturers. Verify with local producer for correct measurements

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> > > STONELEDGE™ SYSTEM OVERVIEW

NOTE: BOLDED TERMS ARE DEFINED IN OUR ONLINE GLOSSARY AT WWW.CORNERSTONEWALLSOLUTIONS.COM

StoneLedge™ is a double-sided, multi-sized, tapered unit system that possesses the hand finished look of quarried stone. It is ideal for creative residential or commercial segmental retaining wall projects ranging from the simple to the complex. Designed to add the elegance of natural stone to any yard or property, StoneLedge™ is suitable for many applications including retaining walls, stairs, planters and terraced patios. The amazing flexibility, unique quarried face, and the endless creative random patterns make StoneLedge™ an excellent choice for value, beauty, durability and ease of construction.

StoneLedge™ Standard Ashlar: Retaining Wall System

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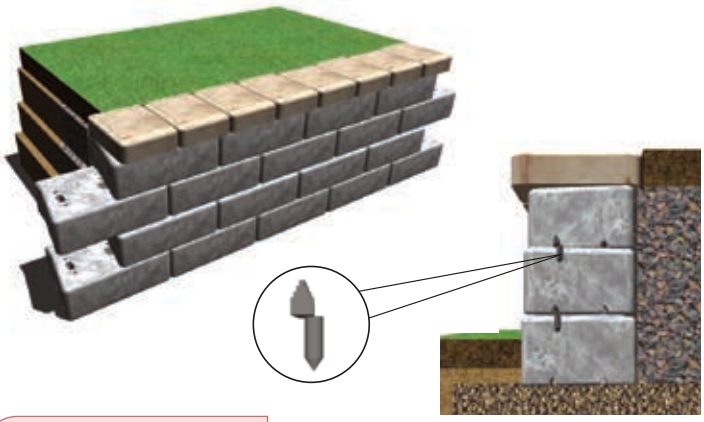

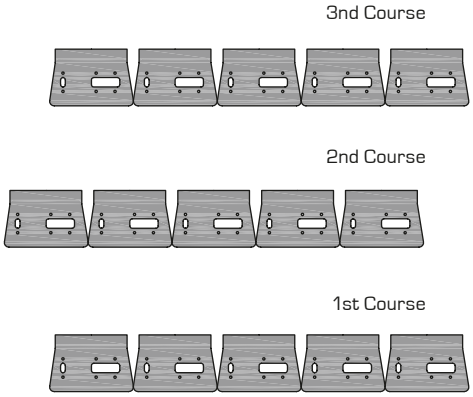

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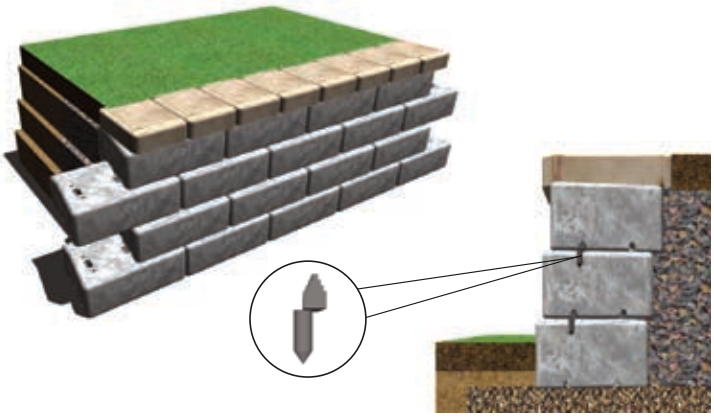

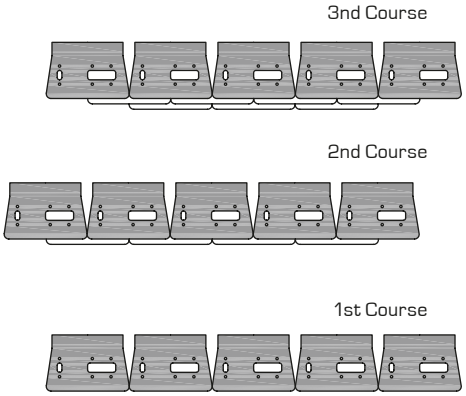

Setback of 4.5 degrees 1"/ft (1/2"/unit)

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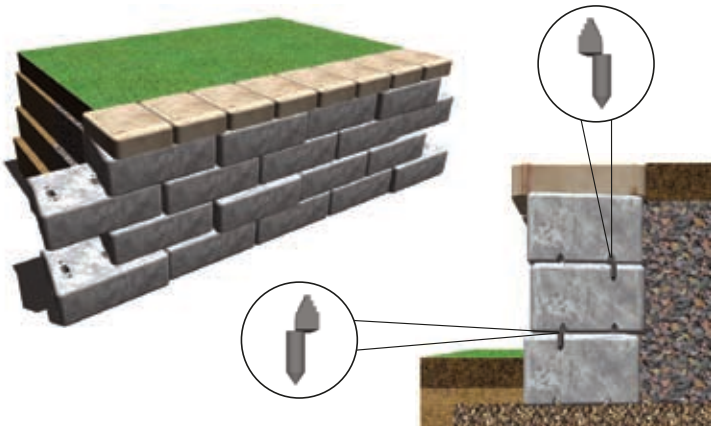

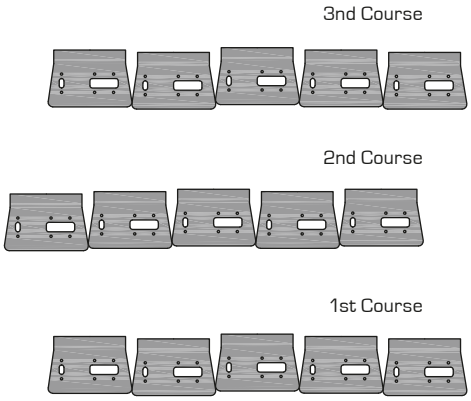

6" StoneLedge™ Ashlar: Retaining Wall System

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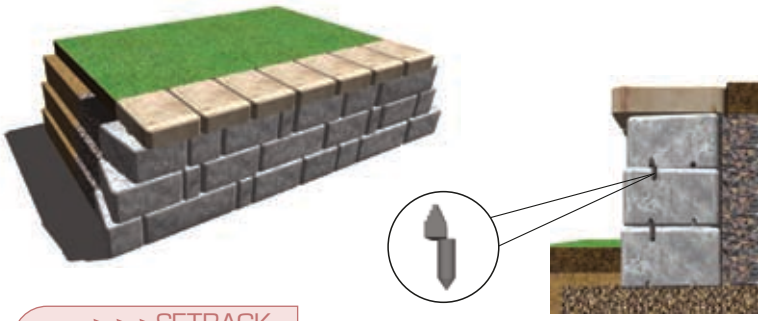

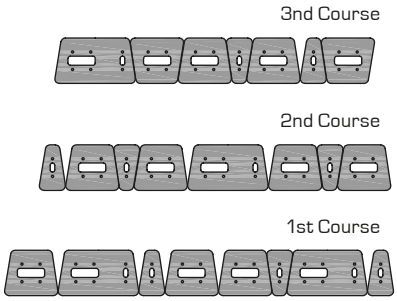

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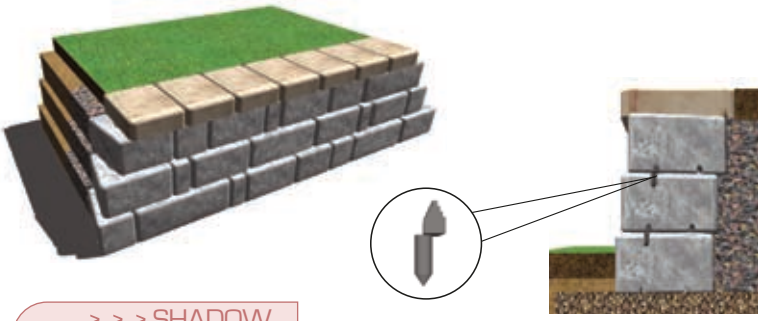

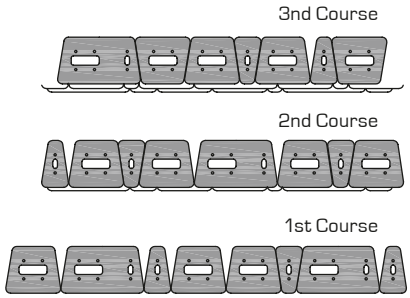

Setback of 4.5 degrees 1"/ft (1/2"/unit)

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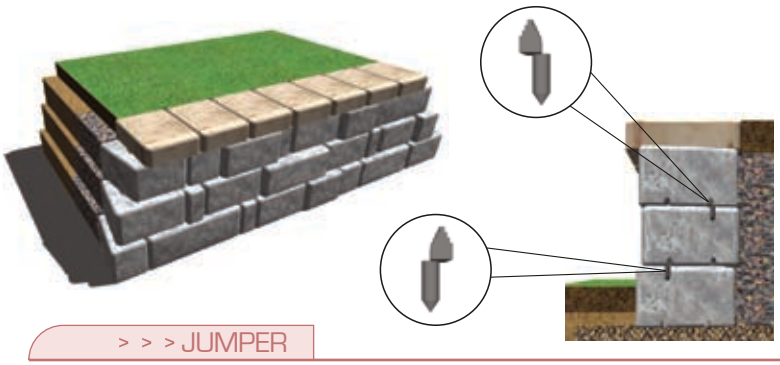

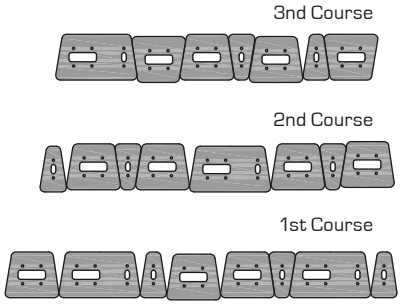

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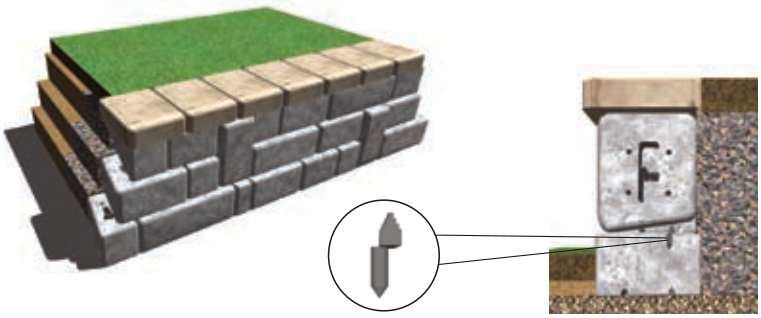

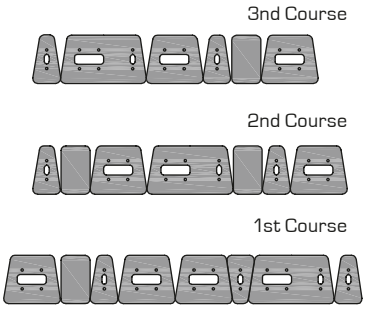

6" StoneLedge™ Ashlar: Freestanding Wall System

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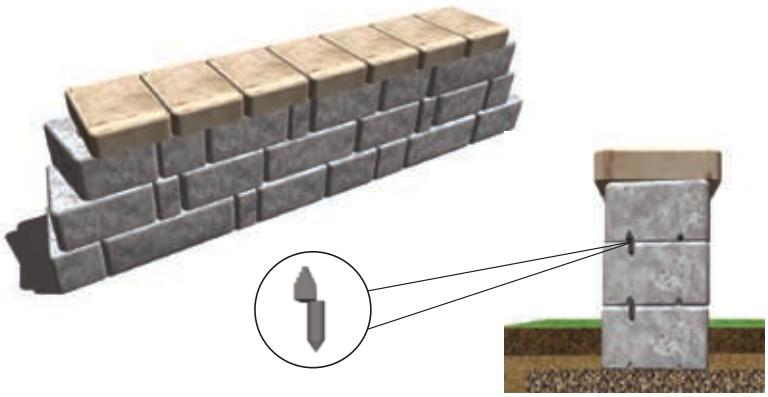
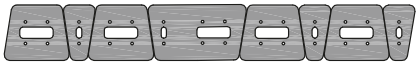


3nd Course

2nd Course



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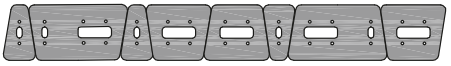

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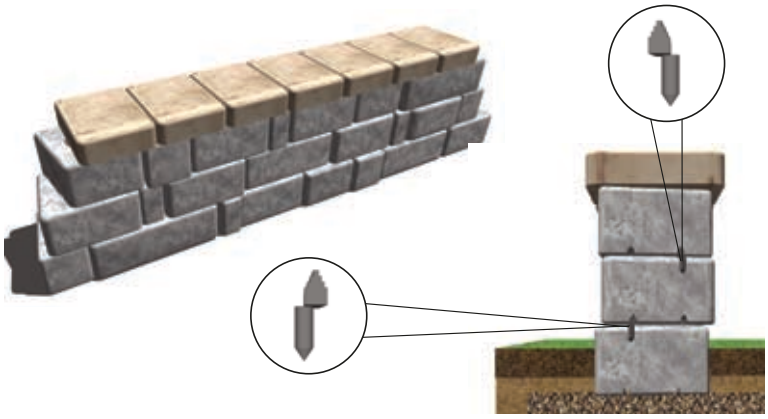

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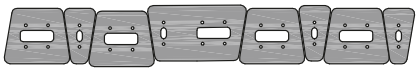

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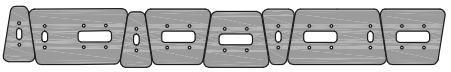

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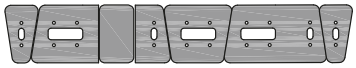

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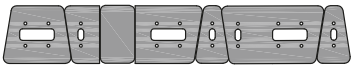

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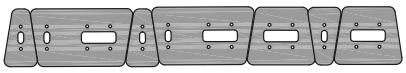

3" StoneLedge™ Ashlar: Retaining Wall System

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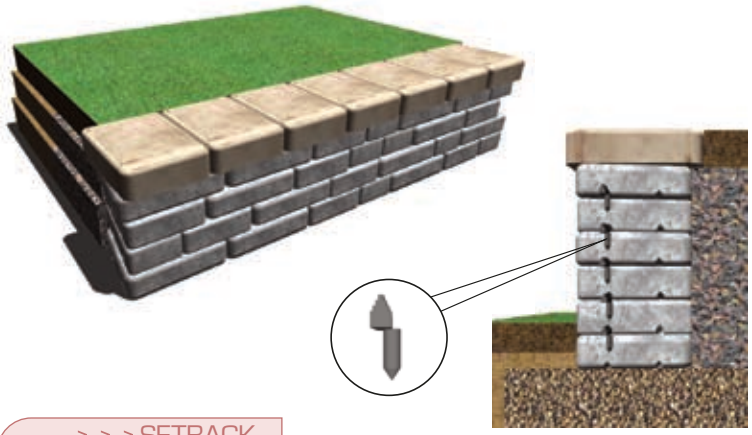

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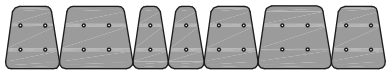

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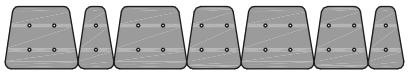

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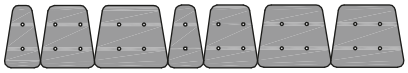

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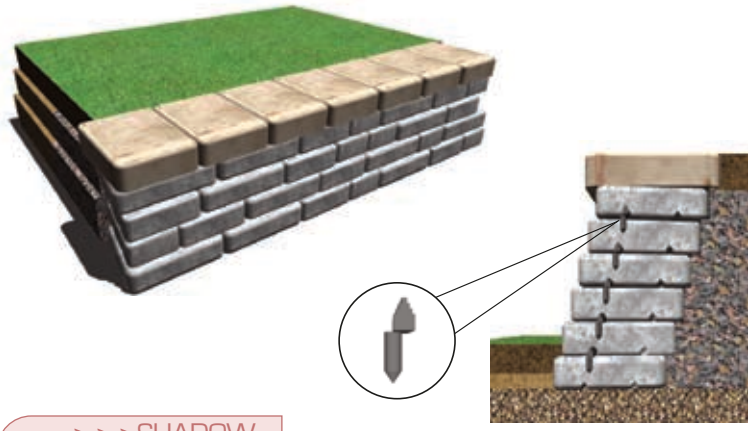

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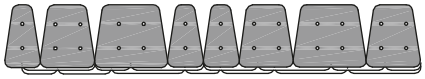

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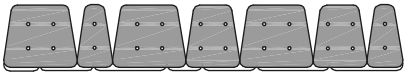

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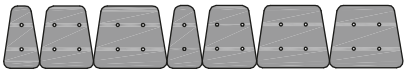

Setback of 9 degrees 2"/ ft (1/2"/unit)

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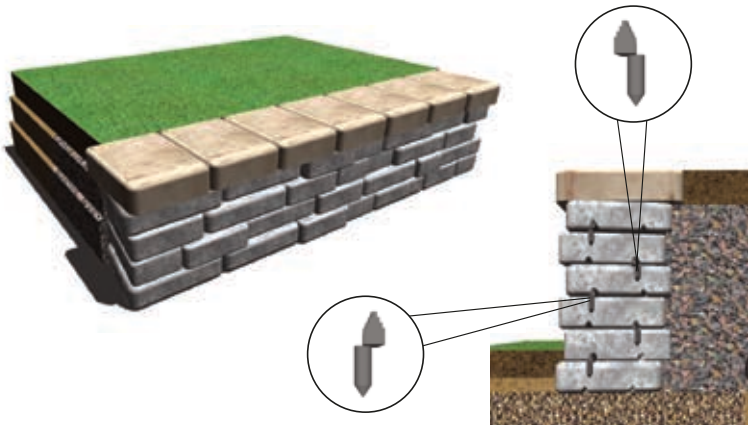

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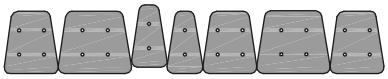

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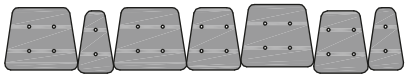

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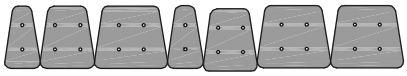

3" StoneLedge Ashlar: Freestanding Wall System

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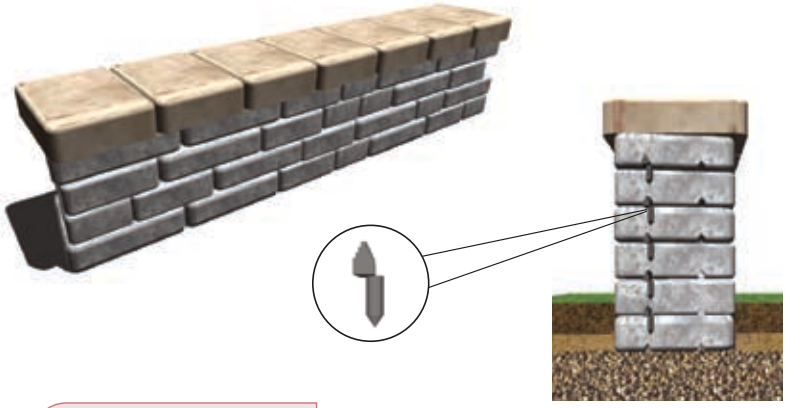

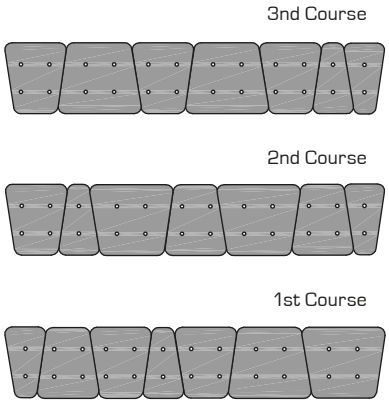

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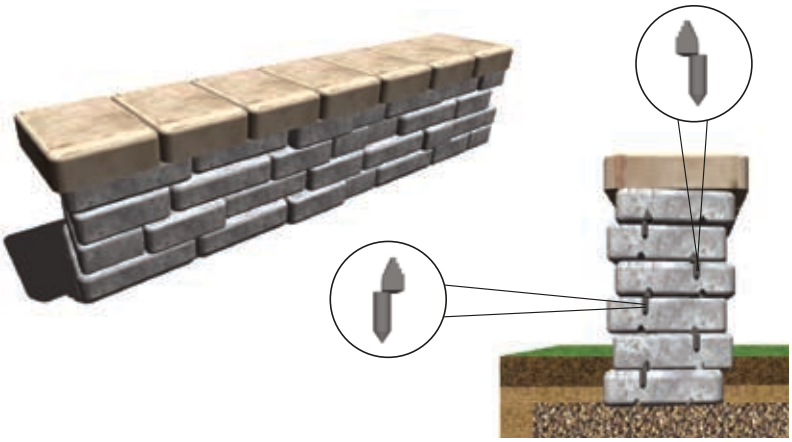
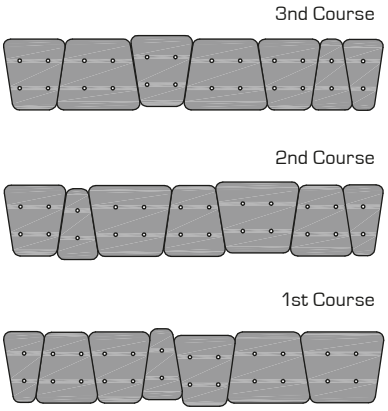




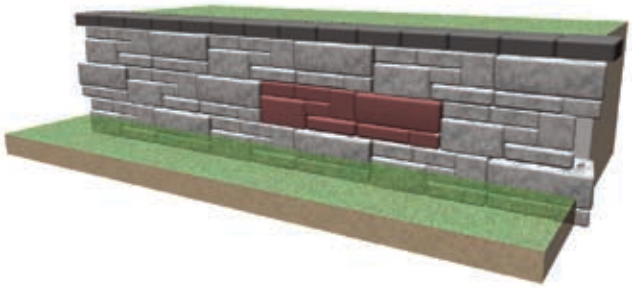
Combination StoneLedge™ Ashlar: Retaining Wall System

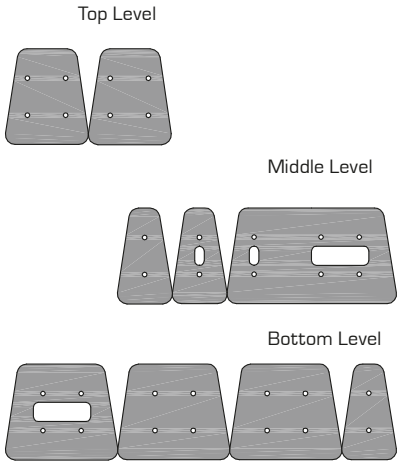
BE CREATIVE

Here is your chance to show off your creative side. The options for StoneLedge™ patterns are endless. We challenge you to pick up a pallet of both 3" and 6" units to create your own personalized walls.

You can integrate your own creative pattern with any design feature you like such as curved walls, corners, stairs, barbecue stands, tree rings, and so much more.

> > > PATTERN 1





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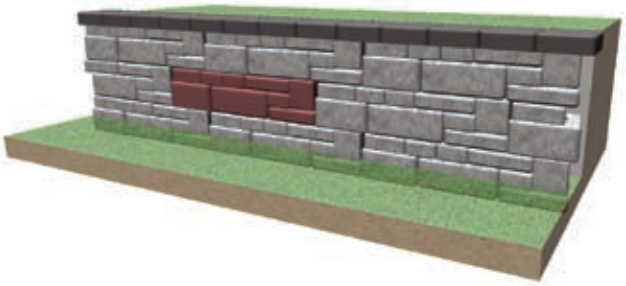
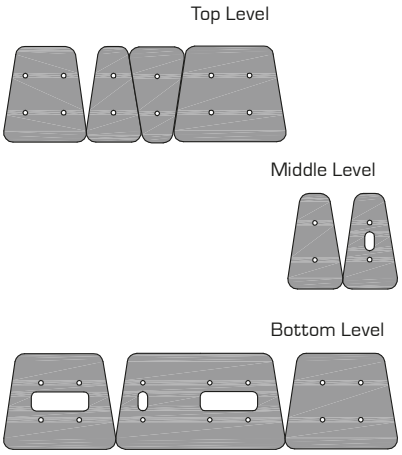




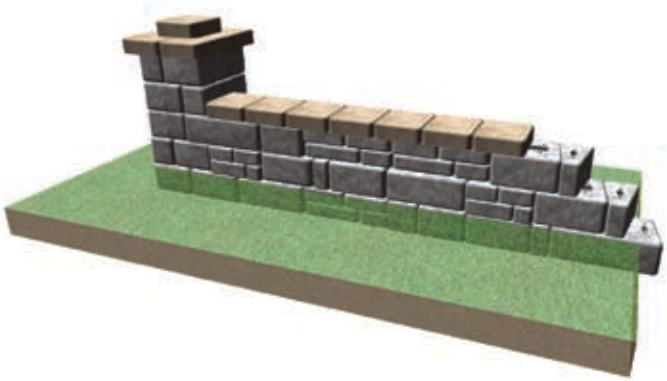
Combination StoneLedge™ Ashlar: Freestanding Wall System

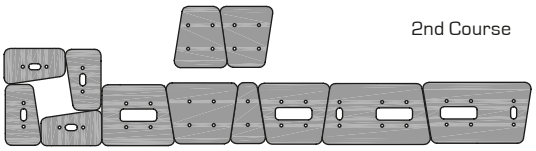
BE CREATIVE

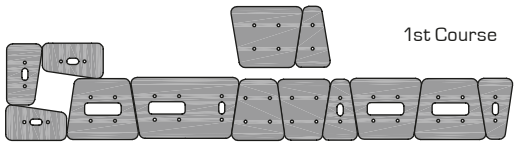
Here is your chance to show off your creative side. The options for StoneLedge™ patterns are endless. We challenge you to pick up a pallet of both 3" and 6" units to create your own personalized walls.

You can integrate your own creative pattern with any design feature you like such as curved walls, corners, stairs, barbecue stands, tree rings, and so much more.

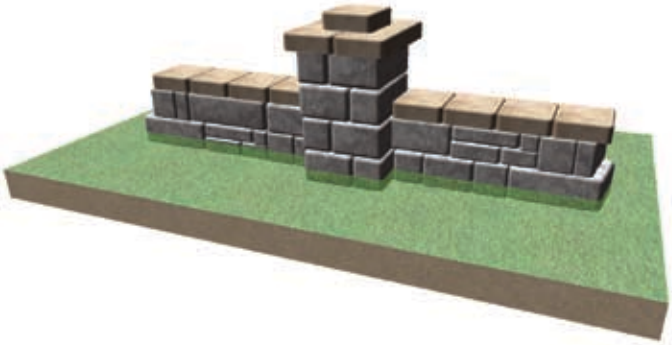
> > > PATTERN 1

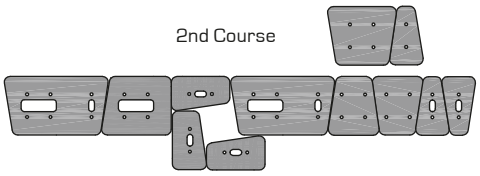


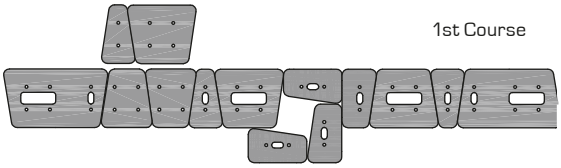




> > > PATTERN 2

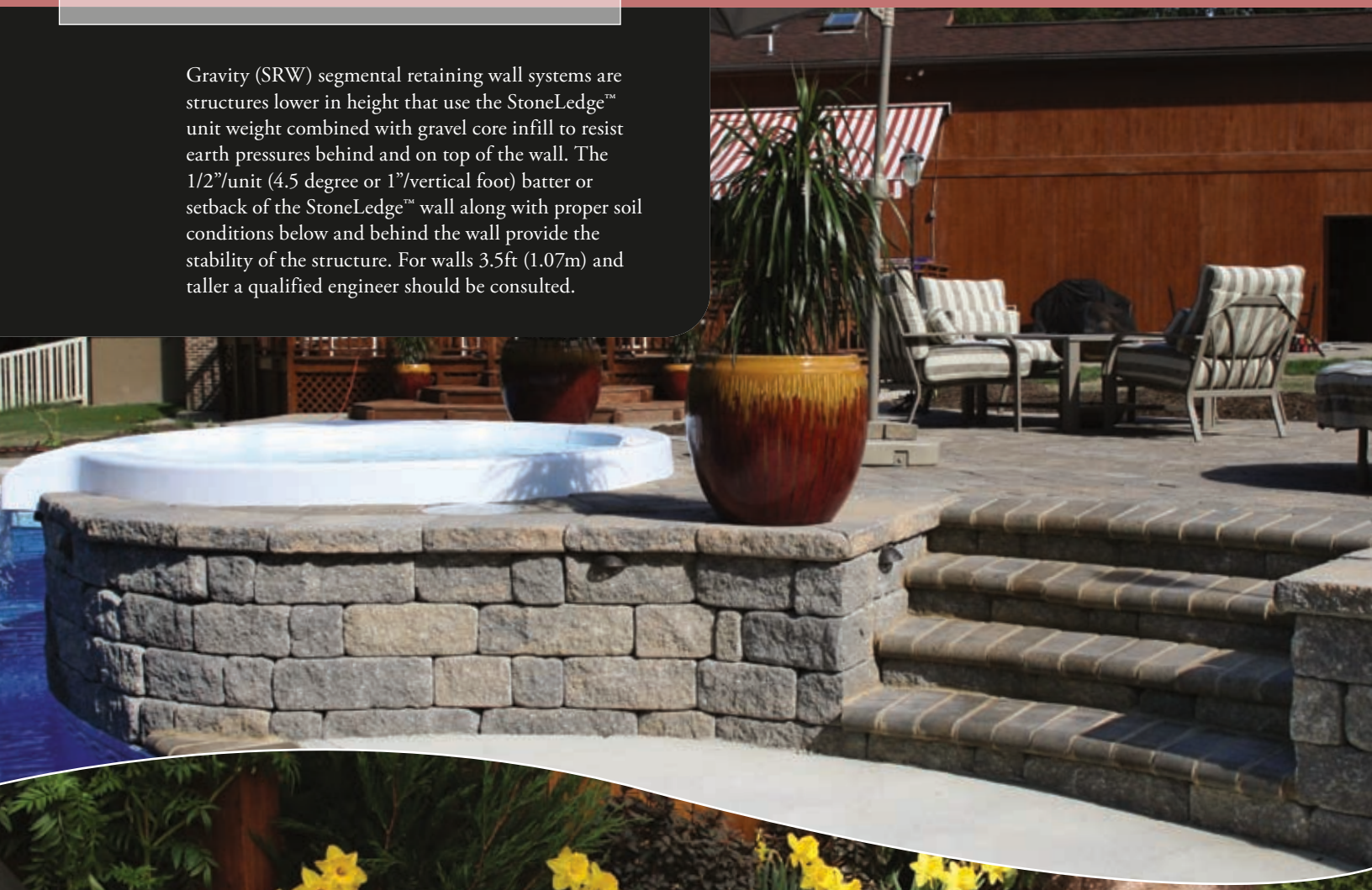






> > > GRAVITY STONELEDGE™ WALL

Gravity (SRW) segmental retaining wall systems are structures lower in height that use the StoneLedge™ unit weight combined with gravel core infill to resist earth pressures behind and on top of the wall. The 1/2”/unit (4.5 degree or 1”/vertical foot) batter or setback of the StoneLedge™ wall along with proper soil conditions below and behind the wall provide the stability of the structure. For walls 3.5ft (1.07m) and taller a qualified engineer should be consulted.



> > > STEP 1

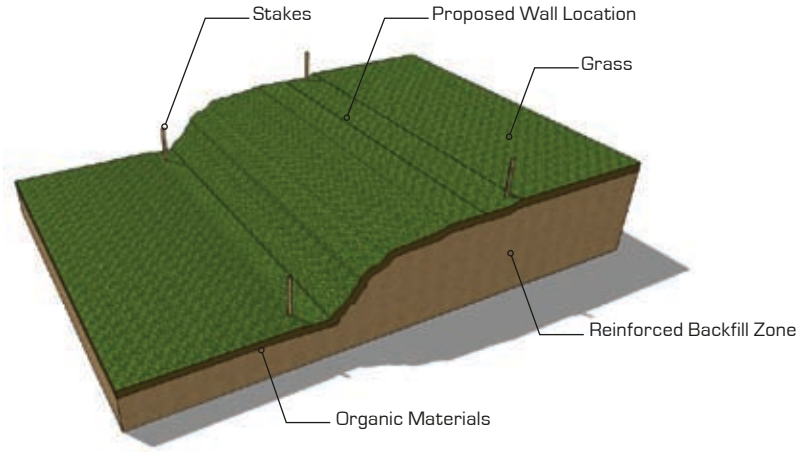
PLANNING

· Mark the bottom and top of the wall excavation location with spray paint or stakes

· Establish proper elevation bottom and top of wall before excavating

· **Organic Materials** should not be used in **Structural Backfill Zone**

· Store and protect **Structural Backfill Materials** from inclement weather during construction



> > > STEP 2

EXCAVATION

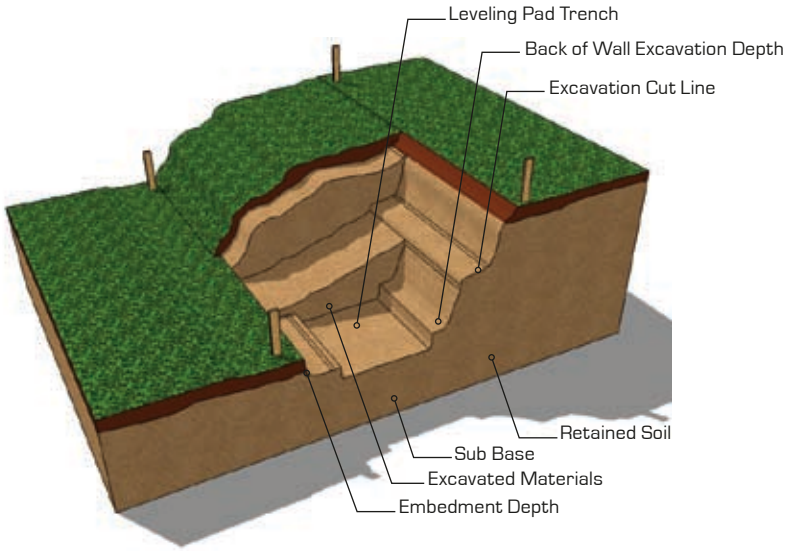
· Excavate and prepare **Sub Base Leveling Pad Trench** 6" below first course

· **Leveling Pad** trench is approximately 2.5' to 3' wide

· Normal wall **Burial Depth** or **Embedment Depth** is 6" to 12" or one block

· Excavate cut line to a 2 to 1 slope or greater

· Back of wall excavation depth into the bank should be 12" beyond the back of the **Sub Base Leveling Trench**

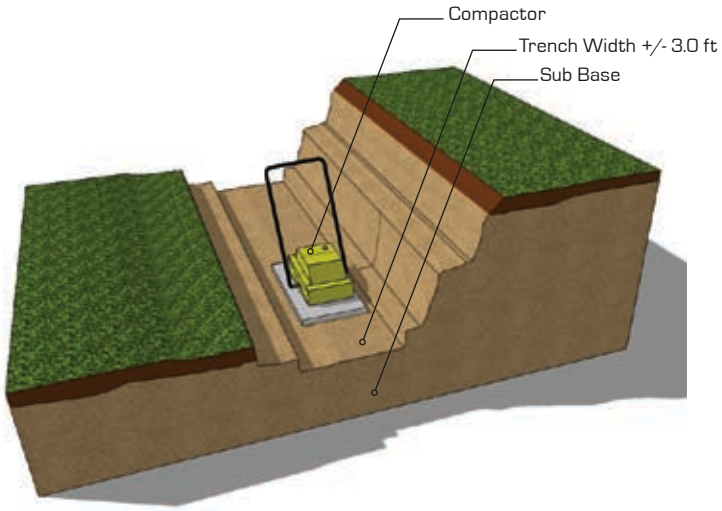


> > > STEP 3

SUB BASE COMPACTION

· Compact **Sub Base to 95% Standard Proctor Density** or greater

· Remove any **Organic** or poor soils in the **Sub Base** and replace with proper **Structural Fill Materials** before compacting



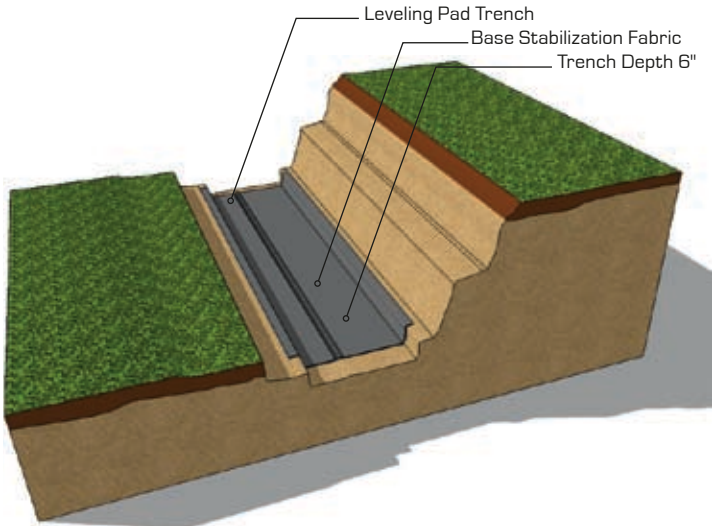
> > > STEP 4

BASE STABILIZATION

· (Optional) place 5' to 6' wide **Base Stabilization Fabric** on top of leveling pad trench

· **Base Stabilization Fabrics** will help prevent sub base materials from mixing with the gravel base leveling pad during compaction

· Fabric also provides extra **Structural Bearing Stability** to the base leveling pad

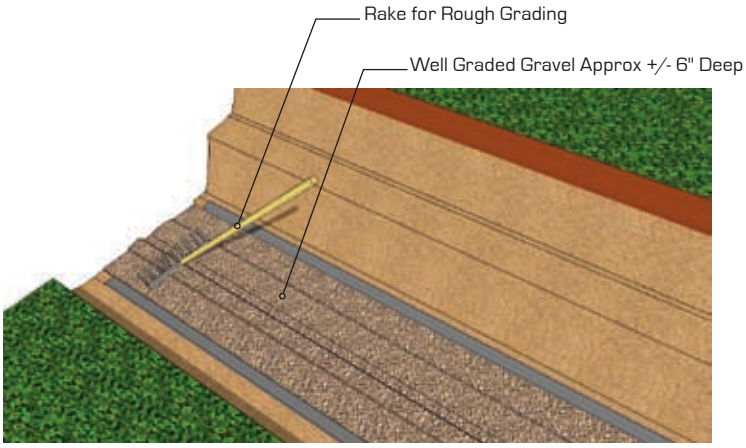


> > > STEP 5

ROUGH LEVELING PAD

· Place **Well Graded Gravel** (also known as Road Base Aggregates) on top of fabric in the leveling pad trench approximately 6" deep

· Rough grade gravel with a rake close to finish base elevation

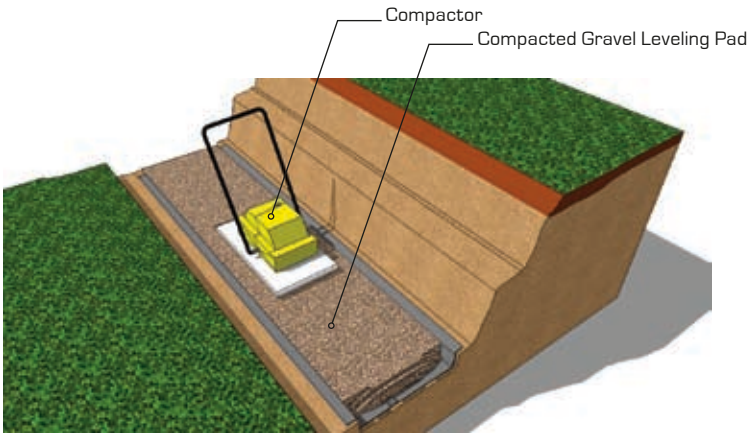


> > > STEP 6

COMPACT LEVELING PAD

· **Compact** the **Gravel Leveling Pad** to **95% Standard Proctor Density** or greater

· Correct **Moisture Content** in the gravel will help in reaching proper compaction



> > > STEP 7

LEVEL SCREED PIPES

· Place first 3' long **Screed Pipe** across the trench at one end of the wall or at the lowest elevation

· Scratch a trench for the pipe in the compacted gravel with a chipping hammer

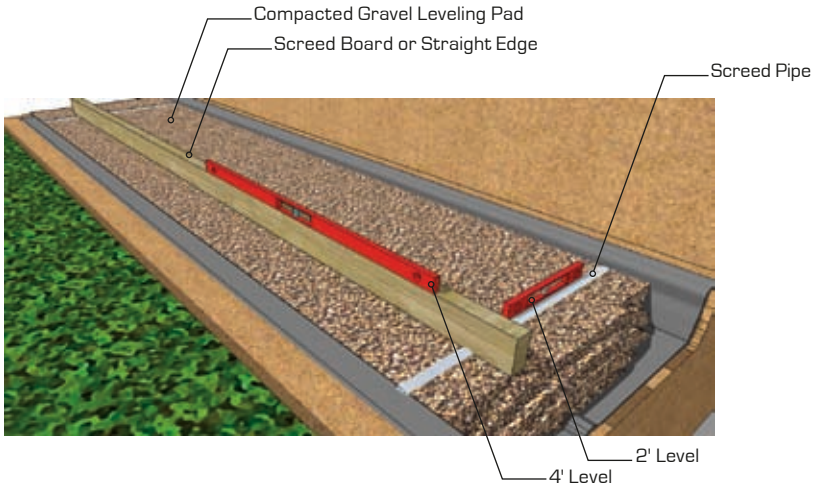
· Use a 2' level or **Laser Level** to set the **Screed Pipe** to the proper level

· Gravel is added underneath and around the **Screed Pipe** to support while leveling

· Place the second **Screed Pipe** across the trench approximately 9' from the first **Screed Pipe**

· Level the second **Screed Pipe** to the same elevation as the first **Screed Pipe** by using a 4' level on top of a **Screed Board, Straight Edge** or with a **Laser Level**

· Continue to place and level **Screed Pipes** the full length of the trench leveling pad or until reaching a base elevation change

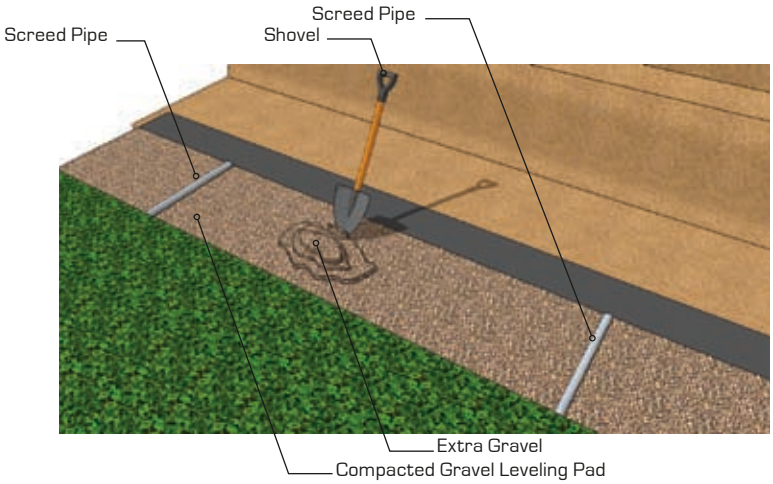


> > > STEP 8

EXTRA GRAVEL

· Place or remove extra **Well Graded Gravel** (also known as Road Base Aggregates) level to the top of the **Screed Pipes** as needed

· (If more than 1 ½ inches of loose gravel is added, repeat the compaction steps again before screeding)



> > > STEP 9

SCREEDING LEVELING PAD

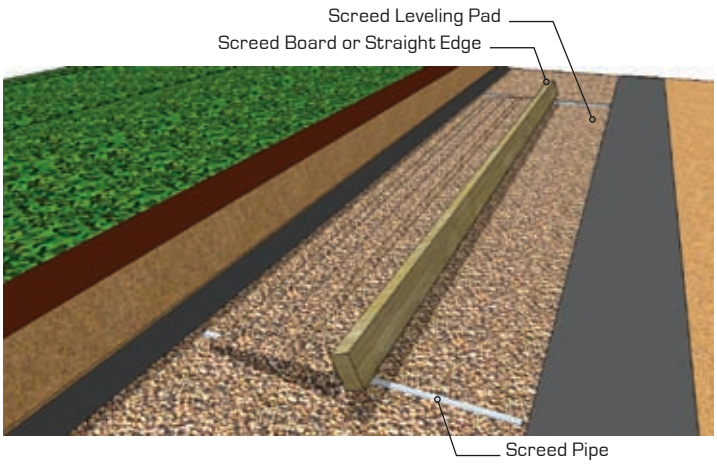
· **Screed** the gravel leveling pad with a **Screed Board** or **Straight Edge** across the trench on top of two **Screed Pipes**

· The coarser the gravel the more back and forth the screeding action when drawing the **Screed** across the leveling pad

· Too much pressure on the screed straight edge may dislodge the level of the **Screed Pipes** while screeding

· A second screed pass may be needed to insure an accurate level has been achieved

· Continue to screed the leveling pad until completing the full length of the trench or up to the first elevation change



> > > STEP 10

BASE COURSE PATTERN

· Place the **StoneLedge™** units in a random ashlar pattern using the 3 sizes in the same ratio as they come in each pallet

· The **StoneLedge™** units will have the connector holes facing up with the connector slots facing down

· Place each unit on top of the leveling pad in such a way as not to disturb the level gravel

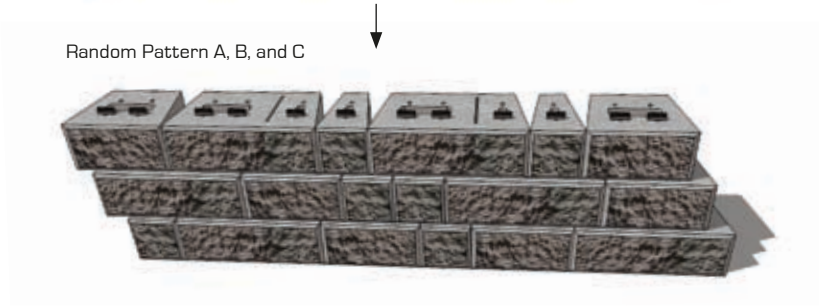
· Continue to install the **StoneLedge™** base units until the length of the wall or the first elevation change of the base occurs

Random Pattern C

Random Pattern B

Random Pattern A

Random Pattern A, B, and C

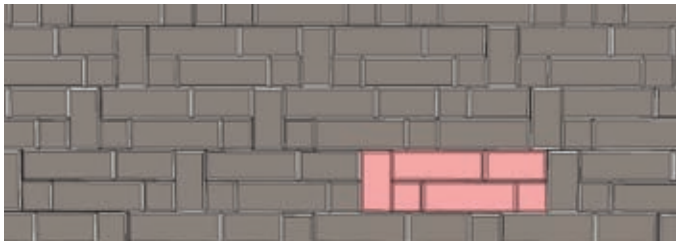


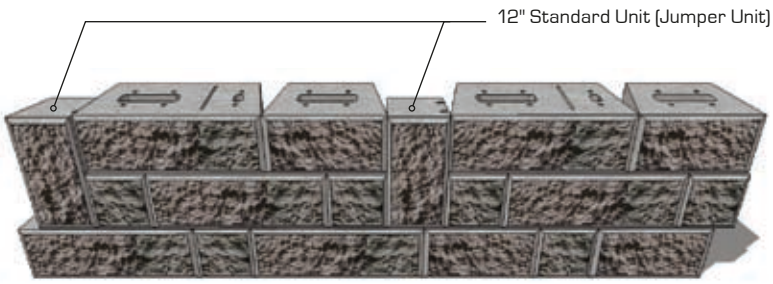
> > > STEP 11

USING A JUMPER

· To install a **Jumper** unit, the **StoneLedge™** flag connector is placed in the back holes of the lower units. The 12" standard unit is turned on end in the wall with the back of the unit resting on the back flag connector

· To insure a random stagger pattern, cross the vertical joints as often as possible throughout the wall





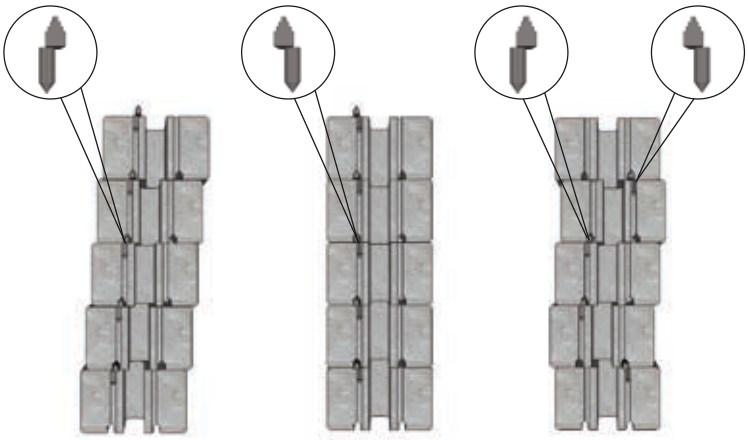
> > > STEP 12

FLAG CONNECTORS

· The **StoneLedge™** wall can be built in a batter (setback), vertical position, or shadow (multi-setback)

· Place the flag connectors in the forward connector holes with the flag in the back position to create a batter or rotate the flag forward to create a vertical wall

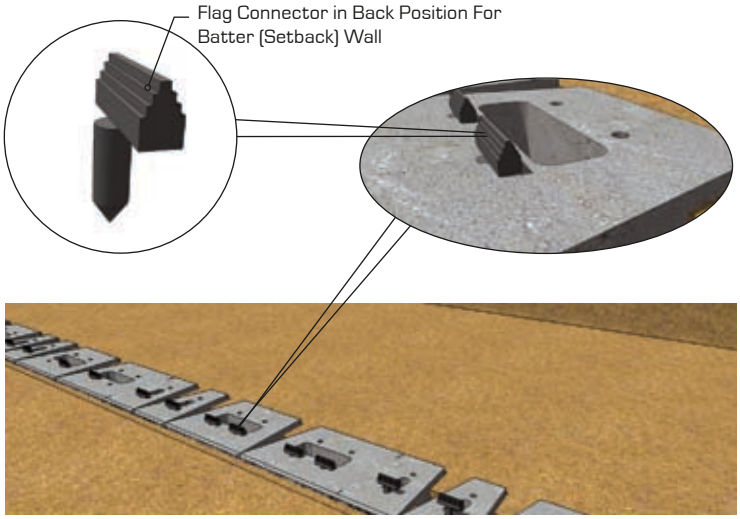
· Place the flag connectors in the forward connector holes or back connector holes with the flags in a back or forward position to create a random Shadow (multi-setback) wall



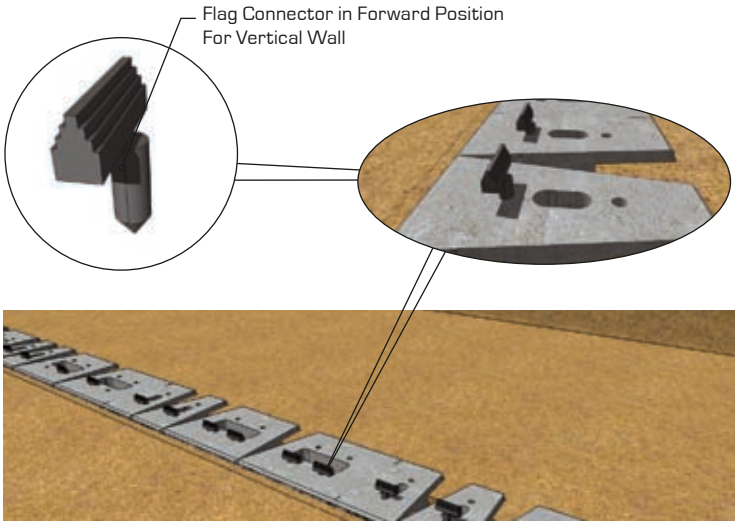
Batter (Setback) 4.5°
Flag in Back Position

Vertical
Flag in Forward Position

Shadow (Multi-Setback)
Flag in Forward and Backward Position



Batter (Setback)



Vertical

> > > STEP 13

LAY FIRST COURSE

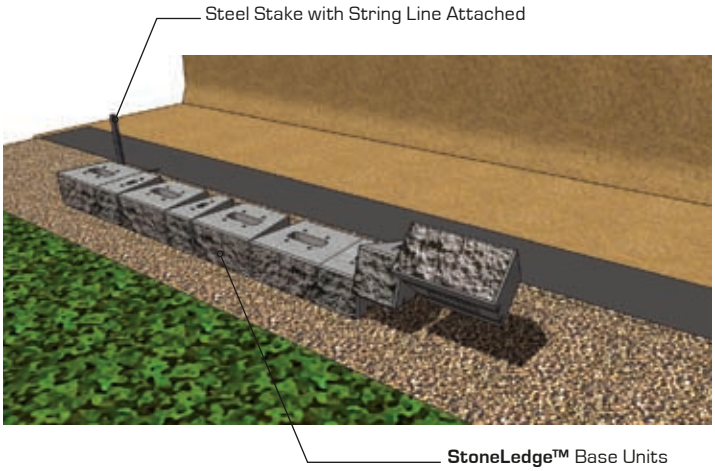
· Remove the **Screed Pipe** from the leveling pad

· Place a steel stake or a **StoneLedge™** unit at either end of the leveling pad to establish the back of the first course of units

· Secure tightly a string line to the stakes or **StoneLedge™** units at either end which will provide the guide to line up the back of each **StoneLedge™** base unit

· Connector holes can also be used for aligning units if back of units are to irregular

· The distance of the string line between the steel stakes or **StoneLedge™** units may vary due to heavy winds



> > > STEP 14

LEVEL UNITS

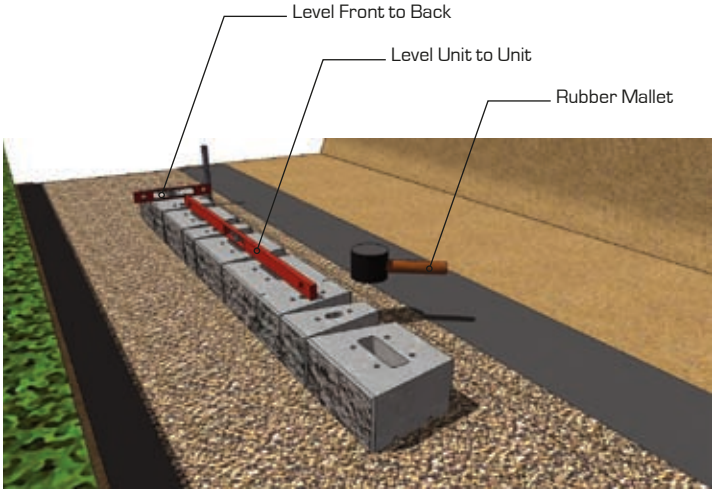
· Units are laid snug together and parallel to the straight or curved line

· A rubber mallet should be used if unit height and alignment adjustment is needed

· Use a short 2' level to make sure the units are level front to back

· Use a 4' level to make sure the units are level unit to unit along the length of the wall

· Correct batter and straight horizontal lines in the completed **StoneLedge™** wall depend on the accuracy of the base leveling pad and units



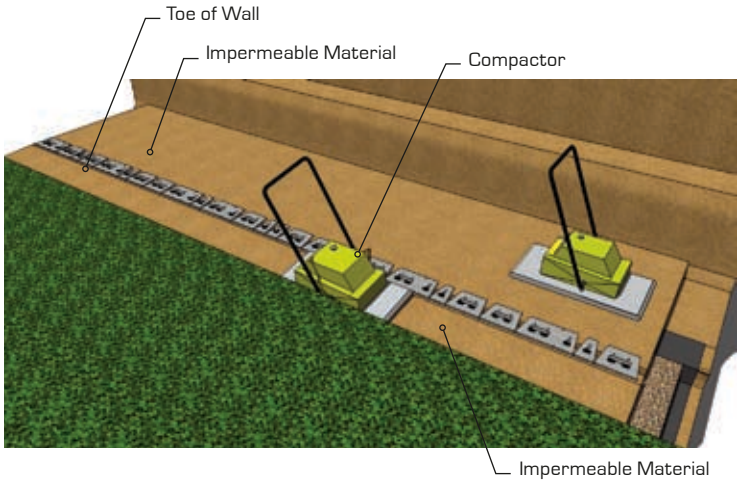
> > > STEP 15

IMPERMEABLE FILL

· Backfill behind, in front **(toe of wall)** and in the hollow cores of the units with **Impermeable Materials** up to the desired level of the **Perforated Drain Pipe** or to the top of the first course

· Compact the **Impermeable Materials** behind, in front and in the hollow cores of the units

· Sweep the top of the units clean of all rock and dirt before placing the next course of units



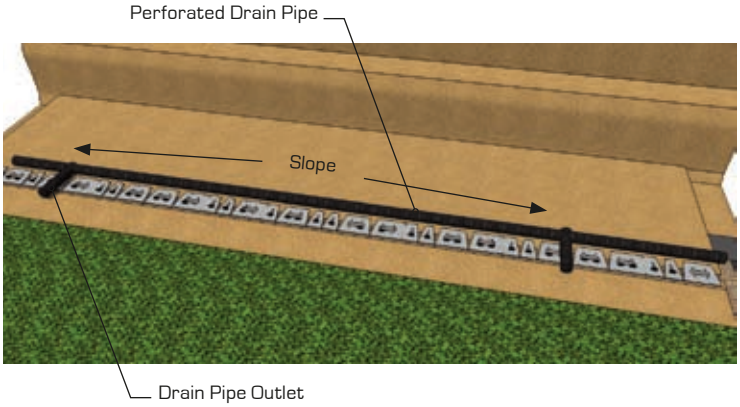
> > > STEP 16

DRAIN PIPE OUTLET

· **Perforated Drain Pipe** should have adequate slope to drain water in the right direction towards each **Drain Pipe Outlet**

· **Drain Pipe Outlet** can be every 30 or 50 feet

· **Perforated Drain Pipe** can be a **Sock Wrapped** system to help prevent fines from migrating into the pipe



> > > STEP 17

BACKFILL

· Place and compact **Backfill Materials** in maximum **Lifts** of 6"

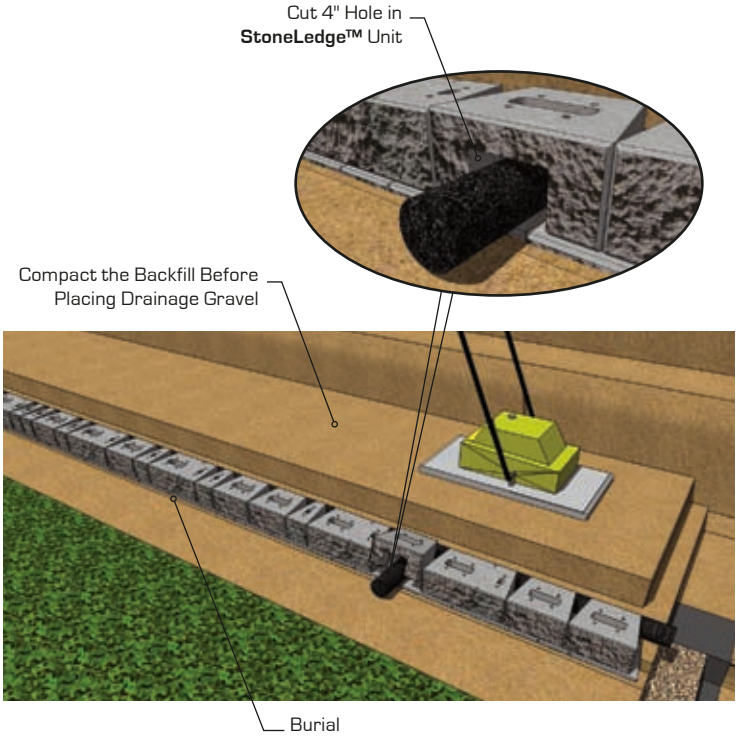
· **Lifts** may be less than 6" depending on the type of soil or size of equipment

· Backfill materials will be placed 12" behind the units allowing for **Clear Crush Drain Gravel** (Angular Aggregates free of fines) between the **StoneLedge™** units and compacted **Backfill Materials**

· By adding **Clear Crush Drain Gravel** (Angular aggregate free of fines) after compaction of the **Backfill Materials**, this will prevent undue pressure against the wall which can cause the units to move out of alignment

· Each **Lift** should be compacted to **95% Standard Proctor** or greater

· The correct **Moisture Content** in the **Backfill Materials** will help in reaching proper **Compaction Density**



> > > STEP 18
DRAINAGE GRAVEL

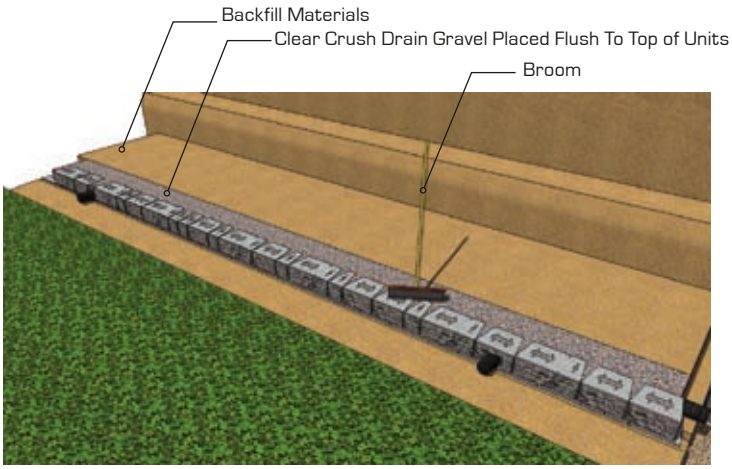
· **Clear Crush Drain Gravel** (Angular Aggregates free of fines) is placed in the hollow cores and 12" behind the wall units after compaction of the **Backfill Materials**. This will prevent undue pressure against the wall which can cause the units to move out of alignment

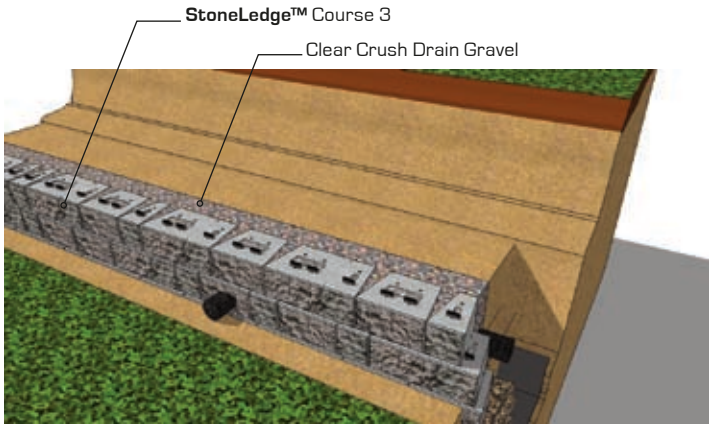
· **Clear Crush Drain Gravel** does not need to be compacted

· Sweep the top of the **StoneLedge™** units clean of all rock and dirt before placing the connectors and next course of units

· Make sure the **Clear Crush Drain Gravel** directly behind the wall units is placed flush to the top of the units

· Make sure the **Backfill Materials** are as well compacted and level as possible



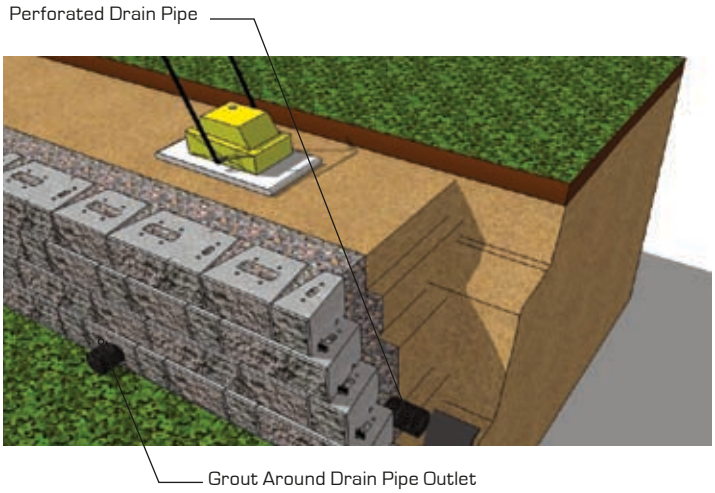


> > > STEP 19
CONTINUE INSTALLATION

· Continue to install each course of units and connectors following the same steps as above

· Install and compact **Backfill Materials** in 6" **Lifts** until wall is complete

· Grout around **Drain Pipe Outlet** to prevent **Clear Crush Drain Gravel** or **Drainage Aggregates** (Angular Aggregates free of fines) from migrating



> > > STEP 20
CAPPING

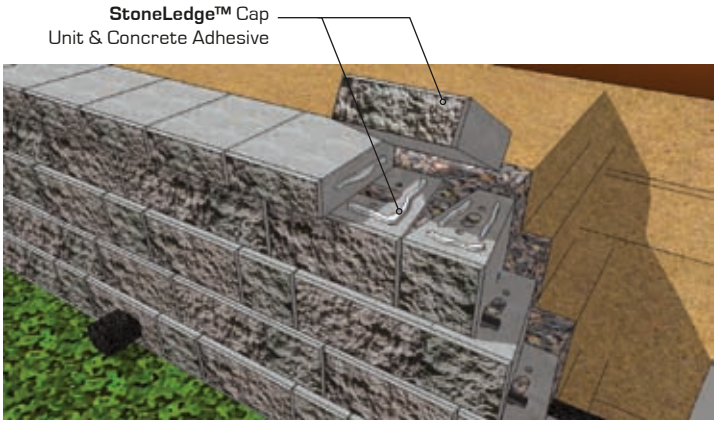
· Complete the top of the wall with **StoneLedge™** cap units

· Properly secure the cap units using a **Concrete Adhesive**

· Make sure all units are free of dirt and stones before installing the caps

· Place a solid bead of **Concrete Adhesive** around the top of each **StoneLedge™** unit

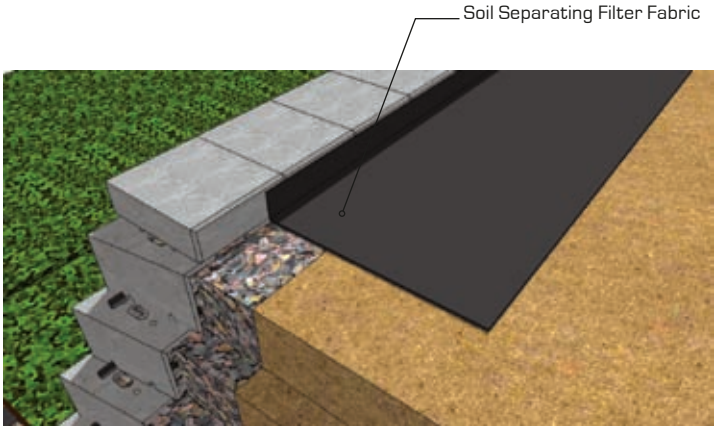
· Place a bead of adhesive between each joint of the cap units



> > > STEP 21
SOIL SEPARATION FABRIC

· Place a 6 ft wide **Soil Separating Filter Fabric** on top of the backfill and drainage gravel and against the back of the last units before placing the planting soils

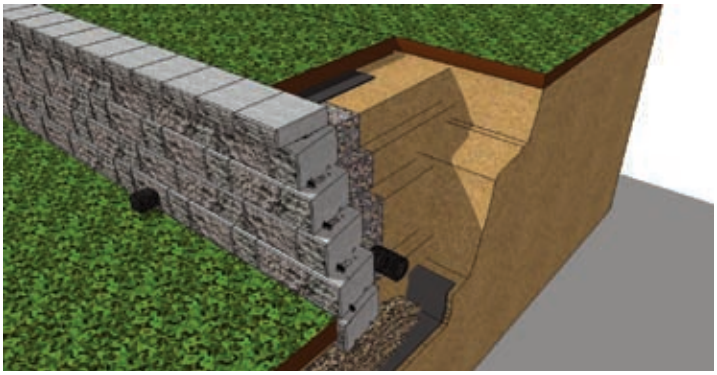
· The fabric will prevent planting soil fines from staining the face of the wall and migrating into the **Clear Crush Drain Gravel** (Angular Aggregate free of fines)



> > > STEP 22
FINAL GRADING

· Insure that final grading is done on top and bottom of the wall

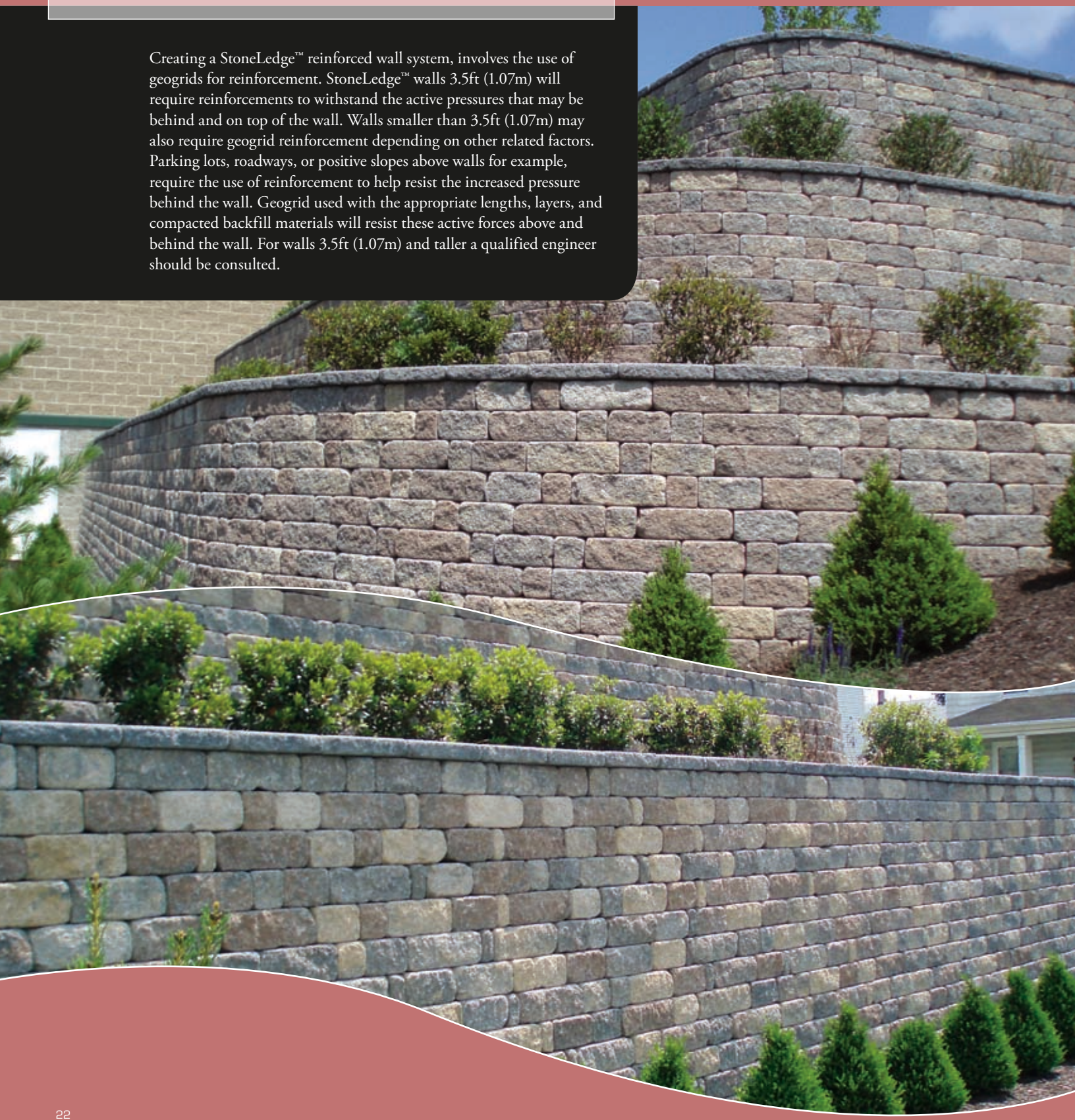
· Make sure to protect newly placed planting soil from erosion during heavy rains or surface runoff



*Final determination of the suitability of the contemplated use, and its manner of use are the sole responsibility of the user

> > > GEOGRID REINFORCED STONELEDGE™ WALL

Creating a StoneLedge™ reinforced wall system, involves the use of geogrids for reinforcement. StoneLedge™ walls 3.5ft (1.07m) will require reinforcements to withstand the active pressures that may be behind and on top of the wall. Walls smaller than 3.5ft (1.07m) may also require geogrid reinforcement depending on other related factors. Parking lots, roadways, or positive slopes above walls for example, require the use of reinforcement to help resist the increased pressure behind the wall. Geogrid used with the appropriate lengths, layers, and compacted backfill materials will resist these active forces above and behind the wall. For walls 3.5ft (1.07m) and taller a qualified engineer should be consulted.



> > > STEP 1

PLANNING

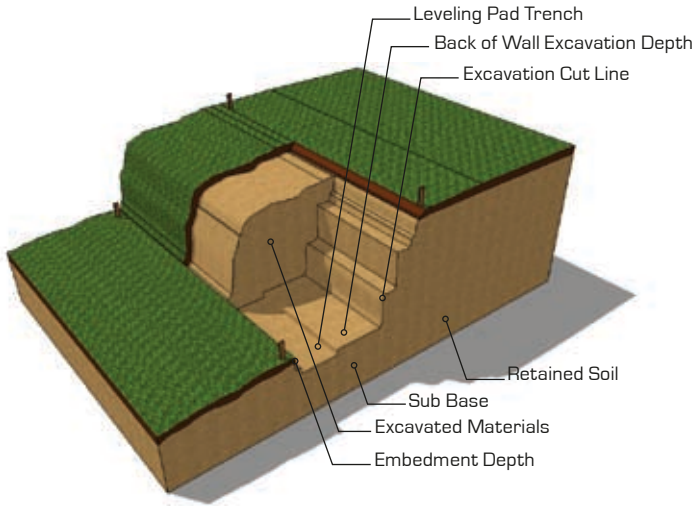
· Excavate and prepare **Sub Base Leveling Trench** 6" below first course

· **Leveling Pad Trench** is approximately 2.5' to 3' wide

· Normal wall **Burial Depth** or **Embedment Depth** is 6" to 12" or one block

· Excavate cut line to a 2 to 1 slope or greater

· Back of wall excavation depth into the bank at the base of the wall should be from the face of wall to the designed length of **Geogrid**



> > > STEP 2

CUT GEOGRID

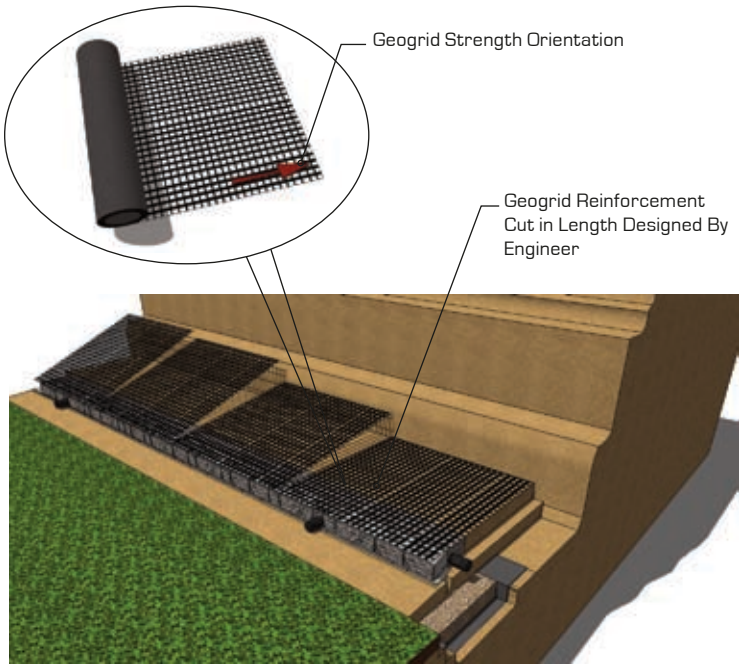
· Cut **Geogrid Reinforcement** to the length specified in the design

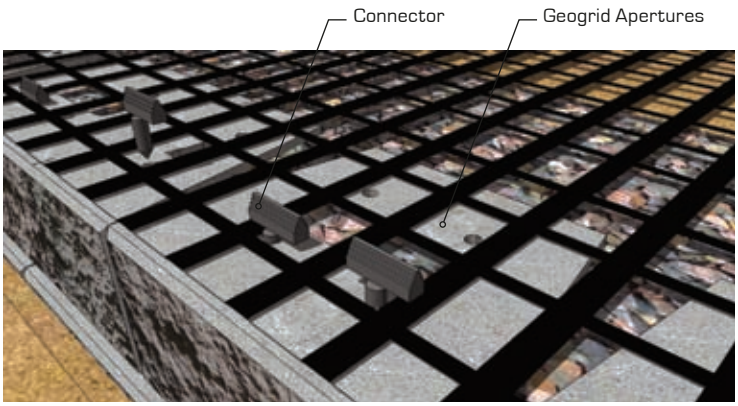
· **Geogrids** are manufactured in two directions Uni-axial or Bi-axial. Uni-axial grid has one direction of strength and that direction has to be oriented perpendicularly to the face of the wall during installation. Bi-axial grid can be laid in two directions, perpendicular and lengthwise to the face of 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

· Place the **StoneLedge™** flag connectors through the **Geogrid** apertures and into the front connector holes





> > > STEP 3

LAY GEOGRID

· Place the **Geogrid** as far forward on the **StoneLedge™** units as possible without revealing it on the face

· Place the next course of **StoneLedge™** units on top of the connectors, lower units and **Geogrid**

· Pull the unit forward to engage and align the units

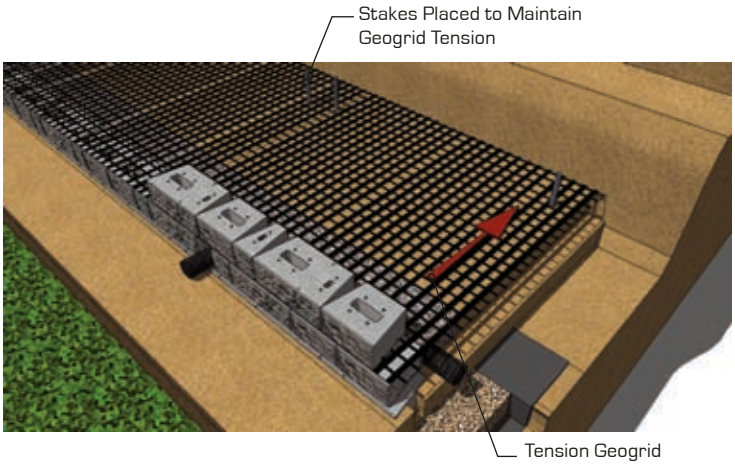
· Complete the installation of units on the **Geogrid Reinforced** courses

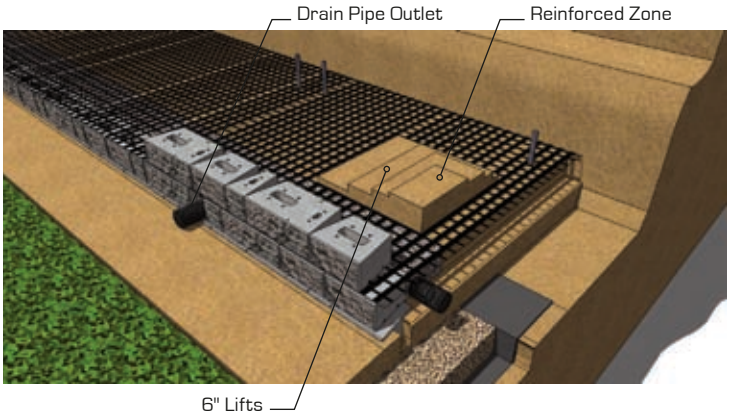
· Make sure each unit is installed against the next unit leaving no gaps between unit joints

· Tension the **Geogrid** in such a way as **NOT** to disturb the alignment of the upper units

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

· Do not drive equipment directly on top of **Geogrid**





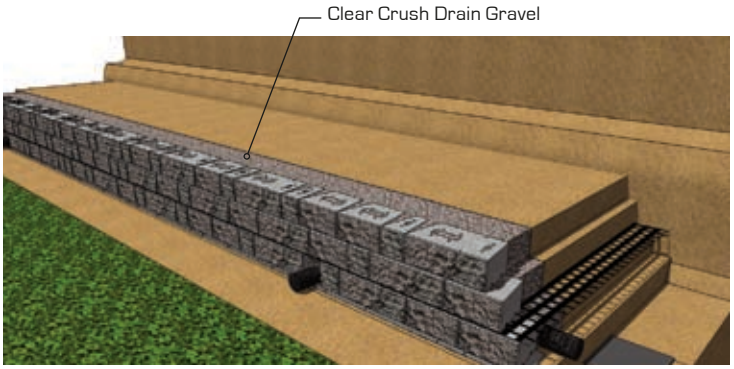
> > > STEP 4

REINFORCED BACKFILL

· **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 12" behind the units after placing and compacting backfill materials

· Install and compact backfill materials in 6" **Lifts** until wall is complete



> > > STONELEDGE™ WALL DETAILS

This section provides detailed, illustrated step-by-step instructions for using StoneLedge™ to construct: inside curves, outside curves, elevation changes, and both inside and outside corners.

Curves, corners and elevation changes are construction details that are often required for specific sites and can be specified by designers and engineers. Correct construction and professional completion of these wall details greatly enhances the visual appeal of the finished project and avoids the time and costs associated with improper installation.

> > > STEP 1

BASE ELEVATION CHANGES

· The top of the installed base unit will be used to establish the step-up gravel leveling pad elevation

· Make sure to backfill and compact the gravel in and around the last unit of the first course

· Finished grade of the leveling pad should be an 1/8" to 1/4" above top of first course units to allow for a small amount of settlement

· Repeat the above screeding steps on the second elevation gravel leveling pad

· Place the first unit on the second course at a half bond on top of last and second last of the first course units

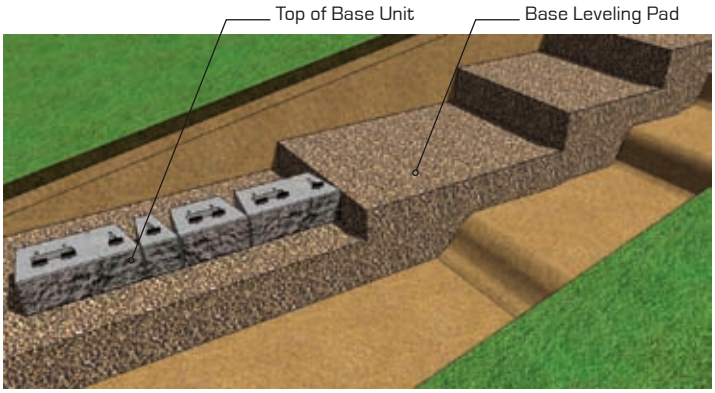
· The connectors in the lower units will fit into the connector slot of the upper units. To align the wall, place a string line at the back of the units for a straight wall or place a PVC pipe for a curved wall

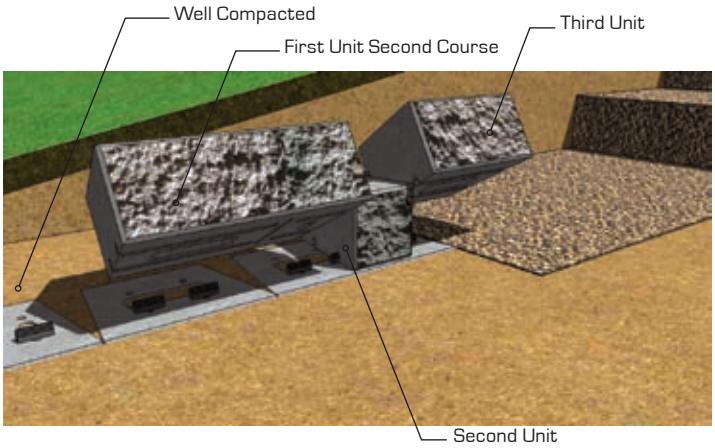
· The connector holes of the second course can also be used for aligning units

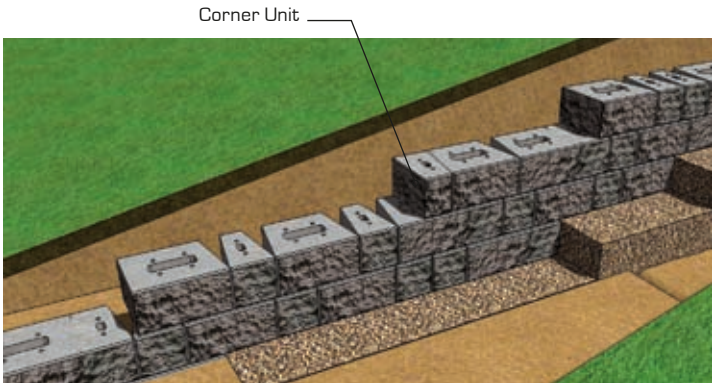
· Pull upper unit forward to engage and align units

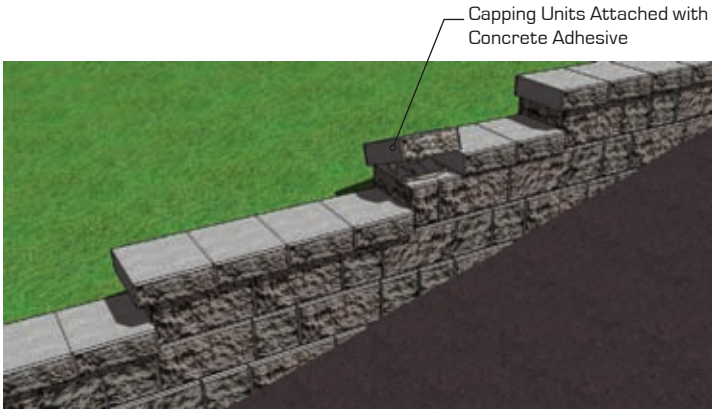
· The batter or set back will be 1/2”/unit (4.5 degrees or 1”/vertical foot) for a battered wall

· Place the second unit half on the last unit and half on the second gravel leveling pad





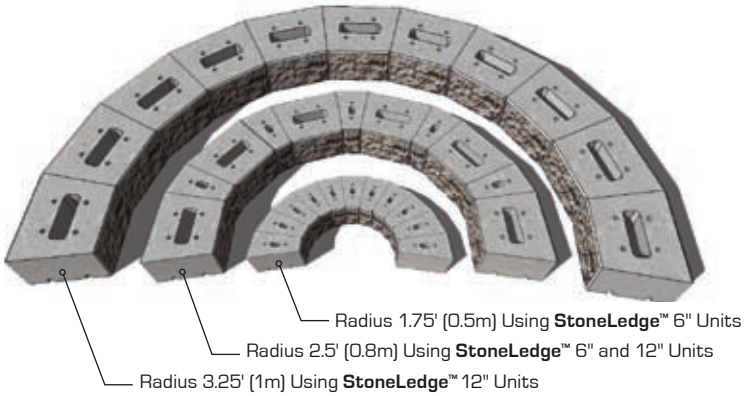


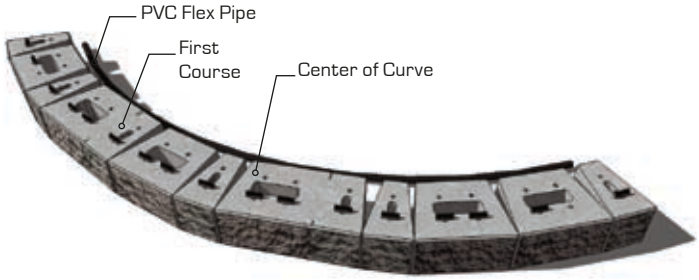


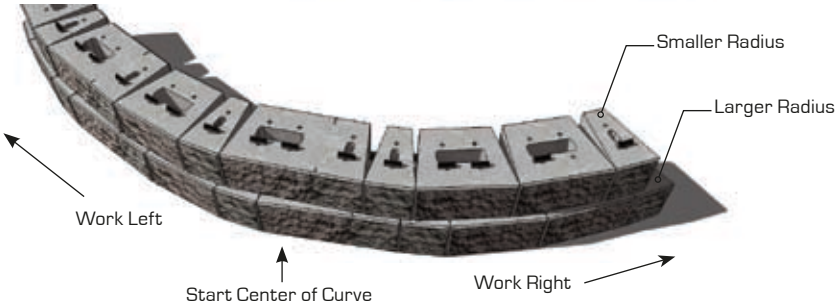
Convex/Outside Curves

> > > 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
- **Convex** curves have a slight increase in batter or setback to the standard 1/2" or vertical wall
- 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

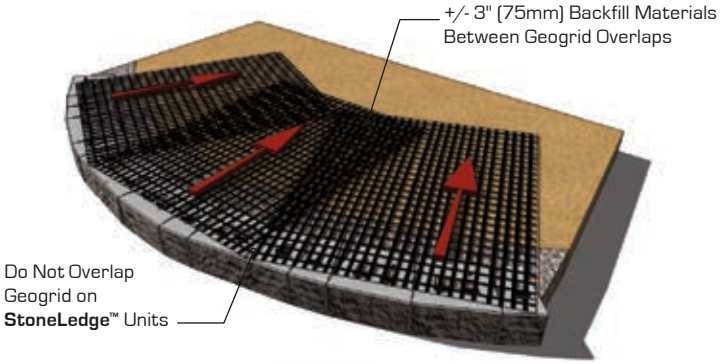


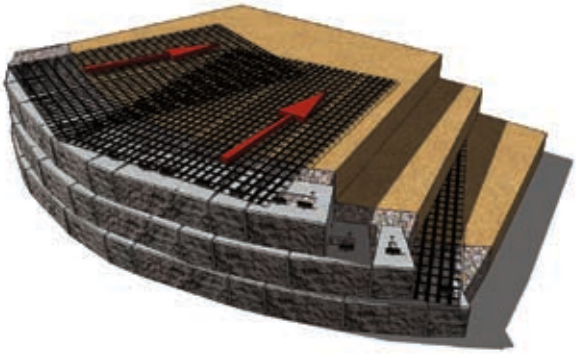




> > > STEP 2
CONVEX GEOGRID CURVE

- Each **Geogrid** length should be laid perpendicularly to the wall face
- **Geogrid** should not overlap on the **StoneLedge™** units
- **Correct geogrid orientation, strength and length is crucial to the success of the wall project**





Concave/Inside Curves

> > > STEP 1
CONCAVE FIRST COURSE

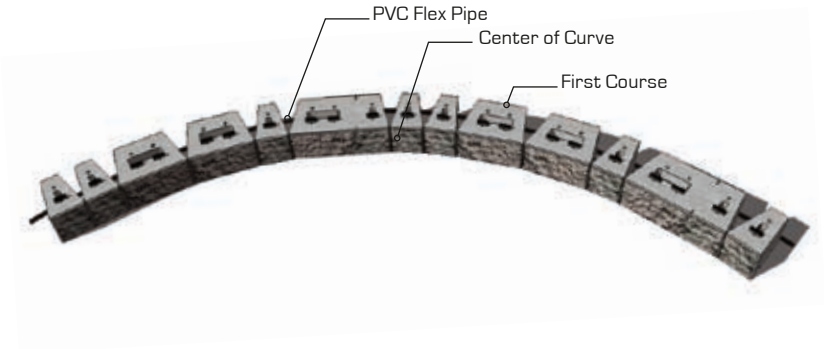
· If possible, start building a curve from the center and work left and right through the curve

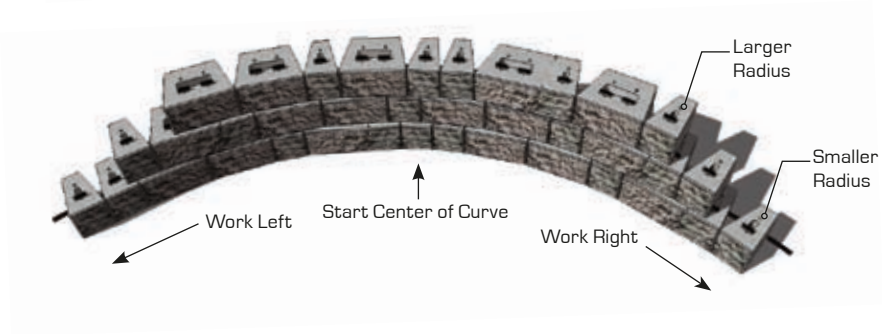
· Use **PVC Flex Pipes** to create smooth and accurate **Concave** curves

· Use the back of the unit for alignment

· **Concave** curves have a slight decrease in batter or setback to the standard 1/2" or vertical wall

· 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





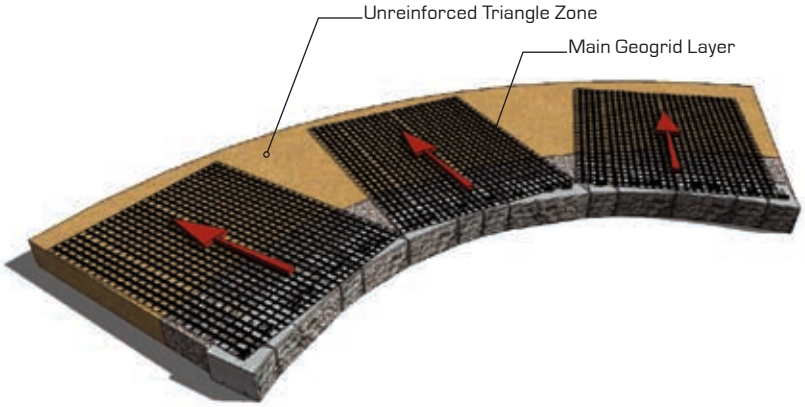
> > > STEP 2
CONCAVE GEOGRID CURVE

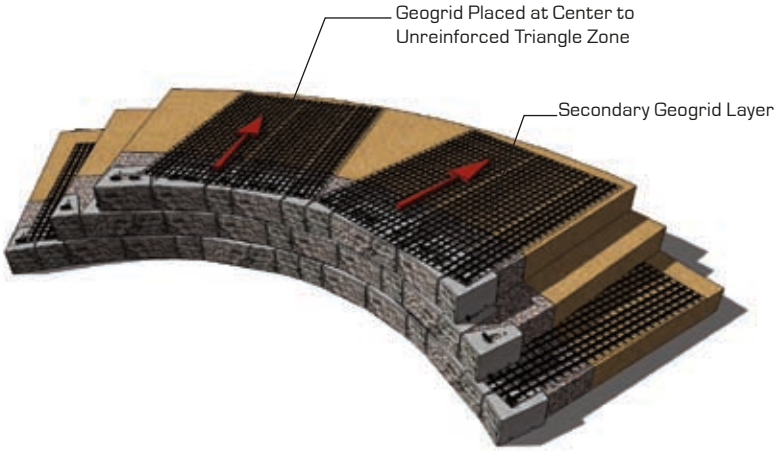
· Each **Geogrid** length should be laid perpendicularly to the wall face

· **Geogrid** should not overlap on the **StoneLedge™** 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**





Outside Corner

> > > STEP 1

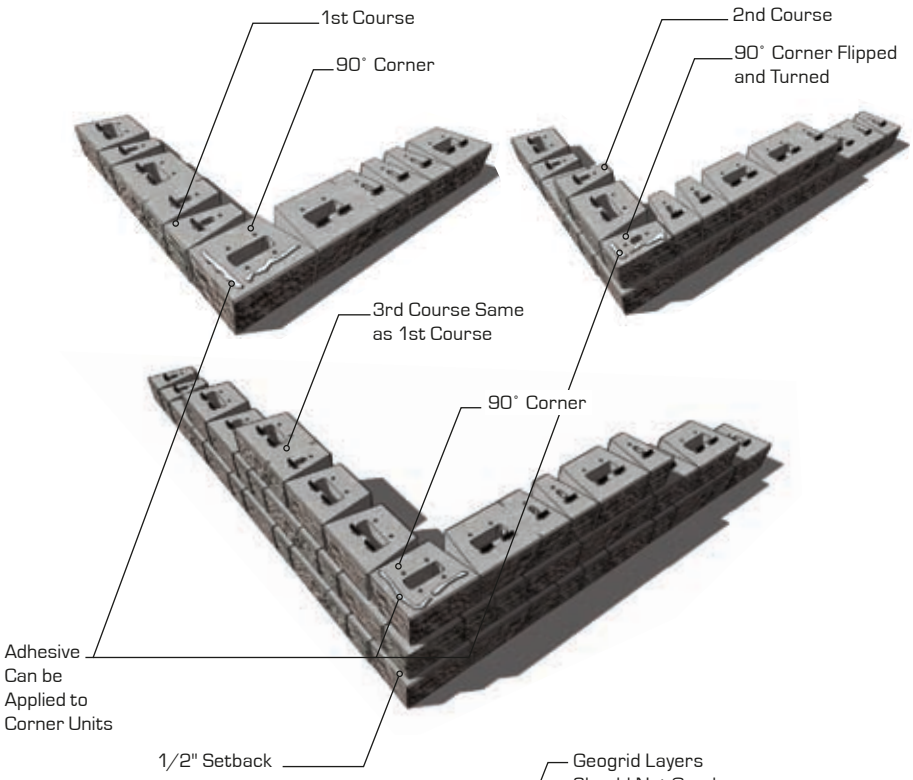
OUTSIDE FIRST COURSE

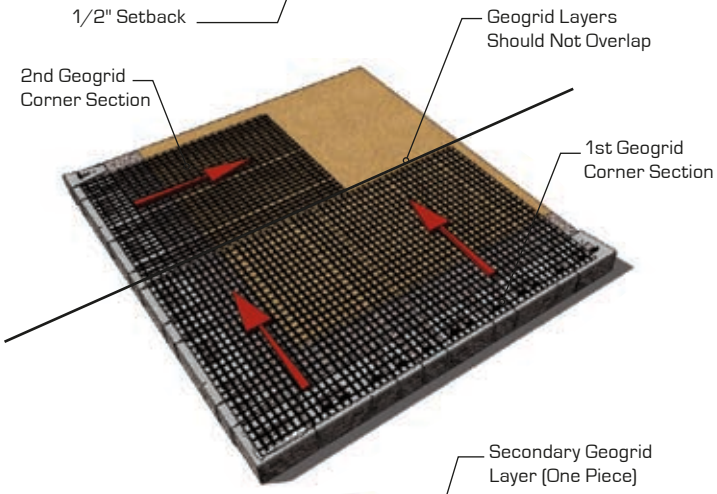
- Use a **90° Corner** unit to build an outside corner
- Place the first **90° Corner** unit on the base leveling pad to start the outside corner
- Place a **StoneLedge™** unit on either side against the **90° Corner** unit
- Continue to lay the **StoneLedge™** base course on either side of the corner until first course is completed
- Flip and turn the second course **90° Corner** overlapping the short side and half of the **StoneLedge™** base unit. This unit should be pushed back 1/2" for a 4.5 degree batter or vertical for a 0 degree batter to achieve proper setback
- Continue to lay the **StoneLedge™** 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

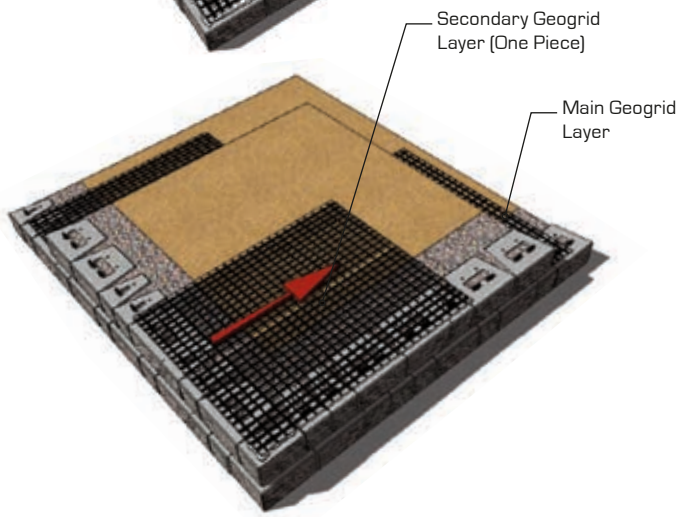
> > > STEP 2

OUTSIDE GEOGRID CORNER

- Each **Geogrid** length should be laid perpendicularly to the wall face
- **Geogrid** should not overlap on the **StoneLedge™** 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**







Inside Corner

> > > STEP 1
INSIDE FIRST COURSE

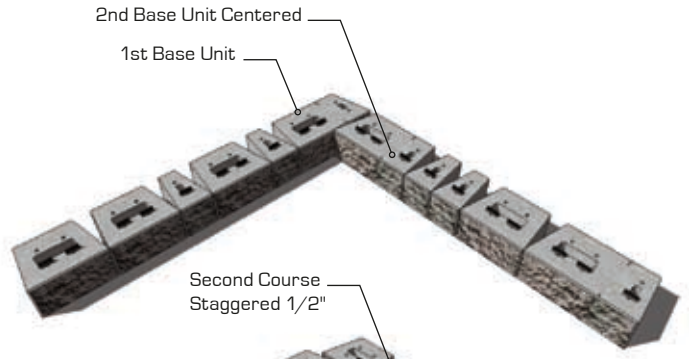
· Place the second unit at right angle and centered to the first **StoneLedge™** base unit. Continue to install the **StoneLedge™** base units right and left of the first inside corner units

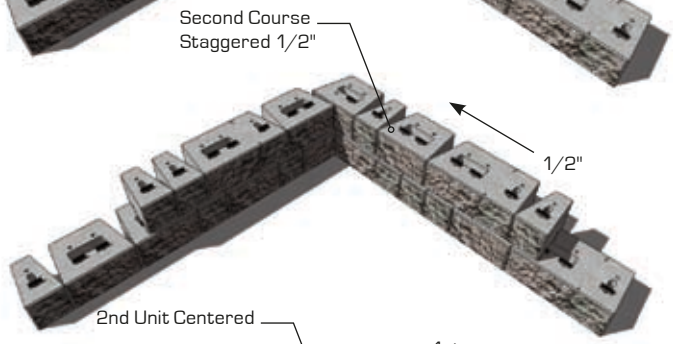
· Place the second unit at right angle and centered to the 1st unit on the second course

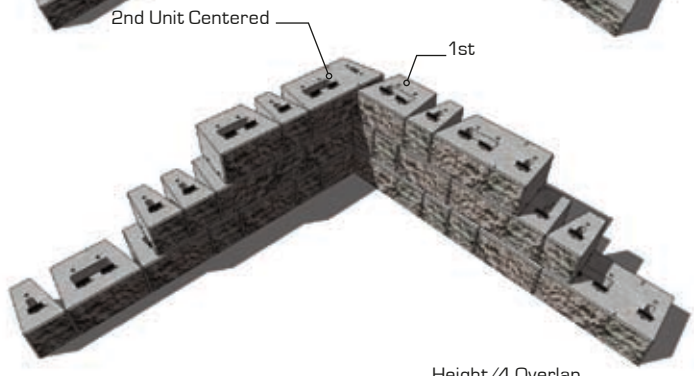
· Make sure second course units are placed at a 1/2" (4.5 degree for a batter or vertical for a 0 degree batter) to achieve setback to the lower inside corner

· 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 **StoneLedge™** units

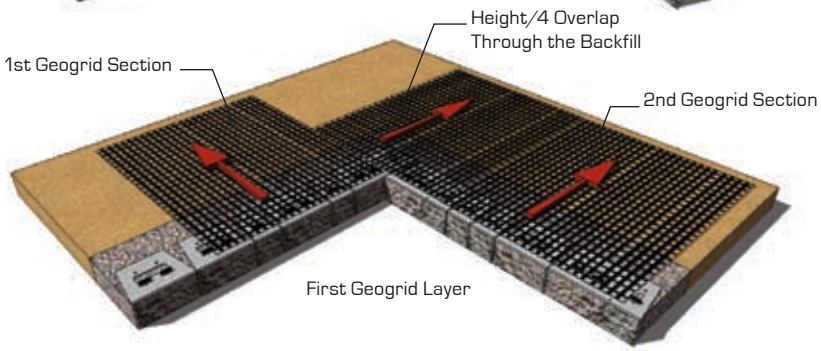
· Lay the 1st **Geogrid** corner section perpendicularly to one side of the corner and overlap h/4 through the backfill (Height of Wall ÷ 4)

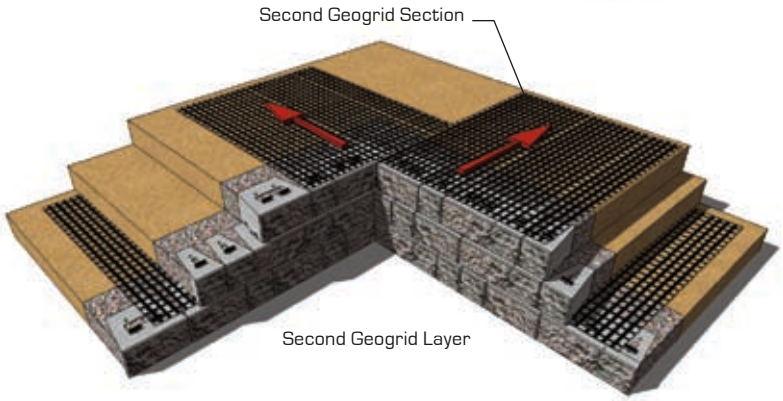
· Lay the 2nd **Geogrid** section perpendicularly to the 1st **Geogrid**

· 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

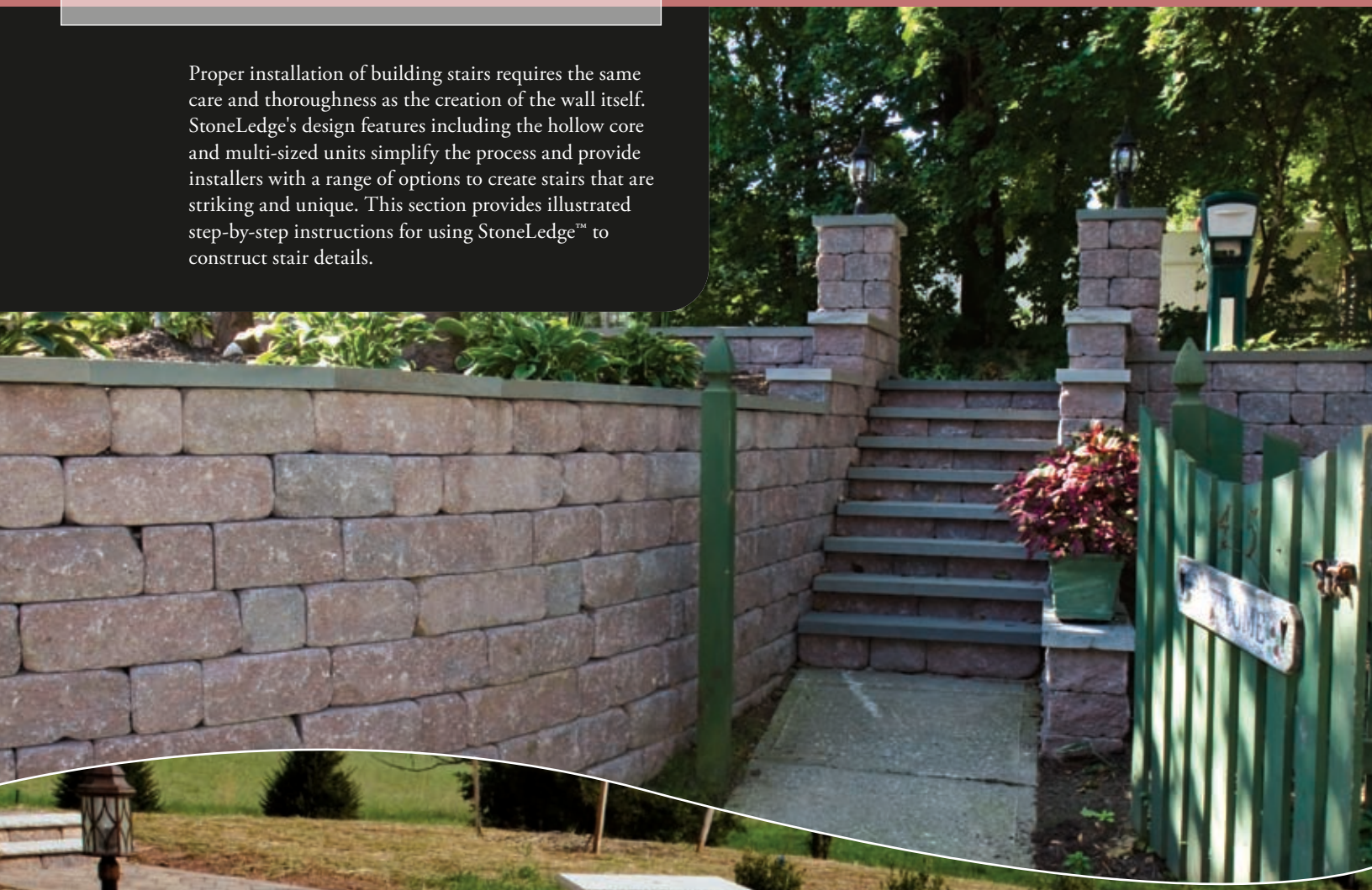
· **Correct geogrid orientation, strength and length is crucial to the success of the wall project**





> > > STONELEDGE™ STAIR DETAILS

Proper installation of building stairs requires the same care and thoroughness as the creation of the wall itself. StoneLedge's design features including the hollow core and multi-sized units simplify the process and provide installers with a range of options to create stairs that are striking and unique. This section provides illustrated step-by-step instructions for using StoneLedge™ to construct stair details.



> > > STEP 1
LAY FIRST COURSE

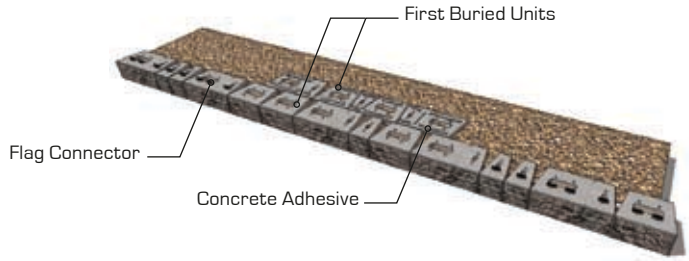
· Prepare the sub-base and base leveling pad by following Gravity **StoneLedge**™ Installation Steps 1 to 9

· Build each step in sequence with each course of the regular wall units for best results of wall to step interlock

· First course of step units will be totally buried

· Backfill behind the first course units with gravel, then compact and level flush to the top of the first course

Option: unit cores can be filled with concrete for greater stability

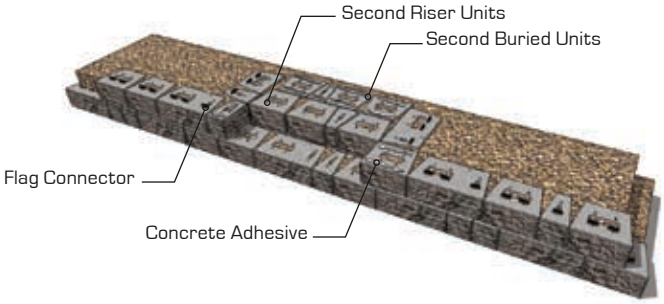


> > > STEP 2
LAY SECOND COURSE

· Place the second course of units on top of the base units with connectors in a batter position

· Place a second row of buried units in the back of the second riser units

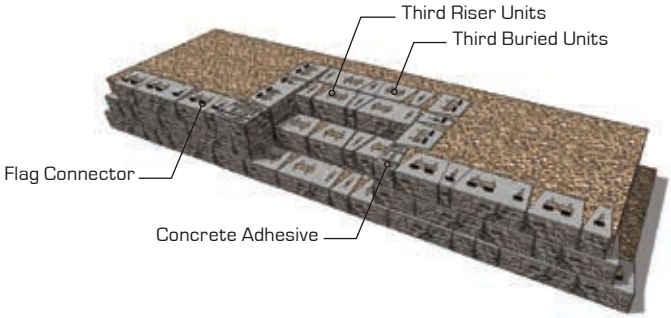
· Backfill behind the second course of units with gravel, then compact and level flush to the top of the second course



> > > STEP 3
LAY THIRD COURSE

· The third course units will be in a batter approximately .5 inch leaving 10.5 inches exposed on the front first step

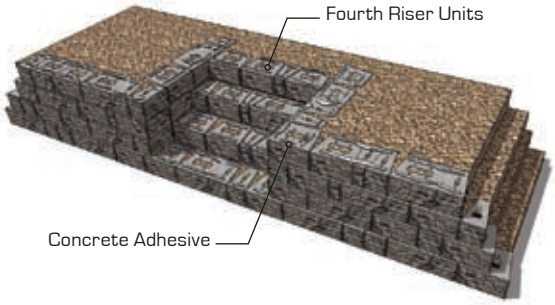
· Place a third row of buried units in the back of the third riser units



> > > STEP 4
CONTINUE INSTALLATION

· Continue to install each course of step units following the same steps as above

· The top and final step does not need buried units

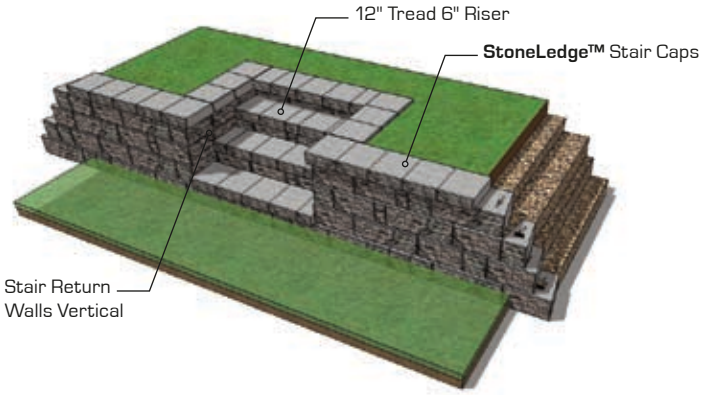


> > > STEP 5
STAIR TREADS

· **StoneLedge**™ 12 inch deep cap units can be used as a stair tread

· Option: Pavers, Patio Slabs or Natural Stone can also be used as a stair tread

· Use concrete adhesive to attach Step Caps



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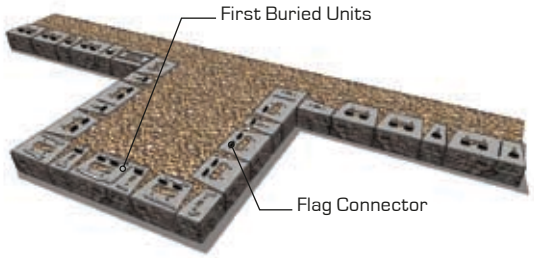
· Build each step in sequence with each course of the regular wall units for best results of wall to step interlock

· First course of step units will be totally buried

· Backfill behind the first course units with gravel, then compact and level flush to the top of the first course

Option: unit cores can be filled with concrete for greater stability



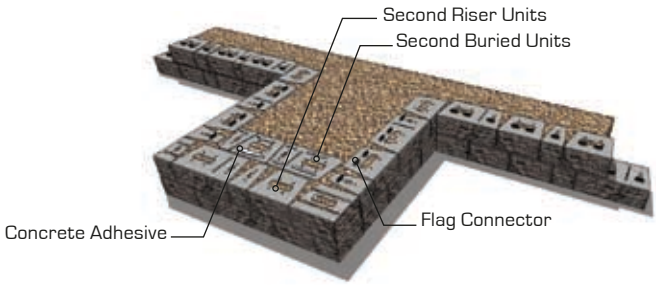
> > > STEP 2

LAY SECOND COURSE

· Place the second course of units on top of the base units with connectors in a batter position

· Place a second row of buried units in the back of the second riser units

· Backfill behind the second course of units with gravel, then compact and level flush to the top of the second course



> > > STEP 3

LAY THIRD COURSE

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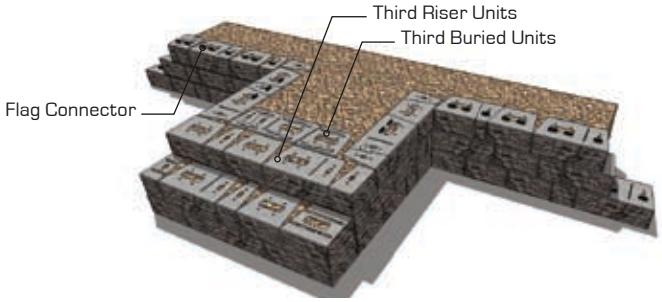
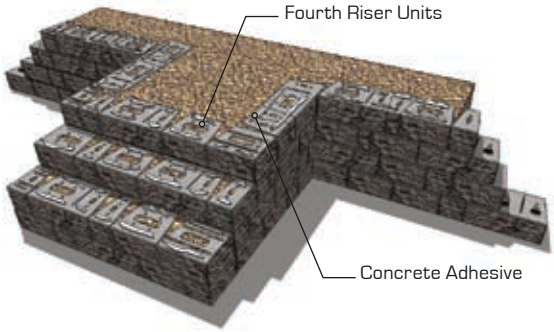


> > > STEP 4

CONTINUE INSTALLATION

· Continue to install each course of step units following the same steps as above

· The top and final step does not need buried units



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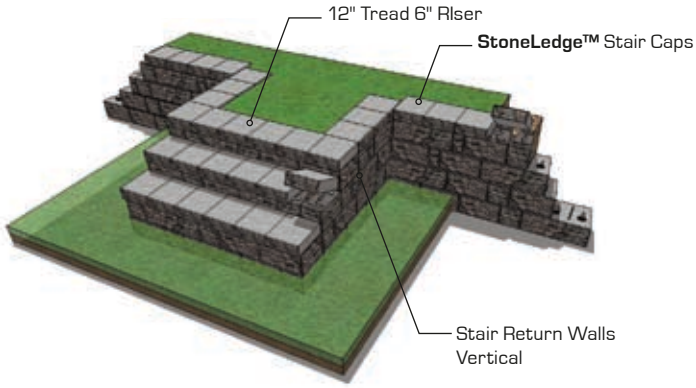
· Use concrete adhesive to attach Step Caps



> > > STONELEDGE™ PILLAR DETAILS

Pillars add a finishing touch of elegance to any StoneLedge™ wall project. They can be used to create distinguished entrance ways to any residence or business and the unit's hollow cores greatly simplify the placement of lighting in the pillars. This section provides simple instructions for the creation of multi-size pillars.

> > > STEP 1

LEVELING PAD

· Ensure that you have properly installed your base levelling pad. For a proper leveling pad concrete or **Well Graded Gravel** (also known as Road Base Aggregates) can be used

· It must be a minimum of 8" thick

· Once completed, place and level the **StoneLedge™** unit blocks as shown

> > > STEP 2

SECOND COURSE

· Flip and turn the second course corner units upside down to create an overlapping bond

· Place second course of the **StoneLedge™** corner units directly on top of the first course

· **Clear Crush Drain Gravel** (Angular Aggregates free of fines) should be placed in the cores and middle of pillar

· (concrete core filling optional) use a dry concrete mix to prevent leaching of cement

· **Concrete Adhesive** should be applied to all units to ensure course to course interlock

> > > STEP 3

ADDITIONAL COURSES

· Repeat Step 1 and Step 2 until desired height of pillar has been reached

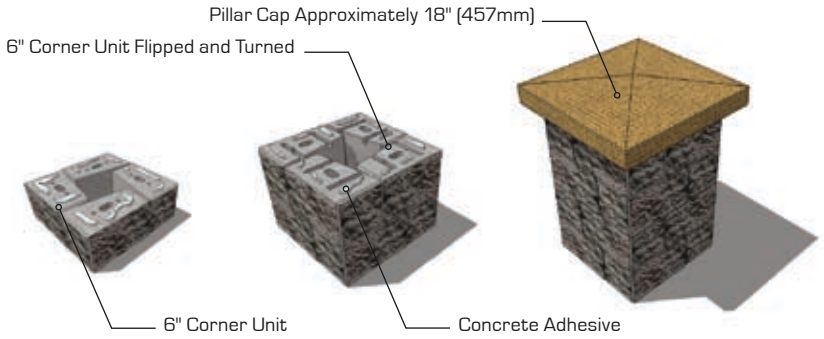
> > > STEP 4

COMPLETION

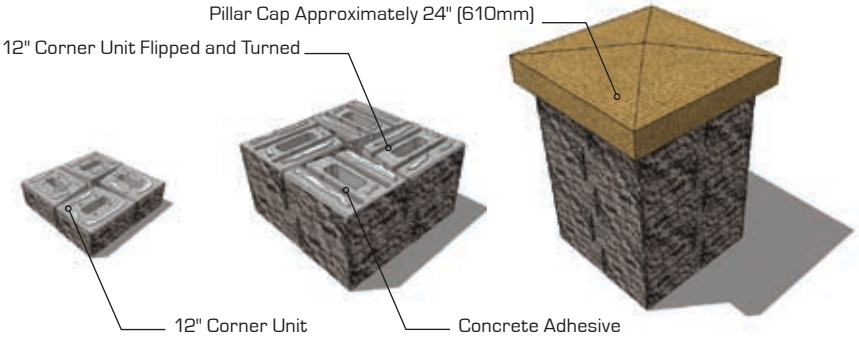
· Complete the pillar with a **Pillar Cap**

· Secure the **Pillar Cap** with a concrete adhesive

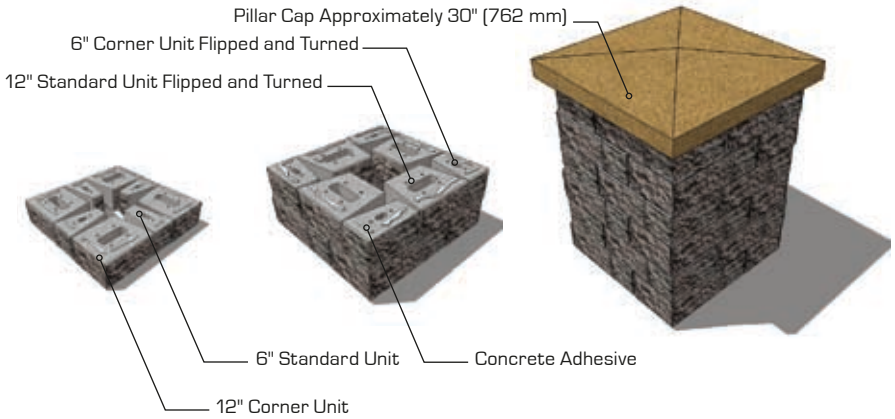
16" Pillar



22" Pillar



28" Pillar



The soil friction angle in these charts is used to calculate the pressure soil will have on a StoneLedge™ Geogrid reinforced wall. This guide outlines 26, 30 & 34 degree friction angle soil types. Additionally, three different top-of-wall load conditions are used in each of the soil types i.e. no surcharge load, 100 psf load and a 4 to 1 slope.

The assumed weight for the three soil types is approximately 120 lb/ft^3 (19kN/m^3). A well graded gravel leveling pad with a minimum of 1 (6") unit of burial is assumed for base sliding resistance. All sub base, leveling pad and backfill materials should be compacted to a minimum of 95% Standard Proctor.

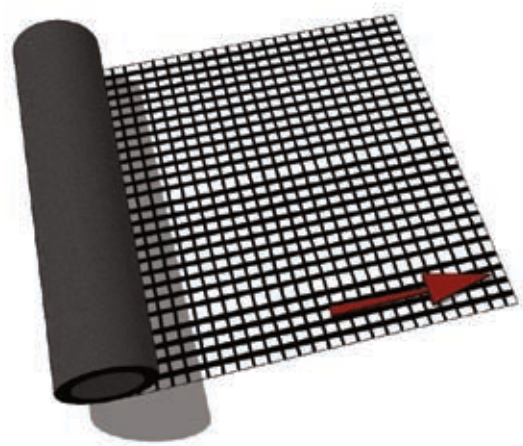
The StoneLedge™ concrete SecureLug has a built in batter or set back of 4.5 degrees or 1"/vertical foot of wall.

For more specific soil analysis refer to our website, or consult a qualified engineer.

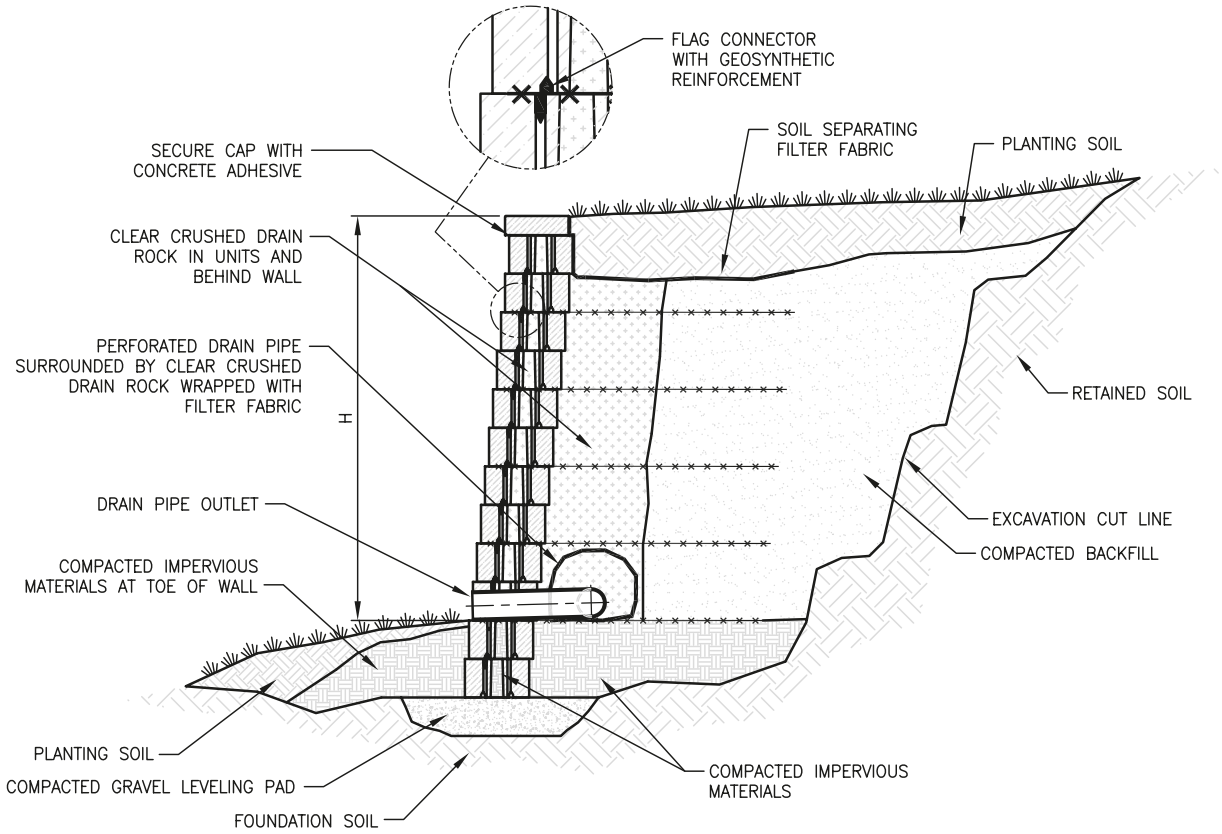
These preliminary design charts are used by owner, designer, architect and installer to calculate construction cost only and are not for construction purposes. A qualified engineer should be consulted for a final construction design.

GEOGRIDS

Geogrids are meshes typically made of a regular pattern of tensile elements usually made of a fairly rigid type of plastic. These are used to strengthen fill materials in geotechnical applications. They provide increased shear strength between soil strata interfaces. Their tensile strength can prevent or decrease the degree of differential settlement in some applications such as beneath structures or roads by transmitting the load over a broader area of soil, thereby diminishing the vertical stress — and subsequent compression — in the soil.



GEOGRID REINFORCED CROSS SECTION

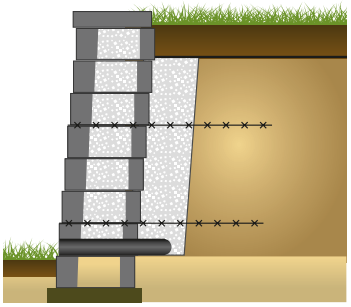


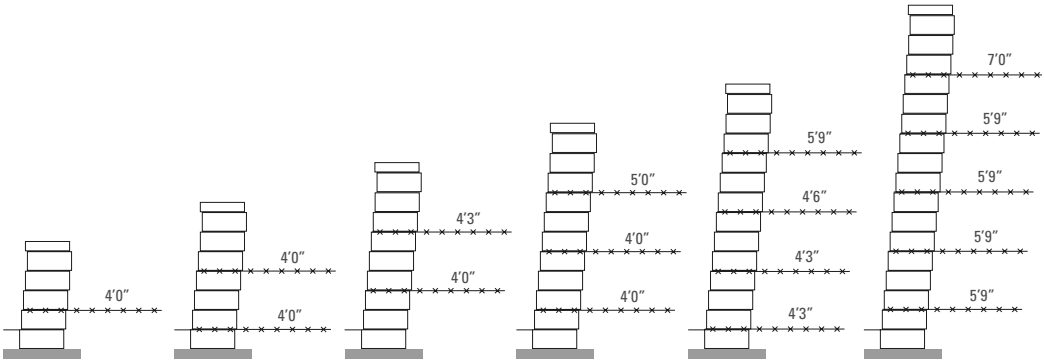
26 Degree Soil

High Plastic Silts and Clays

CORNERSTONE WALL SOLUTIONS INC.

Flat at Top and Bottom of Wall
No Surcharge

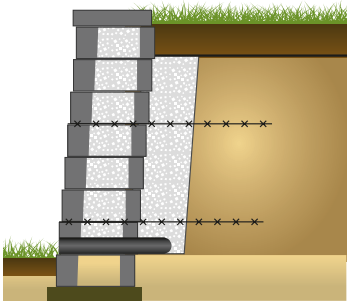


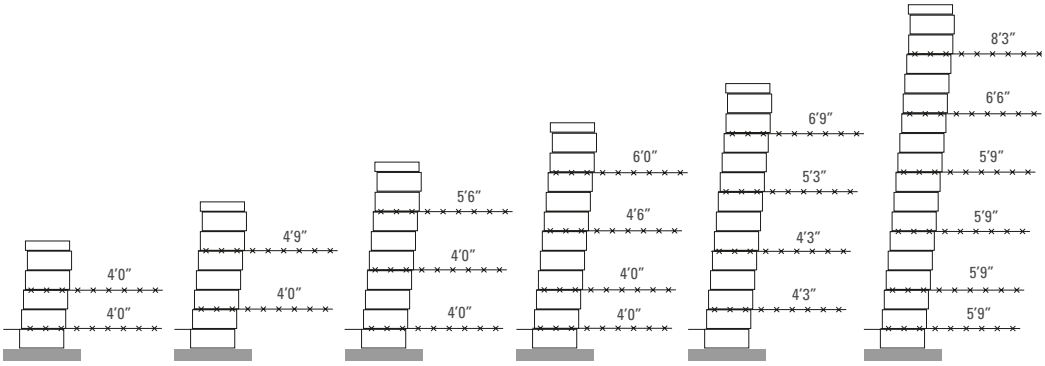


Case A

Exposed Hgt wo/cap	2'0"	3'0"	4'0"	5'0"	6'0"	8'0"
Grid Sq Yd per Ln Ft	0.444	0.889	0.917	1.444	2.083	3.33
# Block per Ln Ft	3.75	5.25	6.75	8.25	9.75	12.75
# Cap per Ln Ft	.75	.75	.75	.75	.75	.75

Flat at Top and Bottom of Wall
100 psf Surcharge

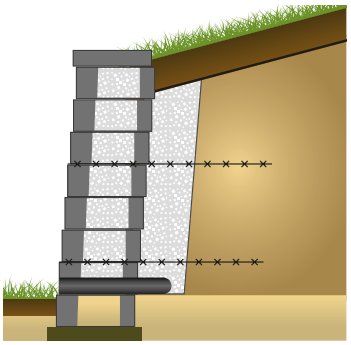


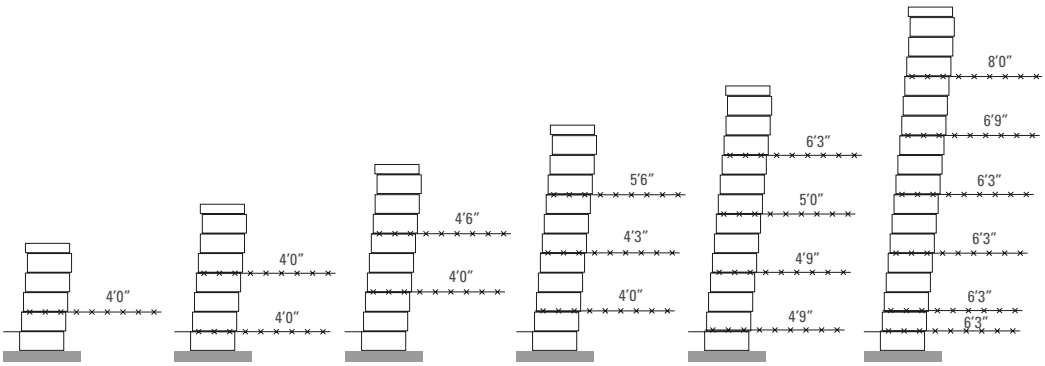


Case B

Exposed Hgt wo/cap	2'0"	3'0"	4'0"	5'0"	6'0"	8'0"
Grid Sq Yd per Ln Ft	0.889	0.972	1.500	2.056	2.278	4.194
# Block per Ln Ft	3.75	5.25	6.75	8.25	9.75	12.75
# Cap per Ln Ft	.75	.75	.75	.75	.75	.75

4/1 Slope at Top - Flat Bottom





Case C

Exposed Hgt wo/cap	2'0"	3'0"	4'0"	5'0"	6'0"	8'0"
Grid Sq Yd per Ln Ft	0.444	0.889	0.944	1.528	2.306	4.417
# Block per Ln Ft	3.75	5.25	6.75	8.25	9.75	12.75
# Cap per Ln Ft	.75	.75	.75	.75	.75	.75

Approximate Equivalent Geogrids:

SRW: 3 Series, Strata: SG150, Synteen: SF20, Mirafi: 2XT, Tensar: BX1200, Luckenhaus/Raugrid: 3/3-20, Huesker/Fortrac: 35/20-20

DO NOT USE FOR CONSTRUCTION / FOR PRELIMINARY ESTIMATION ONLY

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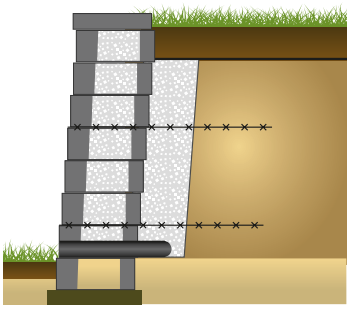
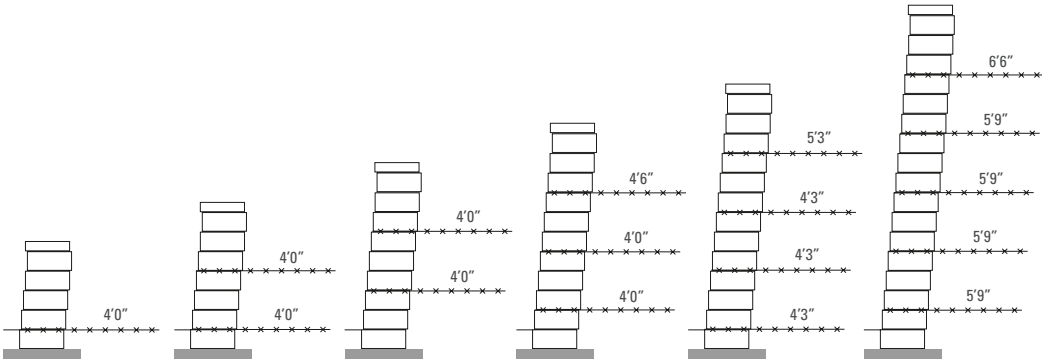
Flat at Top and Bottom of Wall
No Surcharge

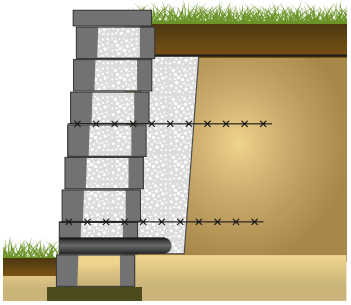


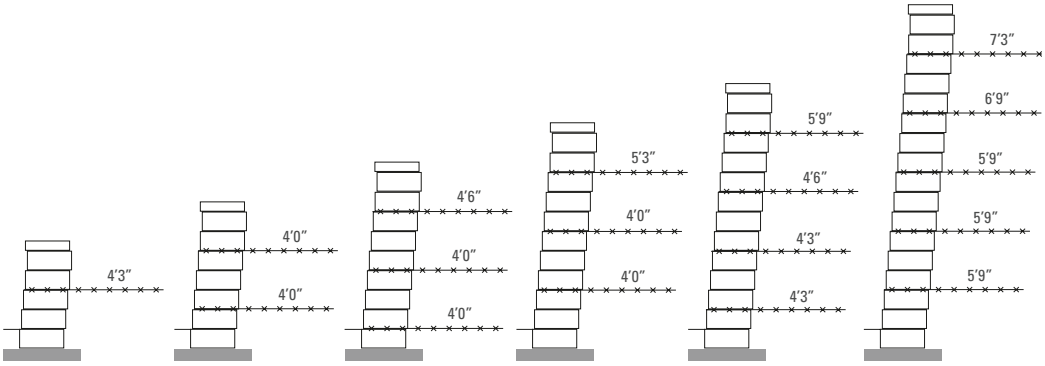


Case A

Exposed Hgt wo/cap	2'0"	3'0"	4'0"	5'0"	6'0"	8'0"
Grid Sq Yd per Ln Ft	0.444	0.889	0.889	1.389	2.000	3.278
# Block per Ln Ft	3.75	5.25	6.75	8.25	9.75	12.75
# Cap per Ln Ft	.75	.75	.75	.75	.75	.75

Flat at Top and Bottom of Wall
100 psf Surcharge

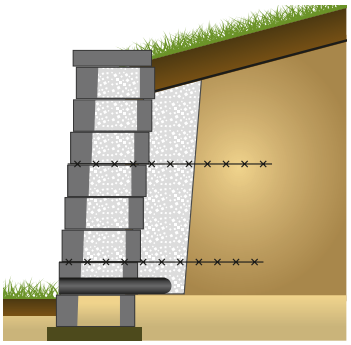


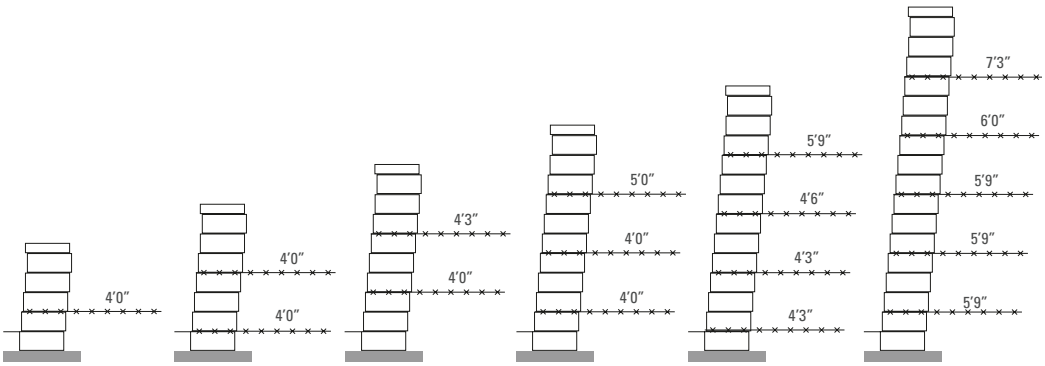


Case B

Exposed Hgt wo/cap	2'0"	3'0"	4'0"	5'0"	6'0"	8'0"
Grid Sq Yd per Ln Ft	0.472	0.889	1.389	1.472	2.083	3.361
# Block per Ln Ft	3.75	5.25	6.75	8.25	9.75	12.75
# Cap per Ln Ft	.75	.75	.75	.75	.75	.75

4/1 Slope at Top - Flat Bottom





Case C

Exposed Hgt wo/cap	2'0"	3'0"	4'0"	5'0"	6'0"	8'0"
Grid Sq Yd per Ln Ft	0.444	0.889	0.917	1.444	2.083	3.389
# Block per Ln Ft	3.75	5.25	6.75	8.25	9.75	12.75
# Cap per Ln Ft	.75	.75	.75	.75	.75	.75

Approximate Equivalent Geogrids:

SRW: 3 Series, Strata: SG150, Synteen: SF20, Mirafi: 2XT, Tensar: BX1200, Luckenhaus/Raugrid: 3/3-20, Huesker/Fortrac: 35/20-20

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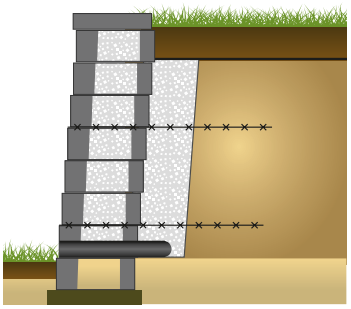
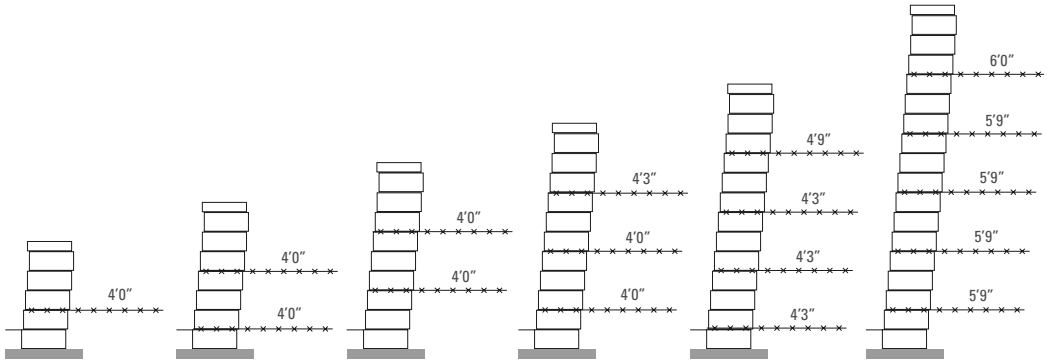
Flat at Top and Bottom of Wall
No Surcharge

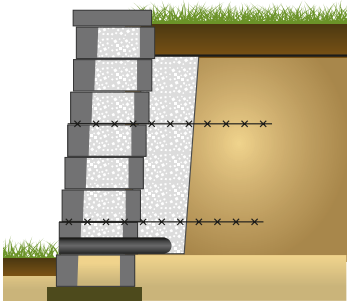


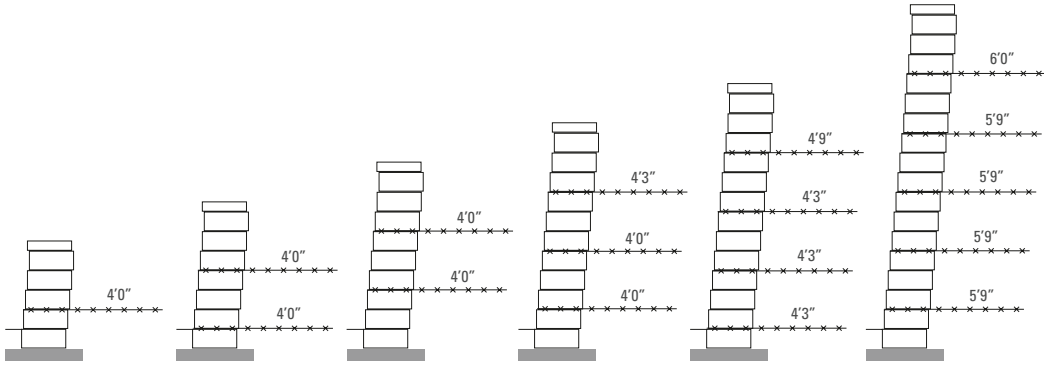


Case A

Exposed Hgt wo/cap	2'0"	3'0"	4'0"	5'0"	6'0"	8'0"
Grid Sq Yd per Ln Ft	0.444	0.889	0.889	1.361	1.944	3.222
# Block per Ln Ft	3.75	5.25	6.75	8.25	9.75	12.75
# Cap per Ln Ft	.75	.75	.75	.75	.75	.75

Flat at Top and Bottom of Wall
100 psf Surcharge

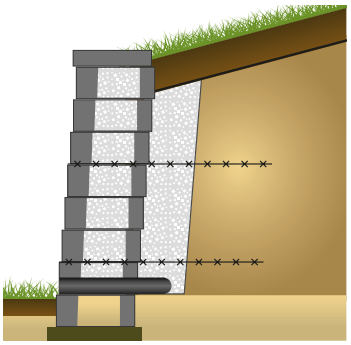


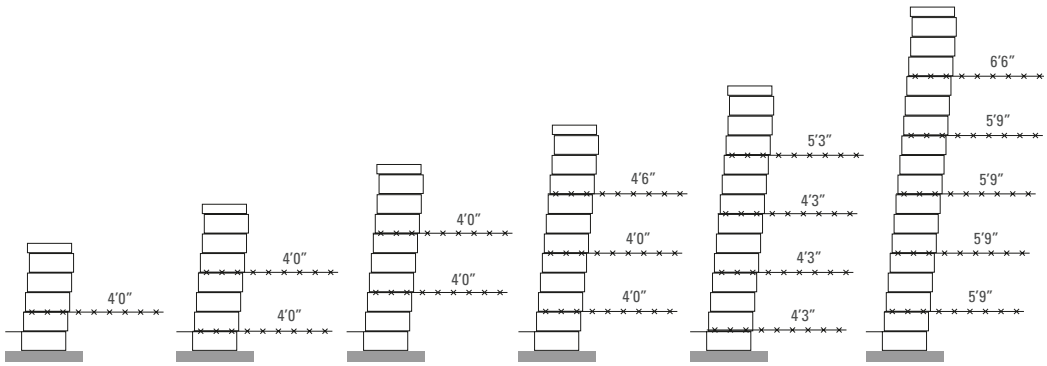


Case B

Exposed Hgt wo/cap	2'0"	3'0"	4'0"	5'0"	6'0"	8'0"
Grid Sq Yd per Ln Ft	0.444	0.889	0.889	1.361	1.944	3.222
# Block per Ln Ft	3.75	5.25	6.75	8.25	9.75	12.75
# Cap per Ln Ft	.75	.75	.75	.75	.75	.75

4/1 Slope at Top - Flat Bottom





Case C

Exposed Hgt wo/cap	2'0"	3'0"	4'0"	5'0"	6'0"	8'0"
Grid Sq Yd per Ln Ft	0.444	0.889	0.889	1.389	2.000	3.278
# Block per Ln Ft	3.75	5.25	6.75	8.25	9.75	12.75
# Cap per Ln Ft	.75	.75	.75	.75	.75	.75

Approximate Equivalent Geogrids:

SRW: 3 Series, Strata: SG150, Synteen: SF20, Mirafi: 2XT, Tensar: BX1200, Luckenhaus/Raugrid: 3/3-20, Huesker/Fortrac: 35/20-20

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WALL SOLUTIONS INC.
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