

EDITION IV

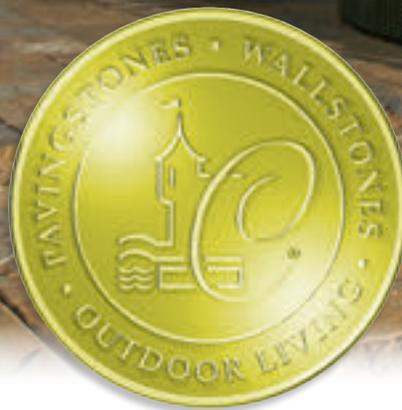
CAMBRIDGE



FULLY
TRANSFERABLE

Lifetime

VALUE-ADDED
WARRANTY



DESIGNSCAPING HANDBOOK

A CONTRACTOR'S GUIDE TO OUTDOOR LIVING ROOMS & MORE!

Welcome...

We at Cambridge believe that the most important component leading to the success and growth of the pavingstone and retaining wall industry is not me, the manufacturer, and not the hardscape distributor, but you the contractor, who brings your knowledge and skills to this **Billion Dollar Industry**.

Cambridge Pavingstones with ArmorTec® and Cambridge Wallstones have always helped professional hardscape designers and contractors address current trends in outdoor living by offering products that combine unmistakable quality and value with design versatility and ease of installation. With this end in mind, we thought of you, the professional, by making available popular outdoor living room components in pre-cut, pre-packaged kit form to shorten the labor hours in the building of columns, fire pits, outdoor fireplaces, open air kitchens, pizza ovens, pergolas, pavilions and waterfalls. We also offer Fully Assembled Outdoor Living Room Components (see Section 4). When you design them into your next patio project, **nothing could be easier!**

In an unsolicited e-mail, a successful contractor in Long Island, NY said to one of our territory managers: "We take a lot of pride in our customer base and our final product installed. Choosing Cambridge Pavingstones makes our goals much easier to achieve. The product is second to none and the support is always there when needed. It makes for a win-win."

Homeowners are quickly learning that a pavingstone patio or pool deck, driveway, and walkway, **when properly installed**, will increase the appraised value of a home. What's more, homeowners know that a pavingstone patio with added amenities can also increase their quality of life for years to come.

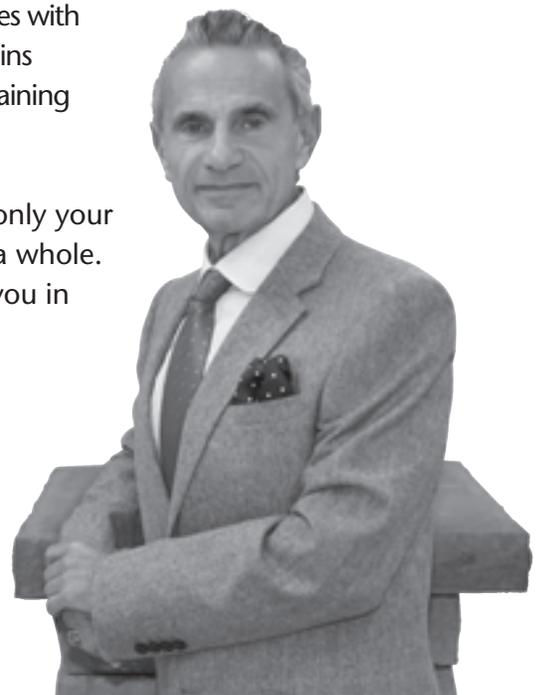
In addition to being a manufacturer of "premium quality" pavingstones with ArmorTec®, wallstones and outdoor living products, Cambridge remains fully-committed to proper installation methods through education, training and especially through our Contractor Certification Program.

By joining us in this commitment you do a great service to not only your own company, but also the future of the hardscape industry as a whole. The Cambridge DesignScaping Handbook is designed to assist you in achieving these very goals *AND MORE*.

Yours truly,



Charles H. Gamarekian
Founder/Chairman/CEO
Cambridge Pavers Inc.



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Be sure to Scan the QR Codes shown to see Hands-On-Videos and Installation Tips!

TIPS FOR SUCCESSFUL SELLING

Your Presentation To The Homeowner

Build a rapport. You are the expert. Detail all that you will do in accordance with proper installation methods as recommended by Cambridge and ICPI (Interlocking Concrete Pavement Institute) — considered by peer associations around the world as the leader in development and dissemination of technical information for design professionals and contractors.

Show one brochure from one manufacturer. Strengthen the credibility of your recommendations. Your Cambridge distributor is a single-resource for a complete line of pavingstone, wallstone and other products including components for outdoor living rooms, which are ready-to-install in pre-cut, pre-packaged kits.

Include a “Proper Installation Checklist” in your proposal. Example: 1. Excavate; 2. Compact soil; 3. Supply compact and grade base material; 4. Supply and install edge restraint; 5. Screed concrete sand; 6. Place pavers and compact; and 7. Broom sweep additional sand filling to chamfer and compact again.

Attach ICPI “Concrete Paver Consumer Guide” to your quote. This guide will answer questions about an interlocking concrete pavement. Most importantly, along with your checklist, it provides guidance to the homeowner on how to distinguish one pavingstone contractor from another. The homeowner’s ultimate selection will ALSO be made on YOUR expertise, not just price. This guide can be found in the Homeowner Resource Center of our website.

Marketing Material And Lead Generation

Cambridge makes available to contractor-customers a battery of marketing material including full color brochure; door hanger advertising; postcard mailers; vehicle and lawn signs; social media as well as quality work gear with printed and embroidered Cambridge branding. Our in-depth sales support also consists of online and direct lead generation programs.

Pavement Type Selection

If the homeowner is unsure about what type of pavement to use, present the ICPI “Pavement Comparison Guide”. The publication favorably compares appearance, initial cost, installation, maintenance, winter durability and snow removal characteristics of concrete pavers to cobblestone; stamped, stenciled and ordinary concrete; clay brick pavers; asphalt; and crushed stone and gravel. Use it in addition to technical information provided by your Authorized Cambridge Distributor or from the Cambridge website when making your sales presentations to homeowners as well as developers, architects and other decision makers. This guide can be found in the Homeowner Resource Center of our website.

How do I know which installation method is right?

There are three basic types of installations: RCA (crushed stone), Concrete and Dry pack (which is a mixture of sand and Portland cement). However, there is only one method approved by all paver manufacturers and that’s the RCA (crushed stone) method. Pavers are designed to be installed as a “Flexible” system which allows them to expand and contract as a system during freeze thaw cycles. Placing pavers on a rigid base does not allow the pavers to expand and contract properly during freeze thaw cycles and may cause the pavement to fail prematurely and may promote poor drainage conditions. Think about the condition of the concrete or asphalt system that you are replacing and ask yourself if you want that type of system under your new paver project. The old rigid system didn’t survive 30 years of freeze thaw cycles, do you think it will survive the next 30, 20 or even 10 years without heaving or cracking, causing your new pavement to fail? Pavers installed on a RCA base actually have a higher load bearing capacity than concrete or asphalt because they spread the load over a greater surface area. However, in some areas the soil conditions are not ideal and poured concrete is needed or there may be nothing wrong with an existing concrete slab driveway, patio or walk way. This is when a “Concrete Overlay” installation may be used.

The Added Value Of ArmorTec®

Perfectured by Cambridge here in the USA, ArmorTec comprises the same “one-piece” manufacturing process that began in Europe over seven decades ago and continues to be the choice of European producers. ArmorTec is manufactured “into” every Cambridge Pavingstone we make. Here only super-fine sand granules and granite — one of the hardest rocks — devoid of small and large stones, along with the highest quality cement are formulated for smooth results that the eye can see and bare feet can feel. The color runs throughout every pavingstone. These benefits have earned the trust of countless homeowners and hardscape professionals... **only Cambridge has ArmorTec®.**

Build Your Sale

Homeowners are quick to learn that a pavingstone patio or pool deck, when properly installed, will increase the appraised value of a home. What’s more, show them how a pavingstone patio or driveway with added amenities like **paver and wall lights**, a **barbeque and fire pit**, an **outdoor fireplace**, **columns**, a **waterfall** and an **open-air kitchen**, **pizza oven**, a **refreshment bar**, a **patio table**, a **pergola** or **pavilion**, and a **pondless waterfall** from Cambridge — sold in **pre-cut, pre-packaged kits and fully assembled** in various styles — can increase home value and their quality of life for years to come.

Have A Vision

Most homeowners have a fully-featured, outdoor room on their wish lists, but are under the impression that it is financially out of their reach. When faced with this, respond by recommending a smaller 10 ft. x 10 ft. patio initially that can easily be added to in future years. Suggest enhancements such as a seating wall, an outdoor fireplace, and/or any Cambridge Outdoor Living Room Component based on the long-term budget of their project.

Show "Before & After" Photo Images

Create realistic, computer-generated images of your designs with the exclusive **Cambridge DesignScape Visualizer™**. See the demo video of our DSV 2.0 at www.CPVisualizer.com or from the Cambridge website (www.cambridgepavers.com, see the link on the Home Page). Feel free to contact your Cambridge Territory Manager who can meet with you to go over all of the great benefits and ease of use offered in our DesignScape Visualizer.



Simply import digital photos of your customer's yard or existing driveway. Preview the area illustrating your new patio, pool deck, walkway or driveway with any Cambridge Pavingstones and Wallstones in the products, actual colors and patterns of your choice... right before your customer's eyes!

Show Shapes & Colors In Actual Installations

For the best outdoor living ideas, refer to photos of various installations in the Cambridge brochure and also show your own project portfolio when making your sales presentation. For added credibility, if your project appears in Cambridge literature or on our website or social media, be sure to tell or show the potential customer. To have your project(s) considered for a brochure or the online Photo Gallery, give photos and specs to your Cambridge Territory Manager or e-mail to chris@cambridgepavers.com.

Ask About OnlineDesignScapes

As an added service, we can make available an affordable design package including a 3D virtual tour and color blueprints created for you by an experienced design professional! At Cambridge, every project is important to us because it involves you, our contractor-customer, and your desire to improve your customers' outdoor lifestyle. **This design package will add to your credibility and close the sale.**



For more information on Cambridge DesignScape Visualizer and OnlineDesignScapes, visit www.cambridgepavers.com.

THE ROLE OF YOUR CAMBRIDGE TERRITORY MANAGER

Expert Advice

Your Cambridge Territory Manager is your personal, professional partner to rely on for **product knowledge, technical advice and other support services**. He will gladly make site visits and offer suggestions and solutions to achieve a successful installation. Be sure to ask for marketing material such as free lawn and vehicle signs. To find a Cambridge Territory Manager, go to the "Contact Us" page at www.cambridgepavers.com.

KEYS TO GOOD DISTRIBUTOR RELATIONS

Ordering Pavingstones And Wallstones

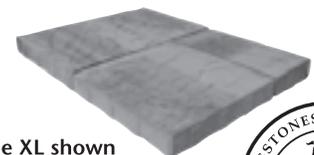
For your convenience, the Cambridge DesignScape Visualizer software has an **instant project planner calculator feature** that enables you to compute the number of pavers and/or wall units required for your Cambridge project.

Note: All dimensions quoted in Cambridge literature and online are normal and for guidance only. Actual sizes will vary, particularly on products designed to replicate natural stone, which have features such as riven profiles and fettled edges. Sizes and quantities usually allow a nominal 5 mm or more of sand joint width.

Stay on schedule. Give your Cambridge Distributor as much advanced notice as possible for pavingstone and wallstone requirements and delivery.

Available Inventory

Be aware of which shapes and colors your Cambridge Distributors stock. Tell the distributor which shapes and colors that you usually recommend to homeowners. You have a great deal of influence over your potential customer. Typically, the homeowner will ask you for your recommendation. Recommend shapes and colors that your distributor stocks and you will always be in a position to start any job immediately.



LedgeStone XL shown



Concrete Sand

Use concrete sand (C-33 course sand) for your leveling course, and also for sweeping into the joints. Do not use stone dust. The elongated particles will eventually break down and the dust fines will hold water.

Polymeric Sand

Alliance Super Sand from Cambridge; available in Beige, Slate Grey or Black Diamond, is a unique mixture of polymer binders and calibrated sand. The installation of polymeric sand is almost identical to using regular paver joint sand, except for the applications of water. Once polymeric sand sets, it becomes very firm and locks between the paver joints. This firm bond maintains pavers securely in place and is equally effective on both horizontal and sloped surfaces. Read Page 12 for detailed installation procedures.

Popular Border Choices

Border Choice	Square Ft Per Cube	Linear Ft Per Cube (Soldier)	Linear Ft Per Cube (Sailor)
4.5x6	61	122.5	162.75
4x8	121	180	360
4.5x9	66	90.6	181.9
6x6	105	210	210
6x9	113	150	225
4x12 Bullnose	78	78	N/A
6x12 Bullnose	78	78	N/A
Belgium 5	98	N/A	234.5
Brick Alley	42	62.5	193.75
Ledgestone Cast Stone	N/A	50	N/A

Color Dispersion

When installing pavingstones and/or wallstones, best color dispersion of solid colors and blends can only be achieved by removing units by the band or by alternating layers from top to bottom, using multiple cubes.

Concrete pavers are made of natural materials and colors may vary slightly from one cube to another. Always check dates that are printed on all cube tags. If dates are not consistent, pay close attention to the colors when installing the pavers. If the variance is very apparent, contact your Authorized Cambridge Distributor or Cambridge Territory Manager before installing the project.

Cutting Pavers

Use a dry, power-driven masonry saw. Be sure to tent and/or vent to prevent masonry dust from blowing onto surrounding areas. Staining will result should dust accumulate and become moist. When using a wet saw, never cut over pavers or near an unprotected area. The wet residue of cement (mortar) that is produced by the saw cannot be removed from a pavingstone surface.

Laying Pavers On A Grade

Pavers should always be laid from the lower grade to the higher elevation.

Handling Defective Pavingstones & Wallstones

Don't allow your laborers to install defective product. Use them for cuts thereby eliminating re-installation and call backs. In many cases, the same pavingstone and wallstone may accommodate more than one cut.

Surface Scuff Prevention

A bolt-on urethane protection mat must be attached to the plate compactor as a precaution against surface scuffing on all Cambridge Pavingstones from The Sherwood and RoundTable Collections as well as textured pavingstones from The Renaissance Collection.



Compacting Pavers

Scan Here
To Learn More About
Compacting Pavers
and Proper Handling



Proper Handling

Use Of Cambridge Geotextile Soil Stabilizer

Made from woven polypropylene fibers, this landscaping fabric is typically used as a base reinforcement for soil stabilization. When placed between compacted sub-base and quarry process base material, a geotextile will help to prevent rutting, settling and pumping of the aggregate base into the sub-base of Cambridge Pavingstone systems where poor soil exists.

Use Of Cambridge Geogrid Soil Stabilizers

Taller retaining walls or walls supporting surcharge loads require the use of a geogrid material to reinforce a cohesive soil mass directly behind the Cambridge retaining wall system and provide a connection to the facing wall units.

Wired Paver, Wall & Solar Lights

Build your sale by recommending paver and wall lights from Cambridge. Choose from various models. Your cost to install should run approximately \$7.50 per light.

Solar Light Notes: If a solar light is not working when it turns dark, make sure the switch on the bottom is in the on position. If the switch is in the on position, push it to the off position. Open the battery compartment by removing the screws and the rubber gasket and replace the AAA rechargeable battery. When installing solar lights up against textured objects (ex: Belgium Block, Curbstone, etc.), it is important to make sure the surface butting up against the light is smoothed down. If not, it can cause the glass to fracture / crack under lateral pressure that is caused by horizontal forces such as braking tires which will void any warranty.

Paver Tools

Paver carts, extractors, adjusters and slab grabbers will cut down on your labor costs making you more profitable, competitive and efficient.

Related Products

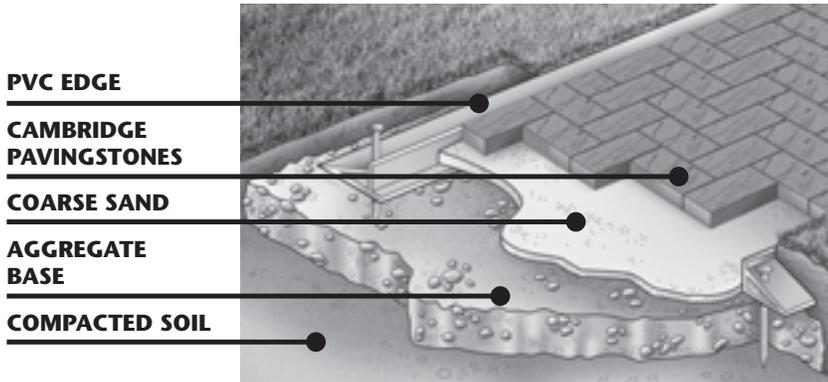
Authorized Cambridge Distributors also carry the following products in convenient sizes:

- Cleaners
- Sealers
- Efflorescence Removers
- Adhesives

Always follow manufacturer's recommendations.

How To Install Your Cambridge Pavingstones System

- Step 1. Preparation:** Sketch a diagram of area to be paved. Square off a 90-degree corner. Set stakes for outside perimeters 6 inches away from area. Establish finished height and slope by setting leveled string lines. Allow 1-inch drop every 8 feet at sides for water runoff.
- Step 2. Excavation:** Excavate (7 1/2 inches for patios and walkways/11 1/4 inches for driveways).
- Step 3. Base:** Fill area with quarry process gravel (4 inches for patios and walkways / 8 inches for driveways). Flatten, compact and slope.
- Step 4. Edging:** Install Cambridge Curbstone or PVC restraints to prevent spreading.
- Step 5. Placing (Screeding) Sand:** Add coarse C-33 sand and smooth out to a uniform 1 inch.
- Step 6. Pavers:** Place Cambridge Pavingstones on the smooth sand in the desired pattern making sure joint lines are straight. A built-in spacer bar assures consistent joint width.



- Step 7. Cutting:** Using a stone cutter or masonry saw, cut pavers where necessary to fit.
- Step 8. Compacting:** With two passes of a plate compactor, seat the pavers by forcing sand up into the joints.
- Step 9. Sweeping/Final Compaction:** Sweep additional sand into joints, compact again and repeat until all joints are filled.

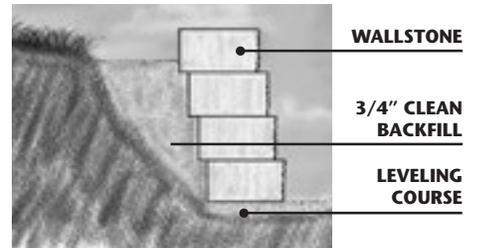
For more information, go to the "Professional Contractors" section online at www.cambridgepavers.com, where you will find Technical Specifications, Construction Details, ASTM Standards, additional installation instructions and more for pavingstones and walls.

TYPE OF PROJECT	EXCAVATE SOIL	AMOUNT OF QUARRY PROCESS	RECOMMENDED 3/8" QUARRY PROCESS STONE BASE	AMOUNT OF BULK SAND	SAND
PATIOS, WALKWAYS POOLS	7 1/4" ± 1/4"	2.5 Tons Per 100 Sq. Ft.	Compacted 4" Depth	1 Ton Per 100 Sq. Ft.	1 1/2" Screeded (Loosely)
DRIVEWAYS	11 1/4" ± 1/4"	4.75 Tons Per 100 Sq. Ft.	Compacted 8" Depth	1 Ton Per 100 Sq. Ft.	1 1/2" Screeded (Loosely)

How To Install Your Cambridge Segmental Retaining Wall System

General Base Preparation For Garden Walls Up To 36 inches

- Step 1. Excavation:** Dig a trench roughly 8 inches deep and 12 inches wide. Firmly compact until bottom is fairly level. Add 6 inches of 3/4-inch clean gravel and compact again.
- Step 2. Leveling Course:** Add 1 inch of coarse C-33 sand into bottom of trench.
- Step 3. First Layer:** Place Cambridge Wallstones units in trench touching each other (textured face outward on single-face wallstones). Keep all wallstones level in all directions. For straight walls, also use a string line.



- Step 4. Additional Layers:** Stack staggered wallstones on top stepping each new layer back approximately 3/4 inch. In this type of gravity wall installation, weight and setback of the wallstones provide resistance. Backfill with 3/4 inch of clean granular fill and compact as each layer is completed. To prevent any granular fill or soil from passing through the system, a landscaping fabric can be placed behind the wallstones. Add cap stones if desired.

Note: For walls over 36 inches, an engineer may be required. Check with local officials for the regulations that cover the wall you will be building before beginning wall projects.

How To Install Your Cambridge Pavingstones System Concrete Base Installation

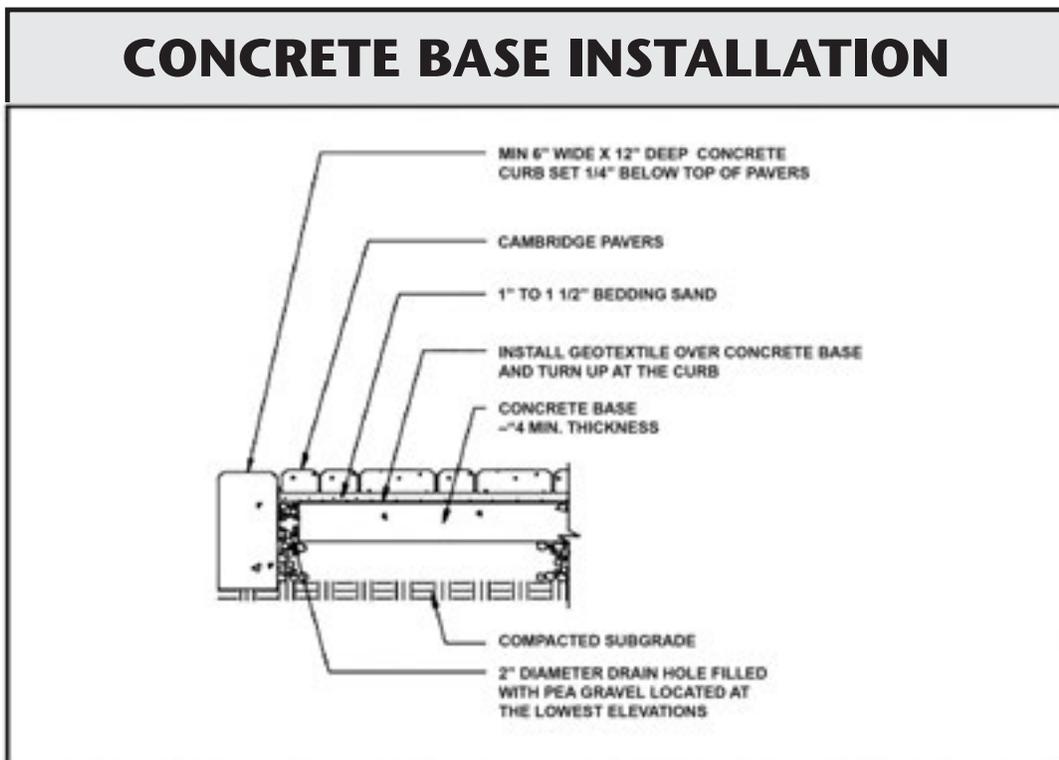
- Step 1. Preparation:** Sketch a diagram of area to be paved. Square off a 90-degree corner. Set stakes for outside perimeters 6 inches away from area. Establish finished height and slope by setting leveled string lines. Allow 1-inch drop every 8 feet at sides for water runoff.
- Step 2. Excavation:** Excavate (7 1/2 inches for patios and walkways/11 1/4 inches for driveways).
- Step 3. Base:** Pour concrete slab (4" for patios and walkways / 8" for driveways).
- Step 4. Base Drainage:** drill 2" diameter drain holes (weepholes) filled with pea gravel located at the lowest elevations. The amount of weepholes depend on the size of the project. Install Geotextile over concrete base and turn up at the curb.
- Step 5. Edging:** Install your fixed edge restraint of concrete or Belgium block curbing.
- Step 6. Placing (Screeding) Sand:** Add coarse C-33 sand and smooth out to a uniform 1 inch.
- Step 7. Pavers:** Place Cambridge Pavingstones on the smooth sand in the desired pattern making sure joint lines are straight. A built-in spacer bar assures consistent joint width.
- Step 8. Cutting:** Using a stone cutter or masonry saw, cut pavers where necessary to fit.
- Step 9. Compacting:** With two passes of a plate compactor, seat the pavers by forcing sand up into the joints.
- Step 10. Sweeping/Final Compaction:** Sweep additional sand into joints, compact again and repeat until all joints are filled.

Special Notes:

Note 1. Base thickness varies with traffic, climate, and sub grade conditions

Note 2. Concrete curbs do not deflect to the same depth as Cambridge Pavers or existing asphalt.

This detail is not recommend for other than low volume residential streets.



Scan Here
To Learn More
About Proper Base
Installation



General Base Preparation For Walls Over 36 Inches (Not Including Engineered Walls)

Each wall system that Cambridge offers has its own specific installation procedures. Following is a brief overview. Be sure to visit cambridgepavers.com for specifics. For walls over 3 feet, an engineer may be required.

Step 1: To start your layout, place stakes to represent the location of the front of the wall. Using a string line or paint, mark out the entire length. A garden hose is an excellent tool to use when laying out curved walls. See Figure 1.

Step 2: Excavate the area by removing all surface vegetation and organic materials from the area. These cannot be used as backfill material. See Figure 2.

If reinforcement is needed, excavate behind the wall to accommodate the design length of the geogrid. Refer to your approved plans for exact length.

Starting at the lowest point, dig a base trench 24 inches wide and the length of the wall. The depth of the trench will be 6 inches plus an additional inch for each foot of wall height for the amount of buried wallstones that are needed.

Step 3: Compact the base trench making a minimum of two passes with a walk behind plate compactor. See Figure 3.

Base soils at the bottom of the base trench must be firm and solid. If the soils are made up of heavy clay or wet soils, or the areas have been previously excavated, remove this material and replace with a granular material. Compact in 4-inch lifts or less.

A drainpipe is required for any reinforced wall or any wall over 4 feet tall. Place the drainpipe at the lowest possible point toward the back of the trench and vent to daylight every 50 feet.

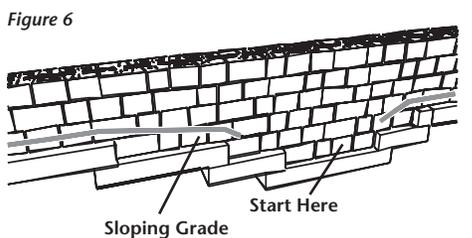
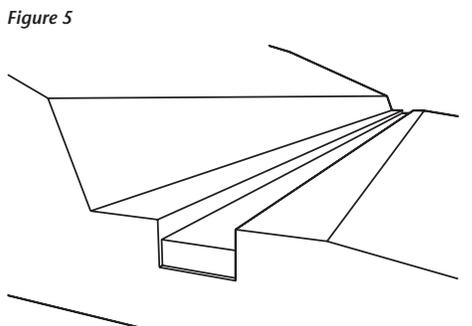
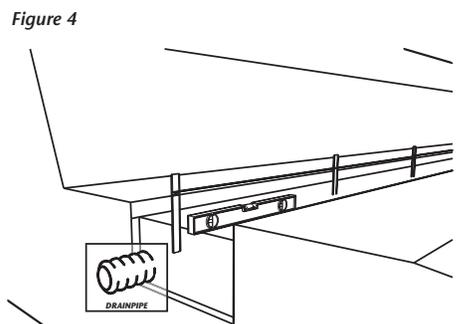
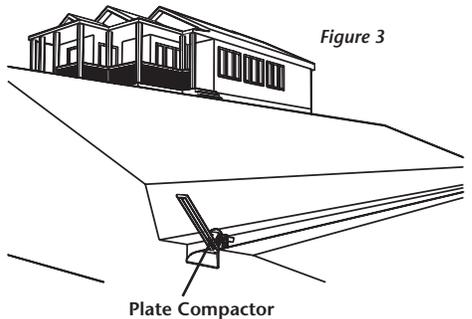
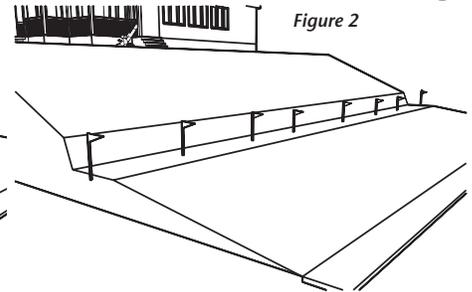
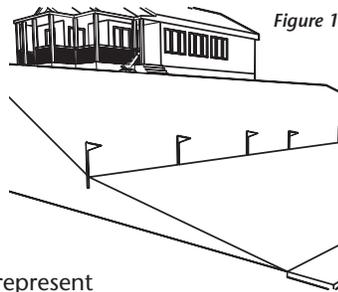
Place a minimum of 6 inches of 3/4-inch clean stone in the base trench and rake smooth.

Compact the 3/4-inch clean stone making a minimum of two passes with a plate compactor. Check the entire length for level and adjust as needed. See Figure 4.

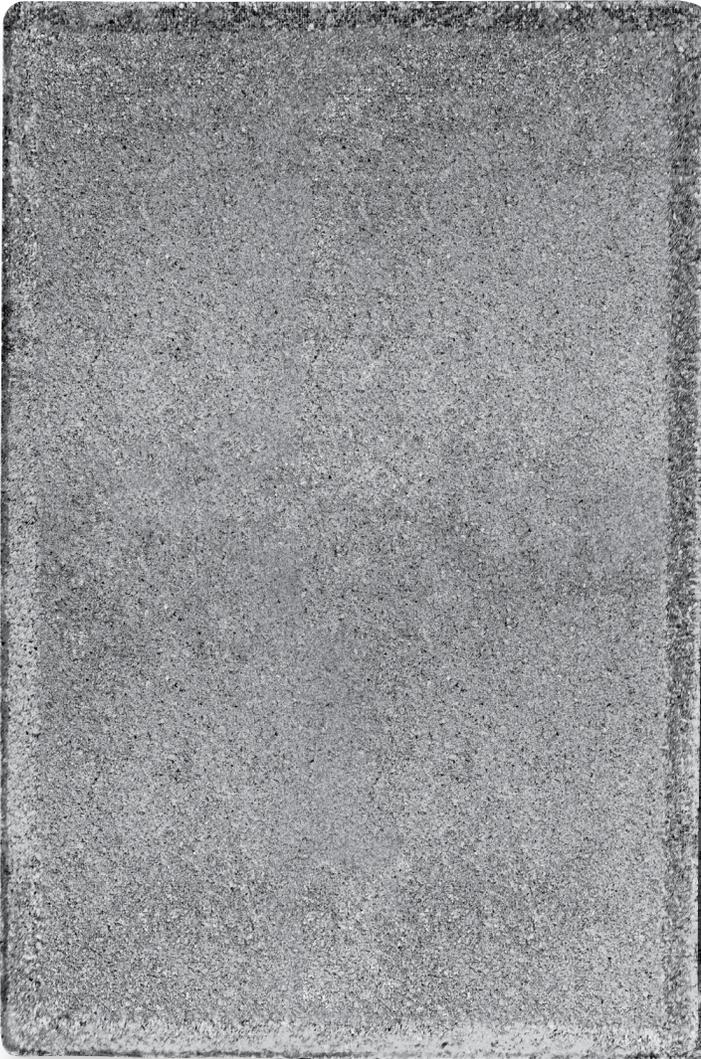
Step 4: Place wallstones on the 3/4-inch clean stone base material near the front of the base trench. See Figure 5.

Check and adjust each wallstone for level and alignment as it is installed. Check the wallstones for level frequently from side-to-side and front-to-back. Verify the proper position of all the wallstones by examining a string line across the back of the wallstones. See Figure 6.

Make minor adjustments by tapping the wallstones with a rubber mallet or by placing up to 1/2 inch of coarse sand under the wallstones. Irregularities in the base course become larger as the wall stacks up. Pay careful attention to a straight and level base.

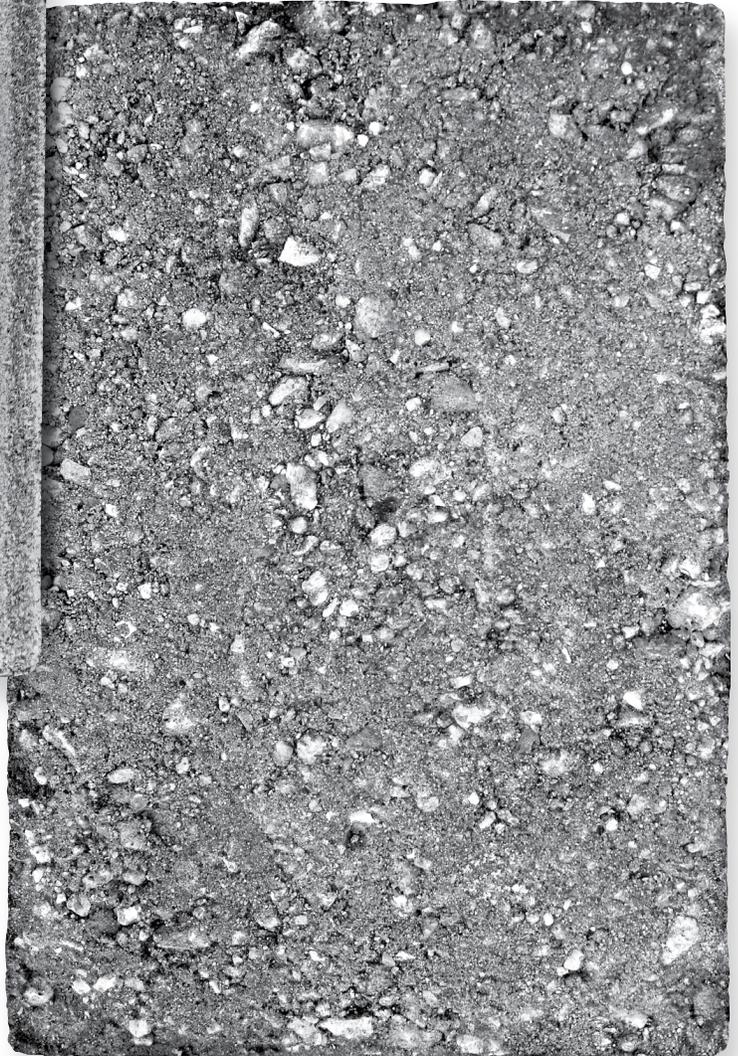


ARMORTEC® | SEEING IS *BELIEVING!*



Pavingstone WITH ArmorTec®*
Installed in a residential driveway
in June 2006 (photo taken January 2010)

After many years of outstanding performance and beauty, Cambridge Pavingstones with ArmorTec® remain recognizably smooth and dense with rich color. The sustainable benefits are a result of a proven formula used in manufacturing ArmorTec® – only environmentally friendly raw materials, super fine sand granules, and cement of the highest quality. (*Shown is a Cambridge facemix pavingstone manufactured with ArmorTec® face mix installed in 2006.)



Pavingstone WITHOUT ArmorTec®†
Installed in another residential driveway in
November 2006 (photo taken January 2010)



Without ArmorTec®, the Pavingstone will look less attractive as the sand and cement wear over time. This detracts from the appearance of the surface and contributes further to their worn look.

(†Shown is a Cambridge through-body pavingstone intentionally manufactured without ArmorTec® face mix installed in 2006.)

Be assured of all the added advantages of choosing Cambridge without having to pay more for them. Only Cambridge has ArmorTec® – Insist on the real thing!



See How ArmorTec
Is Made Live!

www.cambridgepavers.com

SECTION 1: CAMBRIDGE PAVER LAB TEST



Client: Mr. Charles H. Gamarekian, Jr.
 Address: Cambridge Pavers Inc.
P.O. Box 157
Lyndhurst, NJ 07071-0157

Project No.: ESSR-1201.01

Report Date: December 22, 2014

Project Name: Cambridge Pavers Lab Tests

Date Received: November 24, 2014

Date of Compression Testing: December 2, 2014

Unit Specification: ASTM C936-12

Laboratory Number: 10- 126316

Unit Designation and Description: Concrete Interlocking Paving Unit
South Amboy Holland 4x8 Onyx

Summary of Test Results

Physical Property	Specification Values	Average Test Results	Physical Property	Specification Values	Average Test Results
Net Compressive Strength	8000 min.	12370 psi	Min. Faceshell Thickness (FST)		in.
Gross Compressive Strength		12190 psi	Min. Web Thickness (WT)		in.
Density		146.8 pcf	Equivalent Web Thickness		in.
Absorption	5 max.	3.0 %	Equivalent Thickness		in.
Percent Solid		98.5 %	Normalized Web Area		in. ² /ft. ²
Net Cross-Sectional Area		27.96 in. ²	Max. Var. From Spec. Dimensions		in.
Gross Cross-Sectional Area		28.39 in. ²	Moisture Content		%

Individual Unit Test Results

Specimen No.	Received Wt, W _R lb	Cross-Sectional Area		Max. Load lb	Compressive Strength	
		Gross in. ²	Net ¹ in. ²		Gross psi	Net psi
4	5.76	28.31	27.88	313860	11080	11250
5	5.78	28.46	28.12	377995	13270	13440
6	5.72	28.39	27.88	346990	12220	12440
Average	5.75	28.39	27.96	346278	12190	12370

¹ Net area determined from absorption specimens unless solid units are used.

Specimen No.	Average Width in.	Average Height in.	Average Length in.	Average Min. FST in.	Average Min. WT in.	Normalized Web Area in. ² /ft. ²
1	3.75	2.38	7.57			
2	3.76	2.37	7.59			
3	3.74	2.36	7.58			
Average	3.75	2.37	7.58			

Specimen No.	Received Wt, W _R **	Immersed Wt, W _i	Saturated Wt, W _s	Oven-Dry Wt, W ₀	Absorption		Density	Net Volume	Net Area	Percent Solid ¹	Moisture Content**
	lb	lb	lb	lb	pcf	%	pcf	ft. ³	in. ²	%	% of total absorption
1	5.82	3.46	5.89	5.73	4.1	2.8	148.4	0.0386	27.88	98.7	
2	5.75	3.41	5.81	5.65	4.2	2.8	146.9	0.0384	28.00	98.2	
3	5.64	3.33	5.71	5.53	4.7	3.3	145.0	0.0381	28.12	98.5	
Average	5.74	3.41	5.80	5.64	4.3	3.0	146.8	0.0384	28.00	98.5	

**Received weight determined at the time of unit delivery to the job site or from units sampled at that time and delivered to the laboratory in sealed containers for moisture content determination.

Remarks: The units were tested according to ASTM C140. This set meets the absorption and compressive strength requirements of ASTM C936.
The above units were tested at 28 days of age.

Chas M. Snyder
 Chas M. Snyder, PE
 Laboratory Manager





Application Instructions



GATOR OIL & GREASE REMOVER XTRA PERFORMANCE

INSTRUCTIONS

SHAKE WELL. Always test a small area before use. Do not use on wet surfaces. Use above 40°F (4°C) and provide maximum ventilation.

1. Scrape off buildup and sweep area.
2. Apply to stain, extending one inch beyond perimeter.
3. Allow to dry completely to powder (3-8 hours, depending on temperature, humidity, and ventilation).
4. Sweep up. If area still appears dark, provide adequate ventilation and allow moisture to evaporate.
5. If stain remains, reapply, scrub with hard bristled brush, and repeat steps 3 and 4.

COVERAGE

Treats a stain 3 feet in diameter. Approximately 6 square feet (.56 square meters) when spread using a 1/4" v-notched spreader.



GATOR RUBBER, PAINT & TAR REMOVER+

INSTRUCTIONS

1. Apply product on stain.
2. Let it soak for 5 minutes.
3. Apply product again.
4. Immediately scrub with hard bristle brush.
5. Repeat steps 3 & 4 until stain dissolves.
6. Rinse thoroughly with water.

PLEASE NOTE

1. This product dissolves rubber, paint and tar.
2. Could be used to emulsify some sealers and as a cleaning agent when using bonding agent.
3. Do not let product dry up on concrete pavers.
4. Wear goggles and rubber gloves.
5. Use at above 60°F (16°C).

*Store container at above 32°F (0°C).



GATOR EFFLORESCENCE CLEANER

INSTRUCTIONS

1. Wet paver surface with water.
2. Dip a hard bristle brush in a pail containing the diluted product or use a pump sprayer to apply on the paver surface and scrub. 1 U.S. gal. (3.78 L.) of diluted product is to be used for every 40 sq. ft. (3.7 sq. m.) of paver surface.
3. Rinse thoroughly with water and move on to the next section of 40 sq. ft. (3.7 sq. m.).
4. Repeat steps 2 & 3 over all the sections in question.
5. Once the surface is clean, use water hose and thoroughly rinse off Gator Efflorescence Cleaner until there is no more foaming action on the pavers.

NOTE: 1 US gal. (3.78 liters) is to be diluted in 4 gal. (20 liters) of water. When mixed, you will obtain 5 US gal. of cleaning product.

NOTE: You might have to redo it again if there is a lot of efflorescence trapped in the pavers.

PLEASE NOTE

1. Gator Efflorescence Cleaner should be used prior to applying a sealer to ensure a proper sealer adhesion.
2. Freshly installed Gator Polymeric Sand must be allowed to cure for 48 hours at above 59°F (15°C) and no rain before using Gator Efflorescence Cleaner.
3. Do not let product dry up on paver surface. Keep paver surface wet from start to finish.
4. Wear goggles and rubber gloves.
5. Never use on new concrete pavers. Wait at least 60 days after new pavers are installed before using this product.
6. ALWAYS TEST the product on a small hidden area of approximately 4 sq. ft. (0.4 sq. m.) to ensure the results will meet your expectations. Do not apply under extremely strong sun.
7. Dilute to 4 parts water, 1 part Gator Efflorescence Cleaner concentrated liquid, any concentration greater than this can discolor the pavers.



GATOR ECO SOY STRIPPER

INSTRUCTIONS

1. ALWAYS TEST the product on a small hidden area of approximately 4 sq. ft. to ensure the results will meet your expectations.
2. Surface has to be cool to the touch. Early morning, late afternoon is preferable.
3. Place a dry bank of sand at the lowest point and extremities of the job to capture Gator Eco Soy Stripper and solvent sealer residue.
4. Apply Gator Eco Soy Stripper (like jelly) on the sealed

paver surface with the help of a squeegee or a rake. 1 gallon is good for approx 75 sq. ft. to 100 sq. ft.

5. Let it react for 60 – 90 minutes. Make sure that Gator Eco Soy Stripper DOES NOT dry on the surface. Temp/ wind / humidity come into play. In some cases more than 90 minutes may be required. If used outdoors, cover with plastic drop cloth. The plastic protects the stripper from the wind which will dry the product out very quickly.

6. Scrape removed coating and stripper from surface. Rinse or power wash away the remaining residue. Resealing surface: Be sure to use Gator Efflorescence Cleaner if you intend on resealing the paver surface.

SEALERS



BASIC OVERVIEW OF SEALING INSTRUCTIONS (See back of sealer bottle for product specific directions)

1. ALWAYS TEST the product on a small hidden area of approximately 4 sq. ft. (0.4 sq. m.) to ensure the results will meet your expectations.
2. Remove all the stains from the pavers, using Gator Clean products. Use Gator Clean Eco Soy Stripper to remove any unknown coating that remains on the surface pavers.
3. Remove all contaminated jointing material and replace with Gator Polymeric Sand. Follow the instructions on the back of the bags for proper sand installation.
4. Wait at least 48 hours at a minimum temperature of 60°F (16°C) and no rain for the Gator Polymeric Sand to properly harden.
5. Clean the entire surface with the Gator Efflorescence Cleaner. This product will remove the efflorescence trapped in the concrete paver pores as well as thoroughly clean the surface for proper sealer adhesion.
6. Wait at least 24 hours at a minimum temperature of 60°F (16°C) and no rain so the sand & paver surface are dry.
7. Let the sealer dry for 24 hours before using the sealed area.

PLEASE NOTE

1. Pavers should only be sealed 1 year after their installation date.
2. Pavers & jointing sand MUST be 100% dry.
3. First clean pavers with Gator Clean products. Remove all oil, grease and rust stains.
4. Use Gator Clean Efflorescence Cleaner to remove any trapped efflorescence.

HELPFUL TIPS ON HOW TO REMOVE COMMON STAINS FROM CONCRETE PAVINGSTONES

Most Common Stains / Cleaning Concrete Pavements

All pavements will stain, but when properly installed, interlocking concrete pavements have very low maintenance and provide an attractive surface for decades. Under foot and vehicular traffic, they can become exposed to dirt, stains and wear. This is common to all pavements. The below tips address various steps to ensure the durability of interlocking concrete pavements.

Remember, one of the main advantages of concrete pavingstones versus asphalt or concrete is if a stain cannot be removed – the PAVER CAN!

Asphalt and emulsified asphalt - Alliance Rubber, Paint and Tar Remover. Follow the directions on the bottle and reapply if necessary. Also you can try the following: chill with ice (if warm outside) and scrape away excess with a hard plastic scraper and apply Alliance XP Oil and Grease remover and follow directions on the bottle.

Cutback asphalt and roofing tar – Use Alliance Rubber, Paint and Tar Remover and follow directions on the bottle.

Blood, candy, ketchup, mustard and grease drippings from food - Use liquid dish soap and let penetrate 20-30 minutes. Scrub and rinse with hot water. You may also use Oxyclean mixed 4 scoops to a gallon of hot water. Let soak for 15 minutes and then scrub with a nylon bristle brush, then rinse.

Caulking - Scrape off excess and scrub with a poultice of denatured alcohol. Rinse with hot water and detergent.

Acrylic latex caulk - Follow guidelines for removal of dried paint. Use Alliance Rubber, Paint and Tar Remover or Alliance Eco Soy Stripper.

Chewing gum - Same as caulking.

Clay Soil - Scrape off dry material. Scrub and rinse with hot water and Alliance Shampoo.

Creosote - Apply a poultice with paint thinner and talc. Scrub and allow to dry. Scrape off and scrub with scouring powder and rinse with water.

Efflorescence - Use Alliance Efflorescence Remover. Dilute according to instructions on container. Apply and rinse with water.

Leaf, wood rot, mulch or tobacco stains - Use Oxyclean 4 scoops to a gallon of hot water. Apply and let soak for 15 minutes. Scrub with a nylon bristle brush and rinse with water. You may also use Pool Shock. Wet entire surface to be cleaned then mix ½ lb of pool shock with 4 gallons of water. Apply, scrub, and rinse off.

Mold and mildew – Use Oxyclean or pool shock (follow same directions as above).

Mortar - Extremely difficult to remove. If mortar is fresh and not hardened, try Alliance Efflorescence Remover. Scrub and rinse with water. Reapply if necessary. It may be necessary to replace the paver.

Oil or grease that has penetrated - Soak up excess with rags and apply Alliance XP Oil & Grease Remover. Leave on for 6-8 hours till it dries to a powder and sweep off. Also works on antifreeze, brake fluid, hydraulic oil and citronella wax.

Paint - Fresh paint should be mopped up immediately with rags or paper towels by blotting. Do not wipe as this will spread the stain. Soak and then scrub the area with hot water, scouring powder and a stiff brush until no more improvement is seen. Let the remaining paint dry and remove as described below.

Dried paint - Scrape any excess oil based paint, varnish or water based latex paint off the surface. Use Alliance Rubber, Paint and Tar Remover or Alliance Eco Soy Stripper and follow the directions on the container or a commercial paint remover and let it sit for 20-30 minutes. Loosen with gentle scrubbing. Do not rub the loosened paint into the surface of the paver. Instead, blot up the loosened paint and thinner. Repeat as necessary. Note: latex paints once dried are more difficult to remove.

Soot from smoke - Use a solution of trisodium phosphate (TSP) diluted to directions on container. Scrub and rinse with water.

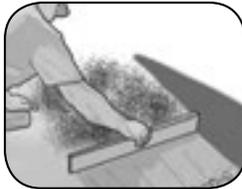
Tire skid marks – Alliance Rubber, Paint and Tar Remover or scrub black area with water, detergent and scouring powder. In the case of small stained areas, removal and replacement of marred pavers may be an easier option.

Rust - Define the rust stain (sprinklers, patio furniture, fertilizer?) Apply Alliance Rust Remover and scrub with a stiff bristle brush. Multiple applications may be necessary. Follow directions accordingly. Test a small area of pavers first. Note: Rust Remover will damage a sealer.

We received these recommendations from the manufacturer of the cleaning products, as well as contractors like yourself. Cambridge Pavers, Inc. does not warranty or guarantee these cleaning methods will work and does not assume any responsibility for the actions of those attempting to clean. Prior to applying the suggested cleaning agent to a large area, test on one or two pavingstones to make sure you are satisfied with the results. If you can, please choose a paver that is in a not easily seen area.



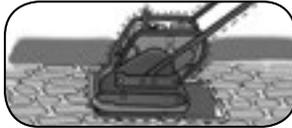
Installation Instructions



STEP 1
Install pavers
Use a concrete sand as your bedding course to do the final leveling. Install the concrete pavers or slabs. Please follow ICPI guide line.



STEP 5
Shower the sand
At a height of 4 feet, wet a specific paver area for 10 to 15 seconds. Wait 3 to 4 minutes (not longer). Pavers must remain wet. Do not allow area to dry before second water application (Step #6 below).



STEP 2
Compact Pavers (empty joints)
After the paver surface has been installed, it should be compacted. Please follow ICPI guide line (Tech-Spec #2).

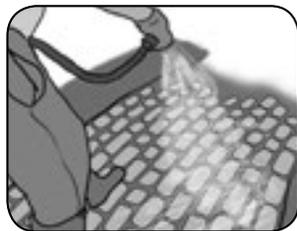


STEP 6
Shower & Rinse the pavers
Shower and rinse simultaneously so as to eliminate any GATOR POLYMERIC PRODUCTS residue left on the pavers. Any GATOR POLYMERIC PRODUCTS residue should go directly into the paver joints. Wait 3 to 4 minutes (not longer).

Compact with empty joints



STEP 3
Sweep Polymeric sand in the joints and tamp the pavers
Make sure the **paver's side and top surfaces are dry before applying the polymeric sand.** Spread GATOR POLYMERIC PRODUCTS over the pavers, then use a hard-bristle brush to sweep the sand into the joints and fill them completely. Run a vibrating-plate compactor over the pavers in several directions to compact the sand inside the joints (this action is not appropriate for slabs). Repeat this triple step (spreading the sand, sweeping it into the joints, then compacting) at least twice. If a vibrating-plate compactor cannot be used, tamp the stones with a rubber mallet and make sure the GATOR POLYMERIC PRODUCTS is densely packed in the joints.



STEP 7
Shower & Rinse the pavers
Again, shower and rinse simultaneously so as to eliminate any GATOR POLYMERIC PRODUCTS residue left on the pavers. The GATOR POLYMERIC PRODUCTS residue should go directly into the paver joints. **Stop showering when you see a minimal amount of water retention on the paver joints.**

Sweep Polymeric sand in the joints



Compact with filled joints



STEP 8
Blow off any water remaining on paver surface
Use a leaf blower to remove any excess surface water lying on paver pores and crevices. **This blowing action is necessary to help remove any remaining GATOR POLYMERIC PRODUCTS residue that was left on paver surfaces from the previous steps.**



STEP 4
Remove excess sand with leaf blower
Using a leaf blower, remove any excess sand from paver surfaces. Make sure the **finished sand level is at least 1/8 in. lower than the chamfer of the pavers.**

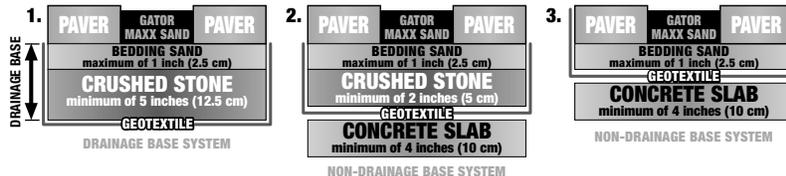
IMPORTANT

The water used in steps 5, 6 & 7 will activate a bonding action as well as condense GATOR POLYMERIC PRODUCTS in the joints. **If steps are not done properly, a white haze may appear on paver surfaces after installation.** This is due to excess GATOR POLYMERIC PRODUCTS residue left on paver surfaces. This haze will dissipate over time. It can also be removed by using a concrete Gator Efflorescence Cleaner.



FOR GATOR MAXX, USE THESE STEPS FIRST (A & B)

STEP A Remove all loose and fragile concrete. Then Follow ICPI Guideline spec #2 for Diagram 1.
STEP B For Overlays Applications follow diagram 2. After excavating, cover the ground with a geotextile, refill with crushed stone, minimum 5 in (12.7 cm) and compact it. Make sure that the geotextile will be wide enough to go up against the paver edge restraint, this will prevent the migration of the bedding sand. Diagram 4, on the concrete slab section, prepare a minimum 12 in (30.5 cm) wide geotextile strip. This should be wide enough to go up against the paver edge restraint, thus prevent the migration of the bedding sand.



Supersand: Do Not Use With Stone Dust
Gator Max: To Be Used For Concrete Overlays and Stone Dust Applications Only.

THE SHERWOOD COLLECTION

SHAPES



LEDGESTONE™
3 PC.
DESIGN KIT

Sizes:

- 9 3/32 x 13 5/8**
- 9 3/32 x 9 3/32**
- 4 17/32 x 9 3/32**

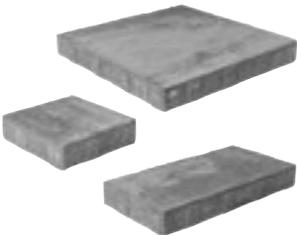


4 1/2 x 9

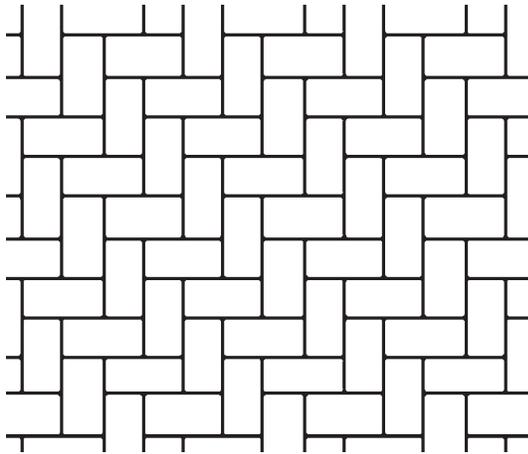
(4 17/32 x 9 3/32)

*Also sold separately.
 A perfect border choice.*

LEDGESTONE™
9 x 9, 9 x 18
& 18 x 18
DESIGN KIT



Note: 18 x 18 Also Sold Separately.



Pattern DSL-003: 4 1/2 x 9 (100%)

The Ledgestone 3-Pc. Design Kit
OUR BEST SELLER 8 YEARS RUNNING!

The kit is a combination of three extra-large, square and rectangular, modular shapes with prominent, bluestone-like clefts on their surfaces. The sizes of the pavingstones in the kit can be also used with 18 x 18 Ledgestone.



NOTE: THE LEDGESTONE 3-PC. DESIGN KIT IS INSTALLED RANDOMLY WITH NO SET PATTERN.

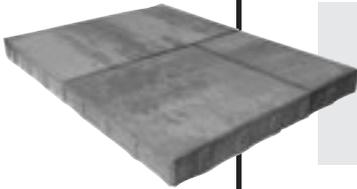
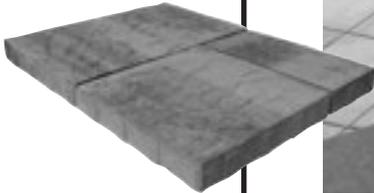


NOTE: THE LEDGESTONE 9 X 9, 9 X 18 & 18 X 18 DESIGN KIT IS INSTALLED RANDOMLY WITH NO SET PATTERN.



THE SHERWOOD COLLECTION

SHAPES



LEDGESTONE XL & XL SMOOTH 3 PC. DESIGN KITS

Sizes:

7 7/8 x 15 3/4

15 3/4 x 15 3/4

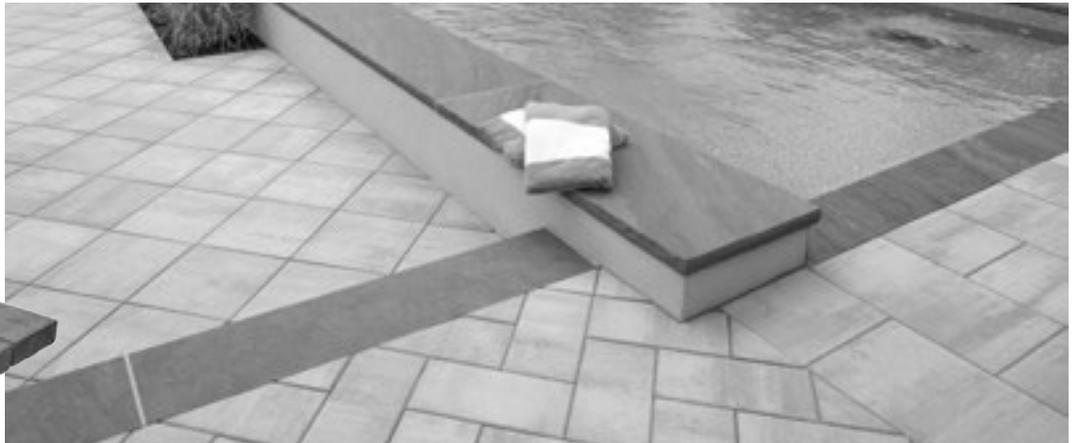
15 3/4 x 23 5/8

Note: 15 3/4 x 23 5/8
Also Sold Separately.

In response to a trend that began in Europe, Cambridge introduces Ledgestone XL 3-Pc. Design Kit. The convenience of their modular configuration allows the three 2 3/8" thick, larger scale pavers to be used in the creation of interesting designs.

At the discretion of the designer, any of the shapes as well as the 4 1/2 x 9 can be used for borders and banding.

Note: Cannot be used in a vehicular application.



For even more creative possibilities, designers are also bordering their larger scale paver patterns with contrasting shapes, textures and colors from other Cambridge Collections such as RoundTable, Renaissance and KingsCourt.



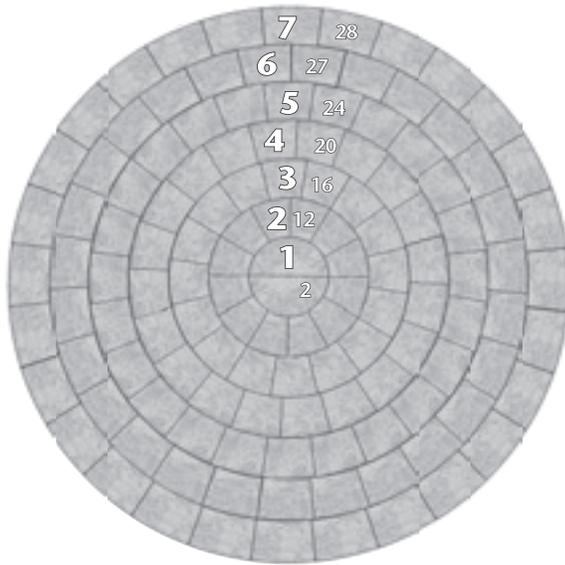
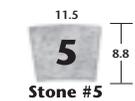
NOTE: THE LEDGESTONE XL & XL SMOOTH 3 PC. DESIGN KITS ARE INSTALLED RANDOMLY WITH NO SET PATTERN.

THE SHERWOOD COLLECTION

LEDGESTONE & XL SMOOTH CIRCLE DESIGN KITS

A circle pattern can be incorporated into any pavingstone project.

SHAPES

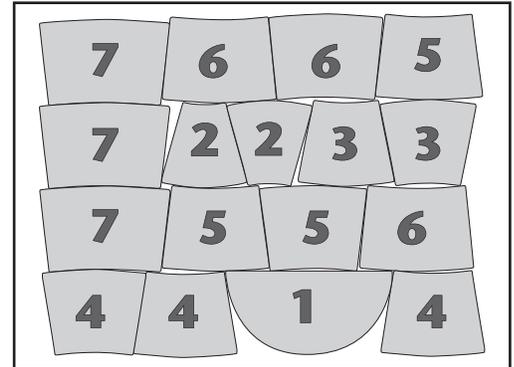


PATTERN DSLC-001: CIRCLE DIAMETER 10.33 FT.

Breakdown of 7 Rings In A 10.33 ft. Circle From One Ledgestone Circle Design Kit

DESIGN TIP: TO EXTEND THE LEDGESTONE CIRCLE DESIGN KIT CONSIDER EITHER LEDGESTONE 4 1/2 X 9 OR BELGIUM 5-PC DESIGN KIT

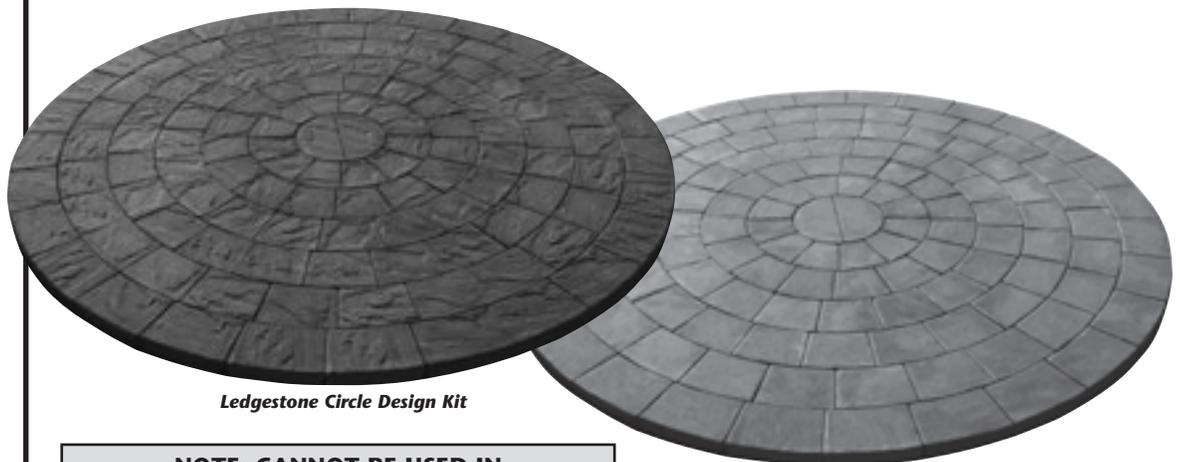
1 Cube = 10 Layers
Each Layer Exactly As Shown Below



Shapes Remaining After Completion (Total: 41 Pieces)

- Stone #1 - 8 pieces • Stone #2 - 8 pieces
- Stone #3 - 4 pieces • Stone #4 - 10 pieces
- Stone #5 - 6 pieces • Stone #6 - 3 pieces
- Stone #7 - 2 pieces

RING NUMBER ON CIRCLE PATTERN	CIRCLE DIAMETER (INCHES)	NUMBER OF PIECES FOR EACH RING	STONE SHAPE USED FOR RING
Center - 1	17.7	2	1
2	35.5	12	2
3	53	16	3
4	70.9	20	4
5	88.5	24	5
6	106.3	27	6
7	124	28	7



Ledgestone Circle Design Kit

NOTE: CANNOT BE USED IN A VEHICULAR APPLICATION

Ledgestone XL Smooth Circle Design Kit
*Same Size Shapes & Diameter As Ledgestone Circle Design Kit Only With A Smooth Surface



THE SHERWOOD COLLECTION

SHAPES



CAST STONE SLAB 3-PC. DESIGN KIT

Sizes:

10 x 20

20 x 20

20 x 30

Note: For a more structured and tailored design, Ledgestone Cast Stone from The Crusader Collection, also 2 3/8" thick, can be used for bordering a slab pattern.

Important Notice:

Cast Stone products cannot be compacted.

For warranty details specific to all Cast Stone Products (slabs, coping, caps and stairs) refer to the Cambridge website.



Cast Stone Slab Installation:

The installation method for cast stone slabs is similar to a paver installation. The steps followed are identical up until after you loosely screed the C33 Concrete Sand setting bed. Here is where the installation differs. With a paver you simply click and drop the pavers into place. Slab products are molded off natural stone and will have greater variance in height than a traditional paving stone. Height tolerances within each unit are plus or minus 1/8th of an inch. Length and width tolerances are plus or minus 1/16th of an inch. Warpage tolerance is 1/16th of an inch for stones under 18 inches and 1/8th of an inch for slabs over 18 inches. However, this does not take into consideration the natural cleft which can be plus or minus a quarter of an inch by design. When installing slabs, you have to evaluate each piece before you lay it in reference to the adjacent pieces. With a slab, you will notice high and low points within an individual unit. Before setting the unit, position it when possible to have high and low points meet adjacent pieces to create a smooth transition. You may have to pull the unit out and turn it to obtain the best fit for the installation. In

addition, it may be necessary to work the setting bed material to position the unit up or down to help it lay properly. This is very similar to the installation process of natural stone. One other difference is that Cast Stone Slabs will not be compacted into the setting bed. Instead, a rubber hammer or dead blow mallet will be used to individually set the slab pieces. Like any installation, the right tools will help the installation process. It is recommended to have a slab grabber or a type of vacuum set up to move and set the slabs. These tools will help you preserve the screeded sand course when laying and adjusting the pieces during the install. Like any new product the more you install the more your proficiency and efficiency will increase.



Scan here to learn more
about Cast Stone Installation

NOTE: CANNOT BE USED IN A VEHICULAR APPLICATION



The modular slab sizes are 10" x 20", 20" x 20" and 20" x 30". In a given design, the three shapes can be arranged in limitless, random placements for a look that will coincide with any natural and architectural surroundings. The ratio used to create the most popular patterns for these three shapes is 28% of the 10 x 20 (15 pcs.), 33% of the 20 x 20 (9 pcs.), and 39% of the 20 x 30 (7 pcs.), exactly how the Cast Stone Slab 3-Pc. Design Kit is packaged. The 2 3/8" thick slabs are recommended for pedestrian applications only.

**THE
SHERWOOD
COLLECTION**

SHAPES



**BRICK ALLEY
CAST STONE**

Sizes:

2 1/2 x 7 3/4

With its slender configuration and handcrafted surface characteristics, this 3/8-inch thick, small cast stone shape is ideal in traditional, historic and eclectic applications.



BELGIUM 5-PC

Sizes:

5 x 5

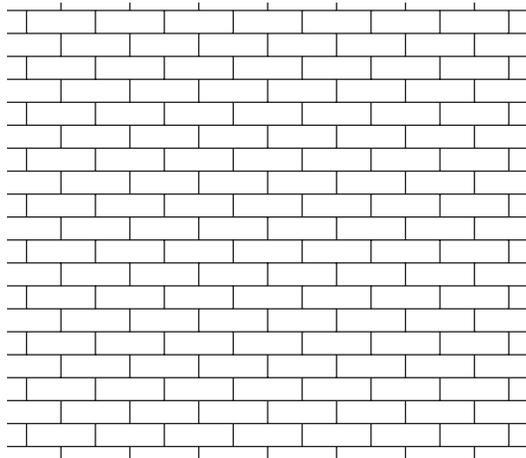
5 x 6

5 x 6 1/2

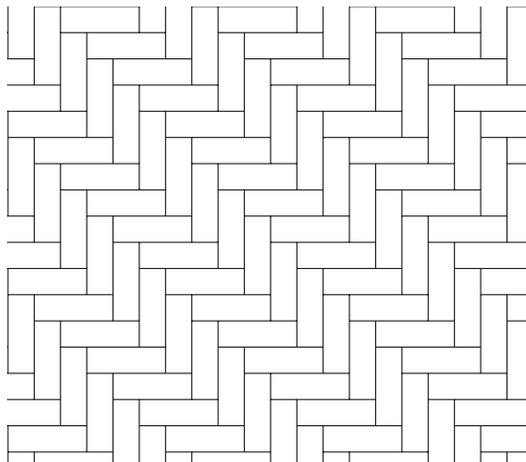
5 x 7 1/2

5 x 8 1/2

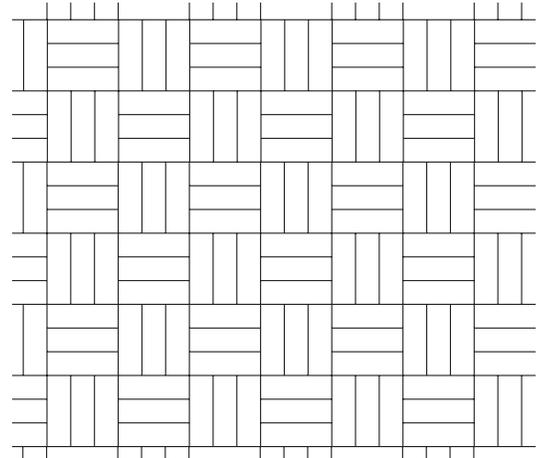
Designed for placement in a handsome, running bond pattern, the kit has a combination of five square and rectangular configurations inspired by ancient European streetscapes.



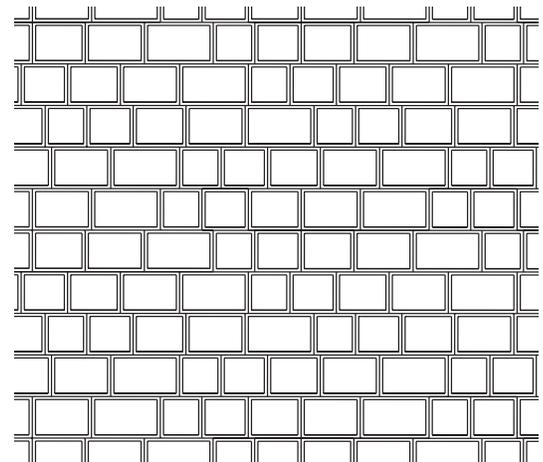
Pattern DSCS-003: Brick Alley Running Bond



Pattern DSCS-005: Brick Alley Herringbone



Pattern DSCS-004: Brick Alley Basket Weave



Pattern DSCS-006: Belgium 5-Pc, Design Kit Running Bond



**THE
ROUNDTABLE
COLLECTION**

SHAPES



4 1/2 X 6
For Borders and
Circle Design Kit
Extensions only

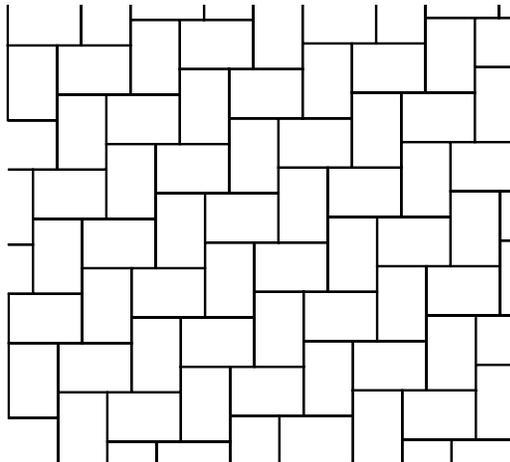


6 X 6

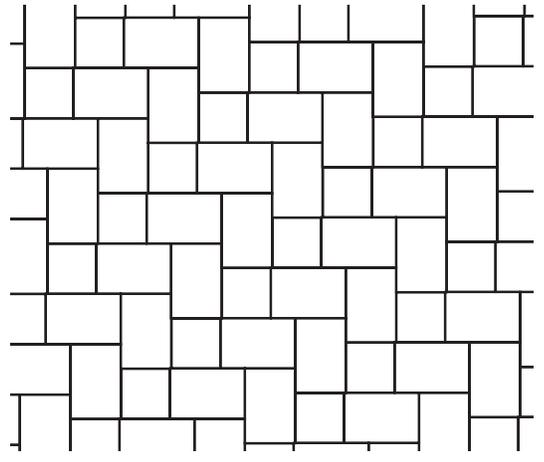


6 X 9

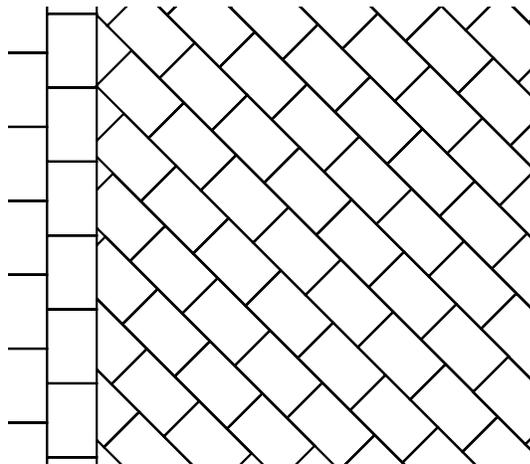
Note: Shapes from The RoundTable Collection shown using 6 X 6 and 6 X 9 shapes exclusively can also be used with 6 x 6 and 6 x 9 shapes from The Renaissance and KingsCourt Collections.



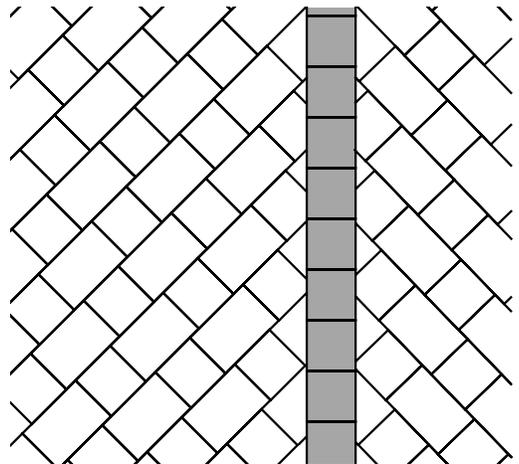
Pattern DSR-023: 6 X 9 (100%)



Pattern DSR-014: 6 X 9 (75%) • 6 x 6 (25%)



Pattern DSR-019: 6 X 9 (100%)



Pattern DSR-020: 6 X 9 (60%) • 6 x 6 (40%)



CAMBRIDGE RANDOM DESIGN KITS

From The RoundTable & Renaissance Collections

Random Kit

Each Cambridge Random Design Kit is comprised of four shapes (6 x 9 • 6 x 6 • 4 1/2 X 6 • 3 X 6) in one solid or blended color as selected. Refer to Cambridge Color Selection Guide for available colors from The RoundTable and The Renaissance Collections. Any additional color(s) and/or shape(s) integrated into a pattern created from a Random Design Kit must be ordered individually.



NOTE: THE RANDOM DESIGN KIT IS INSTALLED RANDOMLY WITH NO SET PATTERN.

6 x 6 and 6 x 9 Intermingled with 12 X 12

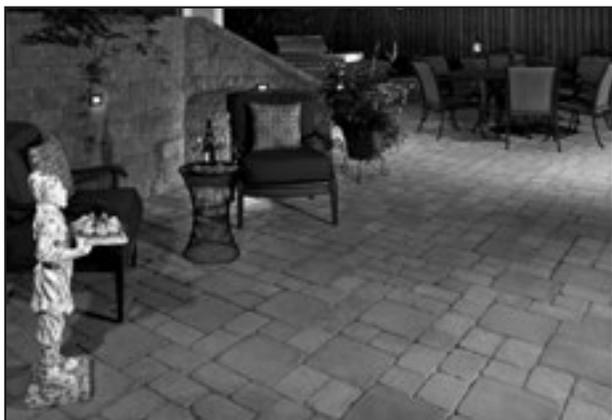
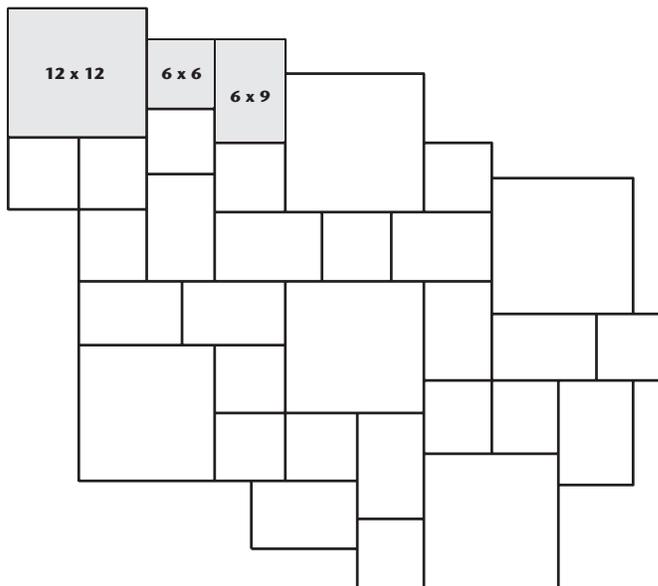
From The Renaissance & KingsCourt Collections

Example 1: 12 x 12 (29%) • 6 x 9 (42%) • 6 x 6 (29%)

Ratios To Consider:

Example 2: 12 x 12 (15%) • 6 x 9 (51%) • 6 x 6 (34%)

Example 3: 12 x 12 (15%) • 6 x 9 (64%) • 6 x 6 (21%)



Note: Order an additional 5% of material to allow for cuts and field changes.



CREATING CIRCLES USING CAMBRIDGE CIRCLE DESIGN KITS

From The Sherwood (QuartzTec™), Renaissance & RoundTable Collections

Circle Design Kits Are Comprised Of These 6 Numbered Shapes:



Circle I
Center



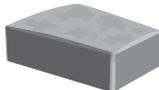
Circle II
Small w/Angled Top



Circle III
Small w/Curved Top



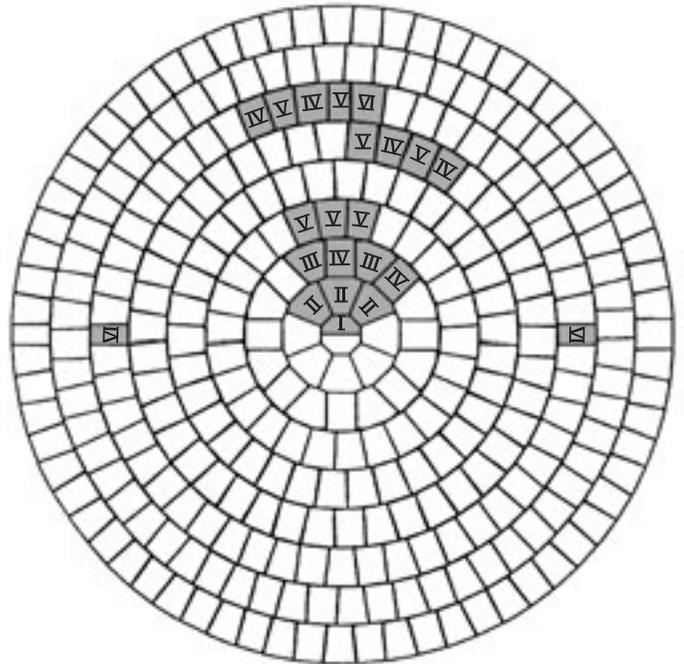
Circle IV
Three Quarter Rectangular



Circle V
Large Tapered



Circle VI
Half



PLACEMENT CHART

RING NO. ON PATTERN	CIRCLE DIAMETER	NO. OF PCS. & SHAPE FOR EACH RING
Center	6"	2 pieces of Circle I
1	17 1/2"	8 pieces of Circle II
2	29"	8 pieces of Circle III 8 pieces of Circle IV alternate shapes
3	41"	26 pieces of Circle V
4	53"	34 pieces of Circle V
5	65"	21 pieces of Circle IV 21 pieces of Circle V alternate shapes
6	77"	24 pieces of Circle V 25 pieces of Circle IV alternate shapes 3 pieces of Circle VI place on opposite sides of ring
7	89"	29 pieces of Circle IV 30 pieces of Circle V alternate shapes 1 piece of Circle VI
8	101"	34 pieces of Circle V 33 pieces of Circle IV alternate shapes 1 piece of Circle VI

Upon Completion, There Will Remain Four Of I, II & III; Sixteen Of IV; Twenty-Three Of V And One Of VI.

Pattern DSR-001 Circle Design Kit

To Expand This 8' 5" Diameter Circle, A Second Circle Design Kit Is Necessary (See Ring Numbers 9-12).

(For Renaissance Circle Design Kits, Use Renaissance 6 x 6)

RING NO. ON PATTERN	CIRCLE DIAMETER	NO. OF PCS. & SHAPE FOR EACH RING
9	112"	38 pieces of Circle IV 38 pieces of Circle V alternate shapes
10	124"	42 pieces of Circle IV 42 pieces of Circle V alternate shapes
11	136"	44 pieces of Circle V 40 pieces of Circle IV alternate shapes 2 pieces of Circle VI 10 pieces of 4 1/2 x 6 place anywhere in ring
12	148"	48 pieces of Circle V 51 pieces of 4 1/2 x 6 alternate shapes 2 pieces of Circle VI place anywhere in ring

To Achieve Ring Numbers In Excess Of 12, Add The Appropriate Number Of 4 1/2 x 6 Pavingstones

13	160"	107 pieces of 4 1/2 x 6
14	172"	115 pieces of 4 1/2 x 6
15	184"	124 pieces of 4 1/2 x 6

DETERMINING SQUARE FOOTAGE FOR A CIRCLE AREA

Appendix To DSR-001A Formulas To Help In Calculating The "Not So Standard" Projects

AREA OF CIRCLE FORMULA – AREA = πr^2

$\downarrow \downarrow$
(3.14) (radius)²

Two Examples For A Circle Installation

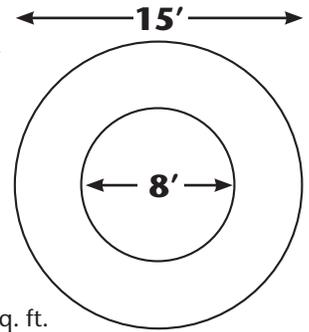
1 15 Ft. Diameter Circle – Area = πr^2

Area = $\pi (7.5)^2 = 177$ sq. ft.

$\downarrow \downarrow$
(3.14)(7.5 x 7.5) = 177 sq. ft.

2 circle cubes = 100 sq. ft.
(sq. ft. based on what pieces are applicable)
4 1/2 x 6 = 77 sq. ft.

2 A 15 Ft. Diameter Circle With An 8' Planter In The Center



15' diameter = 177 sq. ft.
8' diameter = $(\pi)(4)^2 = 50.25$ sq. ft.
= 177 sq. ft. – 50.25 sq. ft. = 126.75
(Subtract outer circle from inner circle)

1 circle cube - 50 sq. ft.
4 1/2 x 6 - 77 sq. ft.



Creating Fans Using A Cambridge Circle Design Kit

From The Sherwood (QuartzTec™), Renaissance & RoundTable Collections

Cambridge Cutting Templates

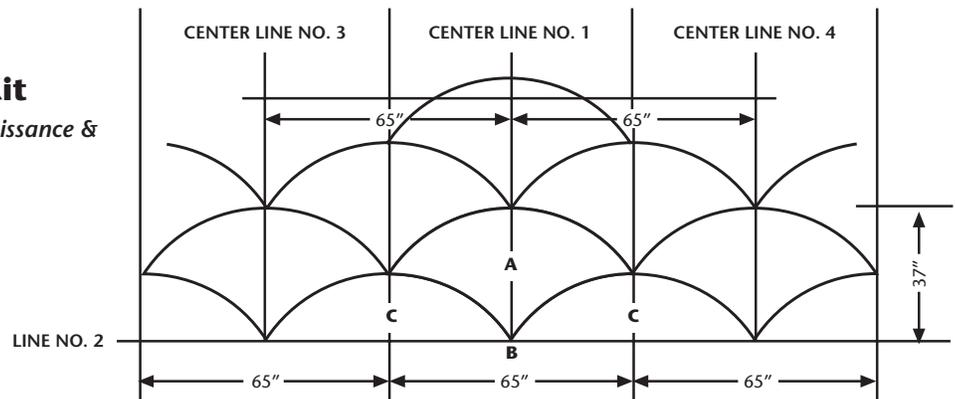
With only thirteen cuts per fan, four fans consisting of a center paver and six rings can be created from each Circle Design Kit. Each fan will measure 65 inches wide by 37 inches deep. One kit will also accommodate two half radius patterns that are necessary to complete the design. See "C" on Drawing No. 1: Fan Pattern Installation Detail above.

A fan design can be created from the six paver shapes included in the Cambridge Circle Design Kit. However, to place fans into a field of Cambridge Pavingstones, five of the shapes in the kit will require precision cuts. Five convenient cutting templates can be found on the cambridgepavers.com website. Cut out each template along the outer edge.

To achieve a proper fit where one fan meets another, mark the prescribed cuts by placing specific templates on top of the shapes that require cutting.

Proper Installation Procedures

1. Make sure that a properly compacted quarry process base and layer of screeded C-33 sand has been installed.
2. Run first string line down the center of the laying surface. See Center Line No. 1 on Drawing No. 1: Fan Pattern Installation Detail.
3. Run a perpendicular line across the front of the laying face. See Line No. 2 on Drawing No. 1: Fan Pattern Installation Detail. To square up string lines, start the 3-4-5 triangle at "B" on Drawing No. 1: Fan Pattern Installation Detail. Leave sufficient room for the border course between Line No. 2 and the edge restraint.
4. Start the first fan. See A on Drawing No. 1: Fan Pattern Installation Detail. Follow instructions carefully, making sure that the appropriate pavers for each row are laid over Center Line No. 1. Note that this is the ONLY method that will maintain symmetry of bond lines throughout the pattern. Straying from lines could tighten one side of the pattern and open the other.
5. Run two additional string lines parallel with Center Line No. 1. Refer to Center Line No. 3 on left and Center Line No. 4 on right on Drawing No. 1: Fan Pattern Installation Detail. Repeat this step as many times as needed to fill the width of the laying face.
6. Repeat Step 4 on Lines No. 3 and 4. Make sure that the radii of the outer fans meet. See Drawing No. 1: Fan Pattern Installation Detail.
7. Fill in with a half radius against the lower concave radius of each fan starting with Ring No. 6. Work back to Ring No. 3 as needed. See "C" on Drawing No. 1: Fan Pattern Installation Detail.



Installation Pattern DSR-001B:
Drawing No. 1 Fan Pattern Installation Detail

Cambridge Circle Design Kit



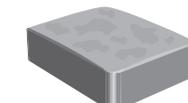
Circle I
Center



Circle II
Small w/Angled Top



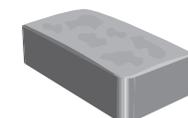
Circle III
Small w/Curved Top



Circle IV
Three Quarter Rectangular

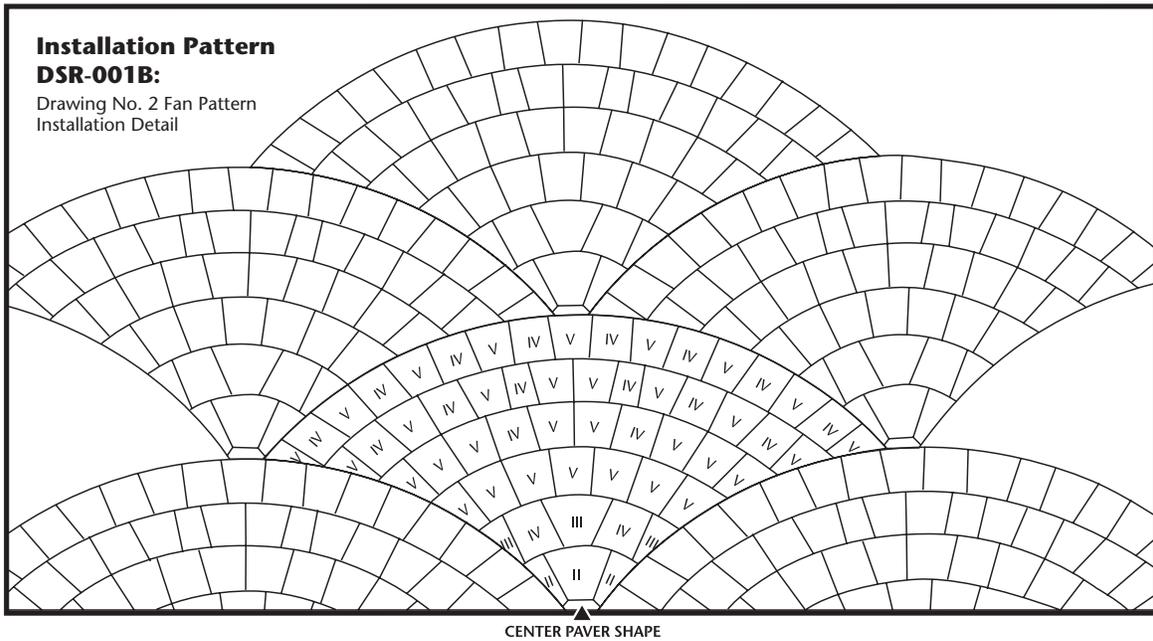


Circle V
Large Tapered



Circle VI
Half

Proper Installation & Cutting Procedures When Creating Fans



RING	LEFT HAND CUT RIGHT HAND CUT <i>Shaded Area = Cut Pc. Used</i>	SHAPES	TEMPLATE	INSTRUCTIONS
Center		1 of Circle I	No.1	Using Template No. 1, cut a Center paver shape and place it.
No. 1		3 of Circle II	No. 2	Center first Circle II paver on center line. Using Template No. 2 and Circle II paver shapes, cut a right and left hand piece and place them at ends.
No. 2		3 of Circle III 2 of Circle IV	No. 3	Center one Circle III paver shape on center line. Add two Circle IV paver shapes. Using Template No. 3 and Circle III paver shapes, cut a right and left hand piece and place them at ends.
No. 3		7 of Circle V	No. 4	Place one paver on center line. Add remaining pavers. Using Template No. 4 and Circle V paver shapes, cut a right and left hand piece and place them at ends.
No. 4		2 of Circle IV 8 of Circle V	No. 4	Place one Circle V paver shape to the left and one to the right of center line. Add remaining pavers. Alternate shapes. Using Template No. 4 and Circle V paver shapes, cut a right and left hand piece and place them at ends.
No. 5		4 of Circle IV 8 of Circle V 2 of Circle VI	No. 5	Place two Circle V paver shapes in the same starting position as Ring No. 4. Add remaining pavers. Alternate shapes. Using Template No. 5 and Circle V paver shapes, cut a right and left hand piece and place them at ends.
No. 6		8 of Circle IV 9 of Circle V	No. 5	Place one Circle V paver shape on center line. Alternate Circle IV and Circle V paver shapes. Using Template No. 5 and Circle V paver shapes, cut a right and left hand piece and place them at ends.

Note: It will be necessary to cut six additional Circle VI paver shapes (two for the fourth fan and two for each half radius).



THE RENAISSANCE COLLECTION

SHAPES



**4 x 8
HOLLAND**



6 x 6



6 x 9



12 x 12



**6 x 12
BULLNOSE**

Note: *Olde English 3-Pc. Design Kit patterns are shown on Page 26.*



Substitutions And Intermingling

Aged shapes with the look of natural stone from The Renaissance Collection can be substituted in patterns from other collections shown in this handbook.

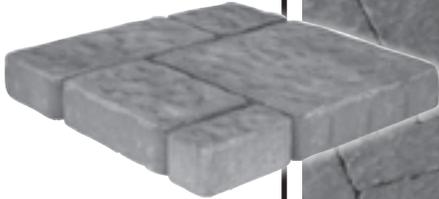
- 4 x 8 Holland, 6 x 6 and 6 x 9, see patterns in The RoundTable Collection
- 6 x 6, 6 x 9 and 12 x 12, see patterns in Random Laying Patterns
- 4 x 8 Holland, see patterns in The KingsCourt Collection

Cambridge Bullnose shapes (6 x 12 shown) are also available from The Crusader Collection along with a 4 x 12 Bullnose as well as Random and Circle Design Kit patterns. Unique combinations of these versatile Cambridge shapes, all with ArmorTec®, from different collections with dissimilar surfaces and other differentiating characteristics can be mixed into any pattern that is made up of these configurations. Be creative for a personal "signature" touch.

Also note that LedgeStone 18 x 18 and the LedgeStone Circle Design Kit from The Sherwood Collection are also available from The Renaissance Collection (Special Order Only).

**THE
RENAISSANCE
COLLECTION**

SHAPES



**RENAISSANCE V
5-PC. DESIGN KIT**

Sizes:

- 11.8 x 11.8**
- 5.9 x 11.8**
- 5.9 x 8.85**
- 5.9 x 5.9**
- 3 x 5.9**

Note: *Modular configurations allow for unlimited random patterns, running bond placement as well as border and banding treatments.*

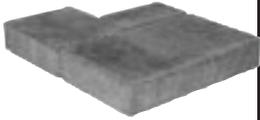


NOTE: THE RENAISSANCE V 5-PC. DESIGN KIT IS INSTALLED RANDOMLY WITH NO SET PATTERN.

**THE
RENAISSANCE
COLLECTION**

**OLDE ENGLISH
3-PC. DESIGN KIT**

SHAPES

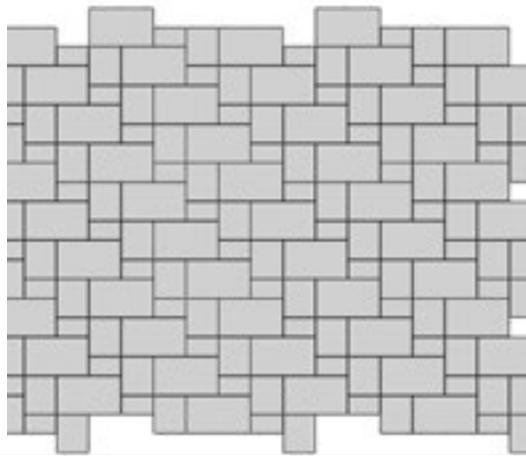


Sizes:

Olde English SM
4 1/16 x 6 13/16

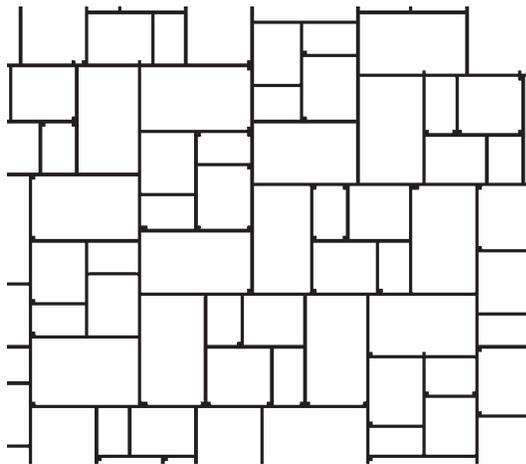
Olde English MED
6 13/16 x 8 1/4

Olde English LG
8 1/4 x 13 3/4

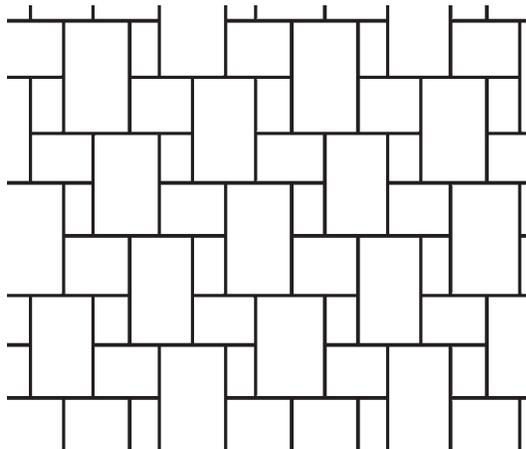


RECOMMENDED PATTERN

Pattern DSOE-022: SM (15%) • MED (26%) • LG (59%)



Pattern DSOE-019: SM (15%) • MED (28%) • LG (57%)*

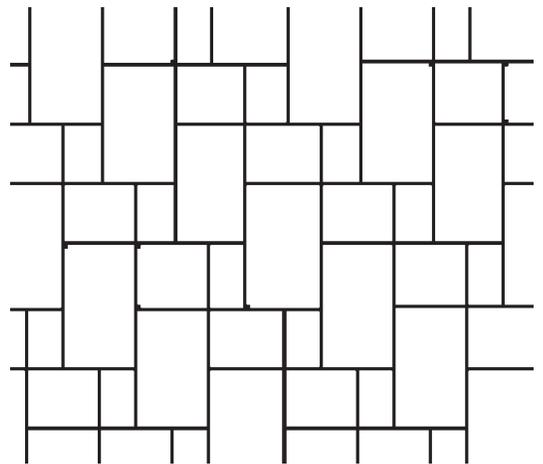


Pattern DSOE-020: SM (15%) • MED (28%) • LG (57%)*

Note: The ratio used to create the most popular patterns shown for the three shapes is:

- 15% SM (70 pcs.)
- 26% MED (70 pcs.)
- 59% LG (70 pcs.)

**PATTERN DSOE-22 WILL LEAVE YOU WITH
10 REMAINING PIECES OF BOTH THE
SM AND LG SIZES PER CUBE WHICH
CAN BE USED FOR BORDER OR CUT PIECES.**



Pattern DSOE-006: SM (14%) • MED (29%) • LG (57%)*

***Note:** Patterns DSOE-006, DSOE-019 and DSE-020 will require additional material. Also, you will have material remaining upon completion.



**THE
KINGSCOURT
COLLECTION**

SHAPES



4 x 8 HOLLAND



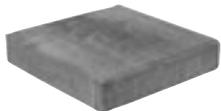
6 x 6



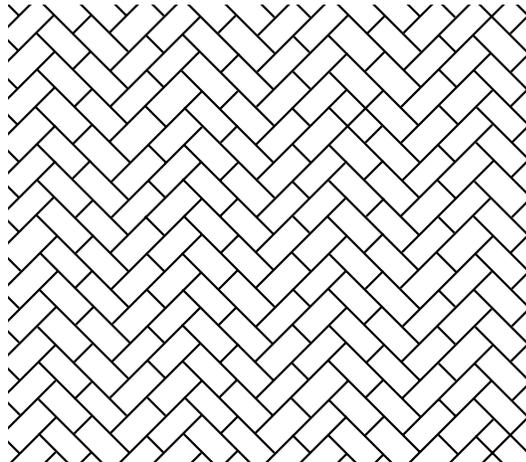
6 x 9



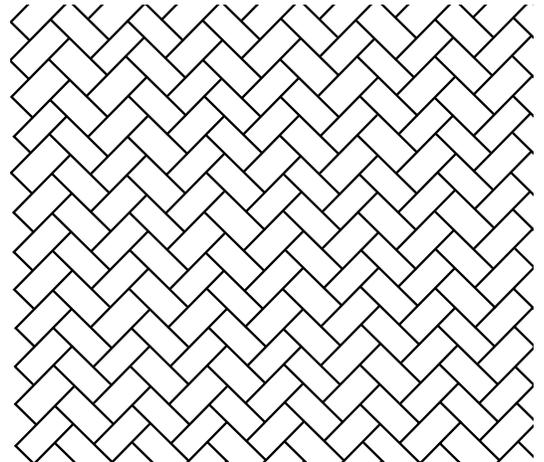
8 x 8



12 x 12



Pattern DSK-014: 4 x 8 Holland (100%)



Pattern DSK-015: 4 x 8 Holland (100%)



THE EXCALIBUR COLLECTION

SHAPES



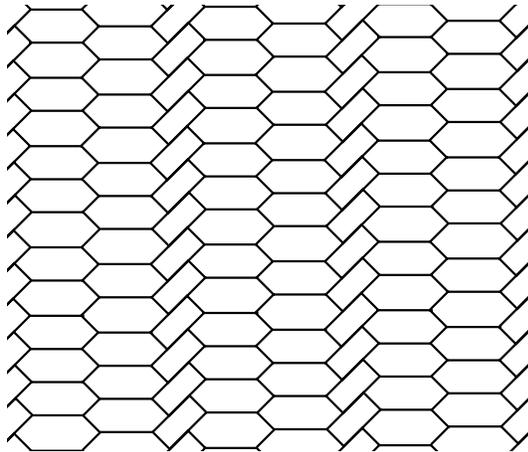
**COBBLE I
COBBLE I EDGER**



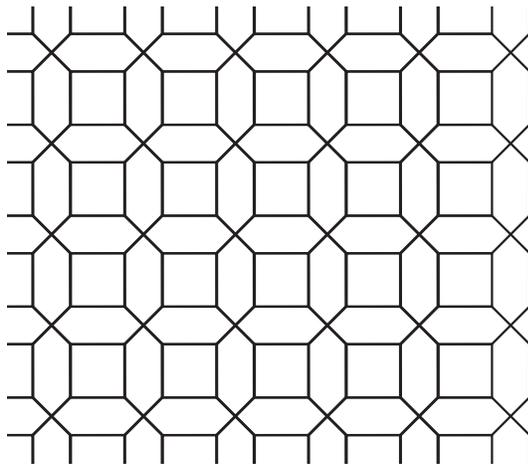
DIAMOND

Note: Patterns shown also use shapes from The KingsCourt Collection such as:

- 4 x 8 Holland
- 8 x 8



Pattern DSE-008: Diamond (78%) • 4 x 8 Holland (22%)



Pattern DSE-017: Diamond (65%) • 8 x 8 (35%)



THE CRUSADER COLLECTION

SHAPES



4 x 12 BULLNOSE



6 x 12 BULLNOSE



HOLLAND WITHOUT SPACER BARS & CHAMFERED EDGES

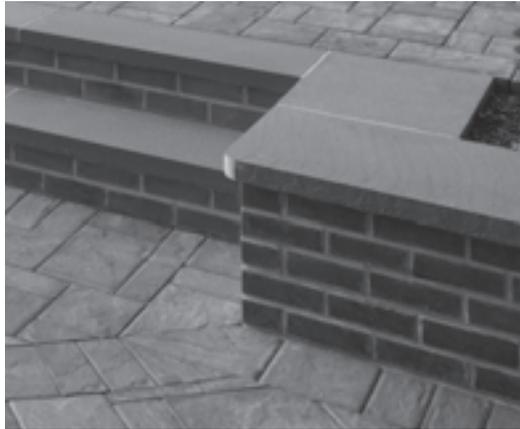


4 x 8 HOLLAND ADA PAVER

Specially developed for architects, engineers and landscape architects when specifying municipal and commercial paving projects where Americans with Disabilities Act (ADA) guidelines must be adhered to at sidewalk and ramping areas. Custom orders only.

For Special Structural, Landscape And Pavement Applications

Shapes in The Crusader Collection with ArmorTec® are specially designed to provide hardscape solutions when installing steps, pool coping, edging and curbs, facing and permeable pavements as well as under Americans with Disabilities Act guidelines.



LEDGESTONE CAST STONE

Four trapezoidal shapes to create straight, curved and serpentine designs for pool coping, steps, wall caps and pavingstone borders.

All 12 1/2 Deep • 2 3/8 Thick



"A" Lengths: 11 3/4 • 9 3/8



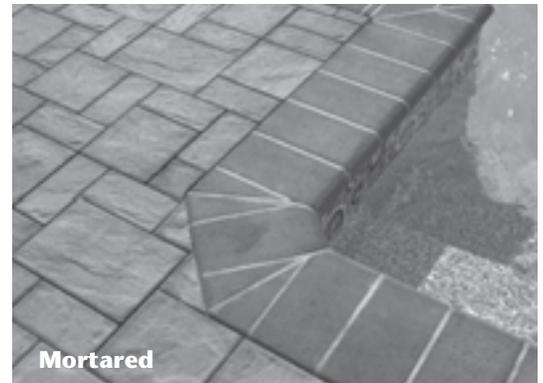
"C" Lengths: 18 25/32 • 16 1/2



"B" Lengths: 15 7/8 • 13 3/4



"D" Lengths: 19 • 19



CAMBRIDGE BULLNOSE

Various sizes are available for stairs, pool copings, wall caps or upright for garden borders. 6 x 12 Bullnose are also available "aged" from The Renaissance Collection.

HOLLAND WITHOUT SPACER BARS & CHAMFERED EDGES

This shape is used to fashion a finished look anywhere that sidewalls of pavers show (steps, risers, landings, knee walls, facing, etc.) and when stacking pavingstones as you would bricks.

CAMBRIDGE CURBSTONE

Achieve the look of granite and Belgian block with this affordable, durable alternative to plastic edge restraints, aluminum and wood edging, as well as concrete curb or toe.



CAMBRIDGE EDGESTONE

Ideal as edging for mulch beds, gardens, decorative gravel and more in lieu of concrete, clay brick, molded plastic and wood edging.



Thinking green?...

All rain water is filtered through the Cambridge Permeable System before it enters nearby streams and rivers.

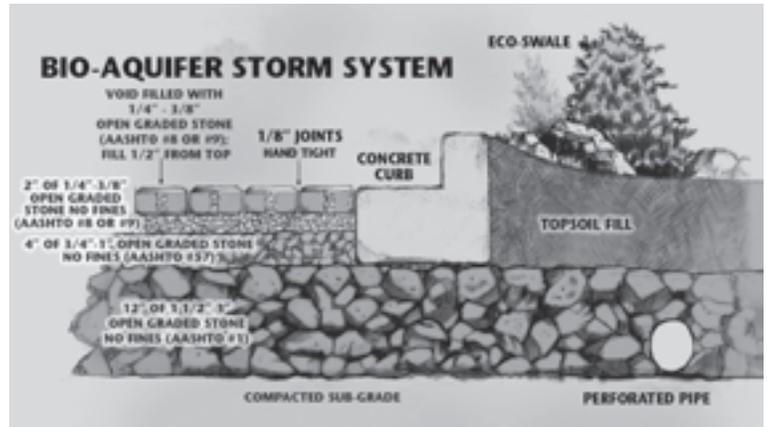
Cambridge LedgeStone Permeable and Aqua-Bric® Type 1 offer two excellent solutions for rapid removal of stormwater. A permeable pavement system is an economically smart choice for driveways, parking lots and roads that offers ecological benefits as well. By allowing for natural drainage and groundwater recharge, water runoff is reduced and outstanding economic results on a 30-year life cycle cost analysis can be achieved. In addition, land planning is enhanced by eliminating retention ponds. Either system can be categorized as a structural BMP (Best Management Practices).

LedgeStone Permeable 3-Pc. Design Kit With ArmorTec®



Sizes:
 3 1/8 Thick
 4 1/2 x 4 1/2
 4 1/2 x 9
 9 x 9

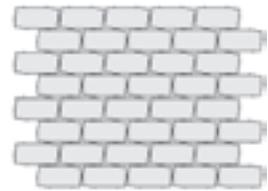
The coefficient of runoff for permeable pavements is between .00 and .015 when first installed and on level surface. The corresponding runoff coefficient for an asphalt application is .98. A common error in designing permeable interlocking concrete pavements is assuming that the amount or percent of open surface area is equal to the percent of perviousness. For example, an 18% open surface area is incorrectly assumed to be 18% pervious, or 82% impervious. The perviousness and amount of infiltration are dependent on the infiltration rates of joint filling material, bedding layer, and base materials, not the percentage of surface open area. Compared to soils, permeable interlocking concrete pavements have a very high degree of infiltration. Since there are infiltration differences between initial and long-term performance, construction, plus inevitable clogging, a conservative design rate of 3 in./hr (2.1 x 10⁻⁵ m/sec or 210 L/sec/hectare) can be used as the basis for the design surface infiltration rate for a 20-year life. This design infiltration rate will take in most storms. Properly installed permeable pavement surfaces will be able to handle 100 percent of the rainfall from low and medium intensity storms. For design help contact your Cambridge Territory Manager.



Herringbone



Running Bond



Aqua-Bric® Type 1 With ArmorTec®

Available From The Crusader Collection
 And Aged From The Renaissance Collection

Sizes:
 3 1/8 Thick
 4 15/16 x 9 7/8



Cambridge Turfstone

Designed for special permeable pavement applications, 3/8-inch coarse gravel or grass is used in the grid openings of this shape allowing water to filter through the system. In addition to providing proper drainage, functional Cambridge Turfstone can also be used to stabilize an embankment.

Note: Install with lines facing up.



Belgium Cast Stone 5-Pc. Design Kit

At 2 3/8" thick, use the five square and rectangular shapes as a "green" solution with classic design characteristics on walkways, patios and especially driveways.



NOTE: FILL VOIDS WITH EITHER ITEM 8 OR ALLIANCE AQUA ROCK

Scan Here To Learn More About Permeable Pavement Installation



www.cambridgepavers.com

The Best Outdoor Living Room Ideas Come From Cambridge

Over the last twenty-one years, Cambridge has substantially committed resources to the ever-evolving “Outdoor Living Room” phenomenon by delivering the highest quality products to you, our valued contractor-customers, at a cost that will create a new profit center for your company. Integrated into the Cambridge Pre-cut/Pre-packaged & Fully Assembled Kits **shown on the following pages** are some of the most trusted names in outdoor appliances such as Lennox® along with premium Cambridge Pavingstones with ArmorTec®, Cambridge Wallstones and other superior components.



Before you leave with a signed contract, accomplish two things — **more bottom line profit and a personal signature to your design.** Our kits are complete and ready to install for your customers to enjoy in any residential project. Make a commitment to yourself and your customers who, through your recommendations, can indulge their passions for cooking, barbequing and preparing refreshments as well as fireside dining and gatherings. Remember, budget restraints can be overcome in the planning stages by proposing to add different kits, other hardscape features such as a seating wall, and supplementary patio space each year. Above all, *you are not a retailer of products.* You sell labor hours. **Our best advice is to become more efficient and proficient in your installation skills** and pass the costs of products through to the homeowner without a markup.

Cambridge Wall Systems

Cambridge offers its contractor-customers a range of versatile, single- and double-sided segmental walls and caps in various styles and surface textures, which include:

- **Olde English Wall™** (one-piece, modular with an aged natural stone appearance for straight walls)
- **Olde English Radius Wall™** (for curved, circular and serpentine walls without cutting)
- **Ledgestone Wall** (with bold ridges and prominent clefts)
- **Ledgestone Radius Wall** (Double-sided trapezoid shape allows for easy completion of straight, curved, circular and serpentine designs without cutting. Face matches Ledgestone Wall)
- **MaytRx® 3 & 6** (multi-face system comprised of four different size wallstones)*
- **Stretcher Stone** (6H x 10D double-sided wallstone with a front face of 16 inches and a rear face of 12 inches that can be used with both MaytRx 3 and 6 wall or by itself)*
- **Staircase Filler Block** (designed to be used as filler blocks behind staircase units)
- **Pyzique®** (one wallstone creates wall, corner and cap)
- **Sigma 6 & 8™** (The Sigma 6 incorporates a double-knob system that installs, as delivered, with a 6-degree setback or near vertical with the front set of knobs knocked off; The 8 also installs with a 6-degree setback)
- **Wallstone Caps** (variety of caps single-sided or double-sided including Ledgestone Cast Stone can be used on all Pyzique, MaytRx and Sigma Walls)

* *MaytRx 3 & 6 and Stretcher Stone can be used as a vertical wall with pins*

You can create “curb appeal” and coordinate colors in all of your designs for backyard outdoor living spaces because the colors of Cambridge Wallstones match or complement Cambridge Pavingstones with ArmorTec®.

Find specifications for Cambridge Kits for Outdoor Living along with guidance on installation and specific applications of Cambridge Wall Systems and Outdoor Living Room Products in this section.





3 OUTDOOR FIREPLACE MODELS WITH OPTIONS



2 SQUARE & 2 ROUND FIRE PIT MODELS WITH OPTIONS (Gas or Wood Burning)



2 OUTDOOR KITCHEN MODELS WITH APPLIANCES



2 OUTDOOR PIZZA OVEN MODELS WITH TOOLS



3 OUTDOOR GRILL MODULES WITH APPLIANCES



2 MODELS WITH APPLIANCES & BAR CENTERS



Scan Here To See Pre-Packaged
Pre-Cut Kit Installation

www.cambridgepavers.com



2 PONDLESS WATERFALL MODELS
(Round and Rectangular)



2- & 4-COLUMN PERGOLAS WITH OPTIONS



PATIO PUB & BISTRO TABLES / 2 MODELS
(Round or Square with Cast Stone or Granite Top)



FAN-SHAPED PERGOLA



4-FT. HIGH COLUMNS & COLUMN MAILBOXES



SOLID MAHOGANY GARDEN GATE WITH HARDWARE



2 STANDARD SIZES WITH CATHEDRAL CEILING



SECTION 4: OUTDOOR LIVING ROOM / FULLY ASSEMBLED COMPONENTS

34



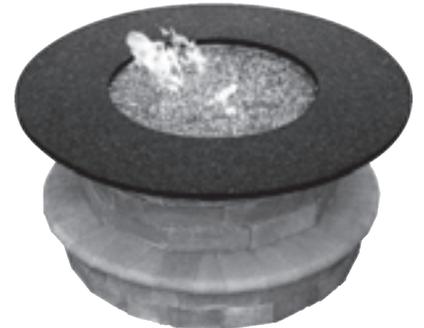
3-PC. OUTDOOR FIREPLACE WITH OPTIONAL WATERFALL/FIREWOOD BOX COMBINATIONS



4-PC. KITCHEN (DESIGN STRAIGHT OR U-SHAPE) WITH APPLIANCE PACKAGE



2-PC. OUTDOOR PIZZA OVEN WITH DROP-DOWN DOORS



GAS FIRE TABLE WITH CAST STONE OR GRANITE RINGS



2-PC. COMPACT YET VERSATILE OUTDOOR GRILL ISLAND

FULLY ASSEMBLED STONE VENEER COMPONENTS

Delivered To The Home In Fully Assembled Pieces That Can Be Put Together In Less Than 1 Hour On A Concrete Pad!



FULLY-ASSEMBLED STONE VENEER OUTDOOR FIREPLACE



FULLY-ASSEMBLED STONE VENEER OUTDOOR KITCHEN



FULLY-ASSEMBLED SMOKIN BROTHERS STONE VENEER WOOD PELLET SMOKER BBQ GRILL ISLAND



FULLY-ASSEMBLED STONE VENEER GRILL ISLAND



Scan Here To Learn More About Fully-Assembled Component Installation

www.cambridgepavers.com

COST ANALYSIS

CAMBRIDGE PRE-PACKAGED KIT ANALYSIS PRICING ASSUMPTION KEY

Based on information received from professional contractors from Maine to North Carolina*

Product Cost

- The Kit price includes job site delivery from your Cambridge distributor
- All freight based on..... \$450.00/load
- Short load charge..... \$150.00 (May vary with territory)

Labor Cost

- Time allotted is:
 - 1/2 hour for pour and prep days
 - 1 hour for each build day
- Laborer rate..... \$ 24.00 p/h
- Foreman / Supervisor (Would be utilized on larger kits)
 - Labor rate..... \$ 40.00 p/h
- Time allotted is:
 - 1/2 hour for pour and prep days
 - 1 hour for each build day
- Contractor markup is 10% on materials (Cambridge suggests no markup)
- Contractor markup is 50% on labor
- Electrician charge..... \$500.00
- Plumber charge..... \$500.00

Material Cost

- All material is measured by the Yard not ton
- Figured with "non-recycled" material
 - All territories do not offer recycled material
- Crushed base material for smaller kits..... \$ 30.00/Yard
- Clean 3/4 crushed stone for concrete pads..... \$ 50.00/Yard
 - All kits (except Kitchen Kits) are figured with 3/4 Yard of gravel under concrete pad
 - Kitchen Kit figured with 1 Yard of gravel
- Concrete figured at..... \$100.00/Yard
 - 1 Yard of concrete for all smaller kits
 - 1 1/2 Yards of concrete for the Kitchen Kit

Option 1

- Price to mix concrete
 - 42 bags of pre-mix = 1 Yard of concrete
 - 42 bags @ \$6.25 per bag..... \$262.50
 - Excludes labor to mix

OR

Option 2

- 1 Yard of sand (\$45.00) / 7 bags Portland (\$9.00/bag) / 1/2 Yard of gravel (\$27.00) Total \$135.00
 - Excludes labor to mix
- 1 rebar 10 foot length..... \$ 5.00
- 1 glue 10 oz. tube..... \$ 4.00
- 1 glue 28 oz. tube..... \$ 7.00
- 1 tube silicone..... \$ 7.00
- 1 pack fasteners / shims..... \$ 10.00
- Exception for Garden Door per manufacturer specification for concrete anchors..... \$ 25.00

*All pricing is for example purposes only.



CAMBRIDGE PRE-PACKAGED & PRE-CUT OLDE ENGLISH RECTANGULAR WATERFALL KIT

	Quantity	Price	Ext. \$\$
Labor Costs			
1st Day:			
Excavation, Base Prep, And Build Kit			
Labor Cost (1 Laborer @ \$24/hr x 8 hrs)			\$192.00
Foreman / Supervisor (1 @ \$40/hr x 0.5 hr)			\$20.00
Total Labor Cost			\$212.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$1,590.00
1/2 Yard Crushed Base Material	0.5	\$30.00	\$15.00
Glue 10.5 oz. Tube	7	\$4.00	\$28.00
Total Material Cost			\$1,633.00
Total Cost			
Material & Labor Cost			\$1,845.00
Markup			
Materials Cost Markup (10% Of Material Cost)			\$163.30
Labor Cost Markup (50% Of Labor Cost)			\$106.00
Total Markup			\$269.30
Electrician			\$500.00
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$2,614.30
Total Profit			\$269.30

CAMBRIDGE COLUMN KIT WITH CAP AND HAT (SPLIT FACE)



	Quantity	Price	Ext. \$\$
Labor Costs			
<i>1st Day:</i>			
Excavation, Base Prep, And Build Kit			
Labor Cost (1 Laborer @ \$24/hr x 1 hr)			\$24.00
Total Labor Cost			\$24.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$416.53
1/4 Yard Crushed Base Material	0.25	\$30.00	\$7.50
Glue 10.5 oz. Tube	2	\$4.00	\$8.00
Total Material Cost			\$432.03
Total Cost			
Material & Labor Cost			\$456.03
Markup			
Materials Cost Markup (10% Of Material Cost)			\$43.20
Labor Cost Markup (50% Of Labor Cost)			\$12.00
Total Markup			\$55.20
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$511.23
Total Profit			\$55.20



CAMBRIDGE PRE-PACKAGED & PRE-CUT OLDE ENGLISH WALL COLUMN MAILBOX KIT

	Quantity	Price	Ext. \$\$
Labor Costs			
<i>1st Day:</i>			
Excavation, Base Prep, And Build Kit			
Labor Cost (1 Laborer @ \$24/hr x 2 hrs)			\$48.00
Total Labor Cost			\$48.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$708.13
1/4 Yard Crushed Base Material	0.25	\$30.00	\$7.50
Glue 10.5 oz. Tube	2	\$4.00	\$8.00
Tube of Silicone	1	\$7.00	\$7.00
Total Material Cost			\$730.63
Total Cost			
Material & Labor Cost			\$778.63
Markup			
Materials Cost Markup (10% Of Material Cost)			\$73.06
Labor Cost Markup (50% Of Labor Cost)			\$24.00
Total Markup			\$97.06
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$875.69
Total Profit			\$97.06



**CAMBRIDGE OLDE ENGLISH WALL
OUTDOOR PATIO PUB & BISTRO TABLE KIT**

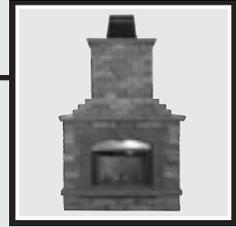
	Quantity	Price	Ext. \$\$
Labor Costs			
<i>1st Day:</i>			
Excavation, Base Prep, And Build Kit			
Labor Cost (2 Laborers @ \$24/hr x 0.75 hr)			\$36.00
Total Labor Cost			\$36.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$1,150.00
1/4 Yard Crushed Base Material	0.25	\$30.00	\$7.50
Glue 10.5 oz. Tube	2	\$4.00	\$8.00
Total Material Cost			\$1,165.50
Total Cost			
Material & Labor Cost			\$1,201.50
Markup			
Materials Cost Markup (10% Of Material Cost)			\$116.55
Labor Cost Markup (50% Of Labor Cost)			\$18.00
Total Markup			\$134.55
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$1,336.05
Total Profit			\$134.55



**CAMBRIDGE PRE-PACKAGED PYZIQUE
ROUND BARBEQUE & FIRE PIT KIT (SPLIT FACE)**

	Quantity	Price	Ext. \$\$
Labor Costs			
<i>1st Day:</i>			
Excavation, Base Prep, And Build Kit			
Labor Cost (1 Laborer @ \$24/hr x 1.5 hrs)			\$36.00
Total Labor Cost			\$36.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$452.53
1/4 Yard Crushed Base Material	0.25	\$30.00	\$7.50
Glue 10.5 oz. Tube	2	\$4.00	\$8.00
Total Material Cost			\$468.03
Total Cost			
Material & Labor Cost			\$504.03
Markup			
Materials Cost Markup (10% Of Material Cost)			\$46.80
Labor Cost Markup (50% Of Labor Cost)			\$18.00
Total Markup			\$64.80
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$568.83
Total Profit			\$64.80

CAMBRIDGE PRE-PACKAGED OLDE ENGLISH PAVER FIREPLACE KIT WITH CAST STONE SURROUND DELUXE



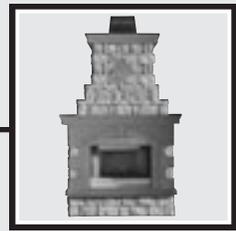
	Quantity	Price	Ext. \$\$
Labor Costs			
1st Day: Excavation, Form, Pour & Finish Concrete			
Labor Cost (2 Laborers @ \$24/hr x 4 hrs)			\$192.00
Foreman / Supervisor (1 @ \$40/hr x 0.5 hr)			\$20.00
2nd Day: Build And Glue			
Labor Cost (2 Laborers @ \$24/hr x 8 hrs)			\$384.00
Foreman / Supervisor (1 @ \$40/hr x 1 hr)			\$40.00
3rd Day: Build And Glue			
Labor Cost (1 Laborer @ \$24/hr x 8 hrs)			\$192.00
Foreman / Supervisor (1 @ \$40/hr x 1 hr)			\$40.00
Total Labor Cost			\$868.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$3,850.00
Concrete Redi-Mix	1	\$100.00	\$100.00
Concrete Short Load	1	\$150.00	\$150.00
3/4" Clean Stone In Yards	0.75	\$50.00	\$37.50
#4 Rebar 1/2" 11' @ 10' Lengths	2	\$5.00	\$10.00
Glue 10.5 oz. Tube	24	\$4.00	\$96.00
Diamond Blade (Not Pre-Cut)	0.25	\$100.00	\$25.00
Total Material Cost			\$4,268.50
Total Cost			
Material & Labor Cost			\$5,136.50
Markup			
Materials Cost Markup (10% Of Material Cost)			\$426.85
Labor Cost Markup (50% Of Labor Cost)			\$434.00
Total Markup			\$860.85
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$5,997.35
Total Profit			\$860.85



CAMBRIDGE PRE-PACKAGED OLDE ENGLISH PAVER FIREWOOD BOX EXTENSION KIT

	Quantity	Price	Ext. \$\$
Labor Costs			
1st Day: Additional Concrete Pour			
2nd Day: Build And Glue			
Labor Cost (2 Laborers @ \$24/hr x 4 hrs)			\$192.00
Total Labor Cost			\$192.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$487.73
Additional Concrete	0.5	\$100.00	\$50.00
Additional 3/4" Clean Stone In Yards	0.25	\$50.00	\$12.50
Glue 10.5 oz. Tube	3	\$4.00	\$12.00
Total Material Cost			\$562.23
Total Cost			
Material & Labor Cost			\$754.23
Markup			
Materials Cost Markup (10% Of Material Cost)			\$56.22
Labor Cost Markup (50% Of Labor Cost)			\$96.00
Total Markup			\$152.22
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$906.45
Total Profit			\$152.22

COST ANALYSIS



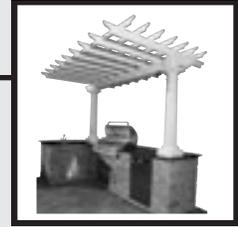
CAMBRIDGE PRE-PACKAGED & PRE-CUT MAYTRX FIREPLACE KIT WITH CAST STONE SURROUND DELUXE (SPLIT FACE)

	Quantity	Price	Ext. \$\$
Labor Costs			
1st Day: Excavation, Form, Pour & Finish Concrete			
Labor Cost (2 Laborers @ \$24/hr x 4 hrs)			\$192.00
Foreman / Supervisor (1 @ \$40/hr x 1 hr)			\$40.00
2nd Day: Build			
Labor Cost (2 Laborers @ \$24/hr x 8 hrs)			\$384.00
Foreman / Supervisor (1 @ \$40/hr x 1 hr)			\$40.00
3rd Day: Build & Glue			
Labor Cost (1 Laborer @ \$24/hr x 4 hrs)			\$96.00
Foreman / Supervisor (1 @ \$40/hr x 0.5 hr)			\$20.00
Total Labor Cost			\$772.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$4,700.00
Concrete Redi-Mix	1	\$100.00	\$100.00
Concrete Short Load	1	\$150.00	\$150.00
3/4" Clean Stone In Yards	0.75	\$50.00	\$37.50
#4 Rebar 1/2" 11' @ 10' Lengths	2	\$5.00	\$10.00
Glue 10.5 oz. Tube	16	\$4.00	\$64.00
Total Material Cost			\$5,061.50
Total Cost			
Material & Labor Cost			\$5,833.50
Markup			
Materials Cost Markup (10% Of Material Cost)			\$506.15
Labor Cost Markup (50% Of Labor Cost)			\$386.00
Total Markup			\$892.15
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$6,725.65
Total Profit			\$892.15



CAMBRIDGE GARDEN GATE KIT

	Quantity	Price	Ext. \$\$
Labor Costs			
1st Day: Excavation, Base Prep, & Install Columns			
Labor Cost (2 Laborers @ \$24/hr x 4 hrs)			\$192.00
Foreman / Supervisor (1 @ \$40/hr x 0.5 hr)			\$20.00
2nd Day: Hang Door & Install Hardware			
Labor Cost (2 Laborers @ \$24/hr x 4 hrs)			\$192.00
Foreman / Supervisor (1 @ \$40/hr x 1 hr)			\$40.00
Total Labor Cost			\$444.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$3,215.00
3/4" Yard Crushed Base Material	0.75	\$30.00	\$22.50
Glue 10.5 oz. Tube	14	\$4.00	\$56.00
Hardware for Door - Fasteners Per Manufacturer Specs.	1	\$25.00	\$25.00
Total Material Cost			\$3,318.50
Markup			
Material & Labor Cost			\$3,762.50
Total Cost			
Materials Cost Markup (10% Of Material Cost)			\$331.85
Labor Cost Markup (50% Of Labor Cost)			\$222.00
Total Markup			\$553.85
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$4,316.35
Total Profit			\$553.85



CAMBRIDGE PRE-PACKAGED & PRE-CUT OLDE ENGLISH WALL KITCHEN KIT WITH PERGOLA

	Quantity	Price	Ext. \$\$
Labor Costs			
1st Day: Excavation, Form, Pour & Finish Concrete			
Labor Cost (2 Laborers @ \$24/hr x 6 hrs)			\$288.00
Foreman / Supervisor (1 @ \$40/hr x 0.5 hr)			\$20.00
2nd Day: Build & Glue			
Labor Cost (2 Laborers @ \$24/hr x 8 hrs)			\$384.00
Foreman / Supervisor (1 @ \$40/hr x 1 hr)			\$40.00
3rd Day: Install Granite, Appliances, Doors			
Labor Cost (2 Laborers @ \$24/hr x 4 hrs)			\$192.00
Install Pergola			
Labor Cost (2 Laborers @ \$24/hr x 6 hrs)			\$288.00
Foreman / Supervisor (1 @ \$40/hr x 1 hr)			\$40.00
Total Labor Cost			\$1,252.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$11,425.00
Concrete Redi-Mix	1.5	\$100.00	\$150.00
Concrete Short Load	1	\$150.00	\$150.00
#4 Rebar 1/2" 40' @ 10' Lengths	4	\$5.00	\$20.00
3/4" Clean Stone In Yards	1	\$50.00	\$50.00
12" Sonitubes for Pergola	2	\$10.00	\$20.00
Glue 10.5 oz. Tube	14	\$4.00	\$56.00
Fasteners / Shims	1	\$10.00	\$10.00
Tube of Silicone	1	\$7.00	\$7.00
Total Material Cost			\$11,881.00
Total Cost			
Material & Labor Cost			\$13,133.00
Markup			
Materials Cost Markup (10% Of Material Cost)			\$1,188.10
Labor Cost Markup (50% Of Labor Cost)			\$626.00
Total Markup			\$1,814.10
Electrician / Plumber (\$500.00 Each)			\$1,000.00
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$15,947.10
Total Profit			\$1,814.10

CAMBRIDGE PRE-CUT & PRE-PACKAGED OLDE ENGLISH WALL GRILL KIT

	Quantity	Price	Ext. \$\$
Labor Costs			
1st Day: Excavation, Form, Pour & Finish Concrete			
Labor Cost (2 Laborers @ \$24/hr x 4 hrs)			\$192.00
Foreman / Supervisor (1 @ \$40/hr x 0.5 hr)			\$20.00
2nd Day: Build & Glue			
Labor Cost (2 Laborers @ \$24/hr x 5 hrs)			\$240.00
Foreman / Supervisor (1 @ \$40/hr x 1 hr)			\$40.00
Total Labor Cost			\$492.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$4,150.00
Concrete Redi-Mix	1	\$100.00	\$100.00
Concrete Short Load	1	\$150.00	\$150.00
#4 Rebar 1/2" 20' @ 10' Lengths	2	\$5.00	\$10.00
3/4" Clean Stone In Yards	0.75	\$50.00	\$37.50
Conduit - 2" x 10' & 90 Degree	1	\$10.00	\$10.00
Glue 10.5 oz. Tube	8	\$4.00	\$32.00
Fasteners / Shims	1	\$10.00	\$10.00
Tube of Silicone	1	\$7.00	\$7.00
Total Material Cost			\$4,506.50
Total Cost			
Material & Labor Cost			\$4,998.50
Markup			
Materials Cost Markup (10% Of Material Cost)			\$450.65
Labor Cost Markup (50% Of Labor Cost)			\$246.00
Total Markup			\$696.65
Electrician			\$500.00
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$6,195.15
Total Profit			\$696.65



CAMBRIDGE PRE-PACKAGED & PRE-CUT MAYTRX BAR MODULE KIT (SPLIT FACE)

	Quantity	Price	Ext. \$\$
Labor Costs			
1st Day: Excavation, Form, Pour, & Finish Concrete			
Labor Cost (2 Laborers @ \$24/hr x 4 hrs)			\$192.00
Foreman / Supervisor (1 @ \$40/hr x 0.5 hr)			\$20.00
2nd Day: Build & Glue - Set Granite, Fridge, & Bar Module			
Labor Cost (2 Laborers @ \$24/hr x 8 hrs)			\$384.00
Foreman / Supervisor (1 @ \$40/hr x 1 hr)			\$40.00
Total Labor Cost			\$636.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$4,550.00
3/4" Clean Stone In Yards	0.75	\$50.00	\$37.50
Concrete Redi-Mix	1	\$100.00	\$100.00
Concrete Short Load	1	\$150.00	\$150.00
#4 Rebar 1/2" 20' @ 10' Lengths	2	\$5.00	\$10.00
Conduit - 2" x 10' & 90 Degree	1	\$10.00	\$10.00
Glue 10.5 oz. Tube	12	\$4.00	\$48.00
Tube Of Silicone	1	\$7.00	\$7.00
Fasteners / Shims	1	\$10.00	\$10.00
Total Material Cost			\$4,922.50
Total Cost			
Material & Labor Cost			\$5,558.50
Markup			
Materials Cost Markup (10% Of Material Cost)			\$492.25
Labor Cost Markup (50% Of Labor Cost)			\$318.00
Total Markup			\$810.25
Electrician / Plumber (\$500.00 Each)			\$1,000.00
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$7,368.75
Total Profit			\$810.25



CAMBRIDGE PRE-PACKAGED & PRE-CUT OLDE ENGLISH WALL PIZZA OVEN KIT



	Quantity	Price	Ext. \$\$
Labor Costs			
1st Day: <i>Excavation, Form, Pour & Finish Concrete</i>			
Labor Cost (2 Laborers @ \$24/hr x 4 hrs)			\$192.00
Foreman / Supervisor (1 @ \$40/hr x 0.5 hr)			\$20.00
2nd Day: <i>Build & Glue</i>			
Labor Cost (2 Laborers @ \$24/hr x 8 hrs)			\$384.00
<i>Install Oven</i>			
Labor Cost (3 Laborers @ \$24/hr x 1 hr)			\$72.00
Foreman / Supervisor (1 @ \$40/hr x 1 hr)			\$40.00
3rd Day: <i>Build & Glue</i>			
Labor Cost (2 Laborers @ \$24/hr x 8 hrs)			\$384.00
4th Day: <i>Build, Glue & Finishing Touches</i>			
Labor Cost (2 Laborers @ \$24/hr x 6 hrs)			\$288.00
Total Labor Cost			\$1,380.00
Material Costs			
Estimated Delivered Cost Of Kit To Jobsite			\$7,700.00
2 Yards Concrete	1.5	\$100.00	\$150.00
Concrete Short Load	1	\$150.00	\$150.00
#4 Rebar 1/2" 66' @ 10' Lengths	7	\$5.00	\$35.00
3/4" Clean Stone In Yards	0.75	\$50.00	\$37.50
Glue 10.5 oz. Tube	30	\$4.00	\$120.00
Glue 28 oz. Tube	3	\$7.00	\$21.00
Tube of Silicone	1	\$7.00	\$7.00
Total Material Cost			\$8,220.50
Total Cost			
Material & Labor Cost			\$9,600.50
Markup			
Materials Cost Markup (10% Of Material Cost)			\$822.05
Labor Cost Markup (50% Of Labor Cost)			\$690.00
Total Markup			\$1,512.05
Total Cost To Homeowner (Material & Labor Cost + Markup)			\$11,112.55
Total Profit			\$1,512.05



Pattern: Olde English Wall • Running Bond



Pattern: Olde English Wall • Random



Pattern: MaytRx 6 Split Face • Random



Pattern: MaytRx 6 Renaissance • Random



Pattern: • MaytRx 3 & 6 Split Face • Random



Pattern: MaytRx 3 & 6 Renaissance • Random





Pattern: Pyzique Split Face • Running Bond



Pattern: LedgeStone Wall • Running Bond

Pattern: MaytRx 3 & 6 Intermingled
With Cambridge 6-Inch Stretcher Stone
(**Note:** Jumpers And Cambridge Large Caps)
• Random

**Stretcher Stone and
MaytRx 3 & 6 can
be used as a vertical
wall with pins.**



Note: Additional pattern ideas along with installation instructions on various Cambridge Wall Systems and Outdoor Living Room Products follow in Section 5 / Cambridge Wall Products.

ATTENTION:
**Retaining walls
over 36 inches require
the services of a
licensed engineer.**

Pattern: Sigma 8 • Stairs: Sigma 6 with
Cambridge 13" Cap

Coordinate Colors...

Cambridge Wallstones match or complement
Cambridge Pavingstones With ArmorTec®!

How To Build An Engineered Retaining Wall And Obtain A Stamped Drawing For Submittal To A Local Municipality.

The best place to source design information or necessary drawings for MaytRx and Sigma Wall Systems is cambridgepavers.com. HTS (Hardscape Technical Services) has created a manual, "Complete Guide to Planning, Bidding, Engineering, and Building the MaytRx Wall", which is an excellent primer for building an engineered wall as well as a stamped drawing program that costs less than \$500 in most cases. Their affiliate company SRW offers free takeoffs and geogrid layouts.

SRW/HTS has an arrangement with Cambridge Pavers to provide MaytRx and Sigma engineered wall designs if the geogrid needed for the project is purchased from Cambridge. Cambridge suggests that you consult an engineer, design professional or HTS for MaytRx and Sigma Walls higher than 36 inches or that involve loads, poor soil or other design factors such as water runoff. See program information below.

SRW Free Design Request Program

Fill out the design request form on cambridgepavers.com. Within 3 days of receiving your information SRW will provide:

- Geogrid layer drawing
- Wall Takeoff (Sq. Ft., Caps, Pins)
- Adhesive needed

Note: This is not a "Stamped" drawing; it is a calculation based on your information using NCMA design software.

HTS Stamped Drawing Program

Typically, when a homeowner or contractor discovers that their retaining wall project needs a permit by the local building department, it is also learned that to obtain a permit they must provide engineering stamped by an engineer registered in the state of the project. The stamped engineering requirement will vary, from locality to locality. The determining factor for requiring stamped engineering is usually the exposed height of the retaining wall. Some local building departments require stamped engineering on retaining walls as short as 2' in exposed height. Fill out the design request form and prepare a soil sample.



What To Expect

When stamped engineering services are requested, HTS:

- Insures that the project fits the 8' and under program,
- Verifies that all the required information is supplied, and forwards the package to the independently licensed engineer.

The engineer reviews the request and the customer receives:

- A cover letter from Hardscape Technical Services (HTS).
- A stamped cover letter from the engineer indicating the proper design table to use for construction.
- The proper design table stamped on the site configuration (case) to be used.
- Upon receipt of the stamped engineering document, you may proceed in obtaining the building permit from the local building department.

Find all forms requested on this page of the handbook along with processing instructions, and also information on Geogrid in the Professional Contractors Section of the Cambridge website (www.cambridgepavers.com).

MAYTRX

Geogrid tables are for illustration only and should be matched with soil, grade and load to the wall stone size and Geogrid you are using with the full set of tables available in the Pro Guide for walls under 8 feet.

GEOGRID



These pages reference the Maytrx "Pro Guide" available for free download at:
 ---> **Cambridge website**
 ---> **Contractor Section**
 ---> **Engineered Retaining Wall Information**

26 DEGREE SOIL for walls up to 8'

Maytrx® Block · SRW Accessories



If used without the stamped engineering, the final determination of the suitability of the contemplated use, and its manner of use, are the sole responsibility of the user, and the user expressly releases HTS, SRW, and retaining wall unit supplier of any and all liability that might arise as a result. These designs have been performed with National Concrete Masonry Association (NCMA) software and have been analyzed for the appropriate factors of safety. © 2009 Hardscape Technical Services · Maytrx® is a registered trademark of Maytrx Premier Stone System.

Geogrid: SRW Universal 635 LTDS or SRW 3 Series 1093 LTDS · Block Dimensions: 6"(H) x 8", 10" OR 12" (W) x 10"(D) · Avg Cover: .4167 Sq Ft.

CASE A

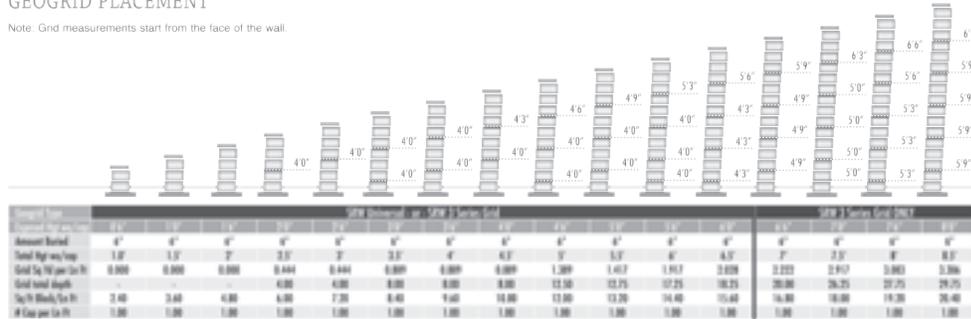
- "CASE A" Retaining Wall:
 • Flat Ground at Top of Wall
 • Flat Ground at Bottom of Wall
 • No Surcharge on Wall



IF STAMPED ENGINEERING IS REQUIRED FOR THIS RETAINING WALL, THIS DESIGN MUST BE STAMPED HERE BY A LICENSED ENGINEER.

GEOGRID PLACEMENT

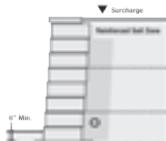
Note: Grid measurements start from the face of the wall.



See "Material Estimating" for Adhesive estimate

CASE B

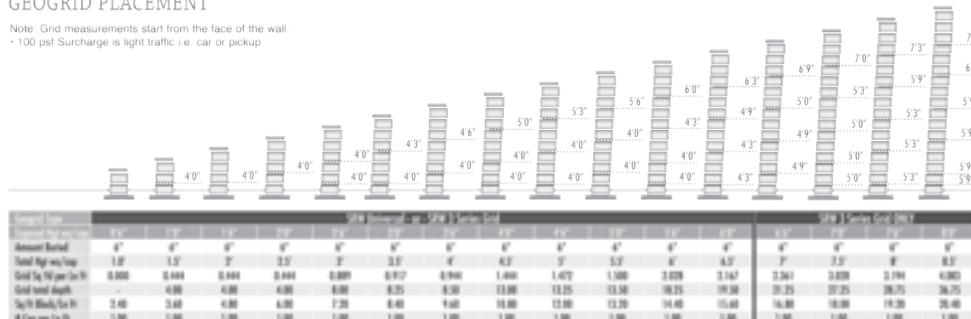
- "CASE B" Retaining Wall:
 • Flat Ground at Top of Wall
 • Flat Ground at Bottom of Wall
 • 100 psf Surcharge on Wall



IF STAMPED ENGINEERING IS REQUIRED FOR THIS RETAINING WALL, THIS DESIGN MUST BE STAMPED HERE BY A LICENSED ENGINEER.

GEOGRID PLACEMENT

Note: Grid measurements start from the face of the wall.
 • 100 psf Surcharge is light traffic i.e. car or pickup



See "Material Estimating" for Adhesive estimate

CASE C

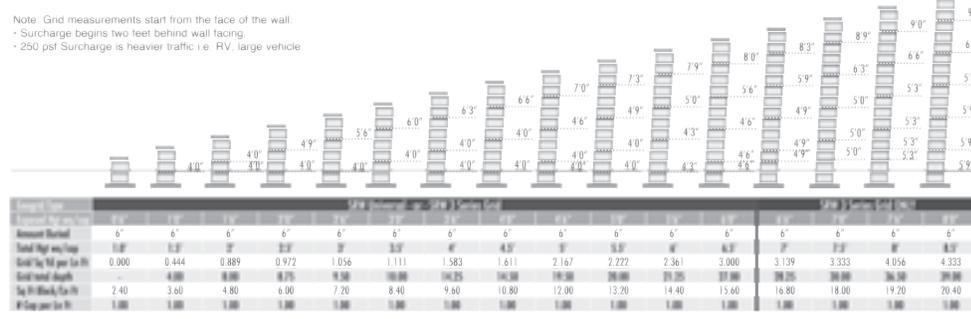
- "CASE C" Retaining Wall:
 • Flat Ground at Top of Wall
 • Flat Ground at Bottom of Wall
 • 250 psf Surcharge on Wall



IF STAMPED ENGINEERING IS REQUIRED FOR THIS RETAINING WALL, THIS DESIGN MUST BE STAMPED HERE BY A LICENSED ENGINEER.

GEOGRID PLACEMENT

Note: Grid measurements start from the face of the wall.
 • Surcharge begins two feet behind wall facing.
 • 250 psf Surcharge is heavier traffic i.e. RV, large vehicle



See "Material Estimating" for Adhesive estimate

SIGMA 6

GEOGRID

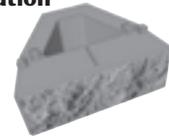
Geogrid tables are for illustration only and should be matched with soil, grade and load to the wall stone size and Geogrid you are using with the full set of tables available in the Pro Guide for walls under 8 feet.



These pages reference the Sigma 6 "Pro Guide" available for free download at:

- > **Cambridge website**
- > **Contractor Section**
- > **Engineered Retaining Wall Information**

Cambridge Sigma 6 - SRW Accessories



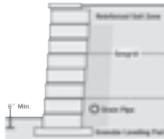
26 DEGREE SOIL for walls up to 8'

If used without the stamped engineering, the final determination of the suitability of the contemplated use, and its manner of use, are the sole responsibility of the user, and the user expressly releases HTS, SRW, and retaining wall unit supplier of any and all liability that might arise as a result. These designs have been performed with National Concrete Masonry Association (NCMA) software and have been analyzed for the appropriate factors of safety. © 2013 Hardscape Technical Services - Cambridge Sigma 6™ is a trademark of Cambridge Wall Systems

Geogrid: SRW Universal 635 LTDS or SRW 3 Series 1093 LTDS - Block Dimensions: 5' 27/32"(H) x 16" (W) x 12"(D)

CASE A

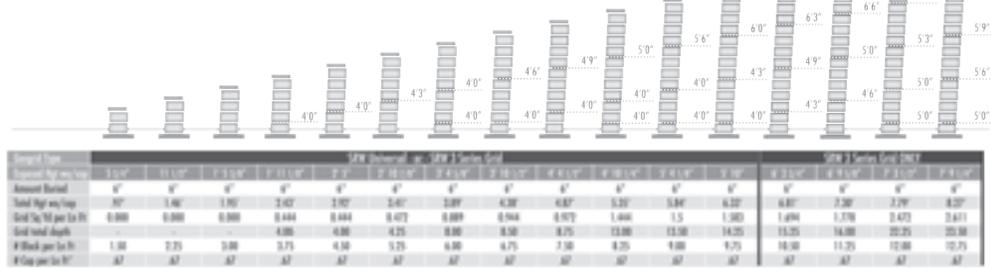
- CASE A Retaining Wall:
- Flat Ground at Top of Wall
- Flat Ground at Bottom of Wall
- No Surcharge on Wall



IF STAMPED ENGINEERING IS REQUIRED FOR THIS RETAINING WALL, THIS DESIGN MUST BE STAMPED HERE BY A LICENSED ENGINEER.

GEOGRID PLACEMENT

- Grid is measured from the face of the wall.



*Caps come in multiple sizes. Check with your local retailer for what size is available in your area. * See "Material Estimating" for Adhesive estimate.

CASE B

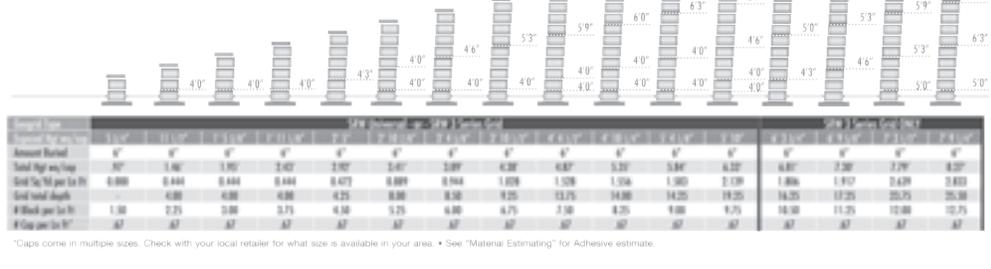
- CASE B Retaining Wall:
- Flat Ground at Top of Wall
- Flat Ground at Bottom of Wall
- 100 psf Surcharge on Wall



IF STAMPED ENGINEERING IS REQUIRED FOR THIS RETAINING WALL, THIS DESIGN MUST BE STAMPED HERE BY A LICENSED ENGINEER.

GEOGRID PLACEMENT

- Grid is measured from the face of the wall.
- Surcharge begins 1 foot behind wall facing
- 100 psf Surcharge is light traffic i.e. car or pickup



*Caps come in multiple sizes. Check with your local retailer for what size is available in your area. * See "Material Estimating" for Adhesive estimate.

CASE C

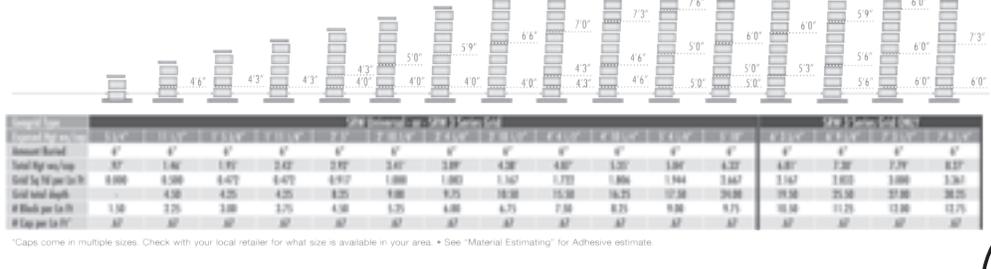
- CASE C Retaining Wall:
- Flat Ground at Top of Wall
- Flat Ground at Bottom of Wall
- 250 psf Surcharge on Wall



IF STAMPED ENGINEERING IS REQUIRED FOR THIS RETAINING WALL, THIS DESIGN MUST BE STAMPED HERE BY A LICENSED ENGINEER.

GEOGRID PLACEMENT

- Grid is measured from the face of the wall.
- Surcharge begins two feet behind wall facing
- 250 psf Surcharge is heavier traffic i.e. RV, large vehicle
- Grid is measured from the face of the wall.



*Caps come in multiple sizes. Check with your local retailer for what size is available in your area. * See "Material Estimating" for Adhesive estimate.



SIGMA 8

GEOGRID

Geogrid tables are for illustration only and should be matched with soil, grade and load to the wall stone size and Geogrid you are using with the full set of tables available in the Pro Guide for walls under 8 feet.



These pages reference the Sigma 8 "Pro Guide" available for free download at:

- > **Cambridge website**
- > **Contractor Section**
- > **Engineered Retaining Wall Information**

26 DEGREE SOIL for walls up to 8'

Sigma 8 - SRW Accessories

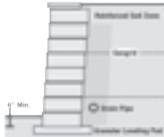


If used without the stamped engineering, the final determination of the suitability of the contemplated use, and its manner of use, are the sole responsibility of the user, and the user expressly releases HTS, SRW, and retaining wall unit supplier of any and all liability that might arise as a result. These designs have been performed with National Concrete Masonry Association (NCMA) software and have been analyzed for the appropriate factors of safety. © 2013 Hardscape Technical Services. Sigma 8™ is a trademark of Cambridge Wall Systems.

Geogrid - SRW Universal 635 LTDS or SRW 3 Series 1093 LTDS • Block Dimensions: 8"(H) x 18"(W) x 12"(D)

CASE A

- *CASE A* Retaining Wall:
- Flat Ground at Top of Wall
- Flat Ground at Bottom of Wall
- No Surcharge on Wall



IF STAMPED ENGINEERING IS REQUIRED FOR THIS RETAINING WALL, THIS DESIGN MUST BE STAMPED HERE BY A LICENSED ENGINEER.

GEOGRID PLACEMENT

- Grid is measured from the face of the wall.



Block Type	1.5'	2.0'	2.5'	3.0'	3.5'	4.0'	4.5'	5.0'	5.5'	6.0'	6.5'	7.0'	7.5'	8.0'
Minimum Retard	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
Total Hgt w/ Top	1.33	1.66	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00	5.33	5.67
Grid Sp. 1st row (in ft)	0.000	0.000	0.444	0.889	1.333	1.778	2.222	2.667	3.111	3.556	4.000	4.444	4.889	5.333
Grid Level Depth	0.00	0.00	0.80	1.60	2.40	3.20	4.00	4.80	5.60	6.40	7.20	8.00	8.80	9.60
# Blocks per Lin Ft	1.20	0.90	0.67	0.50	0.40	0.33	0.29	0.25	0.22	0.20	0.18	0.17	0.16	0.15
# Exp per Lin Ft	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667

• See "Material Estimating" for Adhesive estimate.

CASE B

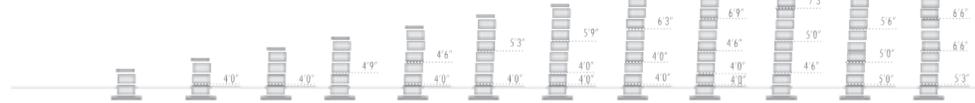
- *CASE B* Retaining Wall:
- Flat Ground at Top of Wall
- Flat Ground at Bottom of Wall
- 100 psf Surcharge on Wall



IF STAMPED ENGINEERING IS REQUIRED FOR THIS RETAINING WALL, THIS DESIGN MUST BE STAMPED HERE BY A LICENSED ENGINEER.

GEOGRID PLACEMENT

- Grid is measured from the face of the wall.
- Surcharge begins one foot behind wall facing
- 100 psf surcharge is light traffic i.e. car or pickup



Block Type	1.5'	2.0'	2.5'	3.0'	3.5'	4.0'	4.5'	5.0'	5.5'	6.0'	6.5'	7.0'	7.5'	8.0'
Minimum Retard	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
Total Hgt w/ Top	1.33	1.66	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00	5.33	5.67
Grid Sp. 1st row (in ft)	0.000	0.000	0.444	0.889	1.333	1.778	2.222	2.667	3.111	3.556	4.000	4.444	4.889	5.333
Grid Level Depth	0.00	0.00	0.80	1.60	2.40	3.20	4.00	4.80	5.60	6.40	7.20	8.00	8.80	9.60
# Blocks per Lin Ft	1.20	0.90	0.67	0.50	0.40	0.33	0.29	0.25	0.22	0.20	0.18	0.17	0.16	0.15
# Exp per Lin Ft	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667

• See "Material Estimating" for Adhesive estimate.

CASE C

- *CASE C* Retaining Wall:
- Flat Ground at Top of Wall
- Flat Ground at Bottom of Wall
- 250 psf Surcharge on Wall



IF STAMPED ENGINEERING IS REQUIRED FOR THIS RETAINING WALL, THIS DESIGN MUST BE STAMPED HERE BY A LICENSED ENGINEER.

GEOGRID PLACEMENT

- Grid is measured from the face of the wall.
- Surcharge begins two feet behind wall facing
- 250 psf surcharge is heavier traffic i.e. RV, large vehicle



Block Type	1.5'	2.0'	2.5'	3.0'	3.5'	4.0'	4.5'	5.0'	5.5'	6.0'	6.5'	7.0'	7.5'	8.0'
Minimum Retard	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
Total Hgt w/ Top	1.33	1.66	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00	5.33	5.67
Grid Sp. 1st row (in ft)	0.000	0.000	0.444	0.889	1.333	1.778	2.222	2.667	3.111	3.556	4.000	4.444	4.889	5.333
Grid Level Depth	0.00	0.00	0.80	1.60	2.40	3.20	4.00	4.80	5.60	6.40	7.20	8.00	8.80	9.60
# Blocks per Lin Ft	1.20	0.90	0.67	0.50	0.40	0.33	0.29	0.25	0.22	0.20	0.18	0.17	0.16	0.15
# Exp per Lin Ft	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667

• See "Material Estimating" for Adhesive estimate.

Installation Instructions: Sigma 6-Inch Vertical Or Setback Wall

Sigma 6-Inch wallstones can be set almost vertical (1.6-degree batter) as well as set back (for additional strength) at a 6-degree batter. These instructions cover the almost vertical and the setback features of the wallstone and use of the knobs on the wallstone. The corner and adjustment wallstone for the corner instructions are available in another section of this book titled Sigma 6-Inch Corner.

Knobs

The Sigma 6-Inch has 4 knobs protruding from the top of the wallstone. These knobs are used for alignment of setback and for holding the geogrid in place when it is pulled tight. They are not part of the engineering strength of the wall system. The long textured face is the front of the wallstone and the knobs closest to the front are used to set the wallstone for 6 degrees. If the wall is designed as a 6-degree setback, then no changes to the knobs are required. If the wall desired is to be almost vertical, you will need to remove the two knobs closest to the front face.

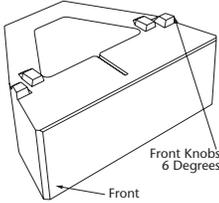


Figure 1

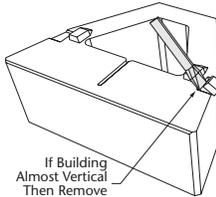


Figure 2

The knobs can be removed with a hammer and chisel. Be sure no part of the knob is protruding past the top surface of the wallstone. See Figure 2.

First Layer

The Sigma 6-Inch wallstones are all set with the knobs positioned down. While laying the first course on the base, either remove the knobs or tap the wallstones into the base to insure all wallstones are level and plumb. To keep the wall straight, use a string line along the back of the wallstones on the first layer. The first layer is the most important part of the wall. It is the easiest place to adjust for height. All additional layers will use the first layer to establish overall levelness and the heights of all wallstones. **Note:** Bury the first layer at least 1 inch below finished grade for every foot of wall height.

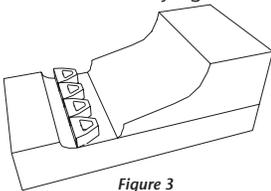


Figure 3

Following the base guidelines (refer to page 5 in this book), a 4-inch perforated drainpipe needs to be installed behind the first layer to carry water away from the wall. For every layer, place 3/4 of an inch of clean crushed stone 12 inches behind the wall. Use the 3/4-inch clean stone for core fill. The core should be filled to 3/4 of an inch from the top of the wallstone. Place the correct backfill soil as advised by the engineer and compact in 3-inch lifts. Use only lightweight compaction equipment within 3 feet of the back of the wall. Sweep the top of the wallstones, so they are clean before adding the next layer.

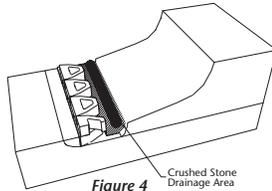


Figure 4

Second Layer

If you are creating an almost vertical 1.6-degree wall, remove the two knobs closest to the face of the wallstone for all additional wallstones used. If you desire the 6-degree setback, the knobs are already correct as the wallstones are shipped. The wallstones will be set with knobs protruding down.

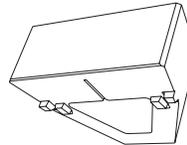
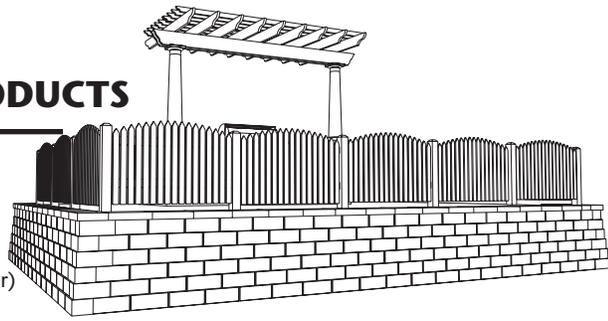


Figure 5

Set all wallstones with knobs protruding down, so that one knob will drop into each core of the wallstone below establishing a bond. Pull the wallstones forward and center on the bond of the two wallstones below. All full-on bond wallstones are set in this way.

Corners and cutting a wallstone for adjustment are discussed in the corner section of this handbook titled: Sigma 6-Inch Corner.

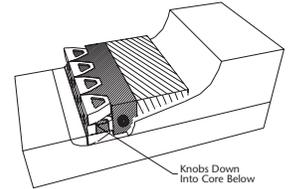


Figure 6

Geogrid Layers

Place the geogrid over the layer of Sigma 6-Inch Wallstones, 3/4-inch drainage stone and the select fill that is designated. Maintain the correct orientation designated by the geogrid manufacturer.

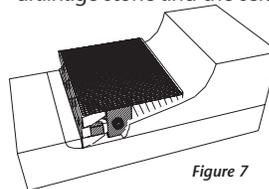


Figure 7

Place the next layer of Sigma 6-Inch wallstones. Be certain that the geogrid openings are hooked by the Sigma

6-Inch knobs and fill the cavities with 3/4-inch clean stone. Pull the geogrid tight and place stakes to hold it taught after filling the cores.

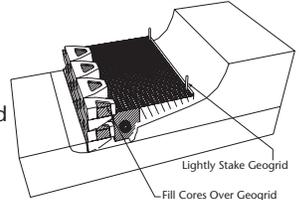


Figure 8



Do not drive heavy equipment directly on the exposed geogrid.

Place the drainage stone and control fill for that layer and compact. Use only lightweight compaction equipment within 3 feet of the back of the Sigma 6-Inch Wall. Place material and compact on every layer in 3-inch lifts. Sweep the top of the wallstones so they are clean before adding the next layer.

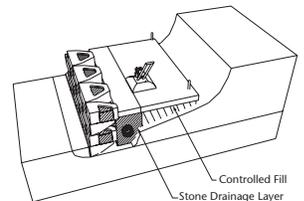


Figure 9

Curved Walls

The Sigma 6-Inch Wall System allows for a very tight inside radius. Although the knobs might not provide a gauge for setback, this can be established visually. Lock the geogrid and the wallstones by filling the cores and compacting on every layer. It is simple to remove a knob if it is in the way of the desired radius.

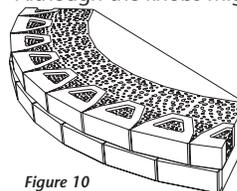


Figure 10

Following Layers

The next layers repeat the orientation of the first or second layer. Follow these directions. For walls higher than 36 inches, refer to your engineer's design.

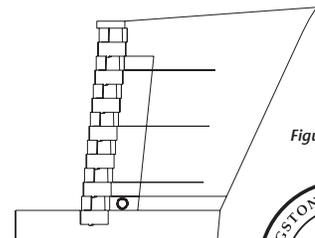


Figure 11



Installation Instructions: Sigma 6-Inch Wall Corner Options

Shown is a Cambridge Sigma 6-Inch raised patio retaining wall in the full setback configuration with Cambridge Large Caps. The Sigma 6-Inch Wallstones can be set almost vertically (1.6 degree) as well as full setback (6 degrees) for additional strength. These instructions cover the following: The corner structure and the adjustment wallstone for bond as the wall is built higher on each layer and adding cap stones.

First Layer

Set the corner first if it is used in the design, and then set a full wallstone starting from the long face of the corner. Cambridge Sigma 6-Inch Wallstones are set knobs down. Tap the wallstones into the base with a rubber mallet. Use a line on the rear of the wallstones to guide each stone in the layer to be

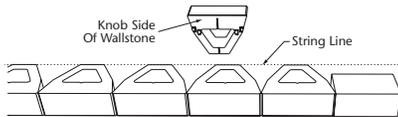


Figure 1

level and plumb (remove the knobs for the first layer if the base is too hard). It is critical to be level in all directions on the first layer. This is the only layer where adjustment is simple. See Figure 1.

IMPORTANT STEP:

In the first layer, full wallstones are set next to the long face of the Sigma 6-Inch Corner Wallstone. The wallstone next to the small face of the corner is cut to 14 inches plus the setback for a wall that is 14 5/8 inches. For an almost vertical configuration, this stone is cut to 14 3/16 inches. This cut allows full wallstones to be cut as the sides adjust in from the setback, eliminating "slivers". Cut the edge of the adjustment wallstone closest to the corner normally or away from the line of sight so it is not noticeable. If you are using the Renaissance texture, tap the cut edge lightly with a hammer. See Figure 2.

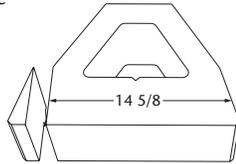


Figure 2

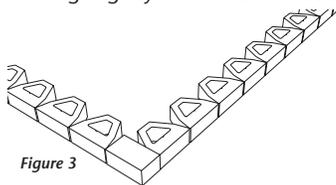


Figure 3

After setting the cut wallstone next to the small face of the corner, continue the first row using the rear of the wallstones as a guide along with a straight edge or string line. See Figure 3.

Second Layer

To begin the second layer, position the corner as shown in Figure 4. Set the corner in position (5/8 of an inch for a full setback wall or 3/16 of an inch for an almost vertical wall), in from the two face sides for a 7-degree batter (setback) or 1.6-degree batter (almost vertical).

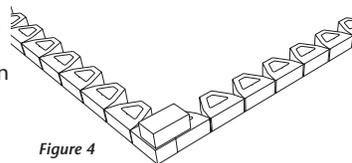


Figure 4

Adding The Full Wallstones

Set the second layer over the first layer, knobs down (following wall installation instructions). Place a full wallstone over the middle of the two wallstones in the layer below. Line up the knob in the open cavities of the two wallstones below and then pull the wallstone forward toward the front face. Recheck to be sure that bond is maintained. Install all full wallstones using this method.

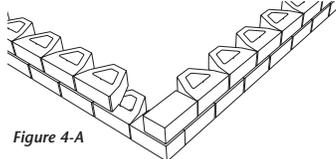
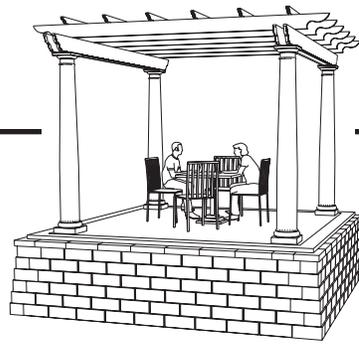
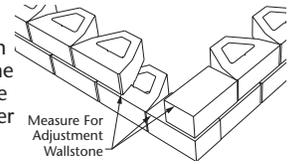


Figure 4-A



Measure Adjustment Wallstones

Once the wallstones have been set for the second layer, the distance remaining between the last full wallstone in each direction and the corner will be the only cuts needed. These are called adjustment wallstones. The second layer will only require one adjustment wallstone. After this layer, adjustment wallstones will be cut on each side of the corner.



Measure For Adjustment Wallstone

Figure 4-B

Cut Adjustment Wallstone

Mark and cut the length of the wallstone needed to fill in next to the corner with a masonry saw.

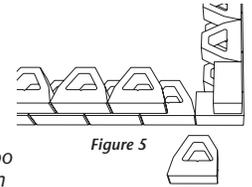


Figure 5

Note: Never cut the corner wallstone.

- If the area for the adjustment wallstone is too small, create two wallstone cuts next to each other.
- Place the "cut" side of the wallstone away from line of sight — similar to best practice in handling the seam when installing vinyl siding. If a knob section will overlap the corner wallstone below, remove those knobs with a hammer and secure with retaining wall adhesive.

Placing the Adjustment Wallstone

Maintain alignment and apply retaining wall adhesive.

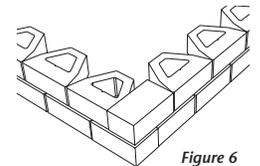


Figure 6

General Information

- Level and use a string line to keep the wall straight.
- Use the line on the rear of the wallstones to guide each layer. If installing on concrete, remove the knobs on the first layer with a hammer and chisel.
- To set the embedment, place and compact soil in front of the wallstones.
- Go to www.cambridgepavers.com or consult your Cambridge Territory Manager for the correct procedures in building an engineered retaining wall.

Repeat Layers

The next layer repeats the orientation of the corner on the first layer.
Note: Because the wall is setback, the distance to the corner from a full wallstone gets smaller as the wall gets higher. To allow for this, the wall is adjusted in 5/8 of an inch or 3/16 of an inch from each side for each layer. The adjustment wallstone length will change on every layer to allocate for this. The different lengths represent the amount of setback for full setback or almost vertical configurations.

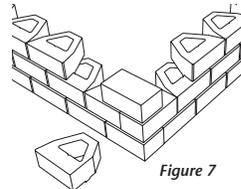


Figure 7

Cap

MaytRx 6 retaining walls use the Cambridge Large Cap (3-inches high x 12-inches deep x 18-inches wide). See Figure 8. Make a corner cap by splitting 2 inches from the end of a cap and use that wallstone as the corner. If the wall will be retaining soil to the top or is being used for a raised patio, the cap can be pulled forward 1 inch to create a reveal. If the caps are above ground in the back of the wall, the Cambridge 13-inch Double-Sided Cap (3-inches high x 13-inches deep x 12-inches wide) can be used.

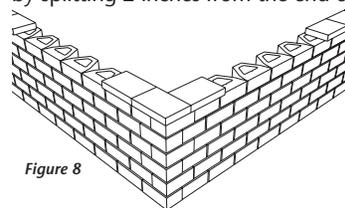


Figure 8

The Sigma 6-Inch wallstone features an emergency corner option — one wallstone will yield two (stub) corners in the field for short landscape walls.

Scan Here To Learn
More About Sigma 6



Installation Instructions: Sigma 8-Inch Vertical Or Setback Wall

Sigma 8-Inch Wallstones can be set at 6-degree batter. This wallstone system matches the Cambridge MaytRx product line in colors, edge, and texture. The corner and adjustment wallstone instructions are available in another section of this book. Shown is a Sigma 8-Inch raised patio featuring the new Sigma 8-Inch Corner.

Knobs

The Sigma 8-Inch has two knobs protruding from the top of the wallstone. These knobs are used for alignment of setback and for holding the geogrid when it is pulled tight. They are not part of the engineering strength of the wall system. The long textured face is the front of the wallstone. All placements of wallstones require **THAT KNOBS FACE DOWN INTO THE CAVITY BELOW**. The knobs can be removed with a hammer or hammer and chisel. Be sure that no part of the knob is protruding past the top surface of the wallstone. Knobs are removed when a wallstone overlaps the corner or when a radius is required and the knob will interfere.

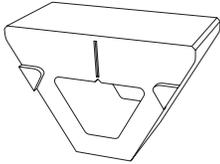


Figure 1

First Layer

The Sigma 8-Inch wallstones are all set with the knobs positioned **DOWN**, so when laying the first course on the base, either remove the knobs or tap the wallstones into the base to insure all wallstones are level and plumb. To keep the wall straight, use a string line along the back of the wallstones on the first layer. The first layer is the most important part of the wall and is the easiest place to adjust for height. All additional layers will use the first layer to establish overall levelness and heights of all wallstones.

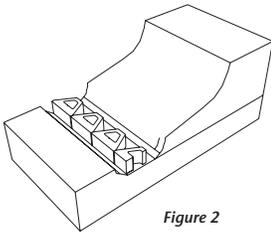


Figure 2

Note: Bury the first layer at least 1 inch below finished grade for every foot of wall height or as instructed by a licensed design professional.

Second Layer

Following the base guidelines (refer to Page 5 in this book), install a 4-inch perforated drainpipe behind the second layer to carry water away from the wall. For every layer, place 3/4-inch clean crushed stone every 12 inches behind the wall. Use the 3/4-inch clean stone for core fill. The core should be filled to 3/4 of an inch from the top of the wallstone. Place the correct backfill soil as advised by an engineer and compact in 3-inch lifts. Use only lightweight compaction equipment within 3 feet of the back of the wall. Sweep the top of the wallstones clean before adding the next layer.

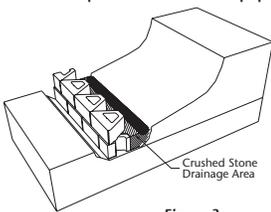


Figure 3

Finish Layer For Geogrid

The wallstones will be set with knobs protruding down so that one knob will go into each core of the wallstone below establishing a bond. Pull the wallstones forward and center on the bond of the two wallstones below. All full on bond wallstones are set in this way. Corners and field cut adjustment wallstones are discussed in the corner section of this handbook. In every layer, place 3/4-inch clean crushed stone every 12 inches behind the wall. Use the 3/4-inch clean stone for core fill.

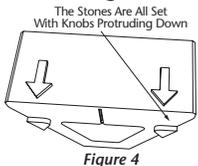


Figure 4

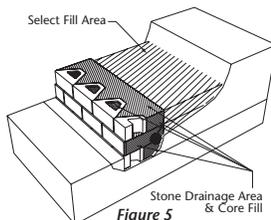
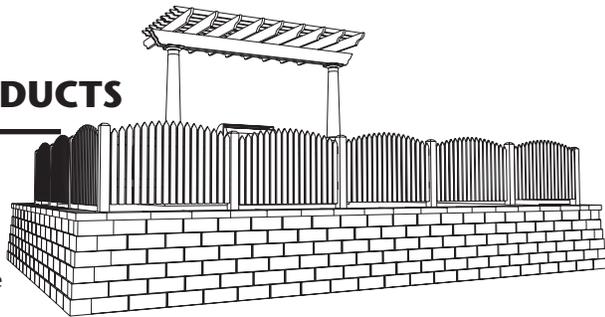


Figure 5



The core should be filled to 3/4 of an inch from the top of the wallstone. Place the correct select backfill soil as advised by engineer and compact. Use only lightweight compaction equipment within 3 feet of the back of the Sigma 8-Inch Wall. Sweep the top of the wallstones clean before adding the next layer.

Geogrid Layers

Place the geogrid over the layer of Sigma 8-Inch wallstones, 3/4-inch drainage stone and the select fill that are designated. Maintain the correct orientation designated by the geogrid manufacturer.

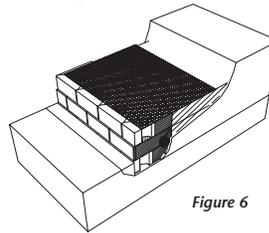


Figure 6

Place the next layer of Sigma 8-Inch wallstones. Be certain that the geogrid openings are hooked by the Sigma

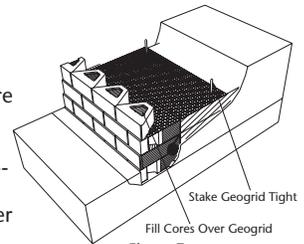


Figure 7

8-Inch knobs and fill the cavities with 3/4-inch clean stone. Pull the geogrid tight and place the stakes to hold it taught after filling the cores.



Do not drive heavy equipment directly on the exposed geogrid.

Place the drainage stone and control fill for that layer and compact. Place 3/4-inch of clean crushed stone every 12 inches behind the wall. Use the 3/4-inch clean stone for core fill. The core should be filled to 3/4 of an inch from the top of the wallstone. Place the correct select backfill soil as advised by engineer and compact. Use only lightweight compaction equipment within 3 feet of the back or the Sigma 8-Inch Wall. Sweep the top of the wallstones clean before adding the next layer.

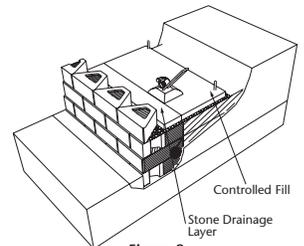


Figure 8

Note: Every layer should be filled and compacted before the next layer of stone is added.

Curved Walls

The Sigma 8-Inch Wall System allows for a radius although the knobs might not provide a gauge for setback in all situations. This can be established visually. Lock in the geogrid by filling the cores. If a knob is in the way of the radius desired, it is simple to remove. Follow the manufacturer's instructions for the geogrid orientation. Geogrid should never go over uncovered geogrid. If you need to change direction, use a universal geogrid or separate the geogrids by placing the second direction on the next layer.

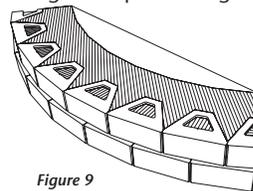


Figure 9

Following Layers

The next layers repeat the orientation of the first or second layer. Follow these directions. For walls higher than 36 inches, refer to your engineer's design.

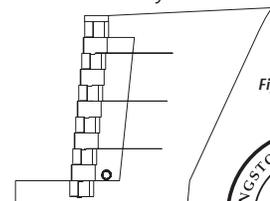
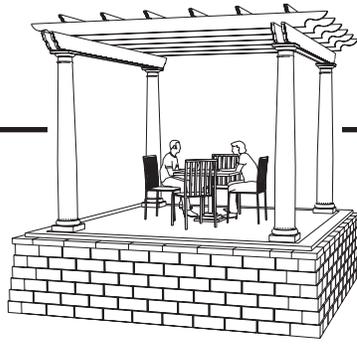


Figure 10



Installation Instructions: Sigma 8-Inch Wall Corner Options

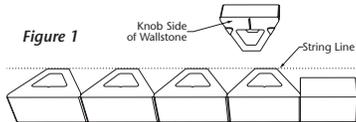


Shown is a Cambridge Sigma 8-Inch raised patio retaining wall with Cambridge Single-Sided Large Caps. Cambridge Sigma 8-Inch shares the same texture, edge and colors with Cambridge MaytRx Walls and Kits. The Sigma 8-Inch Wallstones are naturally set back (6 degrees) for additional strength. There are several corner options for a Sigma 8-Inch Wall as described below.

First Layer

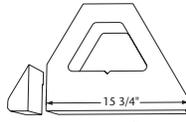
Set the Cambridge Sigma 8-Inch Corner first if it is used in the design, and then set a full wallstone starting from the long face of the corner. Cambridge Sigma 8-Inch Wallstones are set knobs down. Tap the wallstones into the base with a rubber mallet using a line on the rear of the wallstones to guide each wallstone in the layer so they are level and plumb. Remove the knobs for the first layer if the base is too hard.

It is critical that the first layer is level in all directions. This is the only layer where adjustment is simple. Refer to the Sigma 8-Inch Setback Wall for details on correct installation. See Figure 1.



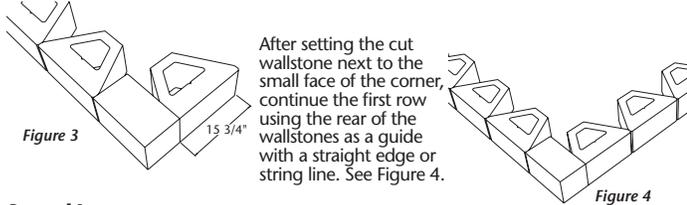
IMPORTANT STEP:

In the first layer, the full wallstones are set next to the long face of the Sigma 8-Inch Corner wallstone. The wallstone next to the small face of the corner is cut to 15 3/4 inches. This cut allows full wallstones to be cut because the sides adjust in from the set back, eliminating "slivers". Cut the edge of the adjustment wallstone closest to the corner normally or away from the line of sight so it is not noticeable. If you are using the Renaissance texture, tap the cut edge lightly with a hammer. See Figure 3.



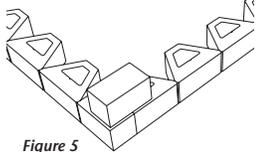
First Layer Cut Wallstone

Place the cut wallstone next to the small face of the corner wallstone.



Second Layer

To begin the second layer, position the corner as shown in Figure 5. Set the corner in a position 3/4 of an inch in from the two faces of the wallstone below. This aligns with the natural 6-degree batter (setback). Set the second layer over the first layer, knobs down (Follow wall installation instructions). Place a full wallstone over the middle of two wallstones in the layer below and line up the knob in the open cavities of the two wallstones. Pull the wallstone forward toward the front face and recheck that bond is maintained. Install all full wallstones using this method.



Note: The install page gives instructions on filling cavities, dealing with drainage and compaction.

Measure For Adjustment Wallstones

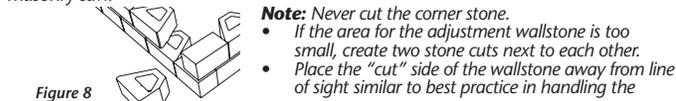
Once the full wallstones have been set for the second layer, the distance remaining between the last full wallstone in each direction from the corner will be the only cuts needed. These are called adjustment wallstones.

The second layer will only require one adjustment wallstone (short face of corner). After this layer, the adjustment wallstones will be cut on each side of the corner because the wall steps are 3/4 of an inch on each layer. **NOTE: NEVER CUT THE CORNER. Always cut the**

wallstones next to the corner to keep the wall "on bond". This insures a good interlock at the corner. See Figure 7.

Cut Adjustment Wallstone

Mark and cut the length of wallstone needed to fill-in next to the corner with a masonry saw.

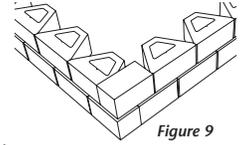


Note: Never cut the corner stone.
 • If the area for the adjustment wallstone is too small, create two stone cuts next to each other.
 • Place the "cut" side of the wallstone away from line of sight similar to best practice in handling the

seam when installing vinyl siding. If a knob section will overlap the corner wallstone below, remove those knobs with a hammer and secure with retaining wall adhesive. See Figure 8.

Placing the Adjustment stone

Maintain alignment and apply retaining wall adhesive. See Figure 9.



General Information

- Level and use a string line to keep the wall straight.
- Use the line on the rear of the wallstones to guide each layer. If installing on concrete, remove the knobs on the first layer with a hammer and chisel.
- Place and compacted soil in front of the wallstones to set the embedment.
- Go to cambridgepavers.com or consult your Cambridge Territory Manager for the correct procedures for building an engineered retaining wall.

Repeat Layers

The third layer repeats the orientation of the first layer corner but is set back 3/4 of an inch on each face from the corner below. Note: Because the wall is on a setback, the distance to the corner from a full stone gets smaller as the wall gets higher. To adjust for this, the wall is adjusted 3/4 of an inch for each layer at the stone next to the corner. The adjustment wallstone length will change on every layer to adjust for this. The different lengths represent the amount of setback. See Figure 10.



Cap Layer

The Sigma 8-Inch retaining wall uses the Cambridge Large Cap (3H x 12D x 18W). See Figure 11. Make a corner cap by splitting 2 inches from the end of a cap and use that stone as the cap corner. If the wall will be retaining soil to the top or is being used for a raised patio, the cap can be pulled forward 1 inch to create an overhang. If the caps are above ground in the back of the wall, the Cambridge 13-Inch Double-sided Cap (3H x 13D x 12W) can be used.

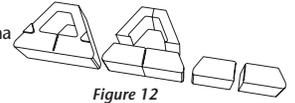


The Sigma 8-Inch Wallstone features an emergency corner option in which one stone will yield two (Stub) corners in the field for short landscape walls.

Procedure For Making A Field-Split Corner

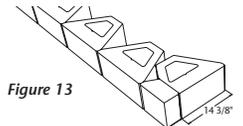
Two stub corners can be made from one hollow Sigma 8-Inch Wallstone.

- Break the knobs off the top with a chisel.
- Break away the rear thin portion of the stone (called the web) with a saw or chisel.
- With a splitter or chisel, split the preformed "split line" on the remaining ingot to produce two "stub" corners. See Figure 12.



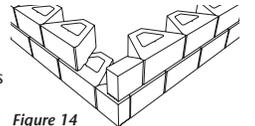
Using A Stub Corner

A corner made from a field split stub corner is utilized on the first layer. In the first layer, full wallstones are set next to the long face of the stub corner wallstone. The wallstone next to the small face of the corner is cut to 14 3/8 inches. This allows full wallstones to be cut as the sides adjust in from the setback, eliminating "slivers". Cut the edge of the adjustment wallstone closest to the corner normally or away from the line of sight so it is not noticeable. If you are using the Renaissance texture, tap the cut edge lightly with a hammer. Apply retaining wall adhesive on all corner wallstones. See Figure 13



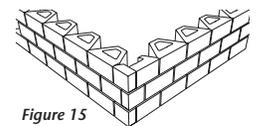
Turned Stub Corner

Turn the field split stub corner 90 degrees for the second layer. There are no rights, lefts, tops or bottoms to this stub corner. Apply retaining wall adhesive. Once the wallstones have been set for the second layer, the distances remaining between the last full wallstone in each direction of the corner will be the only cuts needed. These are called adjustment wallstones. The second layer will only require one adjustment wallstone (short face of corner) after this layer, the adjustment wallstones will be cut on each side of the corner as the wall steps in 3/4 of an inch on each layer. **NOTE: NEVER CUT THE CORNER. Always cut the wallstones next to the corner to keep the wall "on bond". This insures a good interlock at the corner. See Figure 14.**



Third Layer

The third layer repeats the orientation of the first layer corner. **Note:** Because the wall is on a setback, the distance to the corner from a full wallstone gets smaller as the wall gets higher. To adjust for this, the wall is adjusted in 3/4 of an inch for each layer at the corner on both faces. The adjustment wallstone length will change on every layer to adjust for this (the different lengths represent the amount of setback. The adjustments should be cut on each side of the corner (The distance needed between the corner and the next full wallstone). Break off the knob on any wallstone for that portion which overlaps the corner and glue that area. **Note:** When using these smaller, corner wallstones that you see in Figure 15, the web might need to be cut as the wallstones next to the corner touch the wallstones behind them.



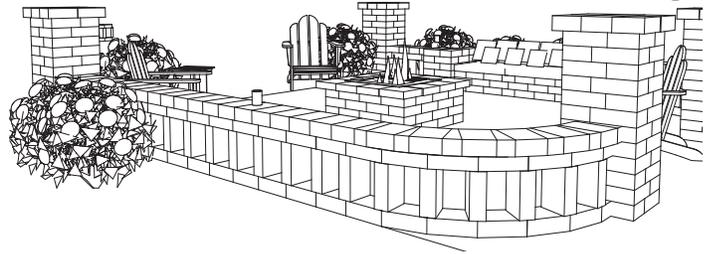
Scan Here To Learn
More About Sigma 8



Installation Instructions:

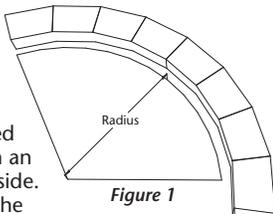
Olde English Radius Domino Sitting Wall

Most homeowners will ask: "What do you recommend?" during the initial discussion of a patio design. Usually, one of the first recommendations is the creation of a multi-use, outdoor living area. A domino style, radius sitting wall made of Cambridge Olde English Wall™ is an ideal option because it will provide both a graceful perimeter and casual seating.



Mark Out The Radius

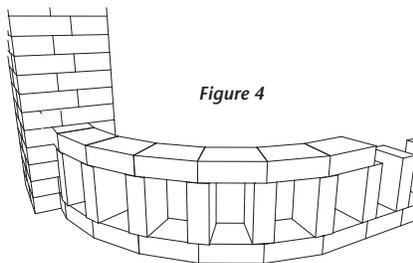
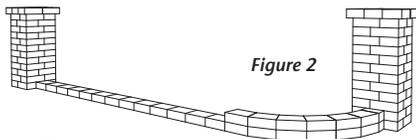
Measure a square to define the area for the wall. The radius is determined by measuring from an axis point to each side. Drive a stake into the ground at the axis point and attach a string line to the stake. With a can of marking paint attached to the opposite end and the line fully extended, paint the radius on the ground with the stick. See Figure 1.



Cambridge Olde English Wall features a modular, one stone system with a Renaissance texture (barrel tumbled) on all sides and the look of natural stone. The wallstone can build columns and walls. Kits for a barbecue and fire pit, a kitchen, a waterfall, and an outdoor fireplace are also available for installing with little or no cutting. Also see Page 34 for the Cambridge line of Fully Assembled Outdoor Living Components. Olde English Wall is compatible with the complete Cambridge Pavingstones with ArmorTec® line.

Excavate

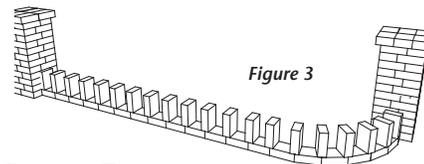
Excavate below any topsoil. Place 3/4-inch crushed stone at least 6 inches deep and 12 inches wide. Compact it in 3-inch lifts.



Radius

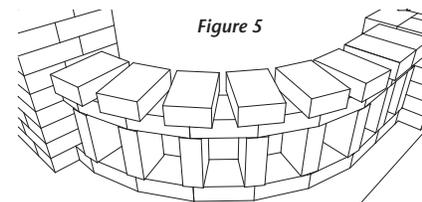
When it comes time for the radius, cut each stone to fit the mark that was made with the layout paint. Each stone might not be the same, so keep track of the stone position. Make an exact layer of all stones that were cut on top of the layer below it using the first layer as a template for the stones above the domino-positioned wallstones. See Figure 2.

Note: Depending on what base is to be used and the treatment for the patio (pavers etc), there may be additional layers buried below the layers described. The layout described here is for burying the wall 2 inches below finished grade.



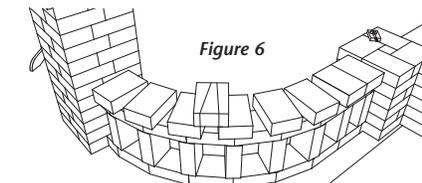
Second Set

When the vertical stones are in place, add the second set of wallstones that were previously cut. Join the vertical dominos and align them with the layer below the vertical stones. See Figure 4.



Larger Seat Option

Depending on the height and the desire for a larger seat, another layer of stones can be set over the cut radius stones. The next layer will be set diagonally to the stones below to create a 12-inch deep seat. See Figure 5.

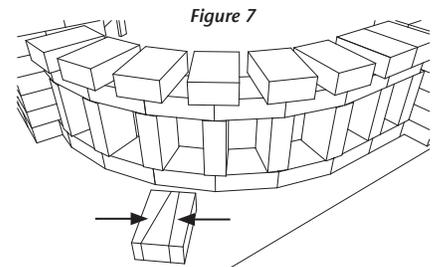


Placing The Wallstones Domino-Style

When all radius stones are cut, remove the top layer and start to place the vertical (dominos) Olde English wallstones on the joint of the stones below. Remember to glue all stones. When the glue hardens you will not be able to adjust the stones. See Figure 3.

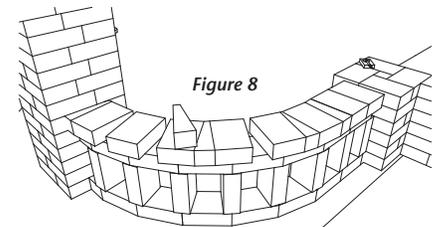
Mark Stones For Cutting

Depending on the actual radius of the seating layer, you may be able to cut every other stone and maintain the radius. Lay the full stones out being careful to maintain the reveal (distance on each side of the stone below). Next, place a wallstone above the gap, mark with a pencil. See Figure 6.



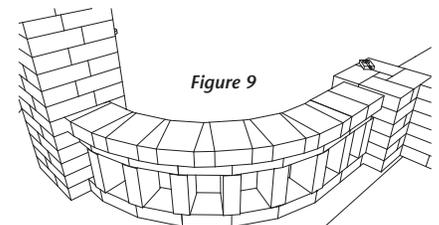
Ready For Cut

Cut with a wet or masonry saw. See Figure 7.



Top Layer Cuts

The top layer of stones for this radius will be cut on every other stone. See Figure 8.

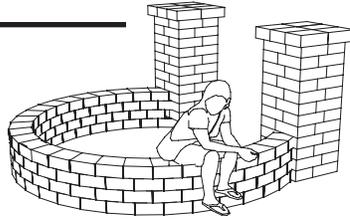


The Finished Radius Seating Wall

See Figure 9.



Olde English Double-Sided Radius Wall: Cut Radius Chart



Round (radius) corners are a sign of craftsmanship in hardscape design and create the possibilities for flowing areas of conversation, privacy or entertainment. This simple chart system has been pre-calculated to create a wallstone that, with one cut per wallstone, will provide you with the radius desired. The chart utilizes one "cut side" in combination with the pre-formed radius wallstone uncut side to provide the diameter required. This design creates a double-sided radius wall. It is only necessary to cut wallstones for the last "cap" layer if the wall will be single sided.

Radius calculation for identical wallstones sizes can be made using some simple calculations. We will be showing the Olde English Radius wallstone in this chart. For multi-stone or irregular curves, follow the method in the MaytRx section of the design book to adjust the "gap" for each individual wallstone (see Figure 2).

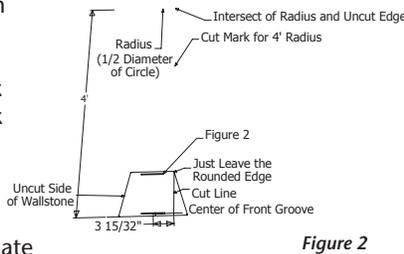


Figure 2

The formula used to calculate this chart can be used for any wallstone that is a one-wallstone system. Mark out the length of the radius (1/2 the diameter), create a line marking that end, and then strike a line from the uncut edge and from where they intersect, and bring a line back to the cut side. That will be the mark used on all wallstones that will be cut for the radius portion of your wall (considering the least waste as ideal and in our case, we kept the radius edge on the rear face of our cut).

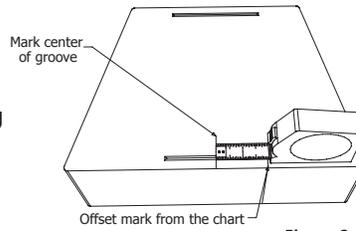


Figure 3

The chart supplied here is specifically for Olde English Radius wallstone so we just use the dimension shown in the chart. If your wall falls into the pre-calculated circular radius, we do not have to calculate anything. Just cut the wallstones as instructed below.

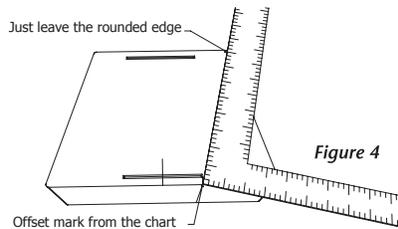


Figure 4

Mark the offset dimension from the chart (figure 5) starting at the center of the wallstone (figure 3). Use the front setback groove to determine the center on the front face. After marking the front face, connect it to just behind the radius edge of the small (rear) face as shown in Figure 4. After you have cut 3 or 4 wallstones, lay them out in the wall to verify that it works in your application before cutting all wallstones.

Note: For multiple cuts, creating a "jig" for marking each wallstone will save time and assure accuracy.

Olde English Wall Radius Wall Chart: Outside Radius (Diameter) Figure 5

Diameter	Radius	Offset Mark
8'	4'	3 15/32"
9'	4'6"	3 9/32"
10'	5'	3 1/8"
11'	5'6"	3"
12'	6'	2 29/32"
13'	6'6"	2 13/16"
14'	7'	2 3/4"
15'	7'6"	2 11/16"
16'	8'	2 5/8"
17'	8'6"	2 29/32"
18'	9'	2 9/16"
19'	9'6"	2 17/32"
20'	10'	2 1/2"
21'	10'6"	2 15/32"
22'	11'	2 7/16"

Notes:

- The chart only calculates the full radius wallstones. You might need to cut transition wallstones when using straight and radius walls together. Use the method of converting the rear "gap" between the wallstones and using that dimension as the cut mark on the front face of the wallstone beside it when going into the transition to straight wall from curved wall. Figure 6 shows a transition with special "gap" cuts marked.

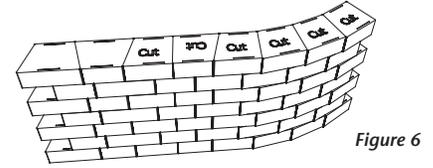


Figure 6

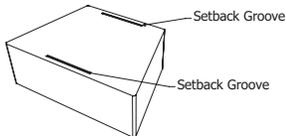
- We understand that the cutting in the field will not be marked in 1/32" increments of accuracy, the offsets shown are for a perfect double-sided joint. As you cut, start laying the wallstone into the radius and verify the joint of the wallstones is acceptable.
- Round-over with a hammer any cut edges that will be visible before placement.
- When creating the radius wall, lay the wall out with a mark of paint to the exact boundaries of the circle (radius) area desired. Do not count on the wallstones themselves to provide the correct radius. If a cut is off by just 1/8" multiplied over 50 cuts, it is unmanageable, but if placed in the correct position each time, the 1/8" is barely noticeable.
- The last layer is the "cap layer" and the wallstone should be cut upside down so setback markings are on the bottom.
- The cut edge might be slightly longer (about 1/4") than the uncut edge. Center the wallstones so the difference is split between the front and rear face. Round-out with a hammer any cut edges before placement to mimic the look of the tumbled edge.

SECTION 5: CAMBRIDGE WALL PRODUCTS

Installation Instructions: Olde English Radius Single-Sided Landscape Wall

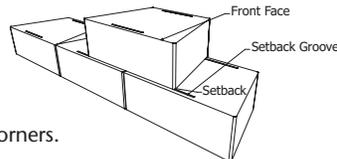
Olde English Radius Landscape Single-Sided Setback Wall

Olde English Radius Wall is available with the barrel-tumbled texture on all sides. Each wallstone has two faces that allow many types of projects such as free-standing, retaining, straight and radius walls, steps, borders, raised planter beds and a circular barbecue kit available from Cambridge. This project will outline a retaining or landscape wall that will hold back soil. This wallstone lends itself to radius (rounded) corners and serpentine designs.

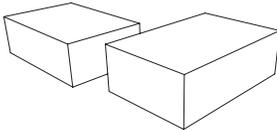


Note: Olde English Radius Wall is now the second wallstone in the Olde English Wall System that includes column and outdoor living kits that all share the same texture and colors as the Cambridge Olde English Wall. They also provide corner and cap options for this wallstone system.

The Olde English Radius Wall can be used to build a retaining wall, as well as the cap row on the final row. There are markings on the face of the Olde English Radius Wallstone that will guide you during the project build.



Tip: Olde English Radius Wall uses an Old English Wall for 90-degree corners.



Visual Alignment System For A Set Back Wall:

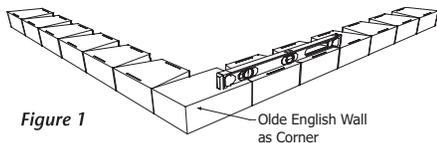
Set the front face directly above the setback groove of the wallstone (just cover the groove) in the next lower layer. In single-sided walls using the open design

that has all large faces out, use the center of the wallstone below for the place to put the wallstone above. This will keep the bond (joints) correct. Use this visual alignment for each successive layer of wallstones. As successive layers are set, stagger the face seams of the corner wallstones for interlocking wall strength.

Olde English Radius Wall corners are provided by using Olde English wallstones that have finished square ends on all sides. In building a wall that is only viewed from one side, no cutting is needed to make corners.

First Layer

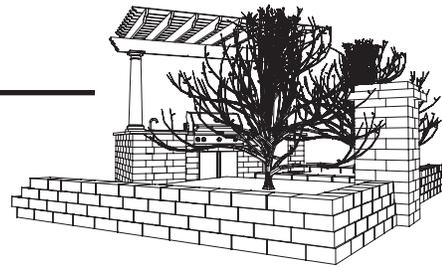
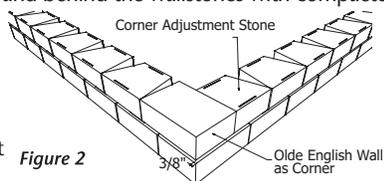
Place the first layer of Olde English Radius Wallstones smooth side down on the prepared foundation.



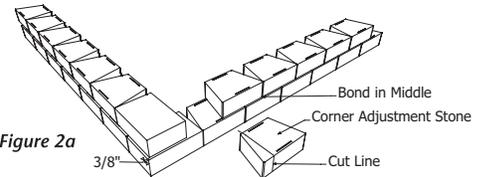
Use a carpenter's level in all directions and use a string line to verify straightness. Serpentine walls may be built too. Be certain the base course is level and wallstones lay flat. For micro-leveling and to help the wallstones lay flat, keep a bag of sand handy and use small handfuls to level and stabilize the first layer. Start from the corner and work out from that point in each direction. All long fronts face forward. Fill the area between the wallstones and behind the wallstones with compacted 3/4" crushed stone.

Second Layer

The second layer corner will alternate on each row and that will be the starting point for each additional row.

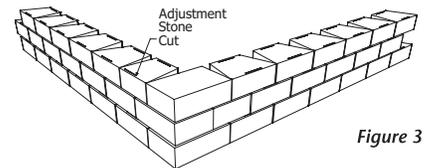


Use the visual alignment system to maintain setback from the row below 3/8". All long fronts face forward. Put the adjustment cut wallstone next to the small face of the corner. Note: Adjustment wallstones are needed to maintain the bond on the row that adjoins the small side of the corner. Lay all wallstone edges above the middle of the wallstones below except the wallstone next to the corner. Cut the adjustment wallstone to fit the space with a masonry saw.



Third Layer

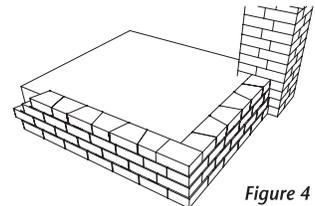
The third layer corner will alternate from the layer below and the corner will be the same as the first layer. This will be the starting point for this layer. Use the visual alignment system to maintain setback from the layer below. All long fronts face forward. Continue to alternate the corner and build the wall to the height desired.



Cap Layer

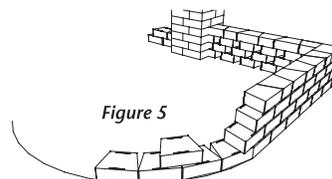
The Olde English Radius Wallstone top has imprints that help with installation. For the last course, we will turn all wallstones over so the top of the wallstone is smooth. The cap row is laid in the "double-sided" position, by alternating the wallstones utilizing the front and back faces so we get a solid top cap row. The cap row can be positioned as setback or vertical from the row below using a visual alignment system, or line. As an alternative, it can also be set to protrude 1 inch forward of the row below. Glue all cap oriented wallstones with retaining wall adhesive.

Tip: Olde English Wallstones can be used for the cap row if a larger cap is desired. They are 4 x 8 x 12 (see the Double-Sided Olde English Radius Wall project in this book for cap options).



Radius Style

The Olde English Radius Wallstone was designed especially to allow you to install radius single-sided walls with minimal cutting. Mark your radius and lay the first layer along the line. The second layer can start in the middle setting this layer so as to maintain the bond. If you are using the 3/8" setback, maintain that on each layer. Cut pieces to adjust



when you transition to straight walls. When setting the wall radius style back 3/8", lay the wallstones with the markings down and use a ruler to confirm the setback. This will eliminate any lines that might be visible.

Technical information on Olde English Radius Wall projects is available on www.cambridgепavers.com.

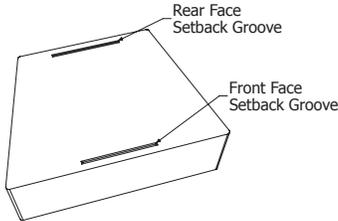
All Olde English Radius Wall retaining wall structures exceeding 24 inches should be designed by a segmental retaining wall engineer.



Installation Instructions: Olde English Radius Wall Double-Sided Freestanding Wall

This project will outline a freestanding or sitting wall. Shown is an Olde English Radius freestanding, double-sided sitting wall with Cambridge Olde English Wallstones used as caps and columns.

Olde English Radius wallstones are available in the standard Olde English barrel tumbled texture. Each wallstone has two faces that allow many types of projects such as free-standing walls, steps, borders, raised planter beds and a new Barbeque & Fire Pit Kit.



The Olde English Radius Wall will be used to build the freestanding wall as well as the cap row on the final row if desired. There are markings on the top of the Olde English Radius wallstone that will guide you during the project build.

Alignment System for Vertical Wall:

Set the vertical alignment directly above the wallstones in the next lower layer. Use this visual alignment for each successive layer of wallstones. As successive layers are set, stagger the face seams of the wallstones for interlocking wall strength and a closed multi-stone look on both sides. Note: Because the Olde English style texture is a gentle barrel tumbled machine finish, the wallstone will align using a string line to keep the wall straight.

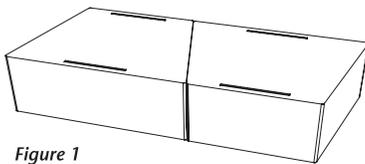
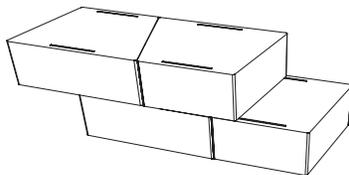


Figure 1

The Olde English Radius Vertical Freestanding Wall uses the alternating faces of the front and rear of the wallstone creating a look of multi-stone sizes, all from the single wallstone (see Figure 1).

Corners and Ends

Cut one of the wallstones with a masonry saw about 2" from the longest face end to make the end square, not angled. The corner wallstone for Olde English Radius Wall is the Olde English wallstone. On the first layer, the cut wallstone will serve as the transition from a radius shape to the square shaped corner. On the rows above, it will serve that purpose as well as an adjustment wallstone that may be cut to make the bond line uniform (see Figure 2).

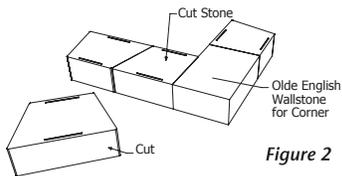


Figure 2

First Layer

Place the first layer of Olde English Radius wallstones smooth side down on the prepared foundation. Use a carpenter's level in all directions and use a string line to verify straightness. Serpentine walls may be built as well. Be certain the base course is level and wallstones

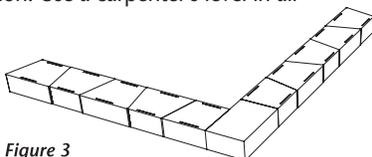
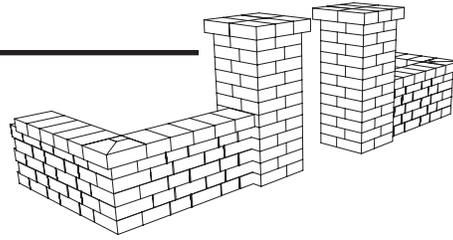


Figure 3



lay flat. For micro-leveling and to help the wallstones lay flat, keep a bag of sand handy and use small handfuls to level and stabilize the first layer. Start from the Olde English Radius corner detail in Figure 2 and work out from that point in each direction, alternating long and short faces. Keep the center, front and rear faces lined up to insure the wall is straight. This layout will repeat exactly for layers with odd numbers (1, 3, 5, 7, etc.) (see Figure 3).

Second Layer

Start by alternating the corner and working out from that point in each direction, alternating long and short faces. Keep everything straight, level and plumb. This layout will repeat

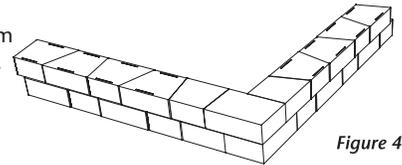


Figure 4

for layers with even numbers (2, 4, 6, 8, etc) Tip: Be careful that no vertical bond lines are above a bond line below (see Figure 4).

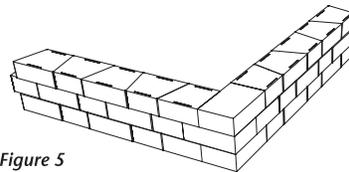


Figure 5

Third Layer

The third layer corner will alternate from the one below and will be the starting point for this layer that will be the same as the first. Use a level to maintain alignment. Alternate

front and rear faces. Continue to alternate the corner and build the wall to the height desired following the odd-even formula (see Figure 5).

Olde English Radius Cap Row

The Olde English Radius wallstone top has imprints that help with installation. For the last course we will turn all wallstones over so the top of the wallstone is smooth. The cap row is laid in the "double-sided" position, by alternating the wallstones utilizing the front and back faces so we get a solid top cap row. Glue all cap oriented wallstones with retaining wall adhesive (see Figure 6).

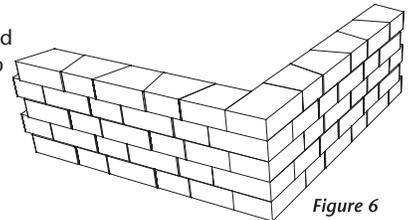


Figure 6

Olde English Wallstone as Cap Stone Option

The wall can also be capped with the Olde English wallstone and will allow a 2 inch overhang on each side of the double-sided wall. Tip: A craftsmen touch shown above would be to miter the two corner

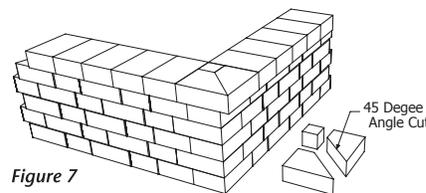


Figure 7

Olde English wall wallstones. Cut at 45-degree and cut a "fill in" wallstone from the waste to complete the finished corner (see Figure 7).

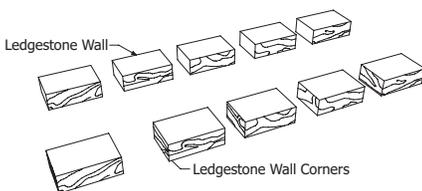
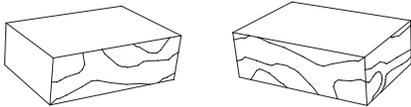
All Olde English Radius retaining wall structures exceeding 24 inches should be designed by a segmental retaining wall engineer. Textures, colors, project pictures and this document are available for download as well as where to buy at cambridgepavers.com

Installation Instructions: LedgeStone Single-Sided Wall

LedgeStone Wall with corners, columns and steps, works well with the outdoor living kits and shares most of the colors.

Wallstones & Corner Wallstones

The LedgeStone Wall system has two basic wallstones. Both are 4" high, 12" long and 8" wide. The LedgeStone Wallstone has texture on one side (long face) only. The LedgeStone Corner wallstone has textures on two sides, one long face and one short face. The corners are purchased separately from the wall and come in convenient 1/2 cube packages.



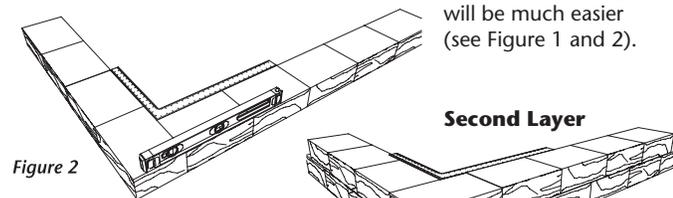
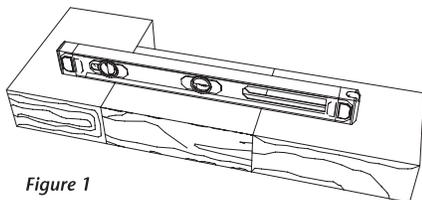
The LedgeStone Wall and Corner Wallstones each have 5 distinct front faces. The corners have an additional 5 distinct short face textures. The LedgeStone Wall may be turned over to create an

additional 5 variations of the 5 patterns. The corners create right and left versions when turned.

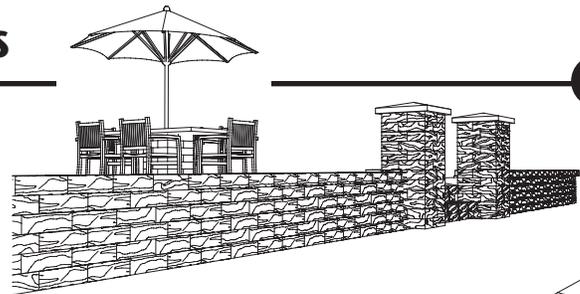
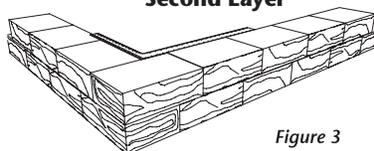
Base: Follow the "Base" guide in this book to create a stable and level support structure to build your wall on. Be sure to bury 1" for every 12" of wall showing and observe any local building code.

First Layer

Set the corner first then work from the corner out in both directions after marking the rear most part of the wall from both directions. Note: LedgeStone Walls have a stone-like face texture on the front and a smooth machine finish on the rear of the wallstones. It is better to use a straight edge and string line on the rear face. Make sure all wallstones are level and straight. The first layer is the most critical one of the project as it is the only row you can control the height of individual wallstones without grinding and shimming. It is better to get this layer perfect then everything else will be much easier (see Figure 1 and 2).



The corner will be alternated on each row with the short or long face. This will allow the bond lines of the adjoining wallstones to create extra strength. Figure 3 depicts a vertical wall application as the faces of the wallstone are positioned directly above the wallstones below them.



The LedgeStone Wall can also be installed setting each row back from the layer below by 3/8-inch as shown in Figure 4. This 7-degree batter creates a stronger wall in places where soil conditions or loads need a margin of safety.

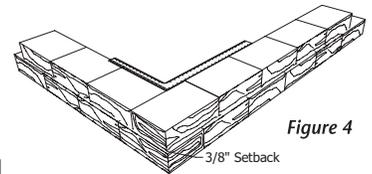
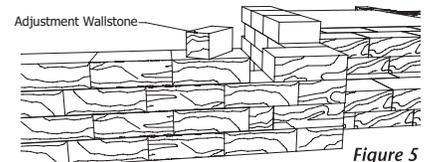


Figure 4

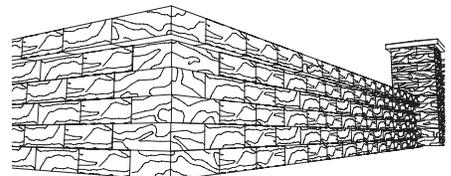
Adjustment Wallstones

When building any wall there will come a time when it will be necessary to cut a wallstone to finish the layer or to ensure that the bond lines of the wallstones do not overlap. NEVER CUT THE CORNER wallstone. If there is a space that needs an adjustment, cut the wallstone with a masonry saw to fit the opening (see Figure 5).



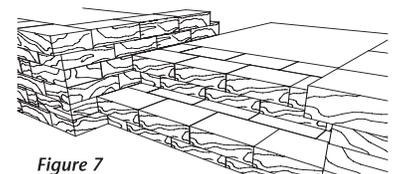
Cap Row

LedgeStone is a single-sided wall system so there are a few options when capping the final layer of the wall. LedgeStone is a solid rectangle wallstone so one option is to simply build layers until you have reached your desired height. That will reflect the purpose of the wall (to hold back soil). If you want to add additional detail on the top layer that will only hold back mulch and not soil, move the cap row out 1 to 2 inches from the rear face towards the front of the wall. This will create a defined cap that is pleasing to the eye (see Figure 6).



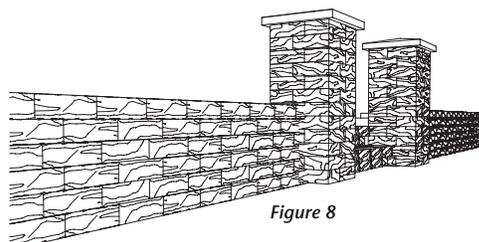
Steps

Steps are a necessity for most landscape or retaining walls. The steps will repeat every 8 inches. This design produces a 12-inch stair tread with an 8-inch rise (see Figure 7). It will be necessary to build the steps on undisturbed soil with top soil removed and a minimum of 6 inches of compacted 3/4-inch crushed stone below each step.



Columns

A column can also be created utilizing LedgeStone Corner Wallstones to create some dramatic corners or endings of the wall as the column is faced on all sides (see Figure 8).



Installation Instructions: LedgeStone Radius Double-Sided Freestanding Wall

This project will outline a freestanding or sitting wall with a finished end of the wall. Shown is a LedgeStone Radius freestanding, double-sided wall with the end of the wall cut from LedgeStone Corners (Two required per layer).

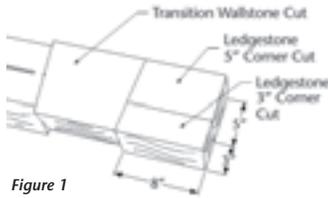


Figure 1

First Layer

Place the first layer of LedgeStone Radius wallstones on the prepared foundation, alternating every other wallstone. Use a carpenter's level in all directions and use a string line down the center of the wall to verify straightness. Be certain that the base course

is level and the wallstones lay flat and straight on the center. For micro-leveling and to help the wallstones lay flat, keep a bag of sand handy and use small handfuls to level and stabilize the first layer. Start from the LedgeStone Radius Corner Wallstone and work out from that point in each direction towards the end of the wall alternating long and short faces and flipping the wallstones. Keep the center aligned to keep the wall straight. The first layer is the most important. All other layers depend on that layer to determine the center (straightness) and level of the wall. When you get to the end of the wall, you will need to cut and place a "transition wallstone" cut from a LedgeStone Radius Wallstone. This will transition the wall from angled to square edges of the corner (end of wall) wallstones. A total of three cuts with a masonry saw will be required for each layer. The transition wallstone should be cut, so that the rule of flipping every other wallstone continues with this wallstone. This layout will repeat exactly for layers with odd numbers (1, 3, 5, 7, etc).



Figure 2

Cut 3 inches as shown in Figure 2 from the short side of a LedgeStone Single-Sided Corner. This cut will produce a wallstone with texture on one long and one short face.

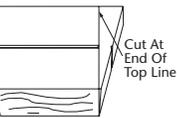


Figure 3

Cut 5 inches as shown in Figure 5 from the short side of a LedgeStone Single-Sided Corner. This cut will produce a wallstone with texture on one long and one short face.

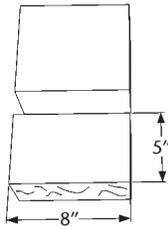


Figure 4

The transition wallstone is cut from the point where the center line stops on the left or right depending on the orientation needed for the wallstone (up or down).



Figure 5

Second Layer

Start by alternating the corner and working out to the end of the wall from that point in each direction, alternating long and short faces and flipping the wallstones. Keep everything straight, level and plumb by using the centerlines on the faces of the wallstone below. When you get to the end of the wall, install your transition wallstone and be sure the "flipped" orientation is correct for the wallstone next to it. Place the two 12-inch long cut pieces at the end of the wall directly over the wallstones below. Place the 3-inch

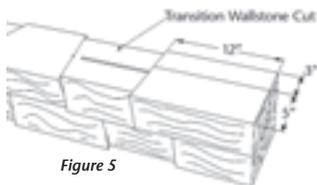
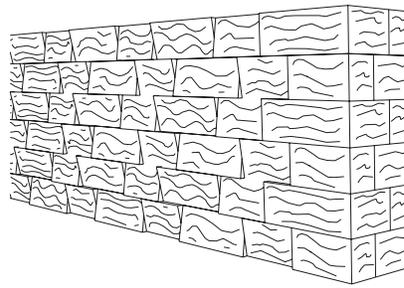


Figure 6

piece (Figure 6) above the 5-inch piece on the layer below and place the 5-inch piece (Figure 7) above the 3-inch piece on the layer below.



An alternating seam will be created that will be repeated for layers with even numbers (2, 4, 6, 8, etc).

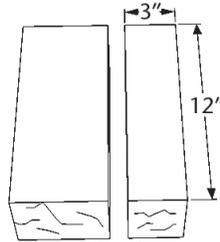


Figure 6

Cut 3 inches as shown from the long side of the LedgeStone Corner. This cut will produce a wallstone with texture on one long and one short face.

Cut 5 inches as shown from the long side of the LedgeStone Corner. This cut will produce a wallstone with texture on one long and one short face.

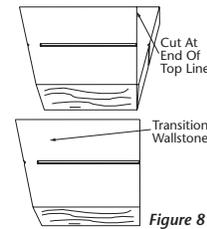


Figure 7

The transition wallstone is the same for each layer, the side you cut might be different depending on the wallstone orientation next to the transition (see Figure 5). The wallstone is cut from the point where the centerline stops on the left or right depending on the orientation needed for the wallstone (up or down).

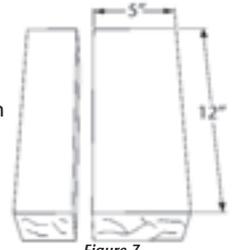
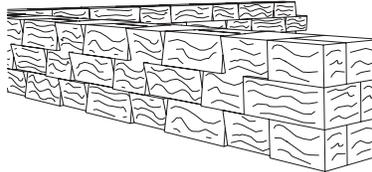


Figure 8

Third Layer

The third layer corner will alternate from the one below and will be exactly the same as the first layer. It will be the starting point for this



layer that will be the same as the first (Layer 1). Use a level to maintain height. Alternate front and rear faces and flip the wallstones as in all previous layers. Continue to alternate the corner and build the wall to the height desired following the odd & even formula.

Note: The layers repeat. Always set the correct orientation of the transition wallstone and alternate the 8-inch and 12-inch long wallstones in the configurations outlined.

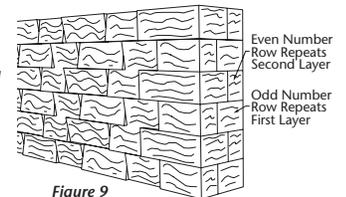


Figure 9

LedgeStone Radius Cap Row

Imprints on the LedgeStone Radius Wallstone will help with the installation of the cap row. Identify the center of the cap stone and match the center with the center of the final layer of wallstones. A chalk line can help. The cap row overhang will be correct if you use the center

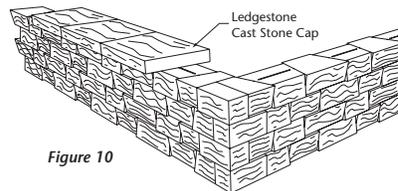


Figure 10

as your guide as the wallstones below have slightly different widths. The end of the wall cap overhang should be the average of the side overhang. Glue all cap stones with retaining wall adhesive.

A segmental retaining wall engineer should design all LedgeStone Radius retaining wall structures that exceed 24 inches. There are other pages in this book for corners and ends of wall. Textures, colors, project pictures, install video and this document are available for download as well as where to buy, at cambridgepavers.com

SECTION 5: CAMBRIDGE WALL PRODUCTS

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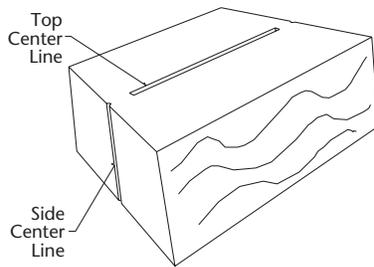
Installation Instructions:

Ledgestone Radius Double-Sided Wall

This project will outline a freestanding or sitting wall. Shown is a Ledgestone Radius freestanding double-sided wall with Cambridge Ledgestone Cast Stone Caps and Ledgestone Columns.

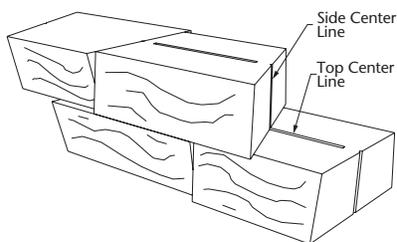
Ledgestone Radius Wallstones are available in the standard Renaissance texture. Each wallstone has two faces that allow many types of projects to be created such as freestanding walls, steps, borders, raised planter beds and even a barbeque/fire pit.

The Ledgestone Radius Wallstone will be used to build the freestanding wall. There are markings on the top and side of the Ledgestone Radius Wallstone that will guide you in knowing where the center is during the project build. This wall system is more like natural stone than any other system, so being aware of the center of the wall is very important.



Alignment System And Order For Vertical Wall

Set the vertical alignment directly above the wallstones in the next lower layer. Use this visual alignment for each successive layer of wallstones. As successive layers are set, stagger the face seams of the wallstones for interlocking wall strength and a closed multi-wallstone look on both sides.



Note: Because the imprinted texture style of the Ledgestone Radius creates variation of the face widths on each side — much like real stone — the wallstone will align using the center top and side marks to keep the wall straight.

The Ledgestone Radius vertical freestanding wall uses the alternating faces of the front and rear of the wallstone creating a look of multiple wallstone sizes all from a single wallstone. **RULE:** Flip over every other wallstone. You can tell the difference because the top has a centerline and the bottom of the wallstone does not. The side marks run the full height of the wallstone. The center will clearly be seen by jointing the side marks shown on the top with those on the bottom of the wallstones. This is used as a guide to identify the center of the wall.

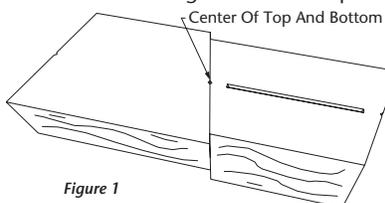


Figure 1

Corners And Ends

Cut one of the wallstones in half with a masonry saw. The corner wallstone for Ledgestone Radius is the Ledgestone Radius Pre-Cut Corner. On the first layer, the half-cut wallstone will serve as the transition from a radius shape to the square shaped corner on both sides of the corner as shown.

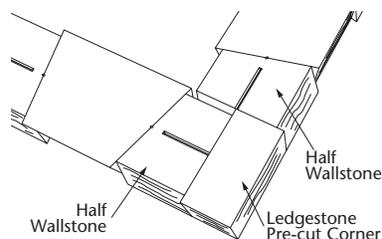
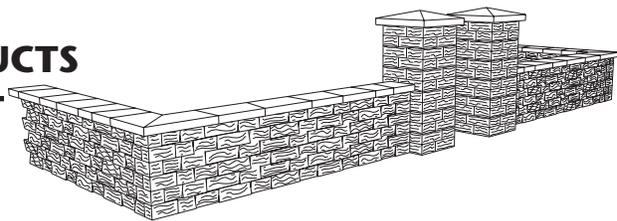


Figure 2

Note: The pattern of "Flipping" (turning over) every other wallstone applies to all wallstones except the corner.



First Layer

Place the first layer of Ledgestone Radius Wallstones on the prepared foundation,

alternating every other wallstone. Use a carpenter's level in all directions and use a string line down the center of the wall to verify straightness. Serpentine walls may be built too. Be certain the base course is level and wallstones lay flat and are straight on the center. For micro-leveling and to help the wallstones lay flat, keep a bag of sand handy and use small handfuls to level and stabilize the first layer. Start from the Ledgestone Radius corner detail in Figure 2 and work out from that point in each direction, alternating long and short faces and flipping the wallstones. Keep the center aligned to keep the wall straight. The first layer is the most important. All other layers depend on that layer to determine the center (straightness) and level of the wall. This layout will repeat exactly for layers with odd numbers (1, 3, 5, 7, etc.).

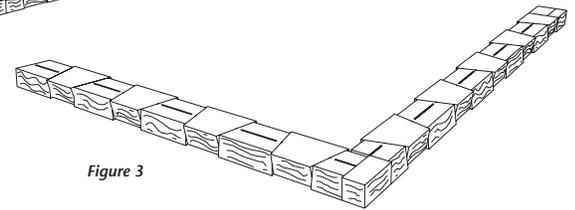


Figure 3

Second Layer

Start by alternating the corner and working out from that point in each direction, alternating long and short faces

and flipping the wallstones. Keep everything straight, level and plumb by using the centerlines on the faces of the wallstones below and by the side mark alignment of the top and bottom combinations. This layout will repeat for layers with even numbers (2, 4, 6, 8, etc.). Tip: Be careful that no vertical bond lines are above a bond line below.

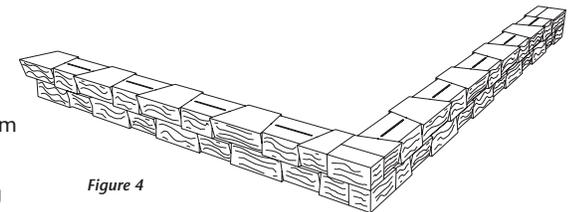


Figure 4

Third Layer

The third layer corner will alternate from the one below and will be the starting point for this layer. Use a level to maintain height.

Alternate front and rear faces and flip the wallstones as in all previous layers. Continue to alternate the corner and build the wall to the height desired following the odd and even formula.

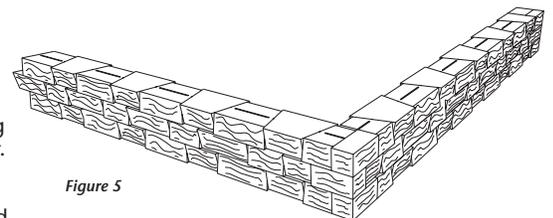


Figure 5

Ledgestone Radius Cap Row

Imprints on the Ledgestone Radius Wallstone will help with the installation of the cap row. Identify the center of the cap stone and match it with the center of the final layer of wallstones. A chalk line can help. The cap row overhang will be correct if you use the center as your guide as the wallstones below have slightly different widths. Glue all cap stones with retaining wall adhesive.

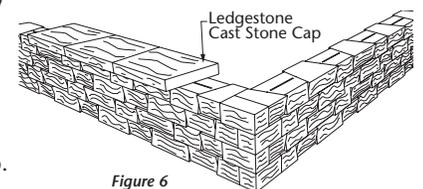
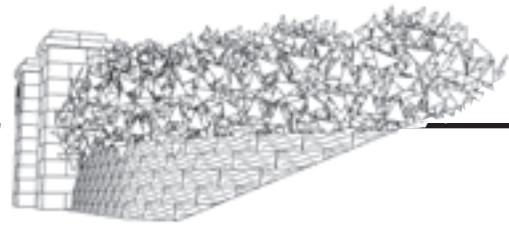


Figure 6

A segmental retaining wall engineer should design all Ledgestone Radius retaining wall structures exceeding 24 inches. There are other pages in this book for corner and ends of wall. Textures, colors, project pictures, install video and this document are available for download as well as where to buy at cambridgepavers.com.



Installation Instructions: Ledgestone Radius Single-Sided Landscape Wall



This project will outline options for building a single-sided landscape wall in vertical or in setback for more strength. Shown is a Ledgestone Radius Wall set "ALL-UP" as a setback single-sided planting bed with one end terminating into the hill and the other end terminating into a Ledgestone Column.

Ledgestone Radius Wallstones are available in the standard Renaissance texture. Each wallstone has two faces that allow for many types of projects such as freestanding walls, steps, borders, raised planter beds and even a barbecue/fire pit. This layout for single-sided walls will use Corners from the Cambridge Ledgestone Single-Sided Wall System. Please refer to the section for creating the wall base foundation before setting the wallstones.

The Ledgestone Radius Wallstone can be used to build a single-sided landscape wall for flower beds or changes in grade. There are markings on the top and side of the Ledgestone Radius Wallstone that will guide you in recognizing the center during the project build. This wallstone system is more like natural stone than any other system, so being aware of the center of the wall is very important.

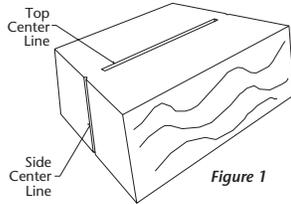


Figure 1

Alignment System And Order For Landscape Wall

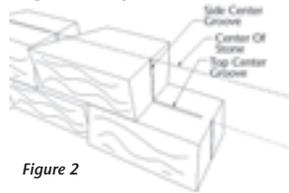


Figure 2

Set the vertical alignment directly above the wallstones in the next lower layer. Use this visual alignment for each successive layer of wallstones.

Note: Because the style of the Ledgestone Radius has imprinted texture, it creates variation of the face widths on each side — much like real stone — the wallstone should be set using the center top and side marks to keep the wall straight. Every other wallstone is

"flipped" so we show one wallstone with top up and the next with bottom up. There are marks on the side and top of the wallstone to help you determine the middle of the wall.

The Ledgestone Radius landscaping wall is shown as a vertical wall with all wallstones set with the large face out. You have the option for the look of a multi-sized face if you use the double-sided system described on another page in this book for single- or double-sided walls. If you set the wallstones with all long faces out, it is more cost effective. **RULE:** Flip over every other wallstone. You can tell the difference because the top has a centerline and the bottom of the wallstone does not. The side marks run the full height of the wallstone so the center will clearly be seen on wallstones turned over (bottom).

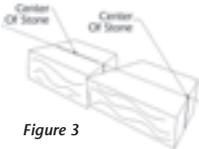


Figure 3

Corners

The corner wallstone for Ledgestone Radius in this single-sided configuration is the Ledgestone Single-Sided Corner.

Note: The pattern of "Flipping" (turning over) every other wallstone applies to all wallstones.

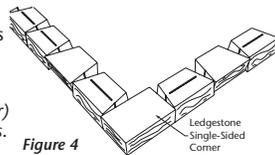


Figure 4

First Layer

Place the first layer of Ledgestone Radius Wallstones on the prepared foundation, alternating the flipping of every other wallstone. Use a carpenter's level in all directions and use a string line down the center of the wall to verify straightness. Serpentine walls can be built as well. Be certain that the base course is level and wallstones lay flat and are straight on the center. For micro-leveling and to help the wallstones lay flat, keep a bag of sand handy and use small handfolds to level and stabilize the first layer. Start from the corner detail in Figure 5 and work out from that point in each direction and remember to keep flipping the wallstones. Keep the center aligned to keep the wall straight. The first layer is the most important. All other layers will depend on that layer to determine the center (straightness) and level of the wall. This layout will repeat exactly for layers with odd numbers (1, 3, 5, 7, etc).

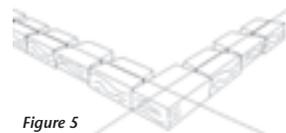


Figure 5

Second Layer

Start by alternating the corner and working out from that point in each direction and flipping the wallstones. Keep everything

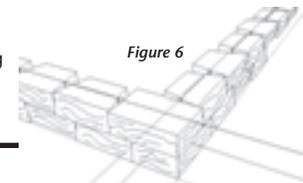


Figure 6

straight, level and plumb by using the centerlines on the wallstone faces below noting the side mark alignment of the top and bottom combinations. This layout will repeat for layers with even numbers (2, 4, 6, 8, etc) Tip: Be careful that no vertical bond lines are above a bond line below.

Third Layer

The third layer corner will alternate from the one below and will be the starting point for this layer that will be the same as the first (Layer 1). Use a level to maintain height. Flip as in all previous layers. Continue to alternate the corner and build the wall to the height desired following the odd-even formula.

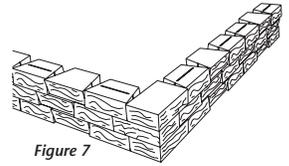


Figure 7

Ledgestone Radius Cap Row

The center top grooves on the Ledgestone Radius Wallstone will help with the installation of the cap row. Identify the center of the cap and mark it with a crayon and then match the center with the center of the final layer of wallstones. A chalk line can help. The cap row overhang will be correct if you use the center as your guide as the wallstones below have slightly different widths. Glue all cap stones with retaining wall adhesive.

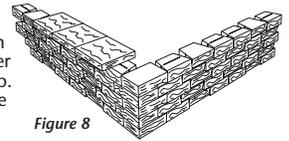


Figure 8

All-Up Single Sided Wall

A stronger wall can be built by setting all of the Ledgestone Radius Wallstones with "tops up". This will create a unique look with a setback of 7 degrees. The only limitation is that there is no 90-degree corner with this configuration. The options are to have a radius corner and to run the end of the wall into the bank or terminate into a column made with Ledgestone Corners.

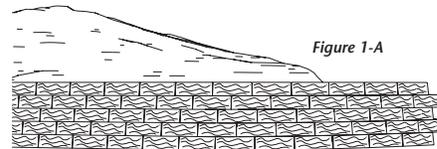


Figure 1-A

All-Up First Layer

The first layer has all markings up with all long faces out to the face of the wall. Walls can be curved or straight. Curves normally do not require cutting. Follow the base wall recommendations and also address drainage. A wall will always fail if you let water build up behind the wall. Install piping and stone behind the wall as per base instructions.



Figure 2-A

All-Up Second Layer

The second and all subsequent layers will stagger the joints of the wallstones below. Set the bottom front edge of the wallstone on the top edge of the wallstone below.



Figure 3-A

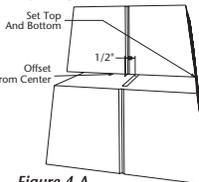


Figure 4-A

This will cause a natural half-inch setback. The texture is uneven, so do your best to estimate the difference.

Tip: The side marking should be set back about a half inch from the center top marks on the wallstones below. See Figure 4-A.

Natural offset is shown by placing the bottom of the wallstone on the front top edge of the wallstone below.

All-Up Third Layer

The layer can now repeat. Layer 1 is the template for all odd numbered layers and Layer 2 is the template for all even numbered layers.



Figure 5-A

All-Up Finishing Layer

Repeat the layers as previously described making sure that water does not flow against the wall. Finish with Cambridge Ledgestone Cast Stone Caps.

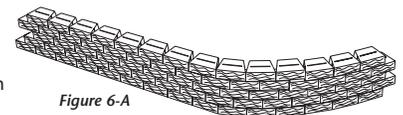
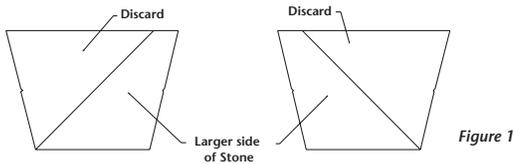


Figure 6-A

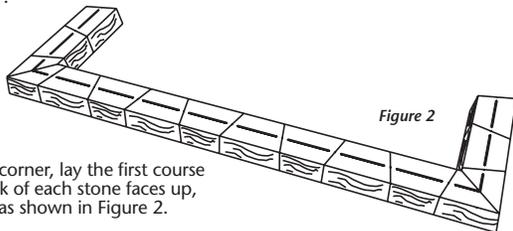
A segmental retaining wall engineer should design all Ledgestone Radius retaining wall structures exceeding 24 inches. Textures, colors, project pictures, install video and this document are available for download as well as where to buy at cambridgepavers.com.

Installation Instructions: Ledgestone Radius Double-Sided Wall Up & Down Alternative Pattern

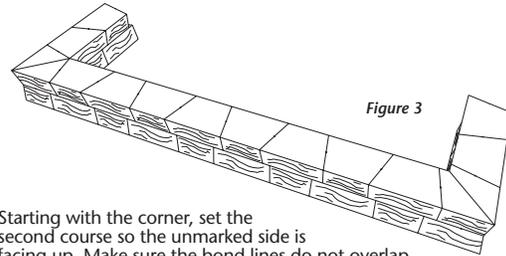
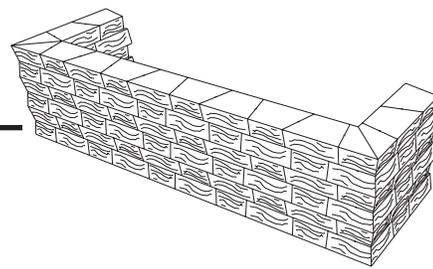
The Ledgestone Radius Wall can be set as a double sided wall so that all of the textures on one layer face the same direction (up or down) with the direction alternating on each course. This creates a smoother look without the need to flip stones. It will have a profile similar to a chair rail every 2 layers.



Matching 90 degree corners can be made by making a 45 degree cut in two stones starting with the corner of the smaller face on the unmarked side of the stone. The two pieces are then glued together with masonry adhesive to make a corner. These are the only cuts needed if the length equals full stones on the first layer. See Figure 1.



Starting with the corner, lay the first course so the center mark of each stone faces up, alternating them as shown in Figure 2.

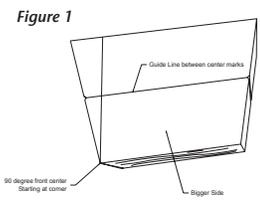
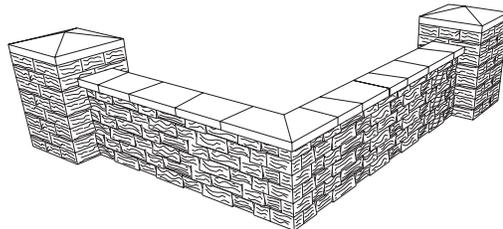


Starting with the corner, set the second course so the unmarked side is facing up. Make sure the bond lines do not overlap.

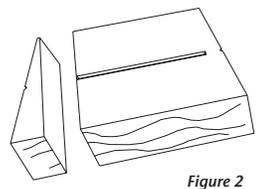
Repeat the first layer for all odd layers and repeat the second layer for all even layers. A cross section of the wall should look like Figure 4 above. This wall pattern is perfect for Radius double-sided walls and benches. For finished pictures of this project go to cambridgewallsupport.com cambridgepavers.com.



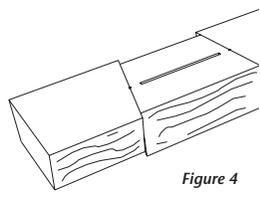
Installation Instructions: Ledgestone Radius and Ledgestone Single-Sided Wall with Integrated Columns at End of Wall



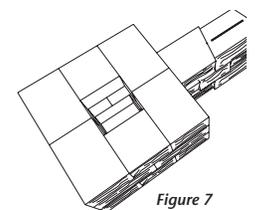
A transition stone is made by cutting with a masonry saw 90 degrees from the small face of the stone. To cut transition stones for the end of wall take the larger side of the stone and draw a guide line connecting the two center marks. Draw a line from one corner at a 90 degree angle from the guide line as shown. See Figures 1 & 2



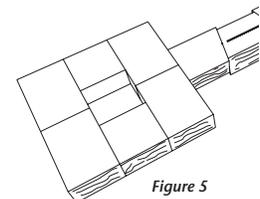
Terminate the first course with a Ledgestone Radius "Transition" stone cut as shown in Figures 1 & 2. See Figure 4



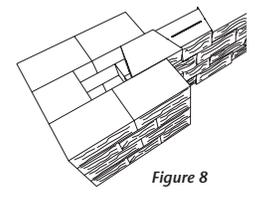
The third course and all odd numbered courses will be the same as the first course. See Figure 7



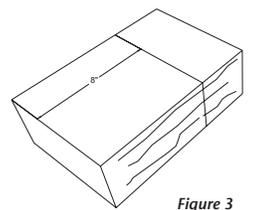
Build the first course of the column, using two Ledgestone block cut to 8" and four Ledgestone Corners. See Figure 5



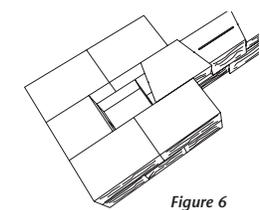
The fourth course and all even numbered courses will be the same as the second course. See Figure 8



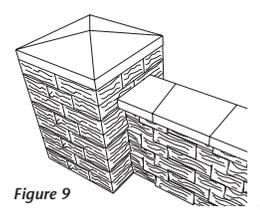
The only cuts required on the columns are 8" Ledgestone standard cuts. Cut the stone to 8" long (8"x8"). See Figure 3



On the second course, continue the Ledgestone Radius wall into the column and build the next course of the column so it lines up with the first course using one 8" cut and four Ledgestone Corners. See Figure 6

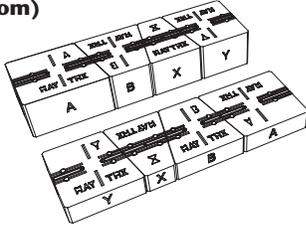


Finish the column with a Cast Stone Column Cap. See Figure 9



Installation Instructions: MaytRx 3-Inch And 6-Inch Double-Sided Vertical Wall Patterns With Pins

MaytRx 3 and 6 Alternating Pattern (Random)



MaytRx 3- and 6-inch can be combined for a natural stone look utilizing the eight wallstones. The pattern described has a ratio of 2/3 MaytRx 6 (66%) and 1/3 MaytRx 3 (33%). This will equate to the division of total square feet. Note: MaytRx 6 may be used exclusively where product is buried and not visible. The goal of this formula is to create easy to identify module combinations of the four basic wallstones in the different heights that will eliminate cutting and are easy to learn as well as quick to install. We have broken the combinations down into two modules: those that include the B & X wallstones in one and those that include the A & Y wallstones in the other. We will show combinations of these modules in their various configurations, then we will mix them with each other to create a random looking double-sided wall.

The Modules

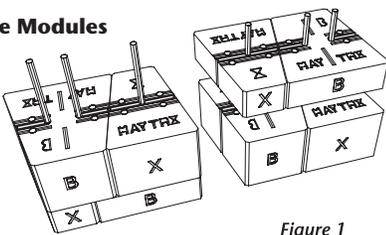


Figure 1

BX Module

Combinations of the 3- and 6-inch MaytRx B & X wallstones can create four different face designs. The different face designs are created by changing the modules using the front or rear view of the double-sided module or by moving the orientation of the 3-inch wallstones on top or below the 6-inch wallstones. Note: MaytRx 3- and 6-inch wallstones have a vertical pin hole. It allows the use of pins when configuring walls with 3- and 6-inch high wallstones in the same wall to be integrated for alignment or to attach geogrid material when needed. Push the pin through the wallstone to settle in the center groove of the wallstone below. When MaytRx 3 is above the layer below, always use 3 1/4 inch MaytRx pins. When 6-inch wallstones are above, use 6 1/2 inch pins (see Figure 1). Sitting walls and short landscape walls can be made without pins, using retaining wall adhesive were needed.

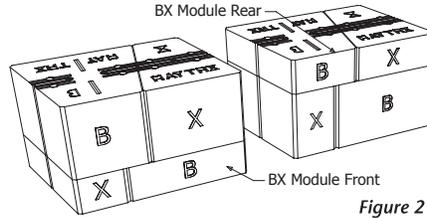


Figure 2

The front and rear view of the basic B&X module.

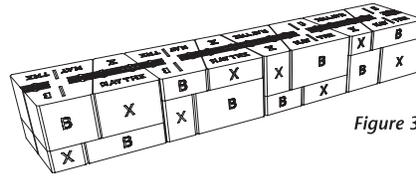


Figure 3

Different combinations of the B&X module (note the 3-inch wallstone orientation to create four possibilities).

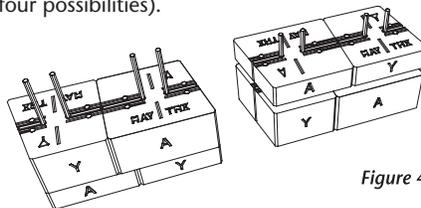


Figure 4

AY Module

Combinations of the 3- and 6-inch MaytRx A&Y wallstones can create four different face designs. The different face designs are created by changing the modules by using the front or rear view of the double-sided module or moving the orientation of the 3-inch wallstones on top of or below the 6-inch wallstones. (see Figure 4).

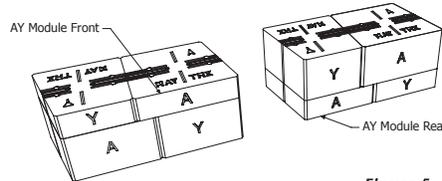


Figure 5

The front and rear view of the basic A & Y module.

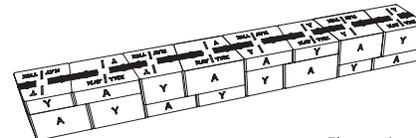
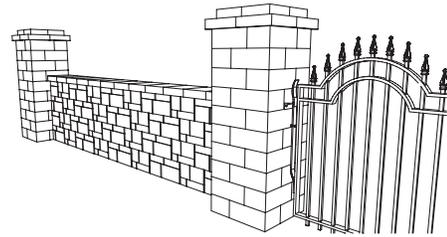


Figure 6

Different combinations of the A & Y module (note the 3-inch wallstone orientation to create four possibilities).



BX and AY Combined Faces

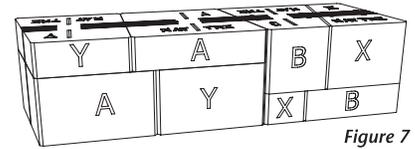


Figure 7

BX and AY front and rear faces.

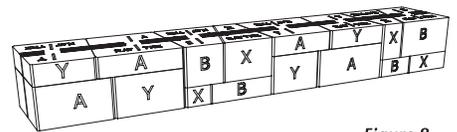


Figure 8

Layout of the two modules using both sides (four face arrangements).

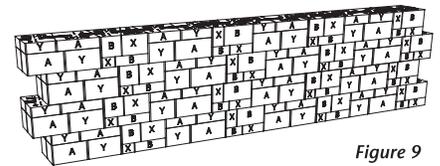


Figure 9

Use four of the eight wallstone layouts (front and rear) to create 3- and 6-inch walls.

Random Look

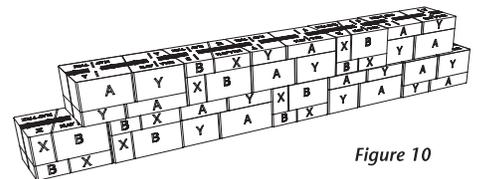


Figure 10

The true random combination uses all of the modules (in equal amounts of BX and AY). Think of the module as a 9-inch high wallstone that you can mix randomly.

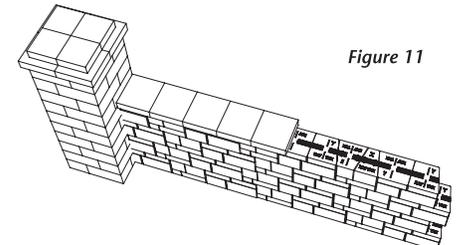
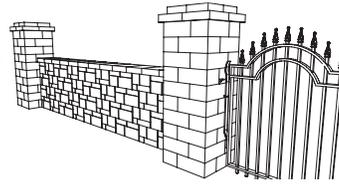


Figure 11

Please refer to the original Cambridge MaytRx 3 and 6 pages for corner and capping procedures. Cambridge Column Kits can be included in the design.



Installation Instructions: MaytRx 3-Inch, 6-Inch & Stretcher Vertical and Setback Wall Pin Placement

There are three types of walls that can be built with pins: vertical freestanding double sided walls with zero batter, vertical retaining walls with almost zero batter, and setback retaining walls with a 7-degree batter. MaytRx 6 and MaytRx 3 use the following procedures when building a retaining wall. Pins, geogrid and engineering all are important parts of the wall.

MaytRx 6 and Stretcher Retaining Wall

MaytRx 6 Pin Placement Vertical Retaining Wall:

Place 6 1/2"-long MaytRx Pins through the vertical (center) hole into the center groove of the wallstone below. When the pin is centered in the hole, push the wallstone "back" towards the bank. This creates almost a zero batter. See Figure 1.

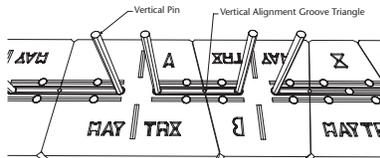
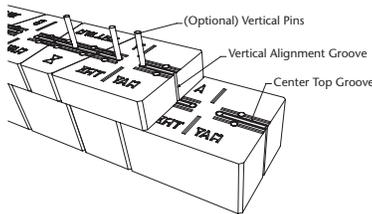


Figure 1

Figure 2



MaytRx 3 and 6 Pin Placement in Vertical Freestanding Walls:

MaytRx wallstones include a pin hole for vertical alignment and securing geogrid. Although optional in the double-sided configuration, they may be used for additional interlock.

Place the 6 1/2"-long or 3 1/4" MaytRx Pins (depending on the wallstone being used) through the vertical (center) hole. Let them drop into the center groove of the wallstone below. When the pin is centered in the hole, check the visual side groove to confirm your wall is centered on the middle groove of the layer below. This creates a zero batter. See Figure 2.

MaytRx 6 Pin Placement Setback Retaining Wall:

Place 6 1/2"-long MaytRx Pins through the front setback hole into the center groove of the wallstone below. When the pin is centered in the hole pull the wallstone "forward" towards the front of the wall. This creates a 7-degree batter. See Figure 3.

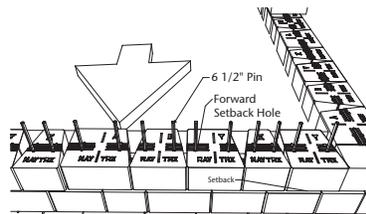


Figure 3

MaytRx 3 Retaining Wall

MaytRx 3 Pin Placement Vertical Retaining Wall:

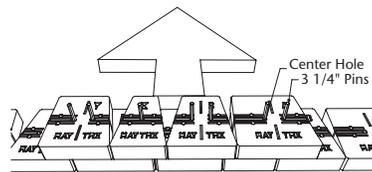


Figure 4

Place 3 1/4"-long MaytRx Pins through the vertical (center) hole into the center groove of the wallstone below. When the pin is centered in the hole push the wallstone "back" towards the bank. See Figure 4.

MaytRx 3 Pin Placement Setback Retaining Wall:

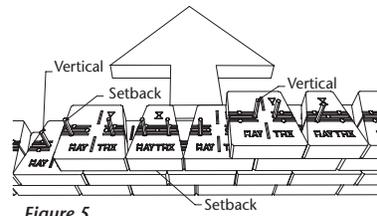


Figure 5

Note: The MaytRx 3 wallstone setback hole is normally used for the 6 and 3 combined wall. To build a wall based on the setback charts of MaytRx 6-inch with all 3-inch high wallstones, use a combination of this vertical and setback pin position to create a 3-inch setback row with a 3-inch vertical row above it. For the setback row, place the 3 1/4" long MaytRx Pins into the front setback hole into the center groove of the wallstone below. When the pin is centered in the hole pull the wallstone "forward" towards the front of the wall. Then place a vertical row above it. This creates a 7-degree batter when used together. See Figure 5.

MaytRx 3 & 6 Combined Retaining Walls

MaytRx 3 and 6 Vertical Combined Pins:

MaytRx 3 and 6 combined designs use both size pins in the wall. When pinning the 6" high wallstone to the wall, use 6 1/2" pins, when pinning the 3-inch high wallstone, use the 3 1/4" pins. Follow the instructions for each size wallstones vertical alignment formula. See Figure 6.

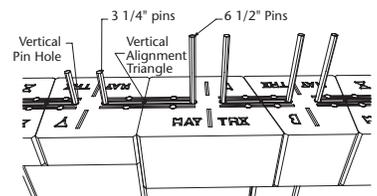
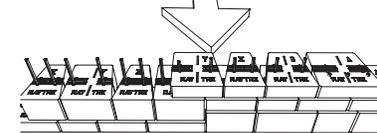


Figure 6

MaytRx 3 and 6 in Combined Setback Retaining Walls:

Figure 7



Place 6 1/2" long MaytRx Pins through the front setback hole into the center groove of the wallstone below. When the pin is centered in the hole, pull the wallstone "forward" towards the front of the wall. With the 3-inch high MaytRx wallstone, place the 3 1/4" long MaytRx Pins through the front setback hole into the center groove of the wallstone below. When the pin is centered in the hole, pull the wallstone "forward" towards the front of the wall. See Figure 7.

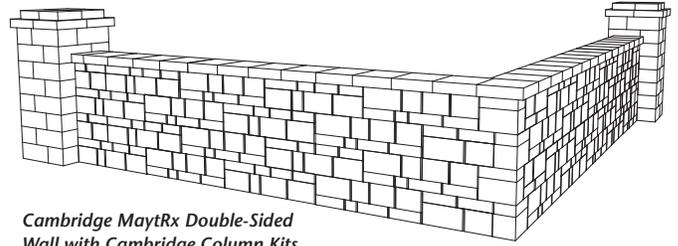
MaytRx 3 and 6 Combined Geogrid Wall

For informational details of general applications, vertical geogrid charts are available on the Cambridge website. Check municipal codes for your location and for all walls over 36 inches you should consult a licensed design professional. Please refer to the engineering page in this book for details and links. Vertical 6-inch and 3-inch retaining walls use the 6-inch vertical or setback geogrid charts and add two layers of 3-inch wallstone for one layer of 6-inch wallstone shown in the illustration, pinning or gluing every wallstone. The 6 and 3 designs are random. In an engineered wall, you have to use geogrid under all conditions and that must not be compromised by the random design layers without the direction of your design professional. He may suggest extra layers or special retained soils behind the wall.

The base is an important part of any retaining wall. The wall shown in these diagrams should be considered a landscape or freestanding wall. Check with your local building department for the regulations that cover the wall you will be building. Refer to the "Basic Retaining Wall" area of this book for design criteria. We normally set the wall first row (course) 1" below the surface for every foot of height that will be exposed above the grade, on top of a 6" crushed stone leveling pad base that is compacted every 3" during installation. Drainage is very important and is discussed in the "Basic Retaining Wall" area of this book as well.

Installation Instructions: MayTRx® 3-Inch And 6-Inch Double-Sided Vertical Wall

The concept for this wall is to build it from “modules” that are made from the two wallstones of different heights set in order every time. This is essentially done in 9-inch high increments alternating the front and rear faces to create the random look with little cutting.



Cambridge MayTRx Double-Sided Wall with Cambridge Column Kits

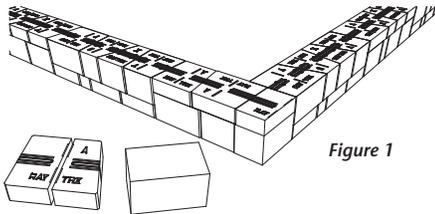


Figure 1

Layer 1

Set the corner first then work from the corner out in both directions. Start with the short side of a corner. We are using the two wallstone modules to better understand the system but as you get used to the wall and the four basic shapes you can set them randomly to create your own signature look. Each module has a front and a back side that is different. **Note:** The Cambridge 6 corner is used with MayTRx 6. The field split 3-inch corner will be combined to keep the corner at the same 9-inch height as the modules. **Tip:** Once the first layer is complete, lay each subsequent layer alternating the pattern of “first layer” and “second layer”. See Figure 1.

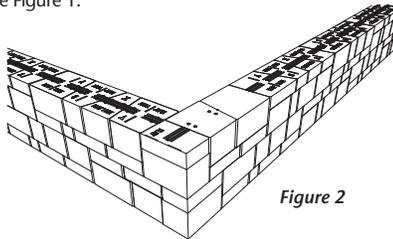


Figure 2

Layer 2 Corners (Second Layer)

Set the corners at the end of the wall with the wallstone turned 90 degrees from the corner wallstone on the layer below. Glue the corner to the wallstones below with adhesive. **Note:** Never cut the corner wallstone. It does not matter that a wallstone is turned upside down to fit it into a space. If the wallstones are laid in modules, only trim at the end depending on what is used to terminate the layer wall (column, structure, finished end). Repeat the second layer (9-inch module height) that is built on every even layer (2, 4, 6, 8, etc). **Note:** MayTRx “A” and “Y” wallstones can be used next to the corner. If you need a wallstone to be cut, it may be placed anywhere but do not repeat the same place in the next layer. Try to keep any bond lines that line up on the layer below from appearing more than twice in any area of the wall. See Figure 2.

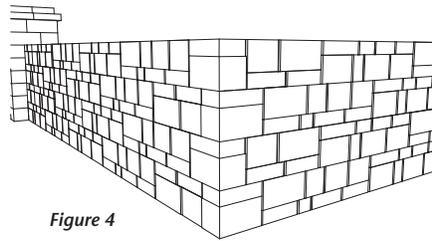


Figure 4

Alternate And Repeat

Alternating the corner and wallstone placement from either first or second layer will assure a wall with very few cuts using multiples of the wallstone modules. Each layer is 9 inches so once the layout for the first two layers is determined it becomes a matter of repeating the first or second layer to your desired height.

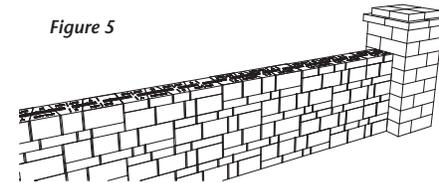


Figure 5

Cambridge Column Kit Option At End Of Wall

Finish with a Cambridge Pre-Packaged Column Kit with Cap and Hat, which requires no cutting. See Figure 5.

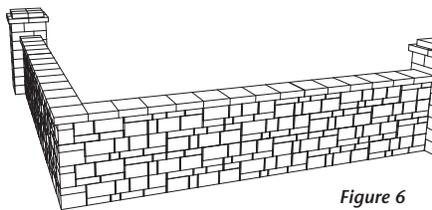


Figure 6

Cap Layer

The MayTRx 3 & 6 inch Double-Sided Wall uses the 13-inch Double-Sided Cambridge Cap, which allows a 1 1/2-inch reveal on all edges. A cap stone can be turned into a corner cap by striking a mark 2 inches from the end. This will create a cap layer with corner.

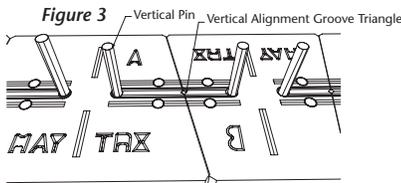
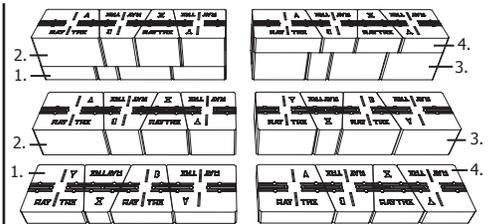


Figure 3

Tip

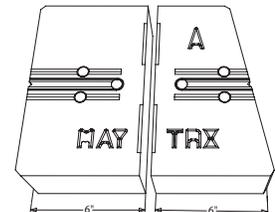
To line up the walls in a straight line, note the top of the side vertical alignment groove that is the center of the wallstone. Match the top (triangle) with the identical mark in the wallstone next to it to verify you are in vertical alignment.



MayTRx 3 & 6 Modules (See diagrams above)

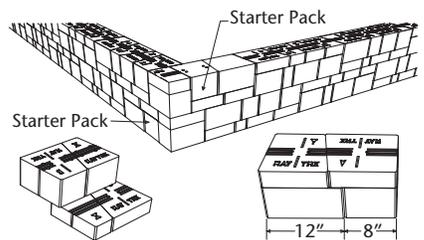
1. Bottom Layer (left): MayTRx 3 - Y X B A
2. Top Layer (left): MayTRx 6 - A B X Y
3. Bottom Layer: MayTRx 6 - Y X B A
4. Top Layer: MayTRx 3 - A B X Y

A MayTRx 3 & 6 wall design can use any combination of A, B, X or Y. There are equal amounts of each wallstone on the pallet. MayTRx 3 and 6 have a system of grooves on the face and sides. By lining up the center vertical groove with the center top groove, a visual alignment system will be maintained throughout the project — regardless of front or rear face of wallstone or wallstone texture, and to achieve vertical alignment of all wallstones. **Note:** MayTRx wallstones can be turned upside down to fit the wallstone in a random pattern.



MayTRx 3 Field Split Corners

MayTRx 3 inch A, B and Y wallstones all have a front to back “split line” on the top surface. At 3 inches high, most common splitters used for pavingstones will split the wallstones along this line, producing two usable, three-sided, textured corners for each wallstone split. The illustration above shows the “A” wallstone after the split.



Starter Pack

We have developed a small module made up of MayTRx 3 and 6 “A” and “Y” wallstones with square edges outside to meet the corner and modules. This is used to offset the bond from the corner on layers that start at the short (6-inch) side of a corner wallstone. This allows the modules to be installed with very little overlap of bond lines.

Installation Instructions:

MaytRx® 3-Inch Double-Sided Wall With Jumper

Cambridge MaytRx 3-inch with "Jumper" — a vertical 6-inch piece made from cutting either "A" or "Y" wallstones to create an additional design element.

MaytRx 3 Pin Placement in Vertical Freestanding Walls:

MaytRx wallstones include a pinhole for vertical alignment and securing geogrid. Although optional in the double-sided configuration, they may be used for additional interlock. Place the 3 1/4" long MaytRx Pins into the vertical (center) hole and let them drop into the center groove of the wallstone below. When the pin is centered in the hole, check the visual side groove to confirm your wall is centered on the center groove of layer below.

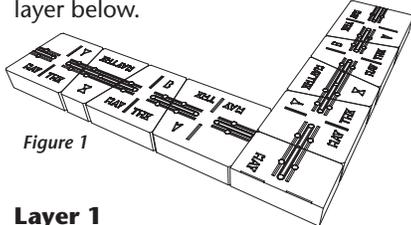


Figure 1

Layer 1

Set the corner wallstones first, then work from the corner out in both directions using the MaytRx 3 four-wallstone module. Note: MaytRx 6 wallstones may also be used in combination with MaytRx 3 to produce ten different face sizes giving the appearance of random wallstone. See Figure 1.

Adding Jumpers

Add jumpers where two 90-degree wallstone edges meet (A and Y wallstones). Continue to add wallstones in modules for the first layer. See Figure 3.

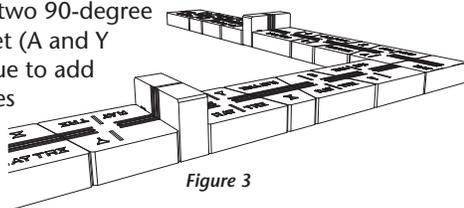


Figure 3

Layer 2 Corners

Set the corners on each end of the wall with the wallstone turned 90 degrees from the corner wallstone on the layer below it. Apply adhesive to the wallstones below. Note: Never cut the corner wallstone. When laying these modules, a cut wallstone may be necessary next to each of the jumpers. It does not matter if a wallstone is turned upside down to fit it into a space. MaytRx "A" and "Y" wallstones can be used next to the corner. See Figure 4.

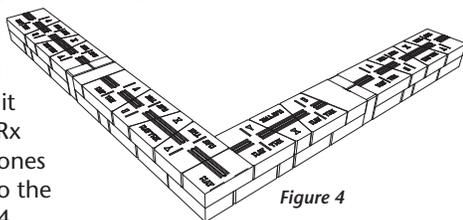
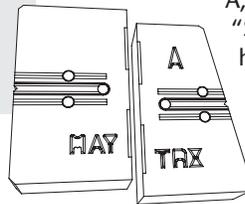
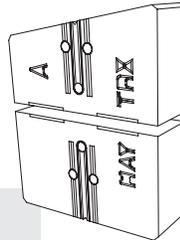
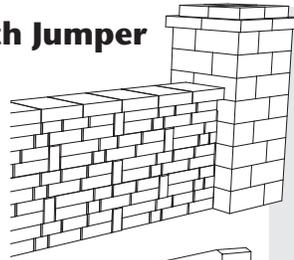


Figure 4

Tip:

Placing face texture against face texture can cause joints that are too large. In any situation, especially around the corner wallstone, if the texture is keeping the wallstones from fitting together properly, trim with a masonry saw so that there are no protrusions.

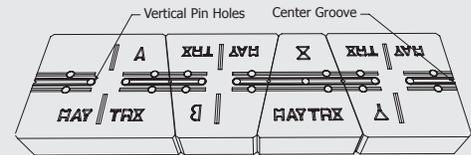


Jumper Option

Add jumper on vertical freestanding walls by cutting the "A" or "Y" wallstone 6 inches from the square edge with a masonry saw. Figure 2.

Visual Alignment System

Use any combination of A, B, X or Y. The pallet contains equal amounts of each wallstone. Using a system of grooves in the face and sides, line up the center vertical groove with the center top groove for a visual alignment system to be maintained throughout the project — regardless of the front or rear face of wallstone or texture.



MaytRx 3 Field Split Corners

A, B and Y wallstones all have a front to back "Split Line" on the top surface. At 3 inches high, most common splitters used for pavingstones will split the wallstones along this line, producing two usable, three-sided textured corners for each wallstone split. Shown: "A" wallstone after the split.

Jumper Module

One way of determining where to add the jumper is to consider placement between the four basic wallstones that are set with square edges ("A" or "Y") on the ends towards the jumper. See Figure 5.

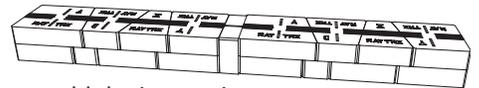


Figure 5

Combine Modules

Four sets of the basic four wallstone modules with jumpers added together equal an approximate length of 12 feet. See Figure 6.

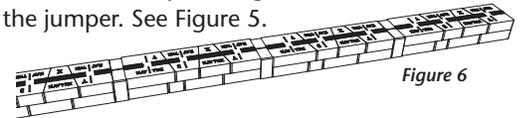


Figure 6

Tip:

Once the first and second layer of modules are complete, each subsequent layer can then be laid alternating the pattern of "first layer" and "second layer" for simplicity or choose "random placement" of the jumper.

Cap Layer

The MaytRx Double-Sided Wall uses the Cambridge 13-inch Double-Sided Cap, which allows for a 1 1/2 inch reveal. The cap can be turned into a corner cap by striking a mark 2 inches from the end and using a chisel or splitter to split the piece away. This will create a cap layer with corner. See Figure 7.

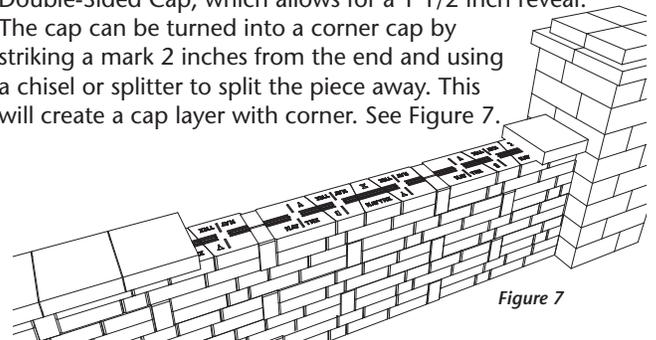
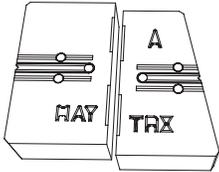
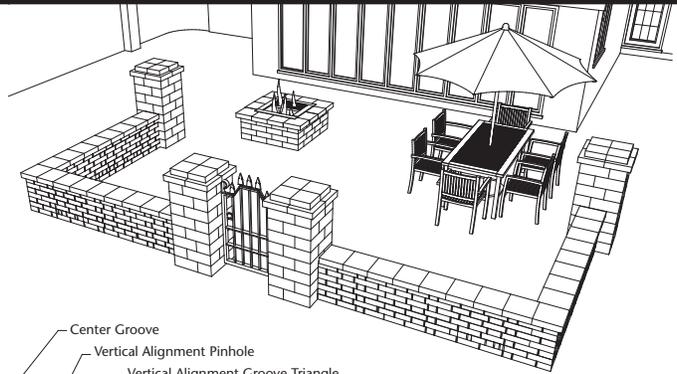


Figure 7

Installation Instructions:

MaytRx® 3-Inch Vertical Wall

A Cambridge MaytRx Double-Sided Wall is shown with Cambridge Pre-packaged Column Kits and a Cambridge MaytRx Square Fire Pit Kit.



MaytRx 3 Field Split Corners

A, B and Y wallstones all have a front to back "Split Line" on the top surfaces. At 3 inches high, most common splitters used for pavingstones will split the wallstones along this line, producing two usable, three sided, textured corners for each wallstone split. Shown: "A" wallstone after the split.

Layer 1

Set the corner wallstones first, then work from the corner out in both directions. To better understand the system, the four wallstone module is used in the illustration. As you become more familiar with them, set the four basic shapes randomly to create your own signature design. **Note:** MaytRx 6 wallstones may also be used in combination with MaytRx 3 to produce 10 different face sizes for the look of random wallstone. Refer to the instructions for MaytRx 3 and 6 projects. Repeat the first layer on every odd layer (1, 3, 5, 7, etc). See Figure 1.

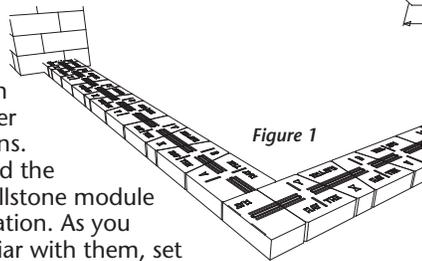


Figure 1

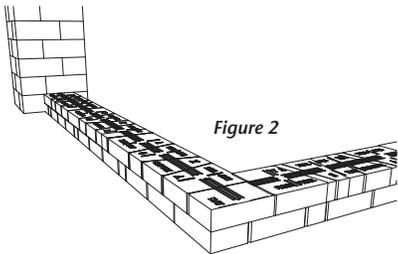


Figure 2

Layer 2 Corner

Set the corners on each end of the wall with the wallstone turned 90 degrees from the corner stone on the layer below. Glue the corner to the wallstones below. Repeat the second layer on every even layer (2, 4, 6, 8, etc). See Figure 2. **Note:** MaytRx "A" and "Y" wallstones can be used next to the corner. If you need a wallstone to be cut, it may be placed anywhere, but do not repeat the same place in the next layer. Try to keep any bond lines that line up on the layer below from appearing more than twice in any area of the wall.

Tip: Face texture against face texture can cause joints that are too large. In any situations, especially around the corner wallstone, if you experience that the texture is keeping the wallstones from fitting together properly, trim with a masonry saw so that there are no protrusions.

Tip:

To line up the wallstones in a straight line, note the top of the side vertical alignment groove that is the center of the wallstone. Match the top (triangle) with the identical mark in the wallstone next to it to verify you are in vertical alignment.

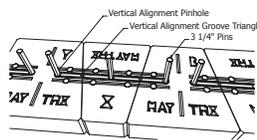
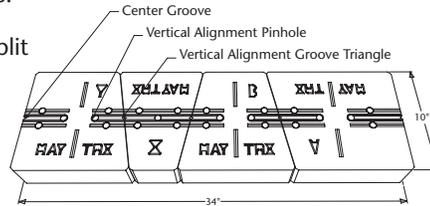


Figure 3



MaytRx A, B, X & Y

MaytRx 3- and 6-inch, Double-Sided Walls can be made with any combination of the A, B, X or Y wallstones. Equal amounts of each wallstone are

on the pallet. Both have a system of grooves on the face and sides. Lining up the center vertical groove with the center top groove will give you a visual alignment system to be maintained throughout the project regardless of the front or rear face of wallstone or wallstone texture.

Note: MaytRx wallstones in a vertical layout can be turned upside down to fit the wallstones in a random pattern (acceptable in a double-sided configuration). Maintain vertical alignment.

Minimizing Cuts

Alternating the corner and wallstone placement from either first or second layer using multiples of the wallstone modules will assure a wall with very few cuts. See Figure 4.

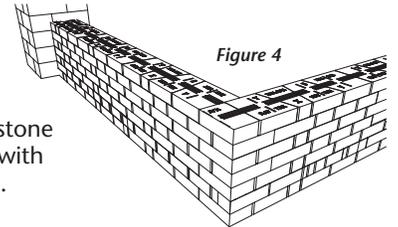


Figure 4



Figure 5

End Of Wall (Finished Termination) Option

A finished termination with 3 textured sides is achieved by splitting a MaytRx 3-inch stone along the top split line, to create two half wallstones used at the end of the wall for a finished look. Alternate

the orientation of this "end" piece to stagger bond lines with the wallstone below. See Figure 5. **Note:** Another option for terminating the wall is a Cambridge Pre-Packaged Column Kit.

Cap Stones

The MaytRx Double-Sided Wall uses Cambridge 13-inch Double-Sided Caps, which allow for a 1 1/2 inch reveal. A cap stone can be turned into a "corner cap" by striking a mark 2 inches from the end and using a chisel or splitter to split the piece away. This will create a cap layer with corner.

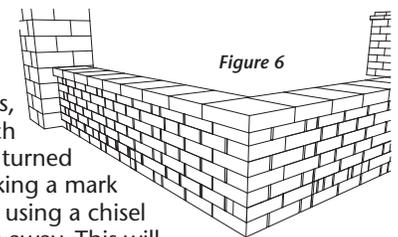
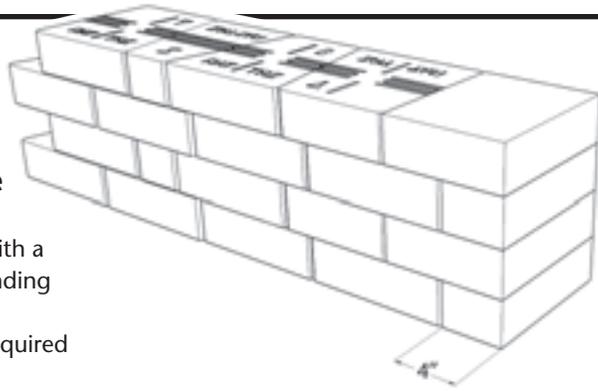


Figure 6

Installation Instructions:
MaytRx® 3-Inch Double-Sided
Freestanding End Of Wall Project
Using Cambridge 13-Inch Cap Stone

This project will outline a freestanding or sitting wall with a finished end of wall. Shown is a MaytRx 3-inch freestanding double-sided wall with the end of the wall split from Cambridge 3-inch Double-Sided Cap (1/2 cap stone required per layer).



First Layer

Build the first layer as per the MaytRx first layer directions. Four inches before the end of the wall termination, end the wallstones with a square edge wallstone or cut and add the 4-inch, 3-sided split wallstone from a 13-inch double-sided cap stone as shown in Figure 3.

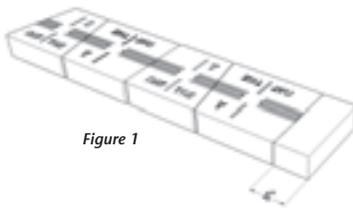


Figure 1

This layout will repeat exactly for layers with odd numbers (1, 3, 5, 7, etc).

From a Cambridge 13-inch Double-sided Cap, mark a line 10 inches from the smooth edge and another line marked 8 inches from a textured edge (See Figure 2).



Figure 2

Split the cap with a paver, wall or masonry splitter or you can hammer and chisel along the two lines drawn to create two 3-sided end of the wall wallstones. One will be 4 inches x 10 inches, and the other will be 8 inches x 10 inches (See Figure 3).

Note: If the wallstone texture is Renaissance, then you will need to lightly tap the cut edges of the wallstone with a hammer. Wear eye protection when doing this.

The two (8-inch and 4-inch wallstones) finished 3-sided end of wallstones made from one 13-inch double-sided cap.

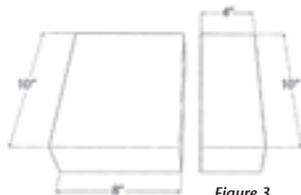


Figure 3

Second Layer

With 8 inches before the end of the wall termination on the second layer, end the wallstones with a square edge wallstone or you can cut and add the 8-inch, 3-sided, split stone from a 13-inch double-sided cap wallstone as

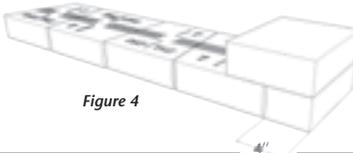


Figure 4

shown in Figure 3. This creates an alternating bond above the wallstone below and will be repeated. This layout will repeat for layers with even numbers (2, 4, 6, 8, etc).

Illustrated is the completed end of wall for the second layer showing the repeating pattern of an 8-inch above a 4-inch wallstone.

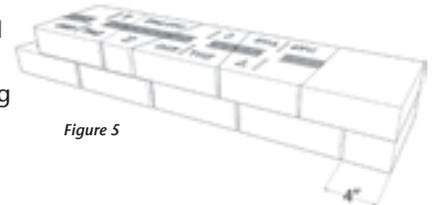


Figure 5

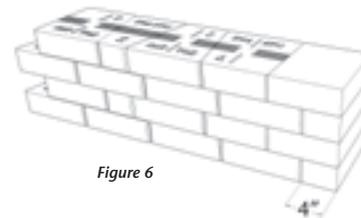


Figure 6

The first layer is the template for all odd numbered layers and the second layer is the template for all even numbered layers that will repeat to any height.

The finished MaytRx 3-inch end of wall shows all exposed sides finished using the double-sided cap stone and a splitter. A segmental retaining wall engineer should design all retaining wall structures exceeding 30 inches.

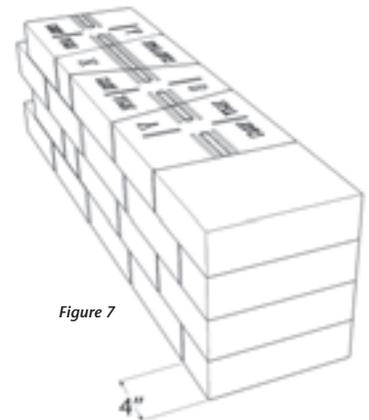


Figure 7



Installation Instructions: MaytRx 3-Inch Corner Options

Due to the popularity of the MaytRx 3-inch Wall, Cambridge now makes a corner for the 3-inch MaytRx Wall System. The wallstones are available in Split Face as well as Renaissance in most colors. The MaytRx 3-inch Corner can also make a handy 16-inch x 16-inch column. The Cambridge Column Hat (sold separately) at 20 inches x 20 inches, provides a 3-inch high cap that will give a 2-inch overhang on all sides. Explore the possibility of different uses for the MaytRx 3-inch Corner besides double- and single-sided walls.

First Layer

Place the wallstones as illustrated in Figure 1 using a square and level to ensure the first course is level, plumb and square. Each wallstone has two textured sides and two smooth sides. Placing the smooth sides against each other creates a corner that fits together without gaps. There are no rights, lefts, tops or bottoms to these wallstones. Placing the textured sides out and the smooth sides in is a good way to remember this.

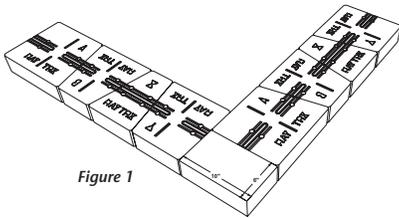


Figure 1

Once the first course is complete, lay each subsequent course by alternating the corner and working out from that point.

Tip: Repeat the orientation of the wallstones on the row below. Because of the offset of the corner, no vertical bond line will line up with those below, this will save time. The corner must be offset from the corner wallstone below by 5/8 of an inch. If a setback wall is being built, glue the corners in place with retaining wall adhesive. The subsequent layers will repeat the "first course" and the "second course".

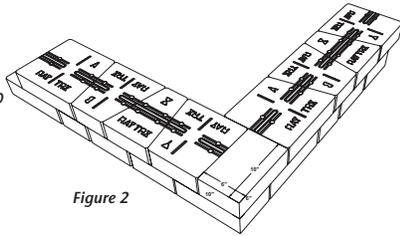


Figure 2

Note: Easy way to keep track — Odd numbers are laid out like the first course and even numbers always look like the second course.

Columns With 3-inch Corner Wallstones

We now have choices in columns to match the 3-inch wallstones in our projects. Shown are columns made with the 3-inch Corner and other Cambridge products.

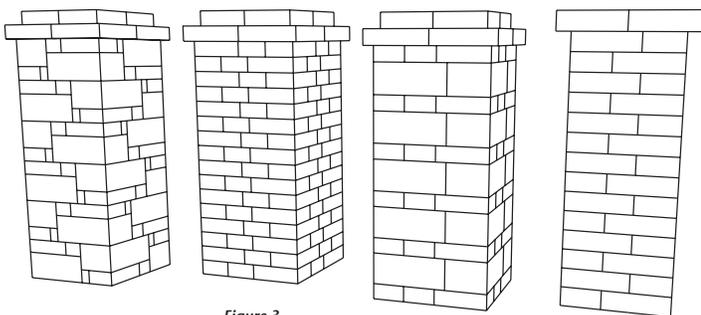


Figure 3

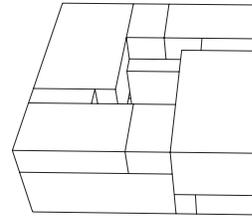
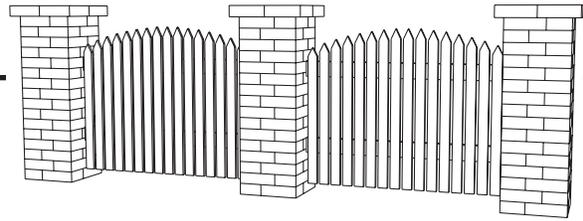


Figure 4

Illustrated are the basic layers of a MaytRx 6-inch and 3-inch column. This column is shown as a full project in this book and measures 22 inches x 22 inches.

Illustrated are the basic layers of an expanded MaytRx 3-inch column. It measures 22 inches x 22 inches. This project utilizes the 3-inch Corner and a 6-inch cut piece of a Cambridge Single-Sided Cap Stone or 3-inch Corner.

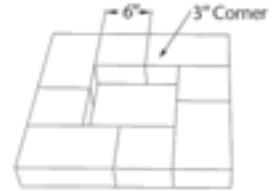


Figure 5

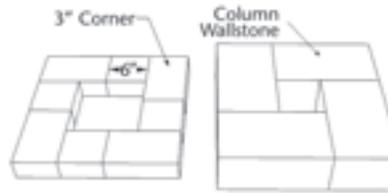


Figure 6

Illustrated are the basic layers of the MaytRx 6-inch and 3-inch rows. The column measures 22 inches x 22 inches. This project utilizes the MaytRx 3-inch Corner and a 6-inch piece of 3-inch high MaytRx Cap or Corner and alternates with a row of 6-inch high column wallstones.

Illustrated are the basic layers of the 3-inch all corner columns. It measures 16 inches x 16 inches. This smaller column utilizes four 3-inch corner wallstones. The Cambridge Column "Hat" will create a top with a 2-inch overhang on all sides.

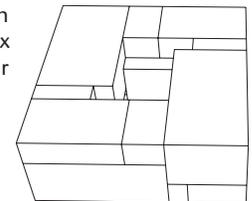


Figure 7

WARNING: Retaining walls over 36" require the services of a licensed engineer. Please read the basic Installation directions for the wall you are building.

Installation Instructions:

MaytRx® Double-Sided Radius Wall

Layout

- Measure a square to define the area for the wall. The radius is determined by measuring from an axis point to each side. Drive a stake into the ground at the axis point and attach a string line to the stake. With a can of marking paint attached to the opposite end and the line fully extended, paint the radius on the ground with the stick. See Figure 1.
- Add the recommended additional area for each project (usually excavate 4 inches extra on each side).
- Once the pad is level, paint another line for the initial wallstone layout.
- Line up the wallstones on the painted radius to keep good perspective and make any adjustments needed (long sides to outside of radius). There will be gaps on the inside radius. Cut these wallstones following the rules below. Cut one side of every wallstone to make sure the wallstones all fit perfectly.

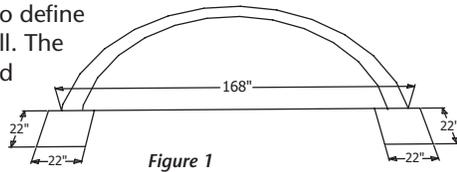
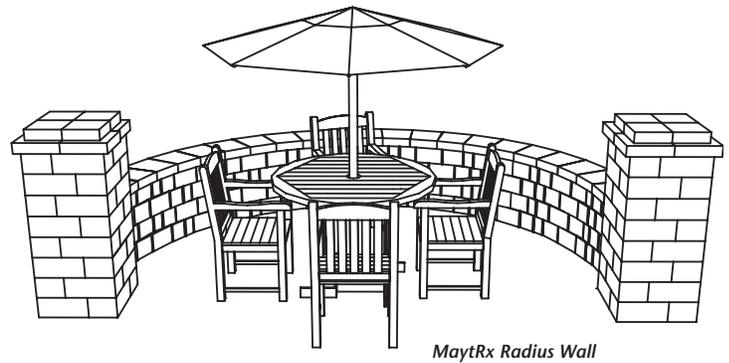


Figure 1



MaytRx Radius Wall

Four Basic Rules For A MaytRx Double-Sided Radius Wall

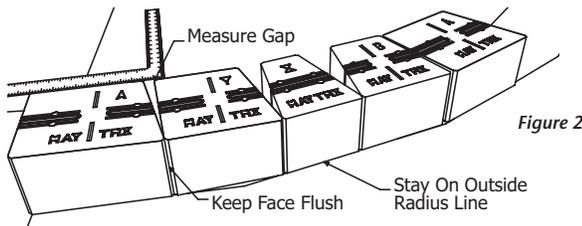


Figure 2

Although some installers use the “X” wallstone exclusively, equal amounts of the four wallstones in the order shown above are used for this radius wall. Cut only one side of each wallstone, keeping the longest faces to the outside. Line-up the wallstones on the outside radius line. In Figure 2, the “A” and “Y” are side by side. Apply the four basic rules below to assure that the cut side of the “A” wallstone will fit perfectly.

1. Keep both wallstones exact on the outside radius.
2. Keep adjoining front face edges flush (joined).
3. Measure the gap (between the rear edges).
4. Transfer gap to the wallstone to be cut.

Make line to the rear edge without taking anything off the rear face. (See below).

Transfer The Gap

Cutting the “A” wallstone to fit next to the “Y” wallstone:

- Measure the gap.
- Cut line is transferred from the front face of the “A” wallstone while leaving the rear face intact. See Figure 3.

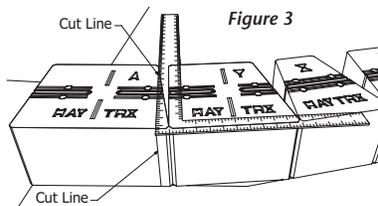
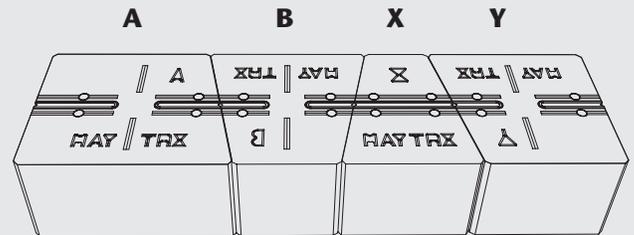


Figure 3

- Mark a cut line.
- Cut with masonry saw.



MaytRx A, B, X & Y Wallstones

MaytRx 6-inch and MaytRx 3-inch radius, Double-Sided Walls can be made with any combination of the A, B, X or Y wallstones. There are equal amounts of each wallstone on the pallet. MaytRx 6 and MaytRx 3 have a system of grooves on the face and sides. By lining up the center vertical groove with the center top groove, a visual alignment system can be maintained throughout the project. Vertical alignment of all wallstones is achieved regardless of the front or rear face of the wallstone or texture.

Note: MaytRx wallstones in a vertical layout can be turned upside down to fit the wallstones in a random pattern (acceptable in the double-sided configuration). Be sure to maintain vertical alignment. If the radius wall is being built in combination with a straight wall, please refer to instructions for MaytRx Double-Sided Vertical Wall.

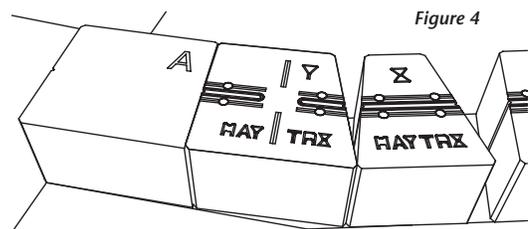


Figure 4

A Wallstone Cut Set Up To Fit (Cut) Y

Apply the four basic rules on each combination of two wallstones and repeat around the radius. In the example above, the “A” wallstone is complete. Apply the rules to the “Y” and “X” wallstones for the data needed to cut the “Y”. See Figure 4.

MaytRx® Double-Sided Radius Wall (Continued)

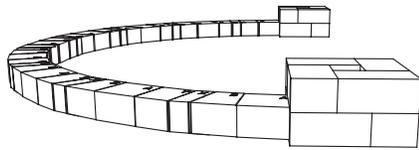


Figure 5

First Layer

First layer radius with adjoining Cambridge Pre-Packaged Column Kits can be incorporated into straight walls. See Figures 5 and 5A.

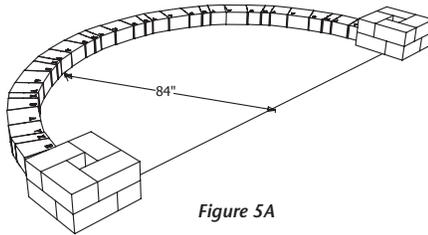


Figure 5A

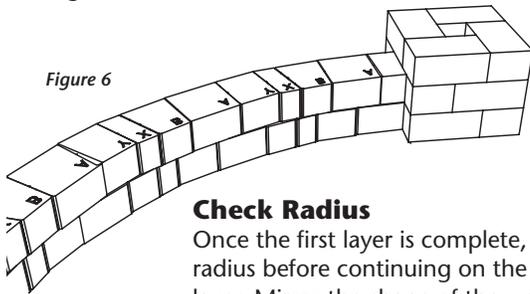


Figure 6

Check Radius

Once the first layer is complete, check radius before continuing on the next layer. Mirror the shape of the wall below to “stay on radius” for the layers above. Make all adjustments now. See Figure 6.

Keep wallstone bond lines from lining up. Skip a wallstone if necessary and follow the four basic rules on every wallstone.

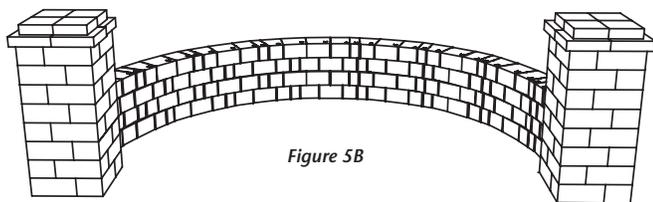


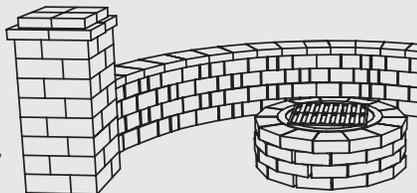
Figure 5B

Repeat Pattern

The pattern can repeat every other layer but a more random look is advised and simple to execute by following the four basic rules. See Figure 5B.

Design Notes:

1. MaytRx Radius Wall with Cambridge Column Kits and Pyzique Barbeque & Fire Pit Kit share the same texture and colors.



2. Depending on the height of the walls, create a sitting wall as a conversation area.

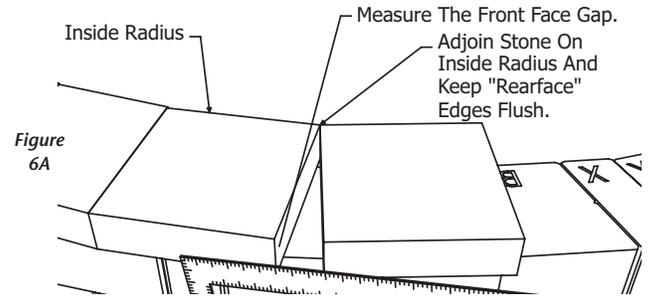


Figure 6A

Installing And Fitting A Radius Cap Layer (Cap Rules)

The Cambridge 13-inch Cap (3HL x 13D x 12W) is used on all MaytRx Double-Sided Walls. To apply this rectangular shaped wallstone to a radius wall, follow these steps (See Figure 6A):

Radius Cap Steps

1. Place adjoining wallstones on inside radius and maintain the reveal (overhang) on both sides.
2. Keep rear face (inside radius) edges flush.
3. Measure the front face gap.
4. Transfer gap to rear of wallstone to be cut preserving the full front face (see below).

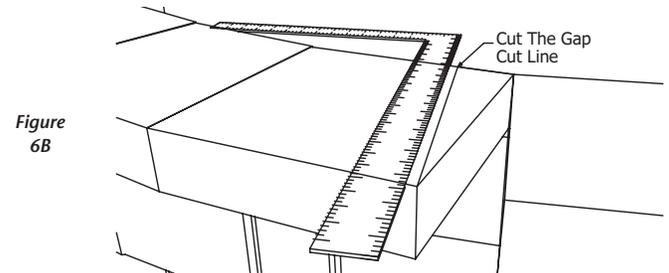


Figure 6B

Cap — Transfer Gap For Cut

Transfer the “Gap” (distance between the wallstones) from the front faces to the rear face of the wallstone to be cut. Strike a line between that point and the front edge, preserving the front face completely. Cut with masonry saw. See Figure 6B.

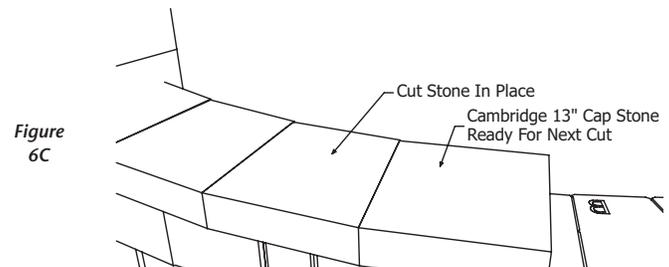


Figure 6C

Match Wallstones And Repeat

Install the cut cap and repeat the process with another Cambridge 13-inch Cap following the radius of the cap steps. This procedure will allow for adjustments to any irregularities in the radius and create a smooth cap finish. This is the first place the eye looks when viewing a radius wall. This knowledge will also allow caps to be cut for serpentine walls. See Figure 6C.

Installation Instructions:

MaytRx® 6-Inch And Stretcher Stone With Integrated Column Kit

There are times when you will need a column to provide stability to a freestanding wall. This layout is one way to integrate the Cambridge Column Kit into the structure of this wall.

First Layer Column At End Of Wall (Tied In)

- Place the wallstones as illustrated above in the first layer. Level and use a string line to keep your wall straight.
- Each wallstone has two textured sides and two smooth sides. Placing the smooth side against the smooth sides creates a column that fits together without gaps.
- There are no rights, lefts, tops, or bottoms to these wallstones.
- Placing the textured sides out and smooth sides in is a good way to remember.
- The expanded column is made to accept a 10-inch wide wall (MaytRx or Stretcher).
- Cut one Column Kit wallstone to 4 inches with one face textured and another wallstone at 8 inches corner textured as shown in the illustration to complete the first layer of this column.

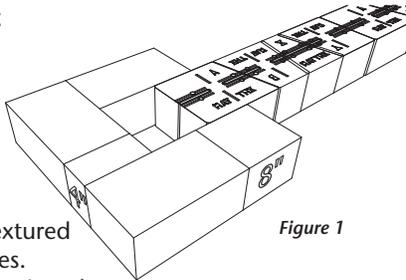


Figure 1

Note: 4-inch and 8-inch wallstones in sketch are the stone dimensions and their placement. See Figure 1.

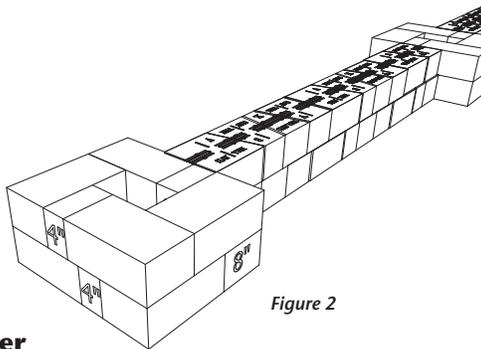


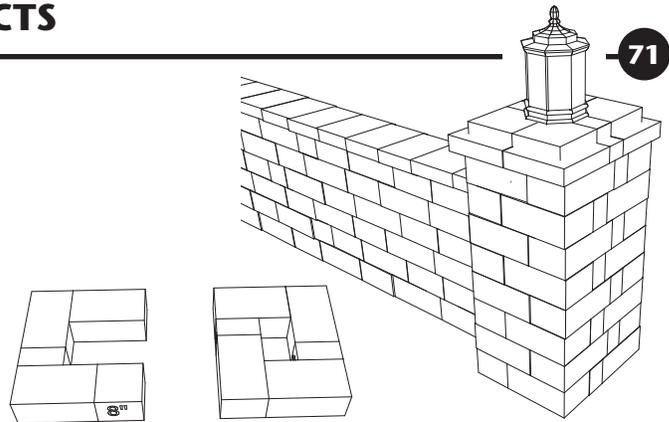
Figure 2

Second Layer

The second layer is installed on all even numbered layers (2, 4, 6, 8, 10, etc).

The Cambridge Column Kit includes 9 sets (layers) of 6-inch wallstones that will produce a 4-foot high column with one layer buried in the ground for stability. Be careful not to allow adhesive to be viewed from the face of the wallstone. Extra wallstones might be needed for expanded columns. Add the two 4-inch cut column wallstone pieces as shown to complete this column layer. See Figure 2.

WARNING: Retaining walls over 36" require the services of a licensed engineer. Please read the basic installation directions for the wall you are building.



First Layer (Left Side) And Second Layer (Right Side) Used For Alternating Pattern

- Once the first layer is complete, each subsequent layer will be laid alternating the pattern of first layer and second layer.
- Odd numbered layers have the wall move into the column.
- Even numbers layers have the column go over the wall for stability.

All cut pieces should be glued with adhesive.

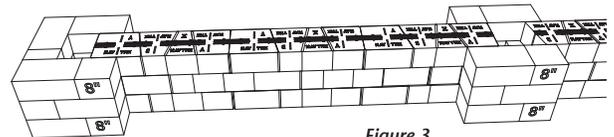


Figure 3

Third Layer

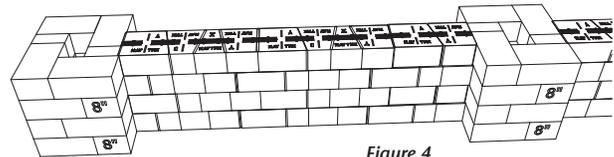
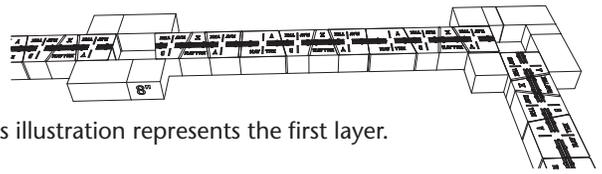


Figure 4

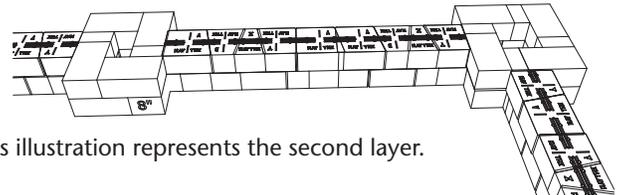
Fourth Layer

Another Example

Pilaster and corner column expanded to tie in at 90 degrees.

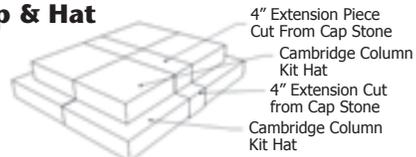


This illustration represents the first layer.



This illustration represents the second layer.

Cap & Hat



- 4" Extension Piece Cut From Cap Stone
- Cambridge Column Kit Hat
- 4" Extension Cut from Cap Stone
- Cambridge Column Kit Hat

Figure 5 / Optional Cap & Hat finish



Installation Instructions: MaytRx 6 Curved Bench with Columns

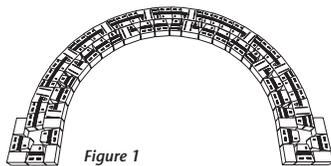


Figure 1

First Layer

The MaytRx 6 bench project has an inside diameter of 10 ft 3 inches so it will fit around a Cambridge circle kit. Draw a half circle with a diameter of 10 ft 3 inches using a rope and a stake. Lay the first course of MaytRx stones around the outside of this arch, no cuts required. Lay another layer of MaytRx stones on the outside of that one. Each stone on the outside will require one cut to form a curve with no gaps.

Note: Identifying the stones used in these layers will ensure you will not have vertical bond lines above or below a layer. The finished height of the bench from Caps to finished grade (top of pavers) is normally around 18 inches so prepare the foundation of your projects to take the finished heights into consideration. See Figure 1

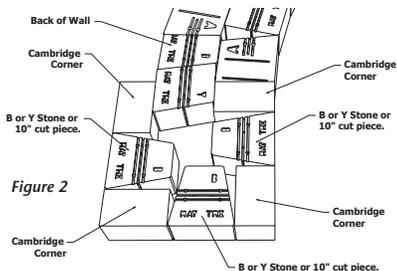


Figure 2

The bench layout uses a field made corner utilizing Cambridge 6 Corners and MaytRx stones. Note: For illustration in the column, B stones are shown but A stones or cut Y stones can be substituted as it only requires a stone face of 10 inches not a specific stone. Build the first layer of the column using four Cambridge Corner stones and three MaytRx B stones or stones cut to 10 inches. See Figure 2

Second Layer

On the second layer, place the inside stones with no cuts and cut outside

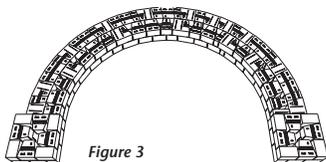


Figure 3

stones to fit so there are no gaps. For the columns, use four Cambridge Corner stones and four 10 inch faced stones (B, Y or cut A).

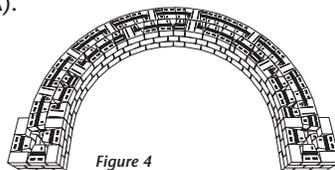


Figure 4

Third Layer

The third layer is a repeat of the first. This layer will be the seat of the bench.

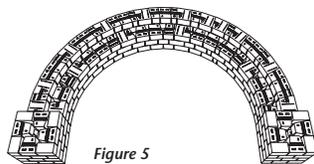


Figure 5

Fourth Layer

For the fourth layer, lay only the outer (backing) layer of stones. The columns are the same as the second layer. Make sure your cuts are correct as this is a double-sided wall. See the "How To" instructions in this book for cutting double sided stones "MaytRx Double Sided Radius Wall" See Figure 5.

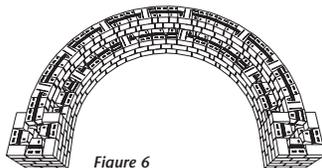


Figure 6

Fifth Layer

For the fifth layer, add another course to the back rest as illustrated, cutting the stones to fit as shown.

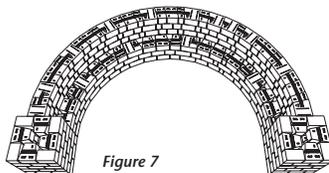


Figure 7

Sixth Layer

The sixth layer is a repeat of the fourth layer. See Figure 7.

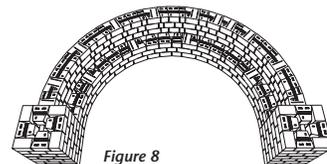
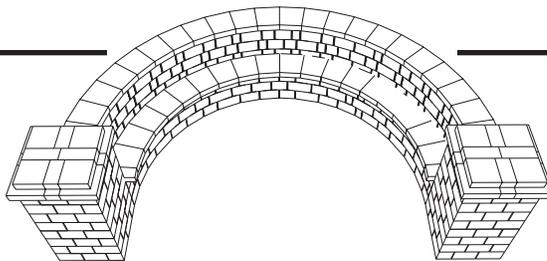


Figure 8

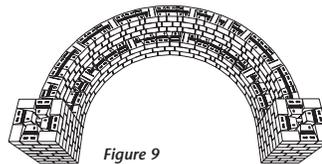


Figure 9

Add additional courses to the columns as required for your design. See Figure 9.

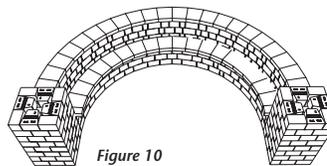


Figure 10

Add Cambridge 13" cap stones to the seat and top of the bench. Cut each stone to fit.

Add a cap layer to the columns using four Cambridge Column Caps, two 18-Inch large caps cut to 15" x 5", and two 13-Inch caps cut to 12 1/2" x 5".

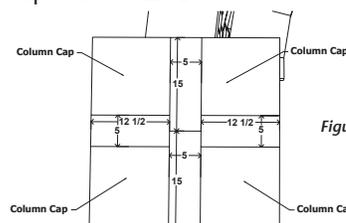


Figure 11

Add a hat layer to the columns using four Cambridge Column Hats, two 3" caps cut to 10" x 5", and two 3" caps cut to 12 1/2" x 5".

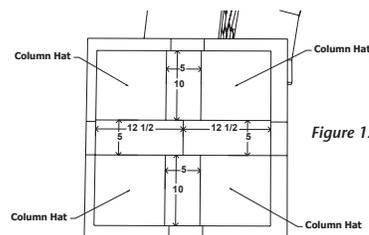


Figure 12

Installation Instructions:

MaytRx® 6-Inch Wall With Setback

MaytRx is capable of any height wall in the “setback position”. Walls above 36 inches require the services of a licensed professional engineer. The data needed to build a MaytRx “Engineered Wall” can be found at cambridgepavers.com. The select soil, geogrid, crushed rock and face wallstones are a complete structure which provides the strength to hold the load of the retained material in place is the geogrid reinforced select soil zone. The wallstones used to face the wall are a minor structural element. Review the information on “Base”. See “Tips & Techniques” before assembly.

MaytRx 6-inch wallstones, although each different, have basic characteristics that include:

- Imprinted Letter (A, B, X or Y)
- Center split groove (except “X”)
- Visual alignment system
- All 4 stones are a different size
- Pin alignment and geogrid connection system

First Layer

Place the first layer of MaytRx wallstones smooth side down on the prepared base. Use a carpenter’s level in all directions and use a string line to verify straightness. Serpentine walls may be built too. Be certain the base course is level and wallstones lay flat. For micro-leveling and to help the wallstones lay flat, keep a bag of concrete sand handy and use small handfuls to level and stabilize the first layer. Start from the MaytRx 6-inch Corner and work out from that point in each direction.

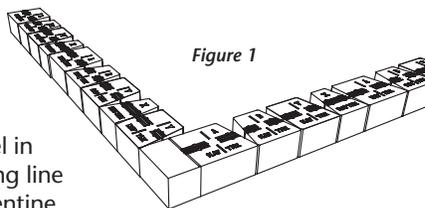


Figure 1

Use Of Pins

Each MaytRx wallstone is manufactured with six pinholes (four holes for setback & two holes for vertical). The first layer is set on the base and leveled in all directions. No pins are used. Visually align each subsequent layer so that the two front pinholes are above the deep slot in the middle of the wallstones in the layer below. After wallstones are set and visually aligned, drop pins in these holes. If the pin does not drop below the surface of the MaytRx wallstone, move the wallstone holding the pin forward and backward slightly to properly align the wallstones and then the pin will drop with one exception. The pinhole may be above the solid or no slot section of the wallstone below. If this is the case, even on geogrid layers, remove the pin and check visual alignment with others and proceed to drop pins for the remainder of the layer. A few missing pins in each layer presents no structural problems as will be explained later. Pull all wallstones forward until the pins prevent the wallstone from moving forward. This will give the engineered retaining wall an approximate 6.5-degree batter (visually aligned landscape walls will have an approximate 7-degree batter). Verify that wallstones with only one pin are aligned with all other wallstones in the layer and proceed with backfill and subsequent layers. See Figure 2.

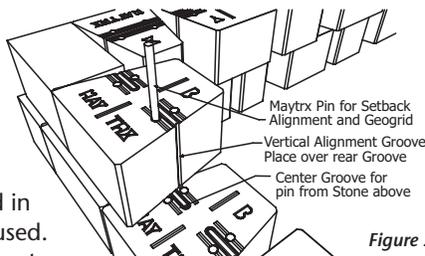
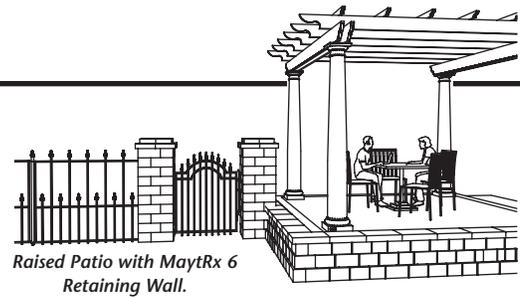
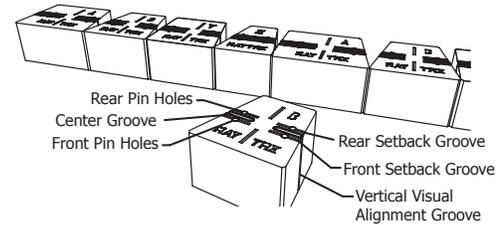


Figure 2



Raised Patio with MaytRx 6 Retaining Wall.



Second Layer

The corner is turned 90 degrees. Install wallstones with “longest” faces out for most engineered and landscape retaining walls. See Figure 3.

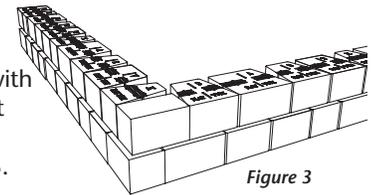


Figure 3

Note:

- Landscape retaining walls less than 36 inches high use the visual alignment system.
- Engineered walls use pins to anchor geogrid and provide alignment.

Use Of Geogrid

Bidirectional geogrid may be used to save time in some situations such as corners. Engineered reinforced retaining walls require that taut geogrid be placed between layers of compacted select soil backfill. See Figure 4. The pins that extend through the geogrid at the front or stone face of the wall hold the geogrid in place preventing the grid from slipping out from under the single layer of wallstones as the grid is pulled taut and staked at the back of the wall (i.e. the select soil backfill area). This is the only time the pins tie to geogrid, which is critical.

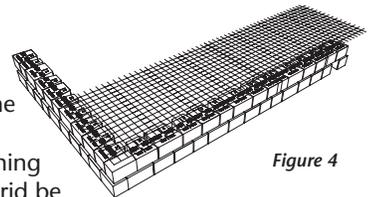


Figure 4

After the full wall is completed, the load of the concrete MaytRx wallstones is the downward force that holds the geogrid in place. Pins are not a factor in geogrid pullout as tests have shown. There are geogrid placement tables for basic soil types on cambridgepavers.com.

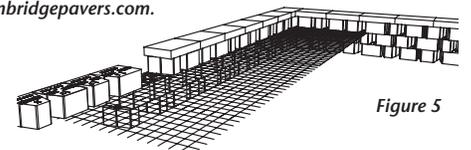


Figure 5

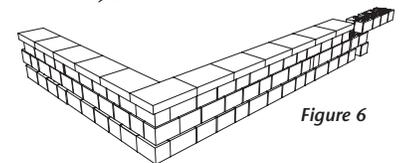


Figure 6



Installation Instructions: MaytRx® Double-Sided Wall With Jumper

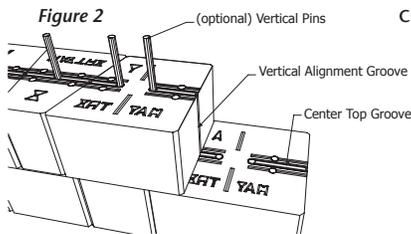
Freestanding fences or barrier walls can be built, finished on both sides, with the MaytRx Wall System. The flexibility of the MaytRx System allows for a modified cap stone, 11 inches deep, to be placed vertically at random locations in the wall resulting in a 3-D appearance on both sides of a freestanding wall.

Shown is a MaytRx Double-Sided Wall with modified Cambridge 13-inch Cap as the "Jumper". The jumper is created by taking a Cambridge Double-Sided Cap and splitting 2 inches from the face and cutting 5/16 inch with a masonry saw from one of the sides. The modifications to the cap will allow a 1/2-inch protrusion from the jumper on both sides in the 10-inch deep MaytRx wall and maintain a height equal to 2 MaytRx wallstones at a nominal 12-inch height.

Layer 1

Place the vertical jumpers randomly to highlight the wall. The example of the first layer is for illustration purposes only. In the field you might not want such a mechanical pattern. See Figure 1.

Note: With MaytRx 6-inch wallstones, use the MaytRx 6-inch Corner. Stretcher Stones may also be used in combination with MaytRx.



Alignment

Visual vertical alignment utilizes the vertical alignment groove on the side of each MaytRx & Stretcher Stone with

the center of the top groove. The marking on the top of the wallstones will also line up on straight runs.

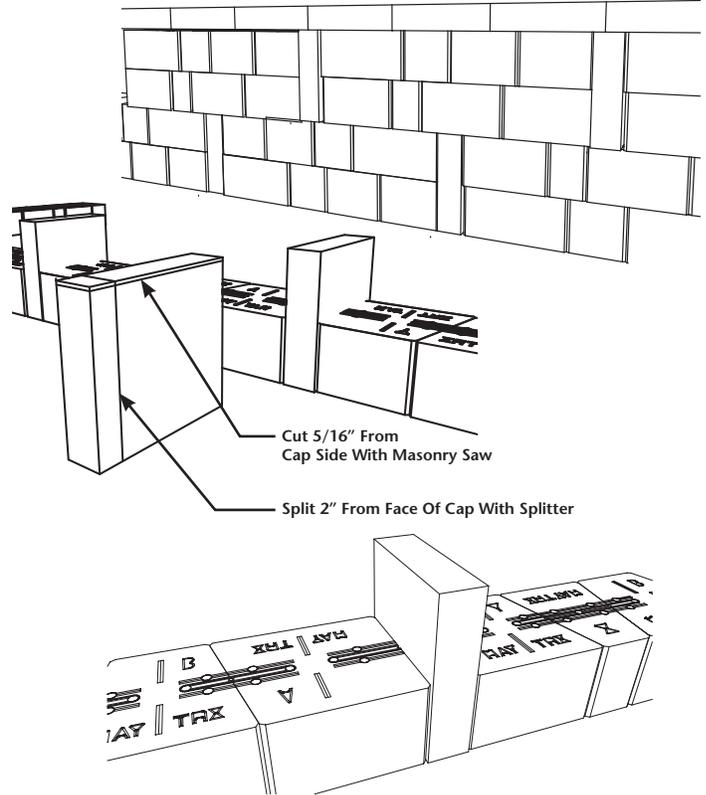
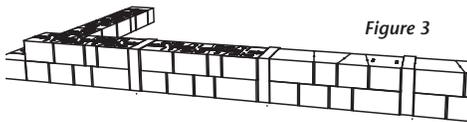
Note: MaytRx & Stretcher Stone use a visual alignment system for vertical or setback walls that do not require geogrid by either:

- Aligning a vertical side line with a top setback line for setback for the purpose of setting back each layer.
- Aligning the vertical line with the center groove for vertical wall projects, as shown above.

In situations where geogrid is to be used or a positive connection and alignment must be maintained, optional "pins" are available for setback or vertical positioned walls.

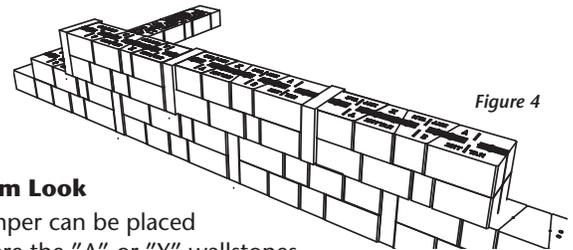
Layer 2

Fill in between the jumpers keeping a "Y" or "A" next to the vertical wallstone. Watch the bond line of the wallstone below on both sides. If necessary, turn the stone over to achieve your objective. See Figure 3.



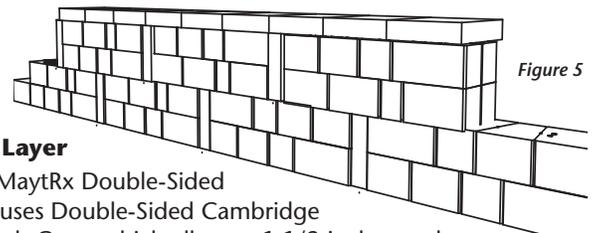
MaytRx Stone Layout With Jumper

Make sure the jumper sits between two wallstones with smooth 90-degree sides ("A" or "Y"). Choose more or less of a reveal by trimming jumpers accordingly. Apply adhesive to the jumper.



Random Look

The jumper can be placed anywhere the "A" or "Y" wallstones can be joined to the vertical wallstone, creating a random look to the wall. See Figure 4.



Cap Layer

The MaytRx Double-Sided Wall uses Double-Sided Cambridge 13-inch Caps, which allows a 1 1/2-inch reveal. A cap stone can be turned into a corner cap by striking a mark 2 inches from the end and using a chisel or splitter to split the piece away. This will create a cap layer with corner. See Figure 5.

SECTION 5: CAMBRIDGE WALL PRODUCTS

Installation Instructions: MaytRx® 6-Inch Single-Sided Wall With Jumper

Build setback walls (single-sided walls lower than 36 inches) with two different wallstones set in the upright position, referred to as jumpers. MaytRx “A” wallstone and Cambridge 13-inch Cap can be used as jumpers. The vertical random placement of these wallstones allows the installer to design the face appearance of the wall as it is being built.

Setting The “A” Wallstone

The MaytRx “A” wallstone is set with the square side down when used vertically.

This gives a solid face on the front of the retaining wall. A small open area on the back of the retaining wall will be filled with backfill rock. Setting the “A” wallstone vertically will require a modification to the setback. The vertical wallstone will be set back further in the lower layer of the two layers. It is set in because the vertical wallstone will be covering two layers of wallstones.

The two layers will have the normal 3/4-inch setback for each layer. The vertical wallstone will have a 1-1/8 inch set back rather than 3/4 inch. If you are not using pins in the layers adjoining the first two layers of the jumper, turn over the bottom wallstones so no markings are visible. Note: Keep proper alignment if wallstones are flipped. See Figure 1.

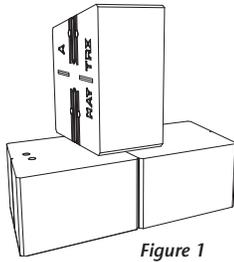


Figure 1

Create A Stable Layer Above Jumper

Use the MaytRx “A” or “Y” wallstone above the vertical wallstone so it spans across the top and provides a stable layer above the vertical wallstone. See Figure 4.

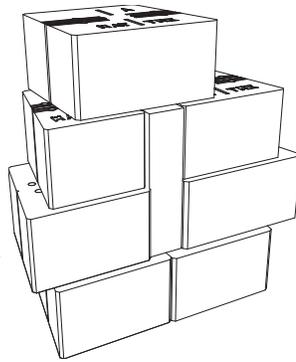


Figure 4

Module 2 The Cambridge 13-inch Caps installed vertically in a setback.

A Cambridge 13-inch Cap can be used vertically in walls less than 36 inches high to add an additional wallstone dimension.

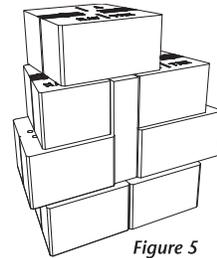


Figure 5

These cap jumper modules can be placed randomly in the wall alone or in combination with the MaytRx “A” jumper module. See Figure 5.

Make the cap jumper with Cambridge 13-inch Double-Sided Cap by cutting 5/16 inch with a masonry saw from one of the sides.

The modifications to the cap will maintain a height equal to two MaytRx wallstones at nominal 12-inch height. See Figure 6.

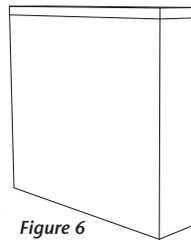


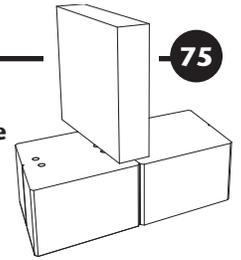
Figure 6

Random Look

The jumper modules can be placed anywhere the “A” or “Y” wallstones can be joined to the vertical wallstone for a random appearance.

Layer 1. Wallstone Layout With Cap Jumper Module

- The Cambridge 13-inch Cap is set with the cut side down when used vertically. This gives a solid face on the front of the retaining wall.
- The extra length of the wallstone on the back of the retaining wall will serve as additional stability and it will be covered with the backfill rock.
- Setting the cap stone vertically will require a modification to the setback. The vertical wallstone will be set back further in the lower layer of the two layers because it will be covering two layers of wallstones.
- The two layers will have the normal 3/4-inch setback for each layer.
- The vertical wallstone will be setback 1 1/8 inch rather than 3/4 inch.
- If you are not using pins in the layers adjoining the first two layers of the jumper, turn over the bottom wallstones so that markings are not visible.



Note: Keep proper alignment if wallstones are flipped.

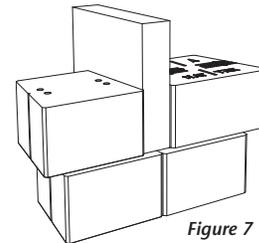


Figure 7

Layer 2

Be sure the jumper sits between

wallstones with smooth 90-degree sides (“A” or “Y”). Watch the bond line of the wallstone below on both sides. Apply adhesive. See Figure 7.

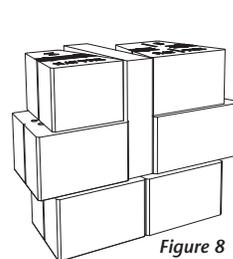


Figure 8

The MaytRx “B” and “X” wallstone can now be used on the second layer of the vertical module. See Figure 8.

Use the MaytRx “A” or “Y” wallstone above the vertical wallstone so it spans across the top and provides a stable layer above the vertical wallstone. See Figure 9.



Figure 9

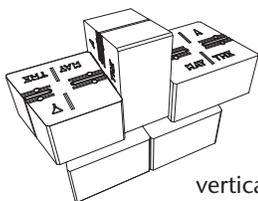


Figure 2

Setting “A” Or “Y” Wallstones

Set MaytRx wallstones “A” or “Y” next to

vertical wallstones with square sides facing the vertical wallstone. See Figure 2.

Second Layer

Use MaytRx wallstones “B” and “X” on the second layer of the vertical module. See Figure 3.

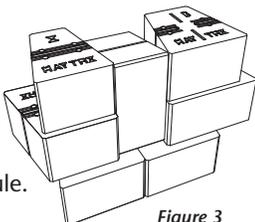


Figure 3



Installation Instructions: Setting MaytRx ABXY on Long Runs to Avoid Joint Stacking

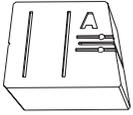


Figure 1

The new A stone can be split at the two inch or the halfway mark.

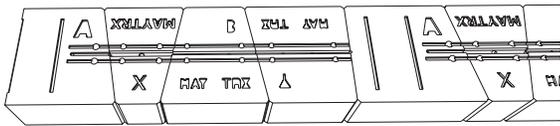


Figure 2

When building a wall start at the end. Begin with an A stone split at the two inch mark, followed by X, B, and then a Y stone. Continue the course with all four stones in the same order (AXBY). See Figure 2.

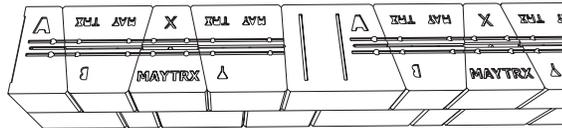


Figure 3

On the next course, start with an A stone split at the halfway mark, followed by B, X, then a Y stone. Continue the course with all four stones in same order (ABXY). See Figure 3.

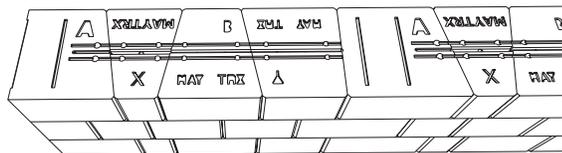


Figure 4

On all subsequent courses, odd courses are the same as the first course (AXBY) and even courses are the same as the second course (ABXY). See Figure 4.

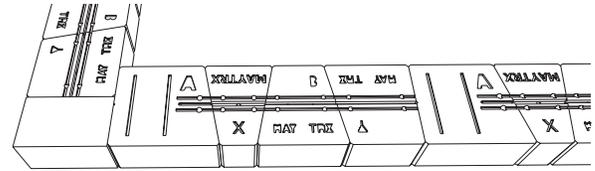
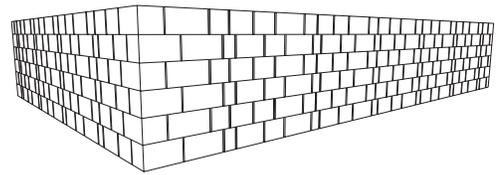


Figure 5

When building a wall starting with a corner, start with a corner turned so the long face is out, followed by Y, X, B, and then an A stone. Placing the A stone last will allow a wall to be built from the corner that can end with split A stones. Continue the course with all four stones in the same order (AXBY). See Figure 5.

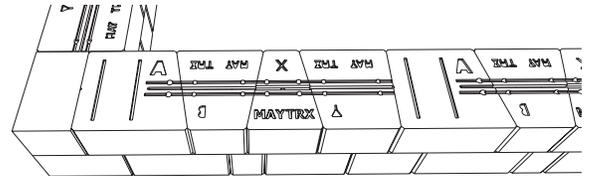


Figure 6

On the next course, start with a corner stone turned so the short face is out, followed by Y, X, B, and then an A stone. Continue the course with all four stones in the same order (ABXY). See Figure 6.

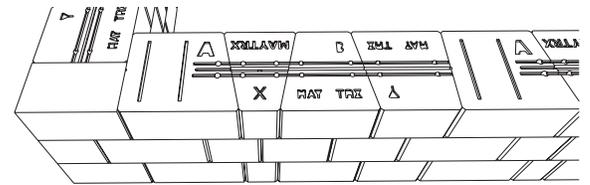


Figure 7

On all subsequent courses, odd courses are the same as the first course (AXBY) and even courses are the same as the second course (ABXY). See Figures 6 and 7.

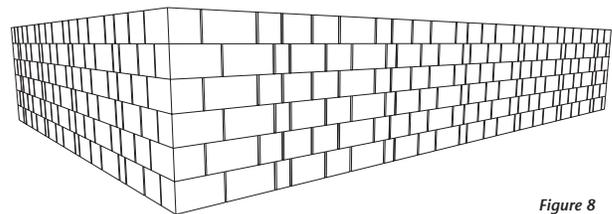


Figure 8

Note:

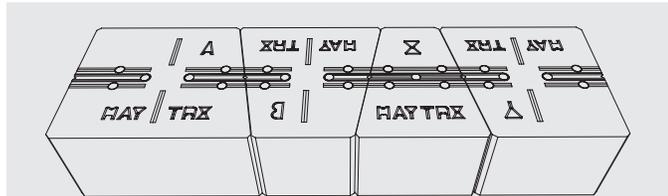
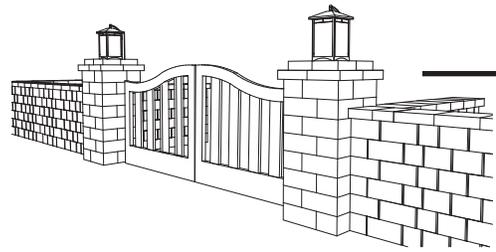
All courses that start with a long end of wall or the long face of a corner should have all four stones in the order AXBY, and all courses that start with a short end of wall or the short face of the corner should have all four stones in the order ABXY.

SECTION 5: CAMBRIDGE WALL PRODUCTS

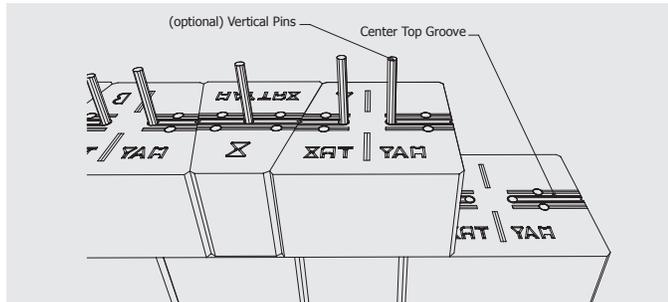
Installation Instructions:

MaytRx® 6-Inch Double-Sided Vertical Wall

Shown is a Cambridge MaytRx 6-inch Double-Sided Wall with Cambridge Column Kits.



Use any combination of A, B, X or Y. The pallet contains equal amounts of each wallstone. **Note:** MaytRx wallstones can be turned upside down to fit in a random pattern, which is acceptable in the double-sided configuration.



MaytRx 6" Pin Placement in Vertical Freestanding Walls:

Place the 6 1/2" long MaytRx pins into the vertical (center) hole and let them drop into the center groove of the wallstone below. When the pin is in the hole, check the visual side groove to confirm the wall is centered on the center groove of layer below.



Layer 1

Set the corner wallstones first and then work from the corner out in both directions. **Tip:** MaytRx and Stretcher Stone Walls are compatible and have a similar visual alignment system. See Figure 1.

Note: MaytRx 6 wallstones use the Cambridge 6-inch Corner. Stretcher wallstones may also be used in combination with MaytRx.

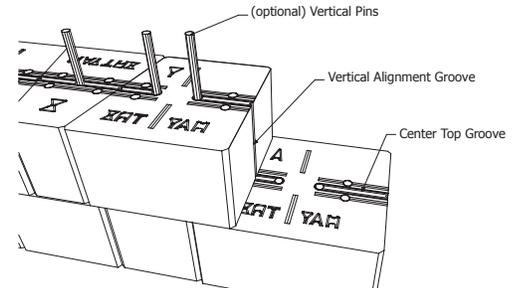


Figure 2

Layer 2. Vertical Visual Alignment

Note: The MaytRx and Stretcher Stone use a visual alignment system (see Figure 2) for vertical or setback walls that do not require geogrid by either:

- Aligning a vertical side line with a top setback line for setback.
- Aligning the vertical line with the center groove for vertical wall projects.

In situations where geogrid is to be used or a positive connection and alignment must be maintained, optional "pins" are available for setback positioned walls.

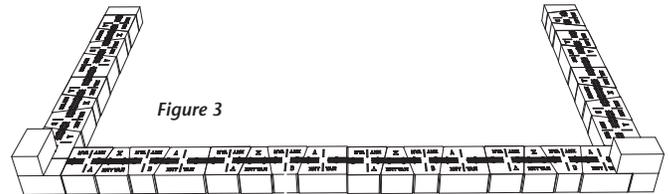


Figure 3

Layer 2. Corner

Set the corners on each end of the wall with the wallstones turned 90 degrees from the corner wallstone. Apply adhesive and glue to the wallstones below. See Figure 3.

Note: Never cut the corner wallstone.

- Measure the distance between the corner wallstone and the next full wallstone on each side. This is called an adjustment wallstone used to keep the wall bond running correctly.
- MaytRx "A" and "Y" wallstones can be used next to the corner adjustment wallstones, which are cut to fill a gap. They don't need to be next to the corner with a more random wall pattern.

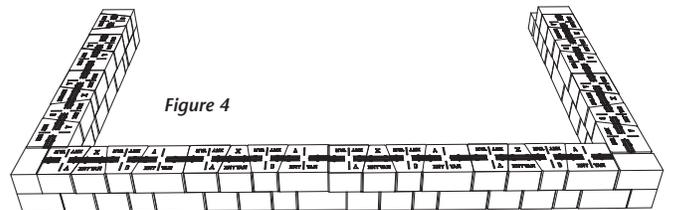


Figure 4

Layer 2

See Figure 4.



MaytRx® 6-Inch Double-Sided Vertical Wall (Continued)

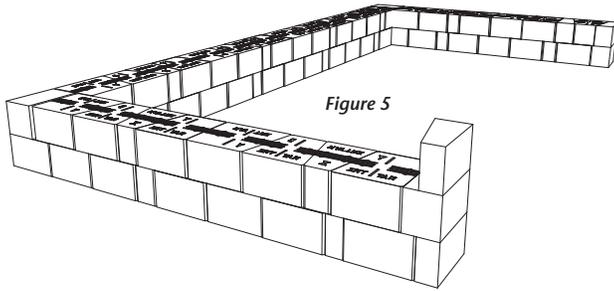


Figure 5

Layers 1 And 2

At the end of the wall is a finished termination, which is created by splitting a MaytRx wallstone along the top split line, creating two half wallstones that will be used at the end of the wall for a finished look. Alternate the orientation of this "end" piece to stagger bond lines with the wallstone below. See Figure 5.

Note: A, B and Y MaytRx wallstones may be split for this feature as well.

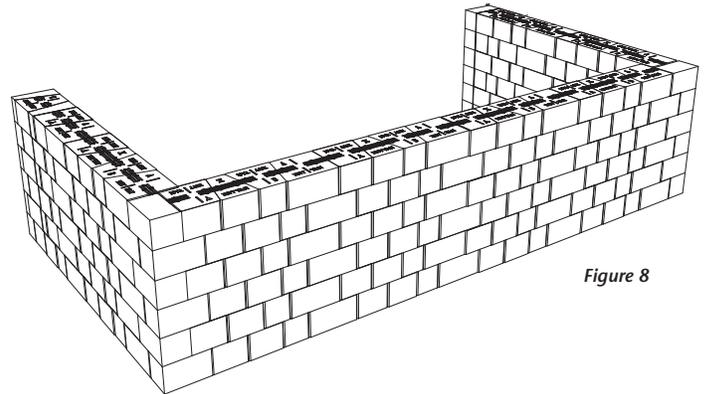


Figure 8

Repeat

The formula of first and second layer configuration is repeated until the desired height is achieved. See Figure 8.

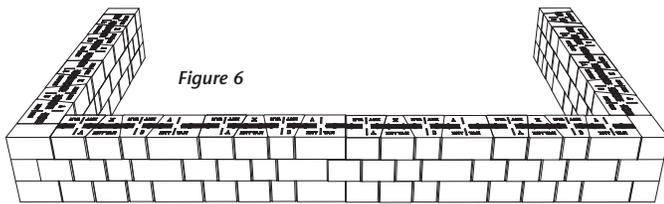


Figure 6

Layer 3

The third layer will repeat the first layer. All odd numbered layers will be the same as the first layer (1, 3, 5, 7, 9, etc). See Figure 6.

Note: Odd number layers are laid out like first layer. Even numbers always resemble the second layer.

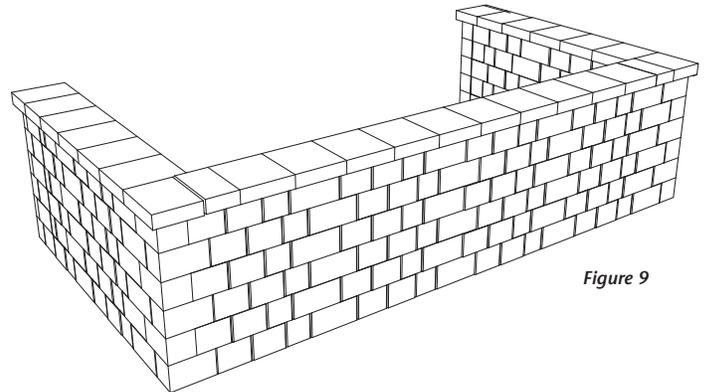


Figure 9

Cap Layer

The MaytRx Double-Sided Wall uses the Cambridge 13-inch Double-Sided Caps. The MaytRx wallstones measure 10 inches deep. This allows a 1 1/2 inch reveal on all edges. To create a cap layer with corner, a cap can be turned into a corner cap by striking a mark 2 inches from the end and using a chisel or splitter to split the piece away. See Figure 9.

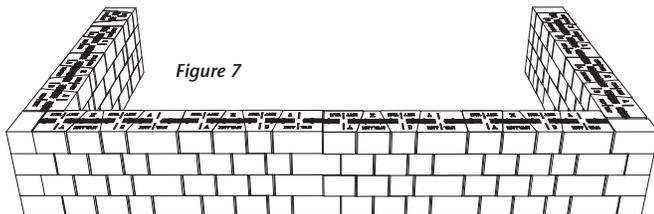


Figure 7

Layer 4

The fourth layer will repeat the second layer. All even numbered layers will be the same as the second layer (2, 4, 6, 8, 10, etc). See Figure 7.

**Installation Instructions:
MaytRx 6 - "A" stone for
End of Wall or Corner**

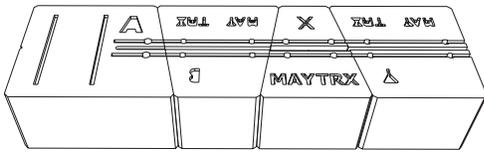


Figure 1

The MaytRx A stone is part of the 4 stone set. The A stone can be split in the field to make corners for End of Wall termination. There are 20 A stones in each cube of MaytRx 6. See Figure 1.

There are two splitting guide grooves on the top of the A Stone. The one closest to the edge is used for end of wall and the second groove is for making a corner and can also be used for the end of wall. See Figure 2.

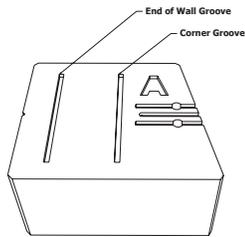


Figure 2

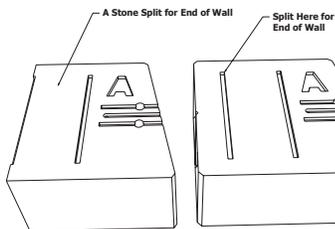


Figure 3

To create the end of wall stone, score the stone using the groove shown and split with a splitter or hand chisel. See Figure 3.

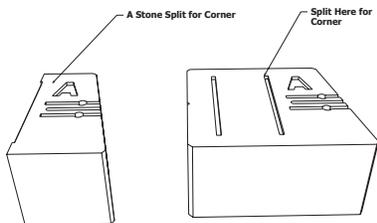


Figure 4

To create the field split corner, score the stone using the groove shown and split with a splitter or hand chisel. See Figure 4.

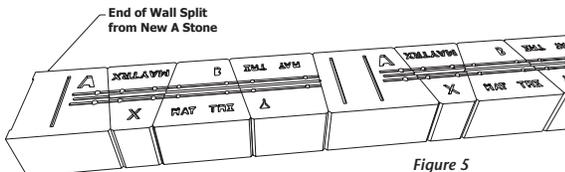


Figure 5

The end of wall stone after splitting (Layer 1) See Figure 5.

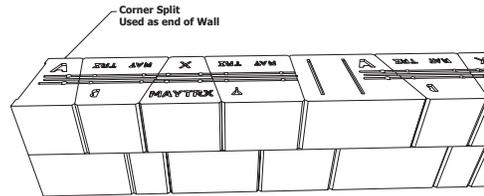


Figure 6

The field split corner stone after splitting used for the second layer of end of wall (Layer 2) See Figure 6.

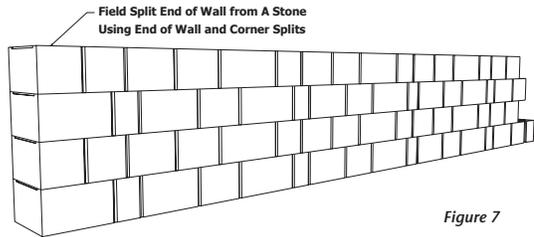


Figure 7

By repeating the previous step illustrated you will achieve a texture end to the wall. Note: If texture is Renaissance, lightly tap the edges of the fields split face with a hammer to duplicate the texture of the other faces. See Figure 7.

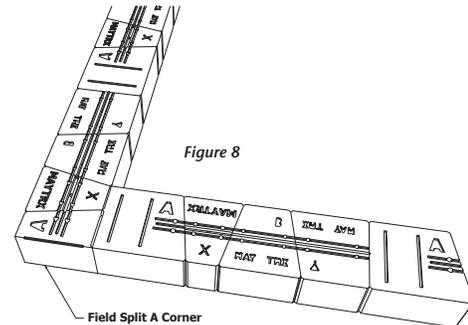


Figure 8

A field split corner can be used as shown in Figure 8. Note: One face of the corner will be textured where it meets the finished side of another stone. Trim these edges so the stones meet with no gaps.

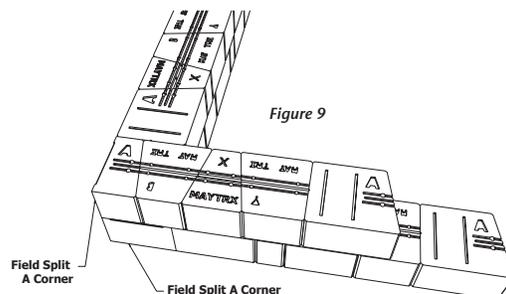


Figure 9

The field split corner is turned 90 degrees for the next layer. See figure 9. Repeat for even and odd layers.



Installation Instructions: Cambridge Stretcher Stone Double-Sided Wall

Shown is a Cambridge Stretcher Stone Double-Sided Wall with Cambridge Pre-Packaged Column Kits.

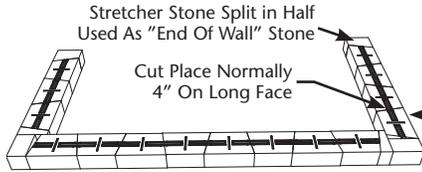


Figure 1

Layer 1

Set the corner wallstone first, then work from the corner out in both directions utilizing the MaytRx 6-inch Corner. See Figure 1.

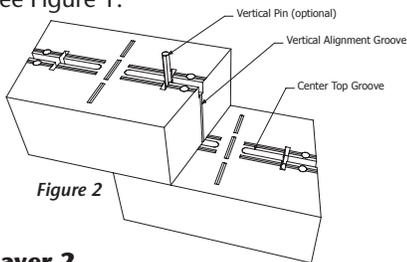


Figure 2

Layer 2 Vertical Visual Alignment

The vertical alignment groove on the side of each Stretcher Stone is utilized for vertical visual alignment with the center of the top groove. The marking on the top of the wallstones will also line up on straight runs. See Figure 2. MaytRx & Stretcher Stone use a visual alignment system for vertical or setback walls that do not require "geogrid" by either:

- Aligning a vertical side line with a top setback line for setback for the purpose of setting back each layer.
- Aligning the vertical line with the center groove for vertical wall projects. See Figure 2.

In situations where geogrid is to be used or a positive connection and alignment must be maintained, optional "pins" are available for vertical positioned walls

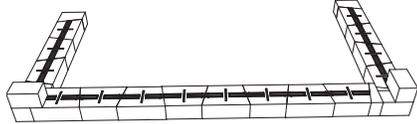


Figure 3

Layer 2. Corner

Set the corners on each end of the wall with the wallstone turned 90 degrees from the corner wallstone. See Figure 3. Apply adhesive to the wallstones below.

Cambridge Corner Stone

(Layer 2 Continued)

Never cut the corner wallstone. Once the wallstones have been set for the second layer, the distance remaining between the last full wallstone in each direction and the corner will be the only cuts needed. These are called adjustment wallstones.

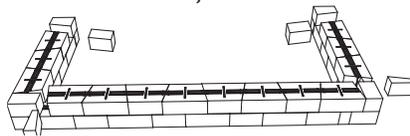


Figure 4

Layer 2 Corner And Adjustment Wallstones

Cut the wallstones to fit between the corner and the full Stretcher Stones. Glue these adjustment wallstones into place. Walls that do not terminate into a corner require an adjustment wallstone cut to fill the gap between the corner and the last full wallstone (length to be determined in the field). See Figure 4.

Tip:

Follow the illustration as to the orientation of the Cambridge 6-inch Corner. When a "long face Stretcher Stone" starts at a "short face corner" in a pattern, a 4-inch adjustment wallstone cut from a Stretcher Stone is needed where the layer terminates.

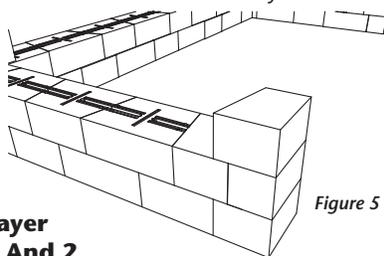


Figure 5

Layer 1 And 2 (All Layers). End Of Wall (Finished Termination)

The end of the wall is a finished termination supplied by splitting a Stretcher Stone along the top split line, creating two half wallstones that will be used at the end of the wall for a finished look. Alternate the orientation of this end piece to stagger bond lines with the wallstone below. See Figure 5.

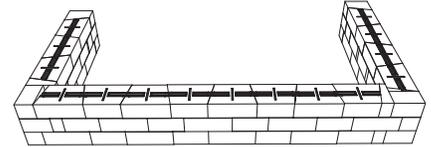
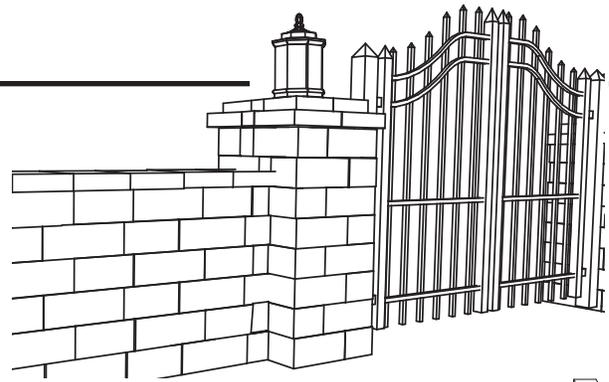


Figure 6

Layer 3

The third layer is a repeat of the first layer. All odd numbered layers will be the same as the first layer (1, 3, 5, 7, 9, etc.). See Figure 6.

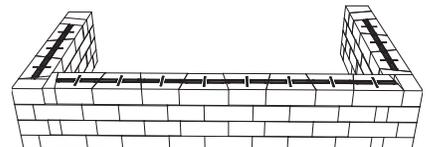


Figure 7

Layer 4

The fourth layer is a repeat of the second layer. All even numbered layers will be the same as the second layer (2, 4, 6, 8, 10, etc.). See Figure 7.

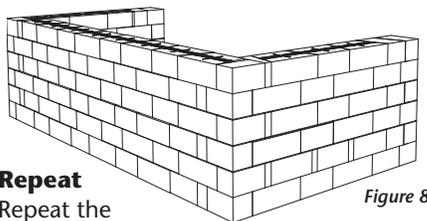


Figure 8

Repeat

Repeat the formula until the desired height is achieved. See Figure 8.

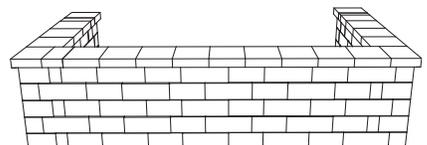


Figure 9

Cap Layer

The Stretcher Double-Sided Wall uses Cambridge 13-inch Double-Sided Caps, which allows a 1 1/2-inch reveal on all edges. A cap wallstone can be turned into a "corner cap" by striking a mark 2 inches from the end and using a chisel or splitter to split the piece away. This will create a cap layer with corner.

Note: See Page 62, 63, 73, 74, 77 and 82 for information on pin placement.

Installation Instructions: Cambridge Stretcher Stone Single-Sided Wall

The base is an important part of any retaining wall. The wall shown in these diagrams should be considered a landscape wall as it is only 21 inches high and in normal situations does not need to be reinforced with geogrid or approved by a design professional. Check with the local building department for the regulations that cover the wall being built. Refer to the "Basic Retaining Wall" area of this handbook for design criteria. Normally, the first layer of the wall is set 1 inch below the surface for every foot of height that will be exposed above the grade, on top of a 6-inch crushed stone leveling pad base that is compacted every 2 inches during installation. Drainage is very important.

The Stretcher Stone Visual Alignment

The Stretcher System uses a visual alignment method for vertical or setback walls that do not require "geogrid" by aligning a vertical side line with a rear top face line for setback or aligning the vertical line with the center groove for vertical wall alignment. In a situation where geogrid is to be used or a positive connection and alignment must be maintained, optional "pins" are available. See Figure 1.

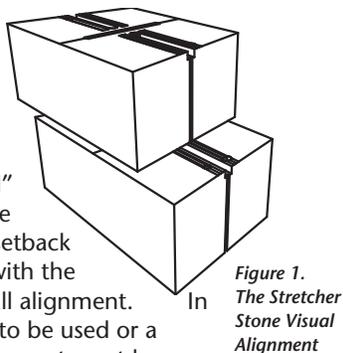


Figure 1.
The Stretcher Stone Visual Alignment

Install Layers

Install layers as indicated below.

Layer 1.

Set the corner stone first. then work from the corner out in both directions.

Note: Stretcher and Maytrx 6-inch wallstones use the Maytrx 6-inch Corner. See Figure 2.

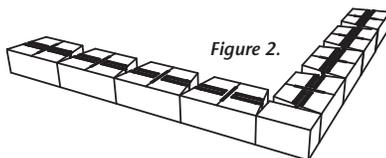


Figure 2.

Layer 2. Setback with Pins

Set the wallstones as shown for the second layer. Keep them level and plumb and match the end of a wallstone with the middle of the wallstone below (running bond). Stretcher Stone has two holes for the front or rear face of the wallstone to be connected to the wallstones below creating a 3/4-inch setback. Place the pin in the hole and allow it to protrude into the center groove of the wallstone below then pull forward to set the correct alignment. If you are not using pins, use the visual alignment method described above. See Figure 3.

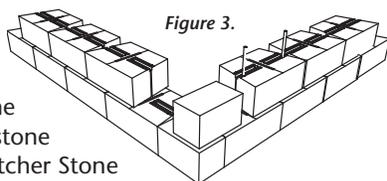
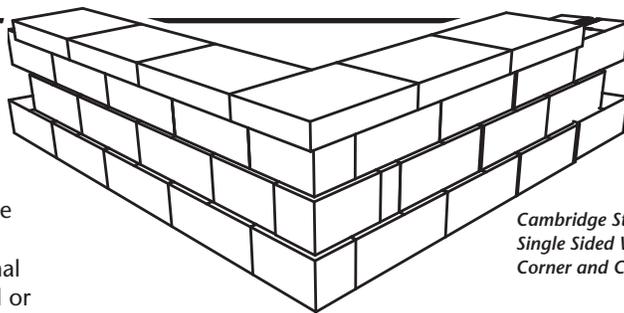


Figure 3.



Cambridge Stretcher Stone Single Sided Wall with Corner and Cap

Layer 2. Corner

Set the corner with a 3/4-inch setback on the front face edges and glue to the wallstones below with retaining wall grade adhesive. Note: Never cut the corner wallstone. Measure the distance between the corner wallstone and the next full Stretcher Stone on each side. See Figure 4.

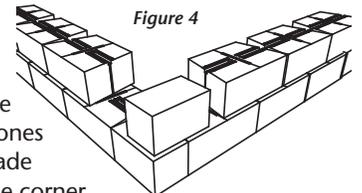


Figure 4

Layer 2. Corner And Adjustment Wallstone

Cut the stones to fit between the corner and the full Stretcher Stones. Glue these adjustment wallstones in place if a pin cannot be used. Maintain the 3/4-inch setback the same as the other Stretcher Stones. **Note:** If the distance between the corner and the next full wallstone is too short, cut two wallstones instead of placing the "sliver", which would have been the only option if one wallstone was used.

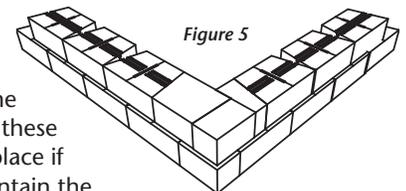


Figure 5

Layer 3

Install the corner wallstone in same orientation as first layer. Cut adjustment wallstones next to the full wallstones and the corner as each layer will adjust 3/4-inch due to setback on each side of the corner. Proceed up as many layers as needed following these instructions. See Figure 6.

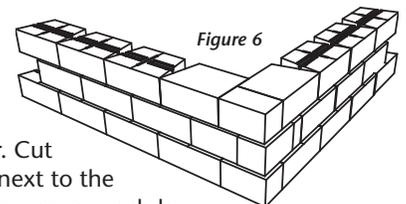


Figure 6

Layer 4. Cap Layer

The Stretcher Stone Single-Sided Wall uses the Cambridge Large Cap. The cap stones are 12 inches deep while the Stretcher Stones are 10 inches deep creating a 2-inch reveal (overhang) on the front edges. A cap stone can be turned into a corner cap by striking a mark 2 inches from the end and using a chisel to split the piece away. This will create a cap layer with corner. See Figure 7. **Note:** This is not for a double-sided free standing wall. That layout is covered in another set of instructions.

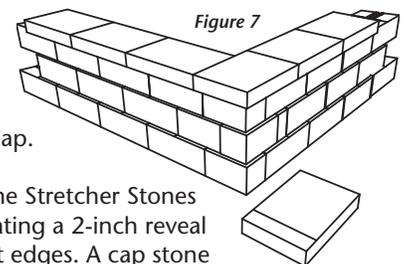
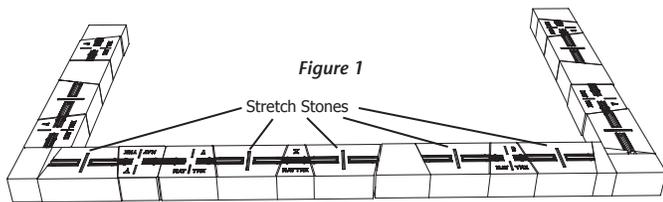
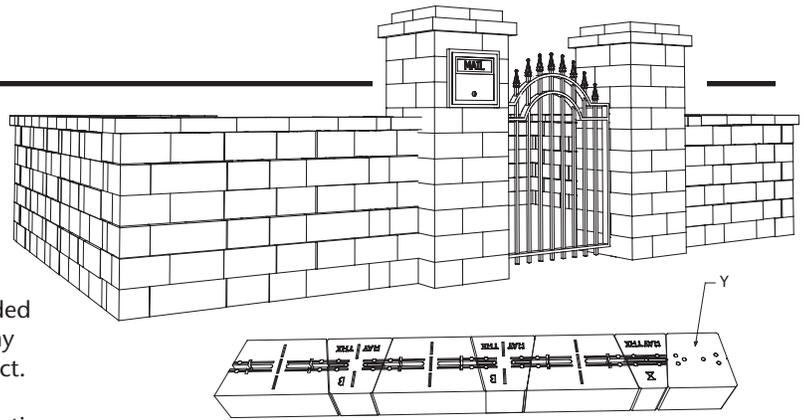


Figure 7

Installation Instructions: MaytRx® 6-Inch And Stretcher Stone Double-Sided Wall

Cambridge MaytRx 6-inch and Stretcher Stone Double-Sided Wall with Cambridge Column Kits are shown top right. Any combination of these wallstones can be used for this project. The MaytRx "Y" wallstone is turned upside down in the illustration, which is acceptable in a double-sided configuration.



Layer 1

Set the corner wallstones first then work from the corner out in both directions. Above we are using a one Stretcher Stone to one MaytRx 6-inch wallstone pattern. This equals about 65% Stretcher Stone and 35% MaytRx to give us a more random look. MaytRx 6-inch and Stretcher Stones are compatible and have a similar visual alignment system. See Figure 1.

Note: Stretcher Stone & MaytRx 6-inch wallstones utilize the MaytRx 6-inch Corner.

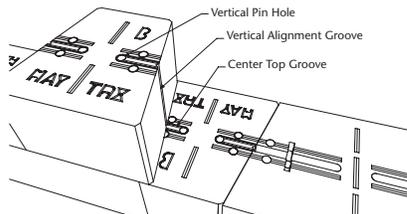


Figure 2

Vertical Visual Alignment

Visual vertical alignment utilizes the vertical alignment groove on the side of each MaytRx 6-inch & Stretcher Stone with the center of the top groove. The marking on the top of the wallstones will also line up on straight runs.

Note: See Figure 2. The MaytRx 6-inch & Stretcher Stone use a visual alignment system for vertical or setback walls that do not require "geogrid" by either:

- Aligning a vertical side line with a top setback line for setback.
- Aligning the vertical line with the center groove for vertical wall projects, as we will illustrate here. In situations where geogrid is to be used or a positive connection and alignment must be maintained, optional "pins" are available for setback positioned walls.

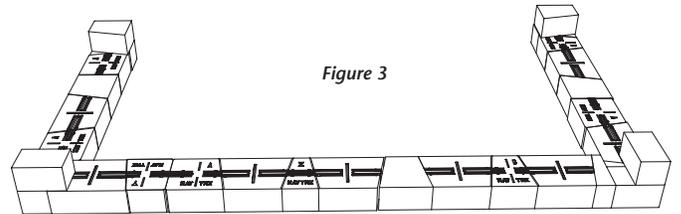


Figure 3

Layer 2. Corner

Set the corners on each end of the wall with the wallstone turned 90 degrees from the corner wallstone gluing to the wallstones below with adhesive. See Figure 3.

Note: Never cut the corner wallstone.

- Measure the distance between the corner wallstone and the next full wallstone on each side. This is called an adjustment wallstone to keep the wall bond running correctly.
- MaytRx "A" and "Y" wallstones can be used next to the corner; adjustment wallstones cut to fill a gap need not be next to the corner with this more random wall pattern.

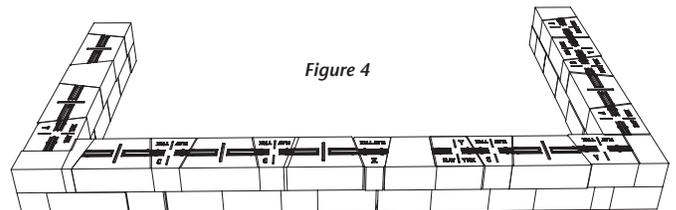


Figure 4

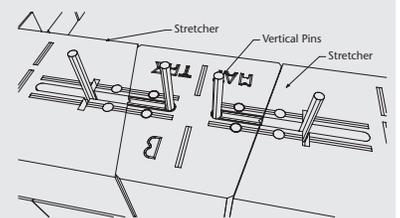
Layer 2. Complete

See Figure 4.

MaytRx 6-Inch Pin Placement in Vertical Freestanding Walls:

MaytRx wallstones include a pin hole for vertical alignment and securing geogrid.

Although optional in the double-sided configuration, they may also be used for additional interlock. Place the 6 1/2-inch long MaytRx Pins into the vertical (center) hole and let them drop into the center groove of the wallstone below. When the pin is in the hole, check the visual side groove to confirm the wall is centered on the center groove of layer below.



MaytRx® 6-Inch And Stretcher Stone Double-Sided Wall (Continued)

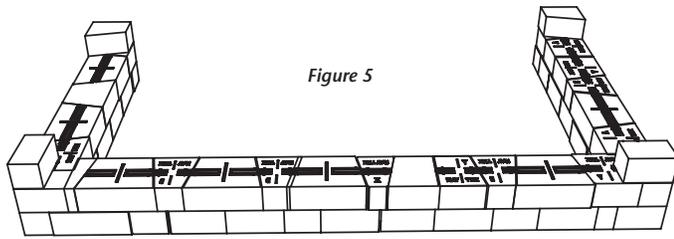


Figure 5

Layer 1 And 2

At the end of the wall is a finished termination created by splitting a Stretcher Stone along the top split line, creating two half wallstones that will be used for a finished look. Alternate the orientation of this “end” piece to stagger bond lines with the wallstone below. See Figure 5.

Note: MaytRx wallstones may be split for this feature as well.

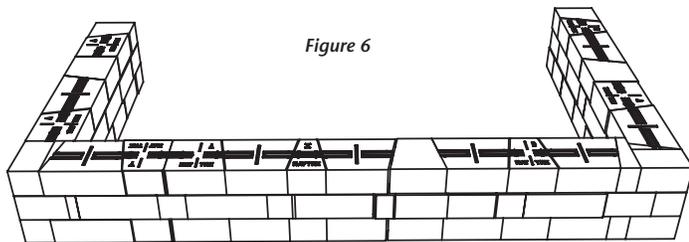


Figure 6

Layer 3

The third layer will repeat the first layer. All odd numbered layers will be the same as the first layer (1, 3, 5, 7, 9, etc.). See Figure 6.

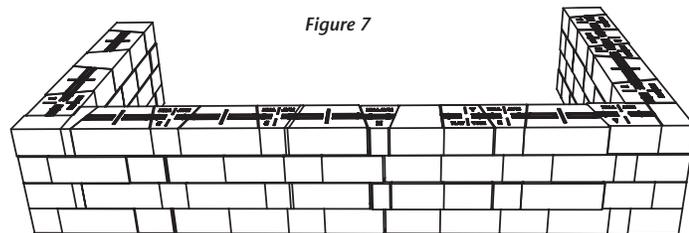


Figure 7

Layer 4

The fourth layer will repeat the second layer. All even numbered layers will be the same as the second layer (2, 4, 6, 8, 10, etc.). See Figure 7.

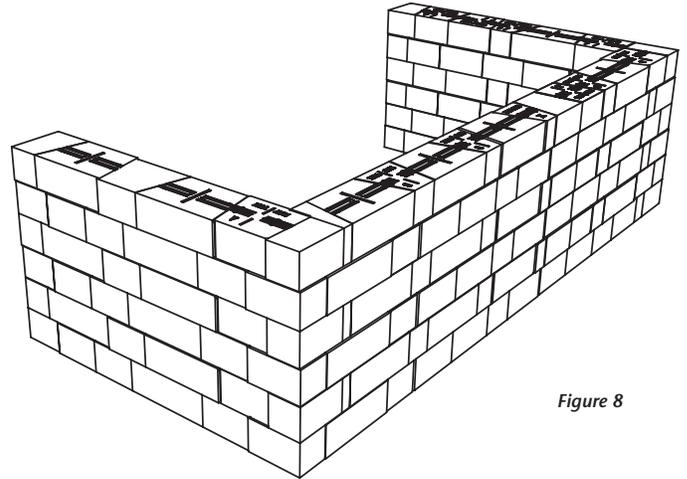


Figure 8

Repeat

Repeat the formula of first and second layer configuration on the odd or even numbered layers that follow until you achieve your desired height. See Figure 8.

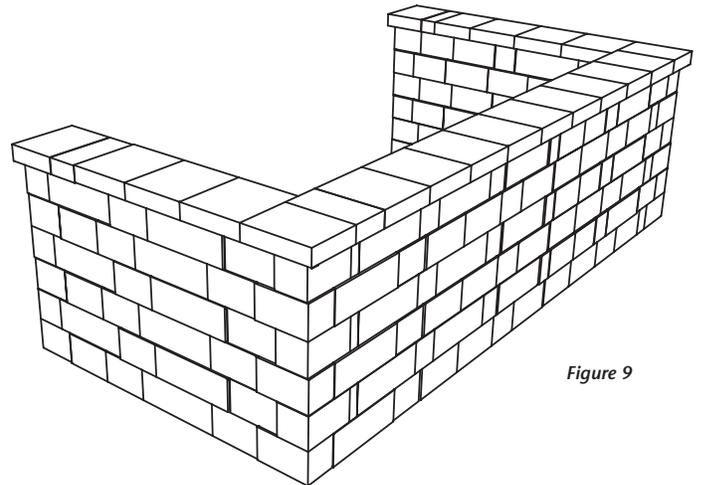


Figure 9

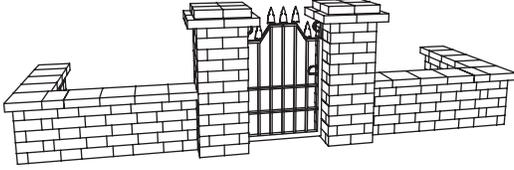
Cap Layer

The MaytRx & Stretcher Stone Double-Sided Wall uses Cambridge 13-inch Double-Sided Caps. Stretcher Stone wallstones are 10 inches deep. This allows a 1 1/2 inch reveal on all edges. A cap stone can be turned into a corner cap by striking a mark 2 inches from the end and using a chisel or splitter to split the piece away to create a cap layer with corner.

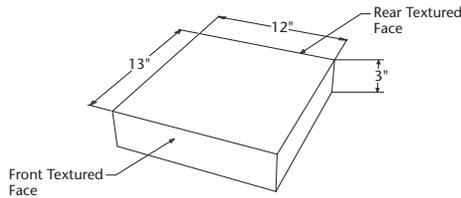


Installation Instructions: Cambridge Cap Options

Cambridge offers solutions (shown here) when adding a finished cap to wall projects.



Shown is a Pyzique freestanding double-sided sitting wall with Cambridge 13-inch Caps, Pyzique Column and Cambridge Pre-Packaged Column Kit Cap and Hat.

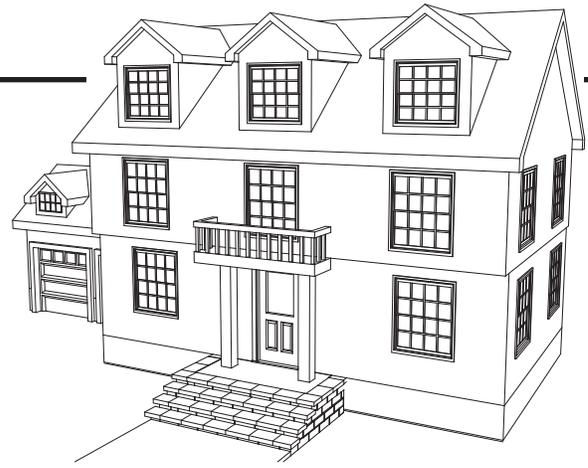
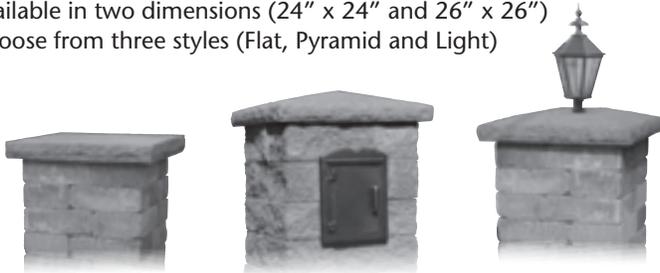


Option 1 Cambridge 13-Inch Double-Sided Cap

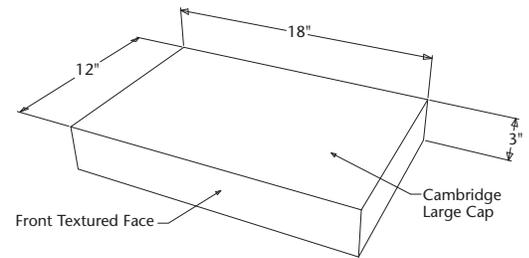
- The Cambridge 13-inch Double-Sided Cap (3H x 13D x 12W) was designed to give a 1 1/2-inch overhang on each side of our 10 inch deep double sided MaytRx and Stretcher Wall Systems.
- Use on Pyzique, MaytRx, and Sigma Wallstones.
- At 3 inches high, the cap also has good proportions with MaytRx 6-inch and 3-inch heights.
- The cap will lend itself well to radius walls that need the strong reveal, as the wallstones in this configuration are hard to cap. The 12-inch length makes it easier to create the radius without as many cuts.
- Use this cap on Sigma walls where the cap will be exposed above the soil. This wallstone may be used to cap the Pyzique garden stone, which allows a 2-inch reveal on each side.
- The Cambridge 13-inch Double-Sided Cap can also be used as a jumper with slight modification in MaytRx Single and Double-Sided Walls.
- The cap makes ideal stair treads especially in situations where low voltage lighting is under the treads.

Option 2 Cambridge Cast Stone Column Caps

- Available in two dimensions (24" x 24" and 26" x 26")
- Choose from three styles (Flat, Pyramid and Light)



Shown are front steps with Cambridge MaytRx Wall System using Cambridge Large Wall Cap as a stair tread.



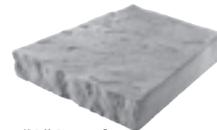
Option 3 Cambridge Single-Sided Large Cap

- The Cambridge Single-Sided Large Cap (3H x 12D x 18W) has the same color and texture as Cambridge Wallstones.
- Use on MaytRx, Stretcher, Pyzique and Sigma Wall Systems.
- The cap works for stair treads and single-sided landscape walls.

Option 4 Cambridge Ledgestone Cast Stone

- From The Crusader Collection with natural looking bluestone clefts.
- Three trapezoidal and one square — are an ideal, textured alternative for pool coping, steps, wall caps and pavingstone borders.
- Straight, curved and serpentine designs can be easily created.

All 12 1/2" Deep • 2 3/8" Thick



"A" Lengths:
11 3/4" • 9 3/8"



"C" Lengths:
18 25/32" • 16 1/2"



"B" Lengths:
15 7/8" • 13 3/4"



"D" Lengths:
19" • 19"

**Installation Instructions:
Using a Cambridge 13" Cap
to make a 45 Degree Corner**

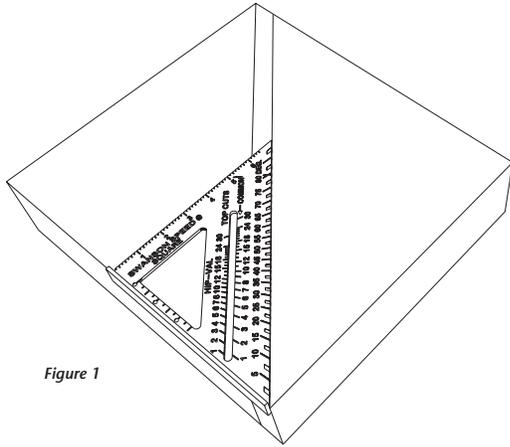


Figure 1

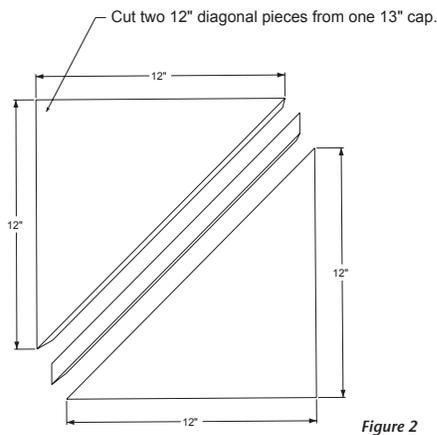


Figure 2

Cut two 12" Pieces at 45 degrees as shown. (It is possible to get both pieces from the same stone but it will require two cuts). See Figures 1 & 2.

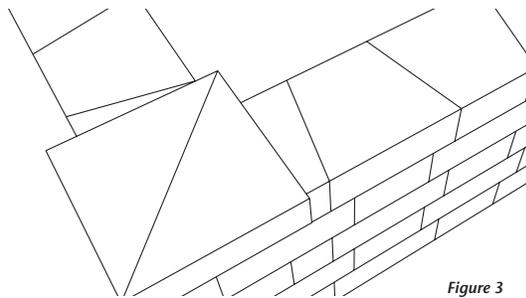


Figure 3

Assemble the corner with the 12" pieces first before adding the full cap row, maintaining the setback on the front. See Figure 3.

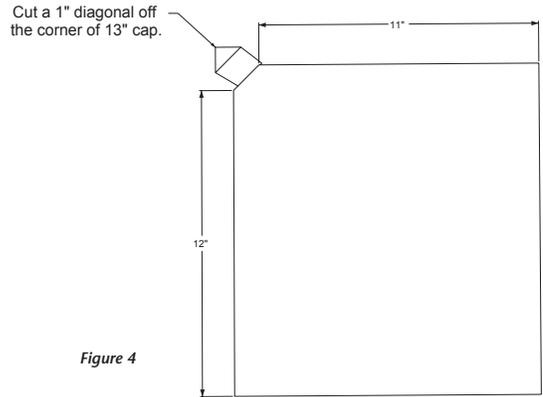


Figure 4

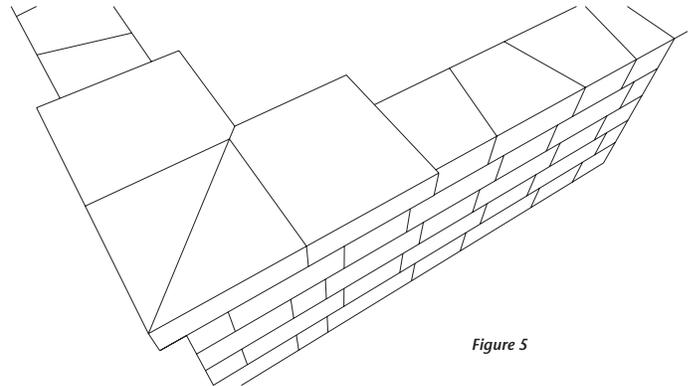


Figure 5

The two stones next to the corner are cut 1 inch at 45 degrees. See Figures 4 & 5.

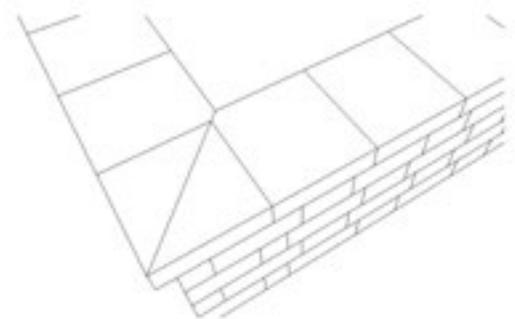


Figure 6

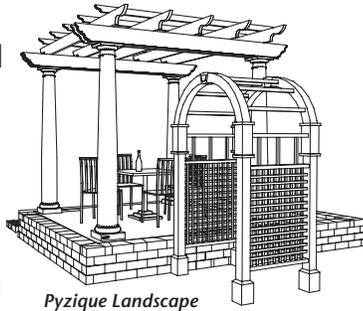
Lay out the remaining wall caps prior to gluing to ensure you are not left with a small piece. This may require a few caps to be trimmed, similar to when laying tile. See Figure 6.

Installation Instructions: Pyzique® Single-Sided Wall

Pyzique wallstone dimensions are:

- Front Face: 4H x 9D x 11L
- Back Face: 4H x 9D x 7L

These two faces allow many types of projects such as free-standing walls, steps, borders, raised planter beds, and Cambridge Pre-Packaged Pyzique Round Barbeque & Fire Pit Kits.

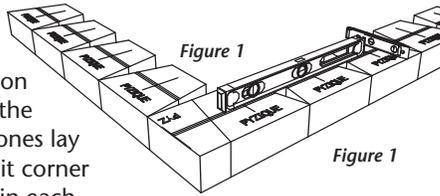


Pyzique Landscape
Single-Sided Setback Wall

This project will outline a retaining or landscape wall.

First Layer

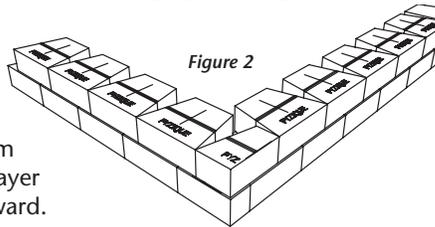
Place the first layer of Pyzique wallstones smooth side down on the prepared base. Be certain the base course is level and wallstones lay flat. Start from the Pyzique split corner and work out from that point in each direction. All long fronts should face forward. See Figure 1.



Note: When joining “texture face” to “texture face” as is required in the corner of this project, it is important to trim any face protrusions that will keep the corner length dimension from changing the length of the layer.

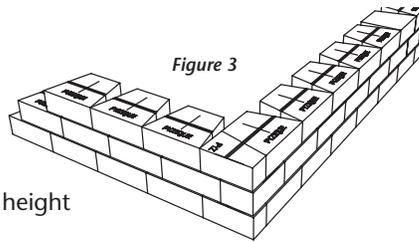
Second Layer

The corner will alternate on every layer. This will be the starting point for each layer. Use the visual alignment system to maintain setback from the layer below. All long fronts face forward. See Figure 2.



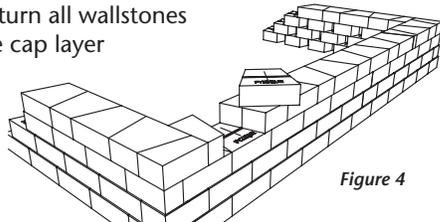
Third Layer

The corner will alternate from the layer below and that will be the starting point for this layer. Continue to alternate the corner and build the wall to the height desired. See Figure 3.



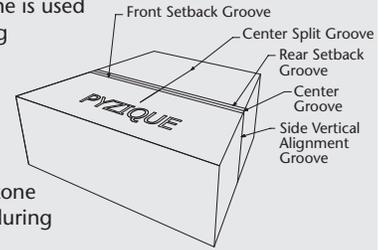
Cap Layer

The Pyzique top has imprints that help with installation. For the cap layer, turn all wallstones over so the top is smooth. The cap layer is laid in the “double-sided” position. Alternating the wallstones using the front and back face will lead to a solid top cap layer. See Figure 4.



- The cap layer can be positioned as setback or vertical from the layer below using the visual alignment system or set it to protrude 1 inch forward of the layer below. Apply adhesive to all caps.

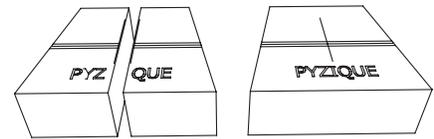
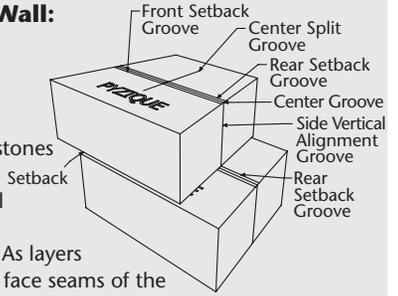
The Pyzique wallstone is used to build the retaining wall, as well as the cap layer on the final layer. There are markings on the face and side of the Pyzique wallstone that will guide you during the project build.



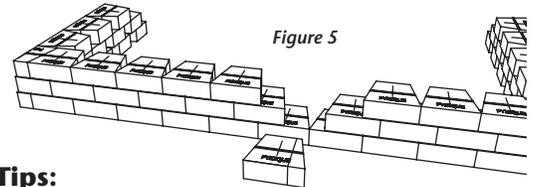
Visual Alignment System

For A Setback Wall:

Set the vertical alignment groove directly above the rear setback groove on the wallstones in the next lower layer. Use this visual alignment for each layer of wallstones. As layers are set, stagger the face seams of the wallstones for interlocking wall strength.

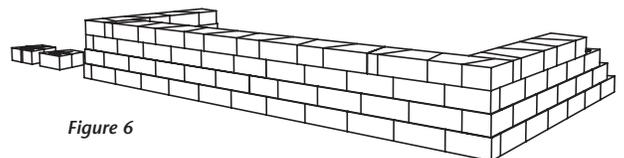


Making Pyzique Corners: Refer to instructions for Cambridge Pyzique Double-Sided Wall.



Tips:

- There will come a time when a full wallstone will not work in the opening as you work away from the corners. Cut this wallstone to fit. See Figure 5.
- To finish the “end of a wall,” use the Pyzique corner as the finished end and then work back from that point to meet another corner. Another option is to cut a wallstone for adjustment as shown above to finish the layer if the opening is less than one full wallstone.
- All Pyzique retaining wall structures exceeding 36 inches should be designed by a segmental retaining wall engineer.



Shown is a Pyzique retaining wall for a planting bed. Note alternating corner orientations. See Figure 6.

SECTION 5: CAMBRIDGE WALL PRODUCTS

Installation Instructions:

Pyzique® Double-Sided Wall

This project will outline a freestanding or sitting wall. Shown is a Pyzique freestanding, double-sided sitting wall with Cambridge 13-inch caps, Pyzique column and Cambridge Pre-Packaged Column Kit Cap & Hat.

Alternate Faces

The Pyzique vertical freestanding wall uses alternating faces of the front and rear of the wallstone to create a look of multiple sizes. See Figure 1.

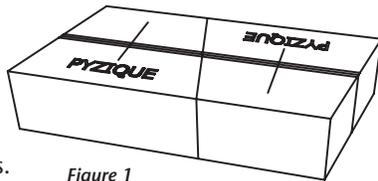


Figure 1

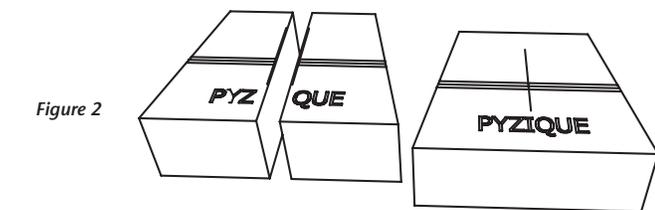


Figure 2

Corners And Ends

To make Pyzique corners and ends, split with a chisel or splitter along the pre-made "split groove" that runs down the center of the top through the letter "I" in Pyzique, which is imprinted on the wallstone. This will produce two texture-faced corners. See Figure 2.

Tip: Pyzique wallstones are only 4 inches high. A splitter will make this project more efficient if corners are needed.

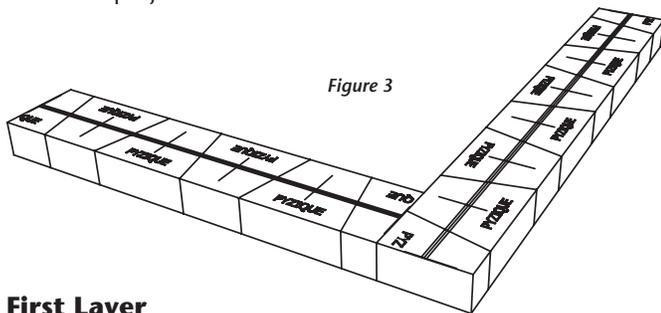


Figure 3

First Layer

Place the first layer of Pyzique wallstones smooth side down on the prepared base. Be certain the base is level and wallstones lay flat. See Figure 3.

- Start from the Pyzique split corner and work out from that point in each direction alternating long and short faces.
- Keep the center groove lined up on the top of the wallstones to assure that the wall is straight. This layout will repeat for layers with odd numbers (1, 3, 5, 7, etc).

Note: When joining "texture face" to "texture face" as is required in the corner of this project, it is important to trim any face protrusions that will keep the corner length dimension from changing the length of the layer.

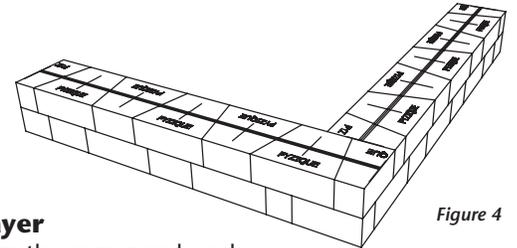
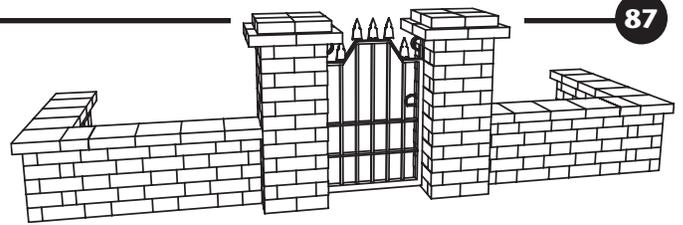


Figure 4

Second Layer

Alternate from the corner and work out from that point in each direction. See Figure 4.

- Alternate long and short faces. Keep the center groove lined up on the top of the wallstones to assure that the wall is straight. This layout will repeat for layers with even numbers (2, 4, 6, 8, etc). See Figure 4.

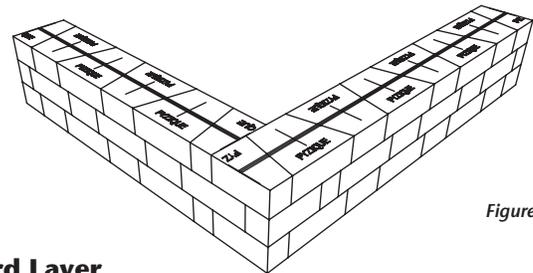


Figure 5

Third Layer

The pattern repeats every other layer. See Figure 5.

Pyzique Cap Layer

- The Pyzique wallstone top has imprints that help with installation. For the last layer, turn all wallstones over so the tops are smooth. See Figure 6.
- The cap layer is laid in the "double-sided" position. Alternate the wallstones utilizing the front and back faces to get a solid top, cap layer.
- This layer can be positioned vertically from the layer below using the visual alignment system. Apply adhesive to all caps.

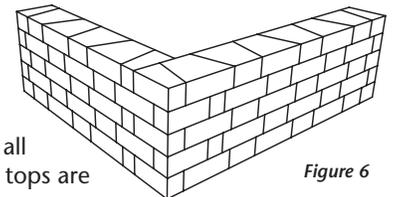


Figure 6

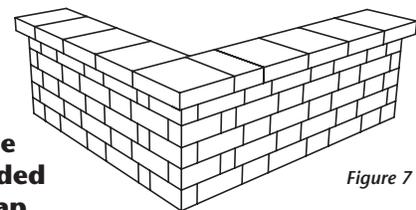


Figure 7

Cambridge Double-Sided 13-Inch Cap

- The wall can be capped with the Cambridge 13-inch cap stone, which will allow a 2-inch overhang on each side of the double-sided wall. See Figure 7.



Installation Instructions: Pre-Packaged Cambridge Olde English Square Fire Pit Kit

The kit comes pre-packaged on a wooden pallet. Remove the optional grill insert (if included) shown and the cap stones (top layer).

Step 1. Mark Off Area

Find an area to build the fire pit that is not near buildings or trees. Mark off an area that is 48 inches by 48 inches.

Step 2. Excavate

Excavate 4 inches deep and compact soil with plate compactor or hand tamper. Add approximately 1/4 ton of 3/4-inch quarry process stone, 3 inches deep, and compact and level to within 1 inch of grade.

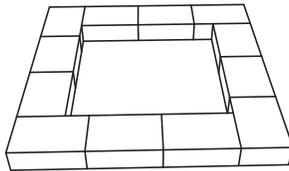
Step 3. Install Layers

Install layers as indicated below. Note: Make each layer as level as possible.

Layers 1, 2, 3, & 4.

Install 12 Olde English wallstones according to the diagram shown. Apply adhesive after every layer.

Figure 1/Layer 1
stone placement.



Layer 2

Set the stones as shown below for the second layer. Fill the inside of the fire pit cavity with 250 Lbs. of 3/4-inch clean stone. This should fill the bottom two layers of wallstones to a depth of 8 inches. See Figure 2.

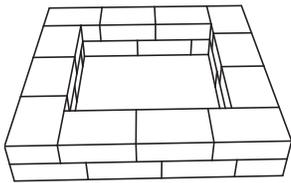


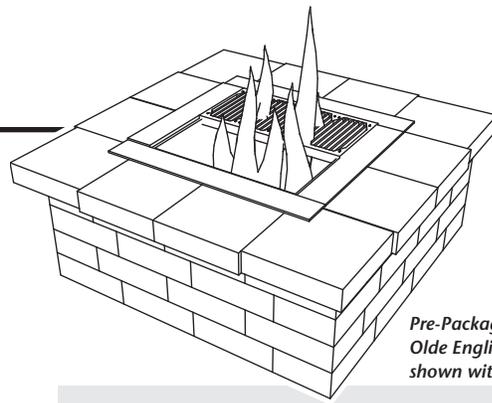
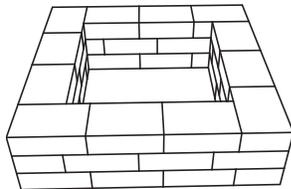
Figure 2/
Layer 2 stone placement.

Layer 3

The third layer repeats the position of the stones in the first layer.

See Figure 3.

Figure 3/
Layer 3 stone placement.



Pre-Packaged Cambridge
Olde English Square Fire Pit Kit
shown with optional grill

Complete with 48 pcs. of wallstones from Cambridge Olde English Wall, 12 pcs. of Cambridge Single-Sided Cap Stones, one 23 in. squared x 12 in. deep metal insert and installation instructions. Options: grate (grill) turns fire pit into a barbeque grill; barbeque & fire screen; and barbeque & fire pit cover.

Size In Inches:

23 (Inside Dimension)
48 (Outside Dimension)
19 (Height)

Total Weight:

1,850 Lbs.

Options:

Grate (grill) turns fire pit into a barbeque grill, barbeque & fire screen, and barbeque & fire pit cover

Layer 4

The fourth layer repeats the position of the stones in the second layer. See Figure 4.

Figure 4/
Layer 4 stone placement.

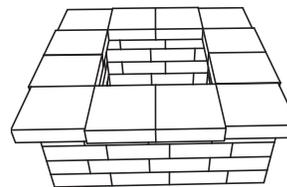
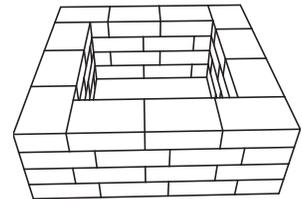


Figure 5/Cap Layer

Layer 5 (Cap Layer)

Install 4 Large Corner Caps and 4 Large Cambridge Single-Sided Cap Stones supplied in the kit according to the diagram shown. See Figure 5.

Note: Corner Caps are finished on 2 adjoining edges.

Step 4. Installing The Insert

Assemble the insert and place inside the fire pit opening. The insert flange should rest evenly on the top of the caps. See Figure 6.

Note: If the optional grill is to be used, install it at this time.

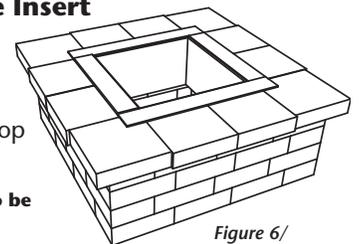


Figure 6/
Insert placement.

Step 5. Filling The Cavity

Once the fire pit insert is in place add approximately 50 Lbs. of 3/4" clean stone to the inside of the fire pit cavity until it reaches a depth of 11 inches from the top edge of the insert.

Note: Cambridge offers an optional Barbeque & Fire Screen and galvanized cover for this project.

Note: An open fire will damage the Spark Screen. It has been specifically designed and engineered for containing sparks only. Powder coated Fire Pit Spark Screens and Inserts will rust. As a prevention, apply Rust-Oleum or Krylon high-heat barbeque paint as a part of yearly maintenance.

**Installation Instructions:
Pre-Packaged Cambridge
Olde English Round
Barbeque & Fire Pit Kit**

Step 1. Mark Off Area

Find an area that is level and not too close to trees or structures. Place a stake in the middle of a 52-inch circle. Tie a rope on the stake and tie the other end 26 inches from the stake to a shovel. This will allow a circle to be cut in the topsoil. Excavate to a depth of 4 inches below undisturbed soil.

Step 2. Fill The Cavity

Fill the cavity with 3/4-inch quarry process stone and compact with hand or plate tamper, finish by leveling 1 inch before surface grade.

Step 3. Install Layers

Install layers as indicated below.

Note: Make each layer as level as possible.

Layers 1, 2, 3, & 4.

Install Olde English Radius Wallstones according to diagrams shown. Apply adhesive after every layer.

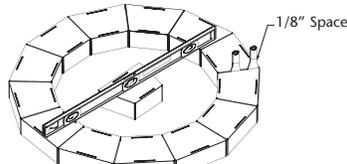


Figure 1.
Layer 1 / Wallstone placement.

Layer 1.

Level the first layer as shown. Place and level an Olde English Radius Wallstone in the middle of the excavation and assemble 13 Olde English Radius Wallstones in a circle getting the finished height from the level stone in the middle of the circle. See Figure 1. A 4-foot level should help you get all the wallstones at the right height. Use concrete sand to fine level any wallstones that are low and use a rubber mallet for wallstones that are too high. The fourteenth Olde English Radius Wallstone circle used in the 4 layers in this project will

require an 1/8-inch space between each wallstone. This is to allow air for the fire as well as heat dispersion during cold periods.

Layer 2.

Use the fire ring as a template for each layer of stone. Fill the Olde English circle with 3/4-inch clean stone in the bottom two layers.

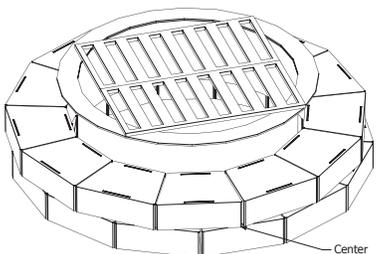
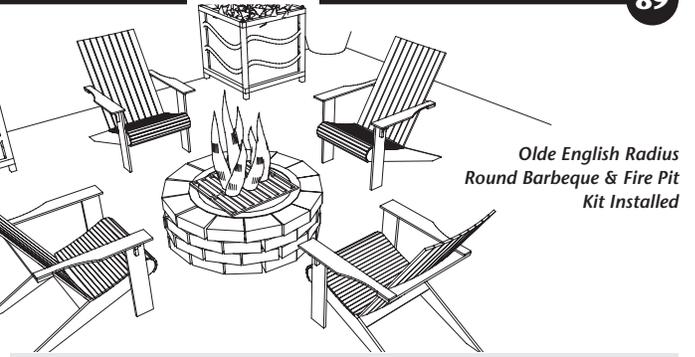


Figure 2.
Layer 2 / Wallstone placement.



Olde English Radius Round Barbeque & Fire Pit Kit Installed

Complete with 52 pcs. of Cambridge Olde English Radius Wallstones, one 32 in. diameter x 8 in. deep metal insert, one grill with double grates and installation instructions.

Size In Inches:	Total Weight:
32 (Inside Dimension)	1,459 Lbs.
48 (Outside Dimension)	Options:
16 (Height)	Barbeque & Fire Screen / Cover

Layer 3.

Place the third layer of Olde English Radius Wallstones aligning the vertical edges in the same position as the first layer.

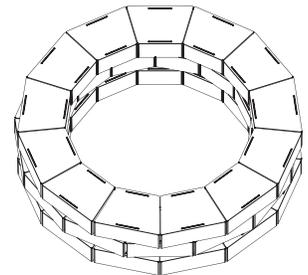


Figure 3.
Layer 3 / Wallstone placement.

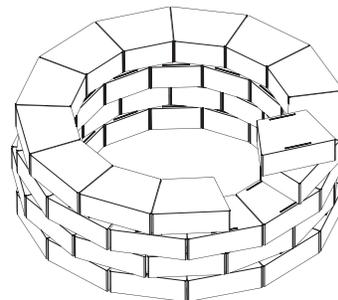


Figure 4.
Layer 4 / Cap layer

Layer 4. Cap Layer

Place the final layer in the same position as the second layer with the exception that each wallstone will be turned over so that the offset marks are on the bottom of the wallstone. This will provide a smooth "Cap" layer.

Step 4. Installing The Fire Ring Insert

Insert the fire ring assembly over the final layer. Once the fire pit insert is in place, add approximately 50 Lbs. of 3/4" clean stone to the inside of the fire pit cavity until it reaches a depth of 7 inches from the top edge of the insert.

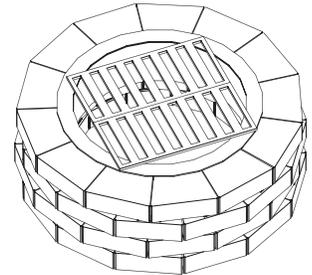


Figure 5. Fire ring assembly.



Installation Instructions: Pre-Packaged Pyzique® Round Barbeque & Fire Pit Kit

Step 1. Mark Off Area

Find an area that is level and not too close to trees or structures. Place a stake in the middle of a 52-inch circle. Tie a rope on the stake and tie the other end 26 inches from the stake to a shovel. This will allow a circle to be cut in the topsoil. Excavate to a depth of 4 inches below undisturbed soil.

Step 2. Fill The Cavity

Fill the cavity with 3/4-inch quarry process stone and compact with hand or plate tamper, finish by leveling 1 inch before surface grade.

Step 3. Install Layers

Install layers as indicated below. Note: Make each layer as level as possible.

Layers 1, 2, 3, & 4.

Install Pyzique wallstones according to diagrams shown. Apply adhesive after every layer.

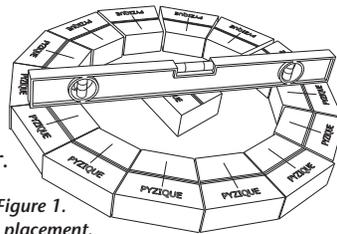


Figure 1.
Layer 1 / Wallstone placement.

Layer 1.

Level the first layer as shown. Place and level a Pyzique wallstone in the middle of the excavation and assemble 14 Pyzique wallstones in a circle getting the finished height from the level wallstone in the middle of the circle. See Figure 1. A 4-foot level should help you get all the wallstones at the right height. Use concrete sand to fine level any wallstones that are low and use a rubber mallet for wallstones that are too high. The 14-wallstone Pyzique circle used in the 4 layers in this project will require a 1/8-inch space between each wallstone. This is to allow air for the fire as well as heat dispersion during cold periods.

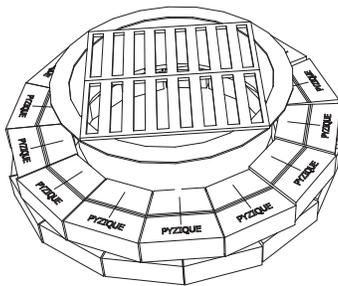


Figure 2.
Layer 2 / Wallstone placement.

Layer 2.

Each Pyzique wallstone top has a "middle mark" running in line with the "I" in Pyzique. Use to guide the position of the wallstone center to offset the next layer so that joints (vertical lines) do not overlap. Use the fire ring as a template for each layer of wallstone. Fill the Pyzique circle with 3/4-inch clean stone in the bottom two layers.

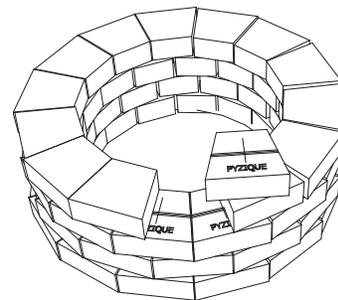


Figure 4.
Layer 4 / Cap layer

Layer 3.

Place the third layer of Pyzique wallstones aligning the vertical edges in the same position as the first layer.

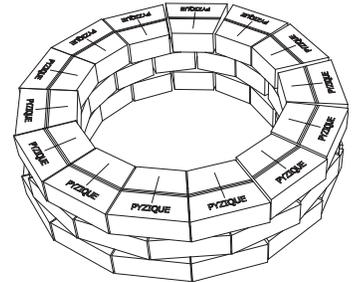


Figure 3.
Layer 3 / Wallstone placement.

Layer 4. Cap Layer

Place the final layer in the same position as the second layer with the exception that each wallstone will be turned over so that the "Pyzique" name is on the bottom of the wallstone. This will provide a smooth "Cap" layer.

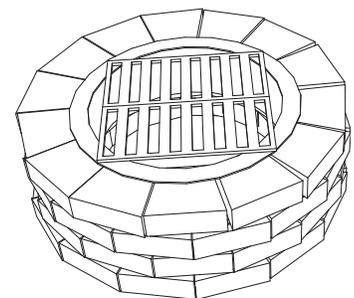
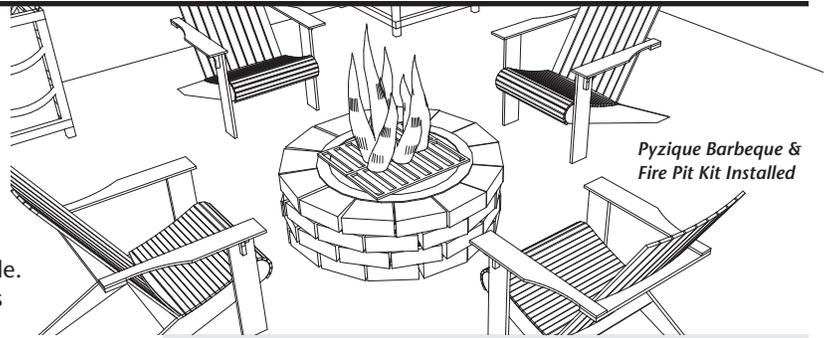


Figure 5. Fire ring assembly.

Step 4. Installing The Fire Ring Insert

Insert the fire ring assembly over the final layer. Once the fire pit insert is in place add approximately 50 Lbs. of 3/4" clean stone to the inside of the fire pit cavity until it reaches a depth of 7 inches from the top edge of the insert.



Pyzique Barbeque & Fire Pit Kit Installed

Complete with 60 pcs. of Cambridge Pyzique Wallstones (56 required), 12 pcs. of Cambridge Caps, one 32 in. diameter x 8 in. deep metal insert, one grill with double grates and installation instructions.

Size In Inches:	Total Weight:
32 (Inside Dimension)	1,685 Lbs.
50 (Outside Dimension)	Options:
16 (Height)	Barbeque & Fire Screen / Cover

Installation Instructions: Pre-Packaged MaytRx® Square Fire Pit Kit

This kit comes pre-packaged on a wooden pallet. Remove the grill insert, the cap stone (top layer), and lastly remove the wallstones from the wooden pallet in layers exactly as they arrived and are shown in these instructions.

Step 1. Mark Off Area

Find an area to build the fire pit that is not near buildings or trees. Mark off an area that is 48 inches by 48 inches.

Step 2. Excavate

Excavate 4 inches deep and compact soil with plate compactor or hand tamper. Add approximately 1/4 ton of 3/4-inch quarry process stone, 3 inches deep, and compact and level to within 1 inch of grade.

Step 3. Install Layers

Install layers as indicated below. Note: Make each layer as level as possible.

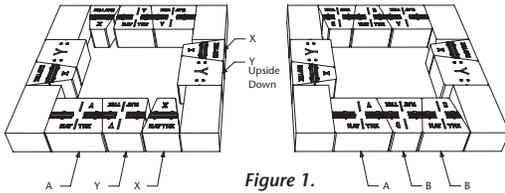


Figure 1. Layer 1 / Wallstone placement.

Layers 1, 2, 3, & 4.

Install MaytRx Wallstones according to the diagrams shown. If your layers do not include B wallstones, follow AYZ pattern. If they do contain B wallstones, follow ABB Pattern. Apply adhesive after every layer.

Layer 1

Set the first layer of wallstones as shown below. Be sure to keep level and square. There are no tops or bottoms in this project.

Layer 2

Set the wallstones as shown below for the second layer. Fill the inside of the fire pit cavity with 250 Lbs. of

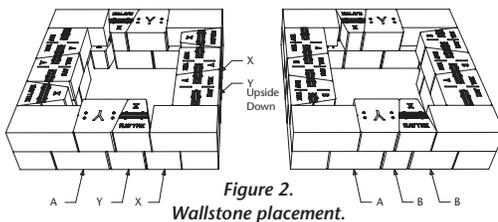


Figure 2. Wallstone placement.

3/4-inch clean stone. This should fill the first layer of wallstones to a depth of 6 inches and 4 inches of the second layer for a total of 10 inches.

Layer 3

The third layer will repeat the position of the wallstones in the first layer.

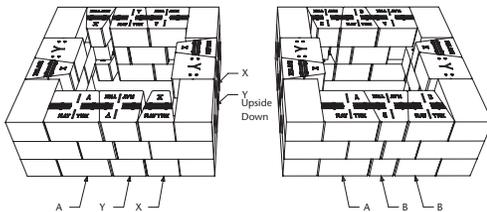
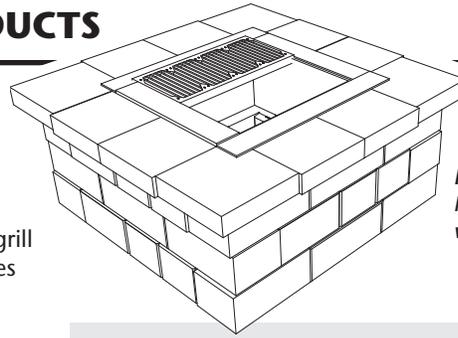


Figure 3 / Wallstone placement.



Pre-Packaged Cambridge MaytRx® Fire Pit Kit with optional grill

Complete with 18 pieces of Cambridge MaytRx Wallstones, 6 pieces of Stretcher Stone, 4 pieces of Column Cap, 8 pieces of Cambridge Double-Sided Caps, one 23 in. squared x 12 in. deep metal insert and installation instructions.

Size In Inches:	Total Weight:
23 (Inside Dimension)	1,550 Lbs.
44 (Outside Dimension)	Options:
21 (Height)	Grate (grill) turns fire pit into a barbecue grill, barbecue & fire screen, and barbecue & fire pit cover

Please note the configuration of each layer combination that you have in your kit before removing them from the wooden pallet.

Layer 4 (Cap Layer)

Install 4 Column Caps and 8 Large Cambridge Single-Sided 13" Cap Stones supplied in the kit according to the diagram shown. See Figure 4. Note: Column Caps are finished on 2 adjoining edges. See Figure 4.

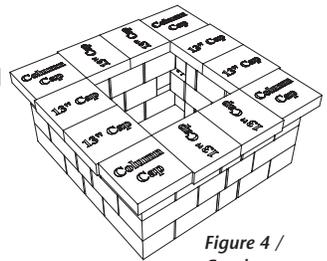


Figure 4 / Cap layer

Note: Corner Caps are finished on 2 adjoining edges.

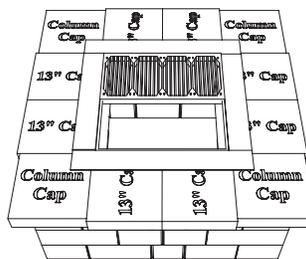


Figure 5. Insert placement.

Step 4. Installing The Insert

Assemble the insert and place inside the fire pit opening. The insert flange should rest evenly on the top of caps. See Figure 5.

Note: If the optional grill is to be used, install it at this time.

Step 5. Filling The Cavity

Once the fire pit insert is in place, add approximately 50 Lbs. of 3/4" clean stone to the inside of the fire pit cavity until it reaches a depth of 11 inches from the top edge of the insert.

Note: Cambridge offers an optional Barbeque & Fire Screen and galvanized cover for this project.



Installation Instructions: Pre-Packaged Pyzique & Olde English Round Firepit Kit with Granite or Cast Stone Ring

Step 1. Mark Off Area

Find an area that is level and not too close to trees or structures. Place a stake in the middle of a 52 inch circle. Tie a rope on the stake and tie the other end 26 inches from the stake to a shovel. This will allow a circle to be cut in the topsoil. Excavate to a depth of 4 inches below undisturbed soil. For more details on base see the additional pages in this book for round firepits.

Step 2. Fill The Cavity

Fill the cavity with 3/4 inch quarry process stone and compact with a hand or plate tamper, finish by leveling 1 inch before surface grade.

Step 3. Install Layers

Install layers as indicated below. **Note:** Make each layer as level as possible. Install Pyzique or Olde English Radius wallstones according to diagrams shown. Apply retaining wall adhesive after each layer.

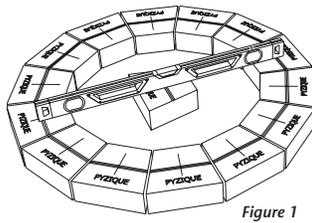
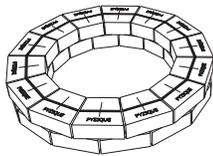


Figure 1

Layer 1.

Level the first layer as shown. Place and level a wallstone in the middle of the excavation and assemble 14 Pyzique or 13 Olde English Radius wallstones in a circle getting the finished height from the level wallstone in the middle of the circle. A 4-foot level should help you get all the wallstones at the right height. Use concrete sand to fine level any wallstones that are low and use a rubber mallet for any wallstones that are too high. The wallstone circle used in the four layers in this project will require a 1/8 inch space between each wallstone. This is to allow for air for the fire as well as heat dispersion during cold periods. See Figure 1

Figure 2



Layer 2.

Each wallstone top has a "middle mark". The "I" in Pyzique and the middle of the "alignment mark" for Olde English. Use this to guide the position of the wallstone center to offset the next layer so that the joints (vertical bond lines) do not overlap. See figure 2.

Fill the circle with 3/4 inch clean stone in the bottom two layers. Sweep top of second layer free of any loose particles and install 90 gauge galvanized split support ring evenly centered. See figure 2a.

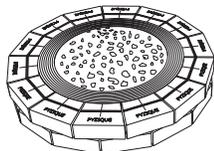
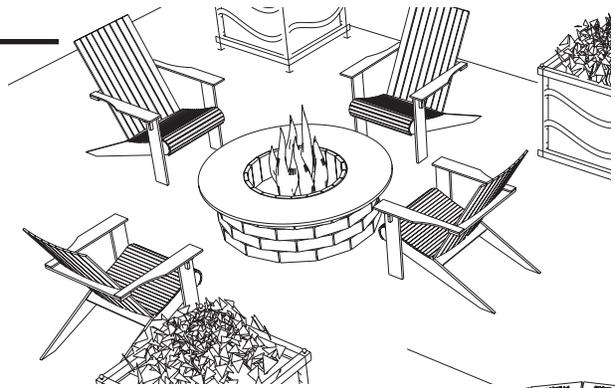


Figure 2a



Layer 3.

Place the third layer of wallstones aligning the vertical edges in the same position as the first layer. Install this layer on top of the galvanized split ring. See Figure 3.

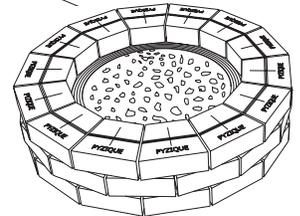


Figure 3

Layer 4. Cap Layer

Place the final layer in the same position as the second layer. See Figure 4.

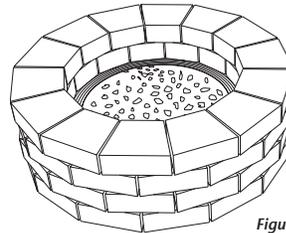


Figure 4

Step 4.

Mix the Heat Stop-50 refractory mortar according to directions on the package. Install firebrick standing on end on top of the galvanized split support ring. Place 1/4 inch of mortar for Granite Ring (1" for Cast Stone Ring) between the firebrick and support ring and behind the firebrick where they meet the wallstone, keeping them evenly spaced from each other and even across the top. Place mortar in the joints between the firebrick and smooth with your finger or jointing tool. Gently wipe the smears off the face of the firebrick with a damp sponge. Where the firebrick rests on the galvanized support ring, apply mortar on a 45 degree angle to allow for shedding of water. See Figure 5.

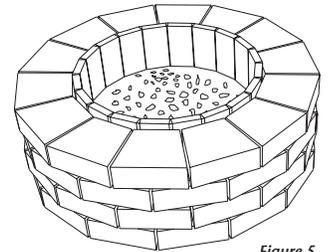


Figure 5

Apply mortar and install the granite (2 pieces) or cast stone (3 pieces) firepit ring pieces carefully around the firebrick. When centered and even, fill in the gap between the granite or cast stone ring and firebrick with mortar, keeping surfaces clean with a damp sponge. If rain is expected during the next 24-48 hours, cover the firepit with a tarp. See Figure 6.

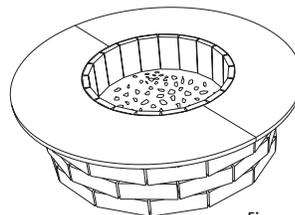
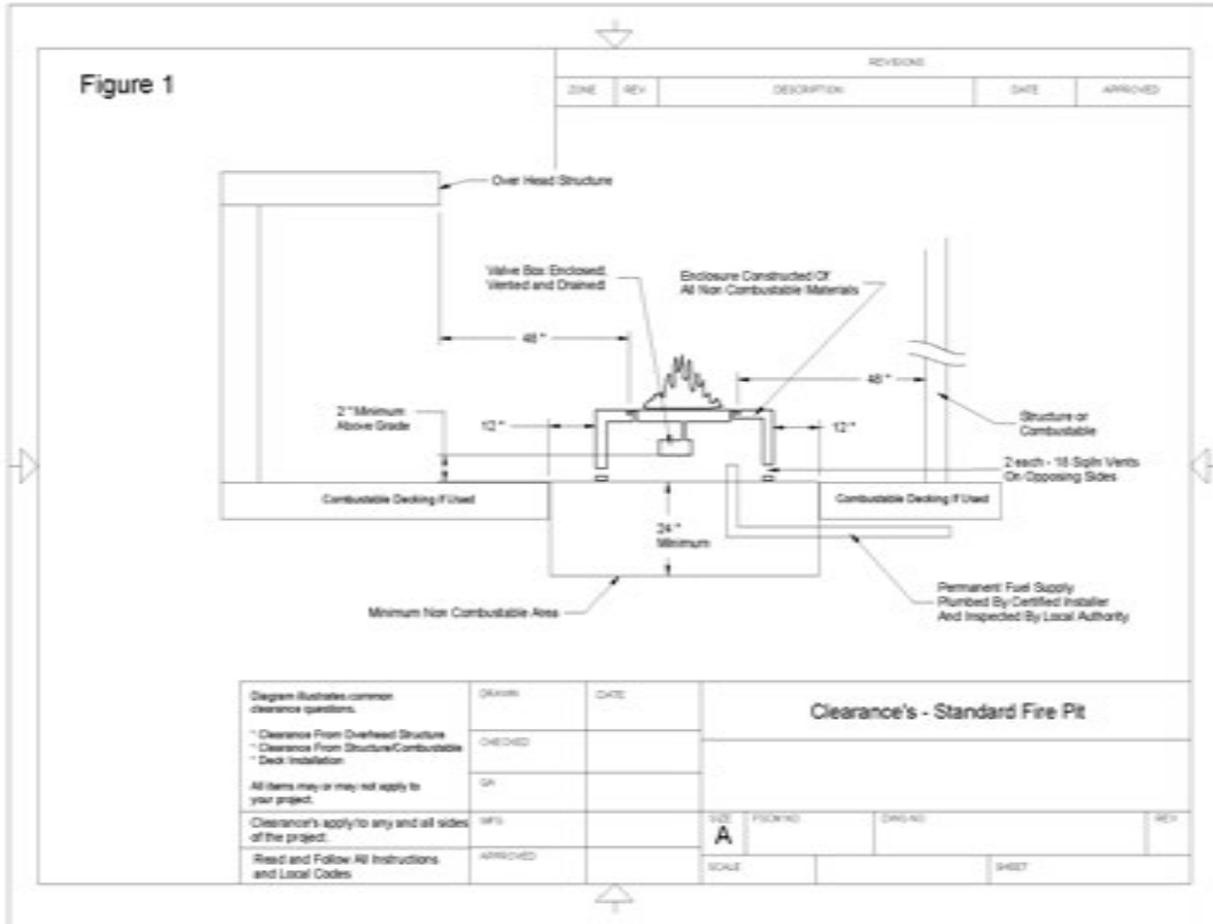


Figure 6

Step 5. Initial Use of Firepit

Install 3/4 inch clean stone one inch into the bottom of firebrick area. First few fires should be small in case any left over moisture is present in the mortar.

**Installation Instructions:
Liquid Propane & Natural Gas Burner Schematic for Pre-Packaged Pyzique
Round, Olde English Round & Olde English Square Gas Fire Pits**



Installation Instructions:
Cambridge Pre-Packaged Column Kit

The Cambridge Column Kit includes 36 pieces of Cambridge Column wallstones, which will provide 9 layers of four wallstones. This will build a 4-foot column with 6 inches (one layer) buried in the ground. The Cambridge Cap & Hat is optional.

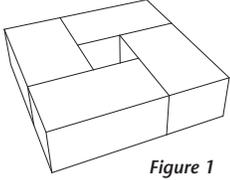


Figure 1

First Layer

Place the wallstones as illustrated for the first layer using a square and level to ensure that it is level, plumb and

square. Each wallstone has two textured sides and two smooth sides. Placing the smooth side against the smooth sides creates a column that fits together without gaps. There are no rights, lefts, tops, or bottoms to these wallstones. Place the textured sides out and smooth sides in. See Figure 1.

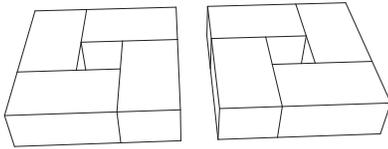


Figure 2

First Layer (Left) And Second Layer (Right) Used For Alternating Pattern

Once the first layer is complete, each subsequent layer will be laid alternating the pattern of first layer and second layer. See Figure 2.

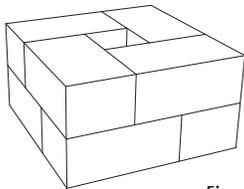


Figure 3

Second Layer

The Cambridge Column Kit includes 9 sets (layers) of 6-inch wallstones that will produce a 4-foot column while burying one layer in the ground for stability. We suggest using adhesive on edges where the wallstones meet. Be careful not to allow adhesive to be visible on the face of the wallstone. See Figure 3.

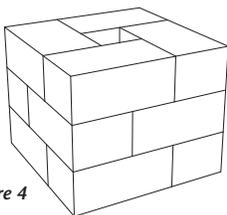


Figure 4

Third Layer

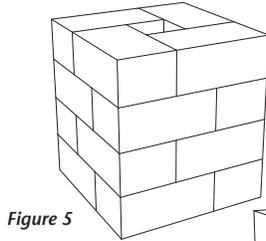


Figure 5

Fourth Layer

Fifth Layer

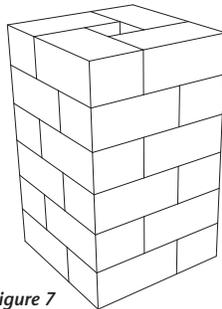


Figure 7

Seventh Layer

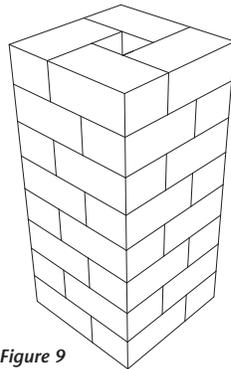


Figure 9

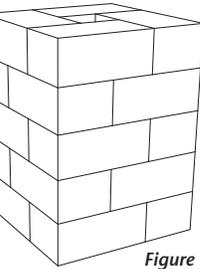


Figure 6

Sixth Layer

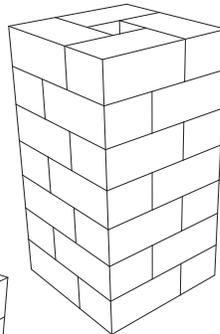


Figure 8

Eighth Layer

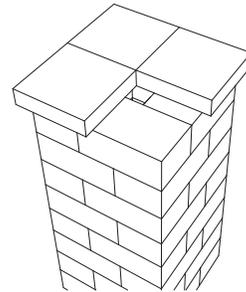


Figure 10

Ninth And Final Layer*

*With first layer buried in the ground.

Columns higher than 4 feet require the purchase of additional Cambridge Column Kits.

Column Cap (Optional)

The "Cap" creates an attractive 1 1/2 inch reveal (overhang) on all sides of the 22-inch by 22-inch Cambridge Column Kit. See Figure 10.

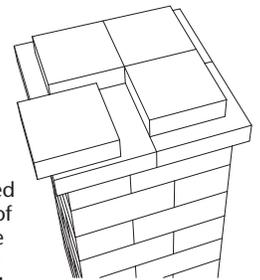


Figure 11

Column Hat (Optional)

An optional "Hat" can be added on top of the Column Cap for a more dimensional finished design. It consists of four specially made 10-inch by 10-inch units. See Figure 11.

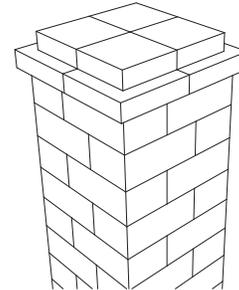


Figure 12
 Cambridge
 Pre-Packaged Column
 Kit Cap & Hat

Cambridge Cast Stone Caps (Optional)

These durable cast concrete products offer both convenience and beauty as a far more affordable substitute for natural bluestone and granite and other natural stone materials. Ready to install, Cambridge Cast Stone Column Caps come in three styles (Flat, Pyramid and Light) and two sizes as a finish for Cambridge Wallstone and other columns.

Base: Mark off the outline for the column to be built. Have footings at least 4 inches wider than the column on all sides. Excavate to a depth of 8 inches and compact soil with a plate compactor or hand tamper. Place 6 inches of 3/4-inch quarry process stone. Compact in 3-inch lifts until level. Base may also be built out of poured concrete if desired.

Consult a licensed professional for freeze/thaw and load requirements of your project. For lighting, a space is already provided in the center of the column to install conduit pipe or wire according to the local building code.

Installation Instructions:

Cambridge Olde English Column

This 20-inch by 20-inch wide Cambridge Olde English column is made of 52 pieces of Cambridge Olde English Wall™ (13 layers with 4 wallstones on each layer). The finished column will be 4-feet high with 4 inches (one layer) buried in the ground for stability. The Cap & Hat treatment is optional and will require additional wallstones.

First Layer

When placing the wallstones, use a square and a level to assure that the first layer is level, plumb and square. Each wallstone has tumbled sides. There are no rights, lefts, tops, or bottoms to these wallstones. See Figure 1.

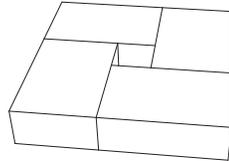


Figure 1

First Layer (Left) And 2nd Layer (Right) Used For Alternating Pattern

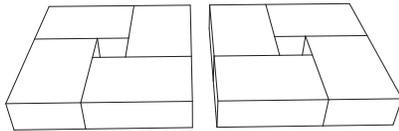


Figure 1B

Once the first layer is complete, alternate each subsequent layer. The Olde English wallstones laid in this pattern will make a 20-inch by 20-inch wide column without cutting. See Figure 1B.

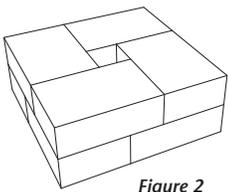


Figure 2

Second Layer

Apply adhesive on edges where the wallstones meet. Be careful not to allow adhesive to be visible on the face of the wallstone. Each layer should overlap the vertical joints from the wallstones below. See Figure 2.

Third Layer

Follow the pattern. For all odd numbered layers, use layer one, and for all even number layers, use layer two. See Figure 3.

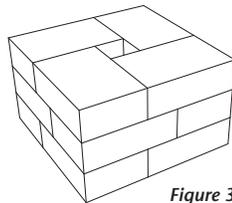


Figure 3

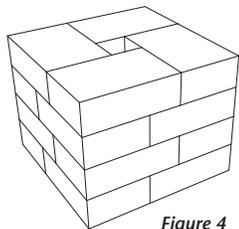


Figure 4

Fourth Layer

See Figure 4.

Fifth Layer

See Figure 5.

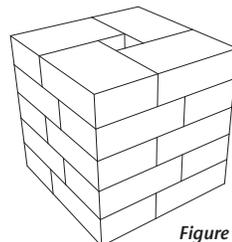


Figure 5

Base: Mark off the outline for the column to be built. Have footings at least 4 inches wider than the column on all sides. Excavate to a depth of 8 inches and compact soil with a plate compactor or hand tamper. Place 6 inches of 3/4-inch quarry process stone. Compact in 3-inch lifts until level. Base may also be built out of poured concrete if desired.

Consult a licensed professional for freeze/thaw and load requirements of your project. For lighting, a space is already provided in the center of the column to install conduit pipe or wire according to the local building code.

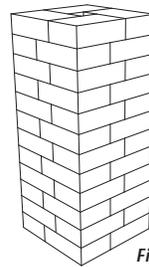
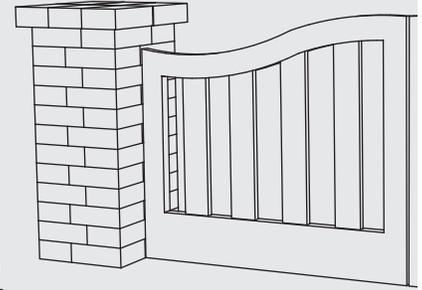


Figure 6

Thirteenth And Final Column Layer

This is the final layer of the 4-foot column. See Figure 6. **Note:** the 4-inch by 4-inch hole in the center of the column is for electric, lighting, camera, etc. If your project requires columns higher than 4 feet, additional Olde English wallstones are needed.

Olde English Column Cap (Option 1)

The cap takes 6 additional wallstones and makes a 24-inch by 24-inch finished Olde English column cap with a reveal of 2 inches around all sides of the column. To install, find the center of the column and place the middle wallstone centered on the center line of the column. The other wallstones will lay out correctly. See Figure 7.

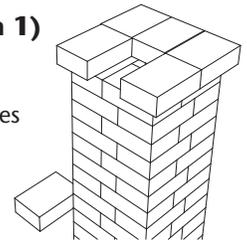


Figure 7

Olde English Column Hat (Option 2)

An optional "Hat" can be added on top of the "Olde English Column Cap" for a more dimensional, top finish design. It consists of 4 additional Olde English wallstones set in a layer centered on the column. This layout has a 4-inch by 4-inch hole that can be filled with a cut wallstone or covered with a light. The finished measurement of the assembled hat is 20-inches by 20-inches and 4-inches thick. See Figure 8.

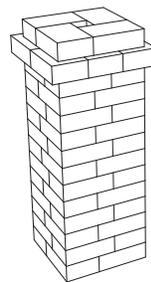


Figure 8

Alternate: Take 2 wallstones and center them on top of the cap layer for a smaller profile "Hat". See Figure 9.

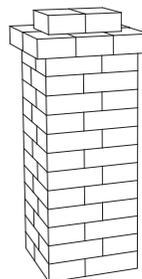


Figure 9



Installation Instructions: Cambridge 3 & 6 Column

The Maytrx 3 and 6 Column project will require Cambridge Column Stones, Cambridge 3 inch Corner Stones, and cut pieces of Maytrx 3 or Cambridge Cap Stones. A list is provided at the end of this page. Six layers of 3 and 6 inch high stones will build a four foot column with six inches buried in the ground. The Cambridge Cap & Hat is optional (shown) as well as Cambridge Cast Stone Column Caps.

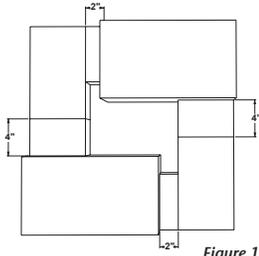
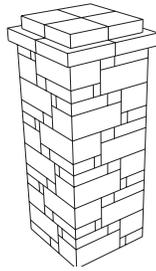


Figure 1

First Layer Part A:

Place the stones as illustrated for the first layer making sure that it is level, plum and square (22" x 22"). Each stone has two textured sides (except the cut stones) and two smooth sides. Placing the smooth sides against the smooth sides creates a column that fits together with no gaps. There are no rights, lefts,

tops, or bottoms to these stones. Place the textured sides out and smooth sides in. There are two 6 inch high column stones, two 3 inch high Cambridge corner stones and four stones cut from Maytrx 3, or Cap stones to 2 inch and 4 inch wide. The length of the cut stones should be no more than 8 inches. This is the first part of the layer for a 3 and 6 Column with a center a hole. See Figure 1.

First Layer Part B:

There are two 6 inch high column stones, two 3 inch high Cambridge corner stones and four stones cut from Maytrx 3, or Cap stones to 2 inch and 4 inch wide. The length of the cut stones should not be more than 8 inches to complete the layer.

NOTE: On the previous layer, wherever there are 3 inch high stones, place the 6 inch high stones and wherever there are 6 inch high stones place the 3 inch high stones as illustrated. This is the second part of the layer for a 3 and 6 Column with a center hole. See Figure 2.

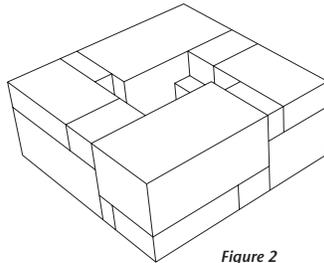


Figure 2

Second Layer Part A:

Once the first layer is complete, place the 6 inch high stones as shown and then add the 3 inch high corner and cut pieces (4 inch and 2 inch cuts) this completes the first part of the second layer. See Figure 3.

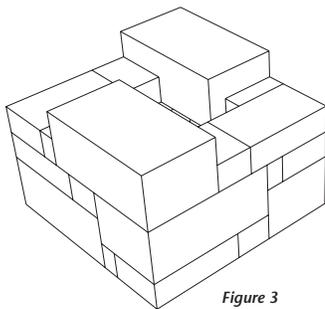


Figure 3

Second Layer Part B:

The completion of the second layer is accomplished by adding 6 inch full column stones above the 3 inch stones and adding the corner and the two cut stones above the 6 inch stones below. We suggest you lay these out without gluing so you can recognize the pattern. The two 9 inch high layers illustrated here will repeat three times for a total of six 9 inch layers that will give you a 54 inch column. We will bury 6 inches in the ground below finished grade. See Figures 4 and 5.

Note: Glue all wallstones with retaining wall adhesive but be careful not to allow the adhesive to be visible on the face of the wallstone.

We will build six 9 inch layers. The first two layers are repeated 3 times on top of the base and will yield a 48 inch high column above finished grade.

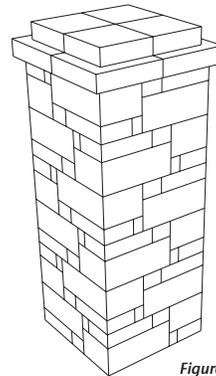


Figure 4

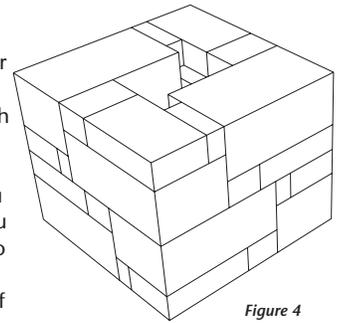


Figure 4

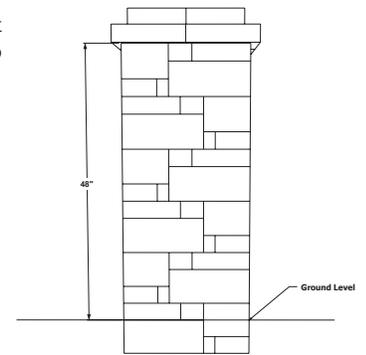


Figure 5

Column Cap (Optional):

The "Cap" creates an attractive 1 1/2 inch reveal (overhang) on all sides of the 22-inch by 22-inch Cambridge Column Kit. See Figure 6.

Column Hat (Optional):

An optional "Hat" can be added on top of the Column Cap for a more dimensional finished design. It consists of four specially made 10-inch by 10-inch units. See Figure 6.

Cambridge Cast Stone Caps (Optional): These durable cast concrete products offer both convenience and beauty as a far more affordable substitute for natural bluestone and granite and other natural stone materials. Ready to install, Cambridge Cast Stone Column Caps come in three styles (Flat, Pyramid and Light) and two sizes as a finish for Cambridge Wall stone and other columns.

Project product list for each column:

1. 24 ea. Cambridge Column Stone/MaytRx 6 Corner Wallstones
2. 24 ea. Cambridge MaytRx 3 Corner Wallstones
3. 24 ea. cut wallstones — 3 high, 2-inch long face, maximum 8 inches in length (from 3-inch high MaytRx or Caps)
4. 24 ea. cut wallstones — 3 high, 4-inch long face, maximum 8 inches in length (from 3-inch high MaytRx or Caps)

SECTION 6: STEPS & STAIRS

Installation Instructions: How to Build MaytRx® & Stretcher Steps

The first step is to plan out the project. Municipalities normally require that every step be the same height. This will tell you, relative to the grade, how many steps will be needed. The Cambridge Stretcher Stone is a single-stone system that is simple to install and illustrate. To simplify this project, Cambridge Stretcher Stones will be used. However, they may be substituted for the multi-stone MaytRx® Wall System in the same height or both can be combined together. Be sure to check with the local town building code official as to the required foundation, riser height, landing size and minimum tread depth. Keep in mind that when you demo the old staircase, 9 out of 10 times you will find some damage to the wood sill plate or framing members of the home. Make sure these areas are repaired. Also, the entire surface that will come in contact with your new staircase should be flashed with aluminum to prevent moisture from coming in contact with the wooden structure of the home.

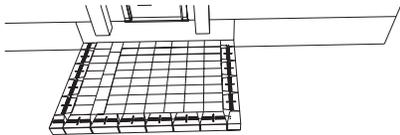


Figure 1

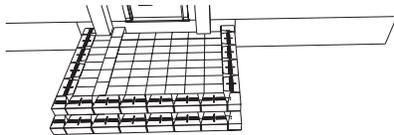


Figure 2

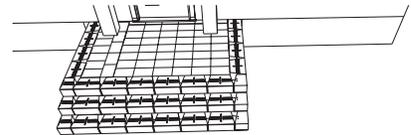


Figure 3

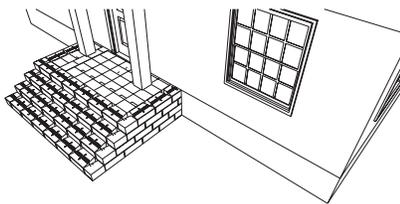


Figure 4

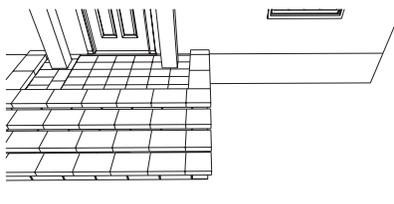


Figure 5

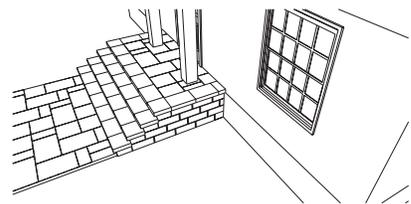


Figure 6

Base: Ascertain the depth of the porch by determining the height from finished grade to the bottom of the door and divide by 6 inches. This will tell us how many 6 inch steps we will need. Establish the size of the porch and steps then add 12 inches on all sides. It is recommended for steps to bury at least one row of Cambridge Stretcher Stone below grade (not shown). Add additional rows below grade if necessary after excavating 9 inches below undisturbed soil (or below topsoil) and adding at least 9 inches of 3/4" crushed stone. Compact every 4 inches (4" lifts). Note: Some municipal codes require a concrete foundation below the frost line for steps.

First Course: In our illustration, there is 24 inches from the door to the finished grade. In this project, there will not be a step into the house from the porch so we will need 4 steps with 6 inch high risers. The first course has Stretcher Stones laid out 3 inches below grade on a 6 inch compacted aggregate base. The 3 inch left on the 6 inch stone plus the 3 inch cap stone will give us a 6 inch rise to each stone. Split Stretcher Stones are used for corners but Cambridge 6 inch pre-made corners are also available. Splitting should be done using a chisel. Use Cambridge Staircase Filler Block (see page 99 for more on the use of Filler Block) instead of aggregate to fill-up the area inside the stones that show on the first course. Cambridge Staircase Filler Blocks are inexpensive wallstones that are the same height and general size as those in the Cambridge MaytRx® 6" Wall System but are less costly to purchase. Use MaytRx® 6" textured and colored wallstones in areas that will be visible. The Cambridge filler block also saves time on supplying and installing aggregates, delivery, storage, transfer and compacting in the areas below the finished layer. See Figure 1.

Second Course: The second step starts 10 inches from the first step and repeats the process. Note: If steps are to be any height less than a 6 inch rise, the stairs will have to be built using aggregate fill instead of Filler block. It is recommended that when using aggregate, the structure be wrapped on the inside with woven geotextile filter fabric to eliminate loss of fines and prevent settling. Less than 6 inches rise of the second step will be set below the top of the previous cap stone at the difference between the 6 inch rise and the less than 6 inch height you require. See Figure 2.

Third Course: The third step starts 10 inches in from the second step and repeats the process. See Figure 3.

Fourth Course: The fourth step starts 10 inches in from the third step and repeats the process. See Figure 4.

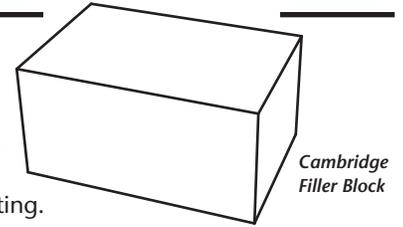
Cap Course: Place Cambridge Single-Sided Large Caps (3"H x 18"L x 12"D) on the steps and secure with retaining wall grade adhesive. For a finished edge, split the capstones on the end of each step. Stair treads made with the caps will protrude 2 inches from the stone below for a 12 inch tread. Be sure to maintain the same reveal on the edge of each step. When you get to the last row (porch row), continue the cap stone on the edges of the porch area. See Figure 5.

Finish with Cambridge Pavers: The finished Cambridge Stretcher Staircase will have a nice landing area where you can do an inlay of Cambridge Pavingstones with ArmorTec®. Install a layer of woven geotextile filter fabric over the top of your filler block to prevent any of your bedding sand from migrating between the joints in the filler blocks. Then add a 1 inch layer of concrete sand (C-33) on top of the fabric. Cambridge Pavers can now be laid on the landing in between the capstones that have been glued in place on the top row. See Figure 6. Note: This set of steps can be viewed from the side so a finish of stretcher stones was used in the illustration. If the side of the steps were hidden by a wall or structure then Cambridge Staircase Filler Block could be used to save time and money.

For more information, specs and installation instructions on Cambridge Pavingstones with ArmorTec(R) and Cambridge Wall Systems, visit www.cambridgepavers.com.

Installation Instructions: Staircase Filler Block Steps

Cambridge Staircase Filler Block has a perfect height (6H x 8D x 12W) to be used with MaytRx 6 inch or Stretcher Stone. A set of steps can be built without leveling and compacting the center of each layer. Save time (less cleanup), transportation cost for bulk stone, as well as the compaction of aggregate. Build this front steps project on a stone base or concrete footing. Check local building codes, which may require a concrete foundation below the frost line.



Step 1

Calculate the height of the first layer by dividing the porch height by 6 inches to determine the number of steps at 6 inch rise (6 inch wallstone plus 3 inch cap height less 3 inches buried in the ground). Layout shown with Stretcher Stone will work as well with MaytRx or a combination of Stretcher Stone and MaytRx. This set of steps has finished sides. Stretcher Stone can be "split" to make two finished corners (shown) or use the Cambridge pre-made 6 inch corner (6H x 6W x 10D). This pattern will be repeated on every "odd" numbered layer. See Figure 1.

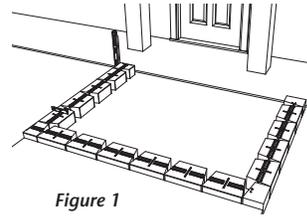


Figure 1

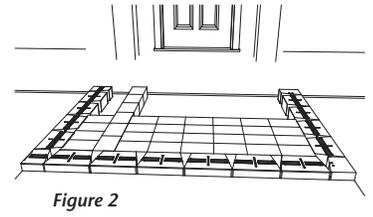


Figure 2

Step 2

On a concrete or compacted base, lay the Staircase Filler Block, which is the same height as the Stretcher Stone and MaytRx wallstones, to fill in the cavity. Cut wallstones as needed. See Figure 2.

Step 3

Start the second layer 10 inches back from the first. Turn corners to create a running bond with wallstones below. After setting corners, set center wallstones in an offset relationship with the step below then fill with full stones. Finish the area with two cut "adjustment wallstones" to connect the last full wallstones to the corner. Install the side wallstones keeping a running bond to length. Apply adhesive. This pattern will be repeated on every "even" numbered layer. See Figure 3. **Important: stagger the joint lines on Filler Block when installing each layer.**

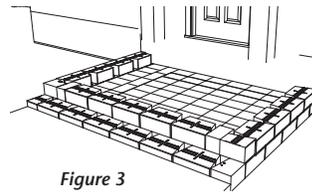


Figure 3

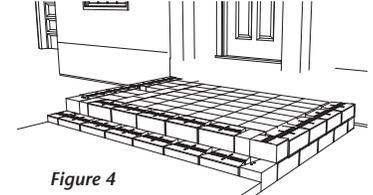


Figure 4

Step 4

After completing the outside perimeter with the Stretcher Stone, fill the center of the steps with Filler Block. Apply adhesive. See Figure 4.

Step 5

Start the third layer 10 inches back from the layer below. This layout will be the same as the first layer. Apply adhesive. See Figure 5.

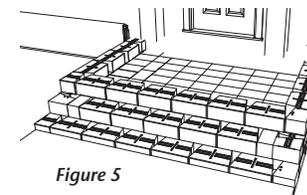


Figure 5

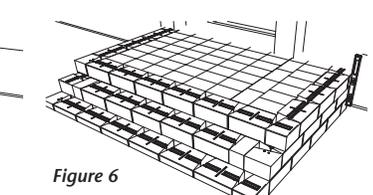


Figure 6

Step 6

After completing the outside perimeter of the step with the Stretcher Stone, fill the center of the steps with Filler Block. See Figure 6.

Step 7

Start the fourth layer of wallstones 10 inches back from the layer below. This layout will be the same as the first layer. Apply adhesive. See Figure 7.

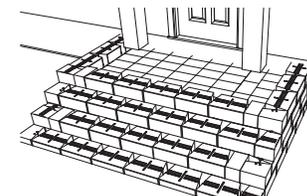


Figure 7

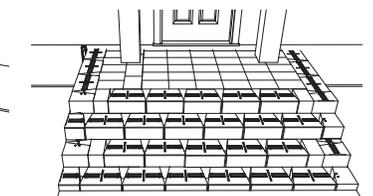


Figure 8

Step 8

After completing the outside perimeter of the step with the Stretcher Stone, fill the center of the steps with Filler Block. See Figure 8.

Note: Precise cuts must be made on final layer so wallstones fit inside the outside perimeter. Excessive gaps could cause migration of the bedding material from above.

Step 9

To maintain a 2-inch overhang on all sides, use Cambridge Large Caps for the stair treads. Lay the caps from the center splitting caps at the end to length (2 inches from the side of the step) for a finished look. See Figure 9.

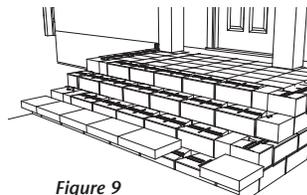


Figure 9

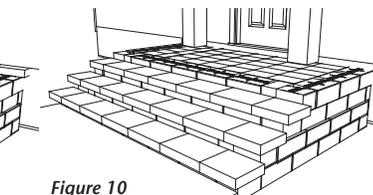


Figure 10

Step 10

Each Cambridge Large Cap is placed identical to the first step. See Figure 10.

Step 11

Normally, the outside edge of the final layer includes a porch or stoop line with cap stones used for the steps to allow a 3-inch cavity from the top of the cap to the bottom of the Filler Block below. See Figure 11.

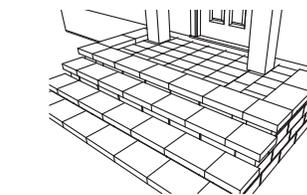


Figure 11

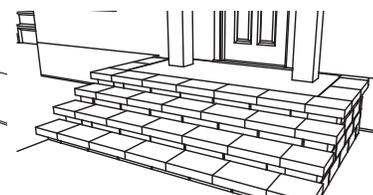


Figure 12

Step 12

Install filter fabric on top of the Filler Block prior to the bedding sand. Install Cambridge Pavingstones on the top porch area. Wrap fabric up the sides of the caps. Cut away excess filter fabric. Set pavers in a bed of concrete sand that will bring the top of the pavers to the same height as the cap stones. See Figure 12.

Note: Filler Stone is also made to work with Sigma 8-inch by turning the wallstone to use its 8-inch side, which will match the height of the wallstone.

SECTION 6: STEPS & STAIRS

Installation Instructions: Sigma 6 Vertical Inlaid Staircase

Sigma 6 inch wall stones can be set vertically as well as setback for additional strength. These instructions cover the vertical feature of this wall stone with knobs while building a vertical inlaid staircase between two walls with a 6 inch rise. The illustration depicts a vertical retaining wall, but for engineering purposes, a setback retaining wall would be needed. This would interface with the vertical staircase insert as Sigma 6 inch supports both vertical and setback walls with indexing knobs for both configurations and geogrid locking. Sigma 8 stairs follow the same instructions and the Cambridge Staircase Filler Block will be used with the 8 inch height (riser height will be 8 inches). To go vertical for stairs, Sigma 8 will need the knobs removed and glued with retaining wall adhesive.

Prepare the base (also refer to base section under Wall Products / General Information in the this book). Set the base for Sigma wall stones in all directions to the length desired.

Notes: The Cambridge Sigma 6 inch Corner can be purchased or split in the field from a full wallstone. Sigma Stone are set “knob down”. Tap the stones into the base with a dead blow hammer, keep level and straight, and use a line on the rear of the wall stones to guide each layer (it might be easier to break the knobs off on the first layer).

If you are installing on concrete, knobs must be removed. Glue the first layer with adhesive. Next, place and compact soil in front of the Sigma wall stones to set the embedment.

Refer to Sigma Wall construction in this book for the correct procedures in building an engineered retaining wall including how many inches of the wall to bury, drainage, soil, water, load, geogrid and other factors.

Sigma wall stones have to be filled and Backfill must be used on every layer. This page only shows the correct procedure for laying the wall stones and for a step layout, it is not a structural guide.

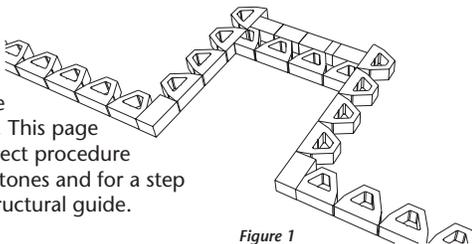


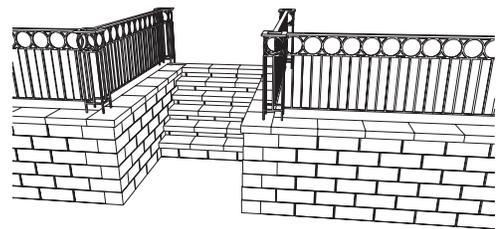
Figure 1

First Layer

In the illustration, the first step is buried 3 inches below the finished grade paver height. This will ensure a 6 inch step height when installing a cap stone.

It is important to ensure that the wing walls from both sides of the steps are level with the step layer. This will allow you to tie in every other step layer into the wall. Cambridge Staircase Filler Block (6H x 8D x 12W) is shown set behind the first step, additional filler stones under all steps and landings eliminate the need to compact aggregate. This is an economical way to stabilize and easily level the area behind and under adjoining steps. If low voltage step or wall lights will be part of the project, make arrangements now to bury or notch for the wiring.

Note: Include your steps in any drainage system you will be using for the walls as water can build up behind steps and cause damage from hydrostatic pressure.



Determine The Number Of Steps

To calculate how many steps will be needed, calculate the height from finished grade to the top cap layer. Take that measurement and divide by the riser height, which in this case is 6 inches. Sigma 8 will produce an 8 inch rise.

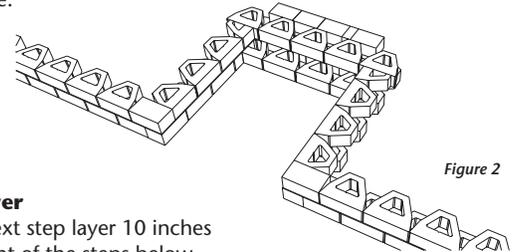


Figure 2

Second Layer

Install the next step layer 10 inches from the front of the steps below.

Break the bond by staggering the joints and tying stones into the wall on each side. Apply adhesive to secure the step stones in place with 2 inches catching the step below. Continue laying the wall, adding rock, backfill and geogrid as specified. Cut and glue Sigma wall stones that must be trimmed as they carry into the wall stones from the steps and protrude into the wall on each even numbered layer of steps. See Figure 2.

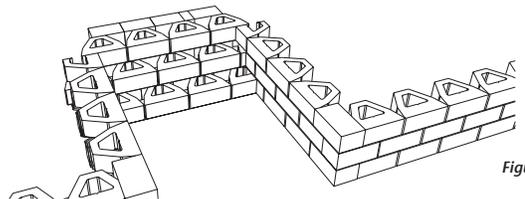


Figure 3

Third Layer

Repeat the step pattern of the first layer on every “odd” numbered layer of steps. The second layer is a guide for all “even” numbered layers. Follow the guidelines for backfill, compaction and drainage control as stated in the base section of this handbook. See Figure 3. Note: Consider a landing to break up a large rise.

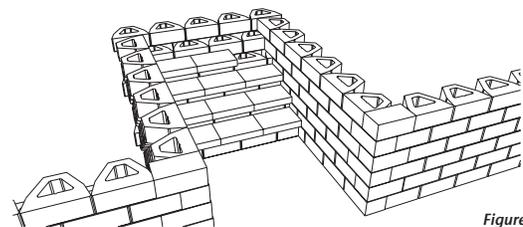


Figure 4

Large Caps

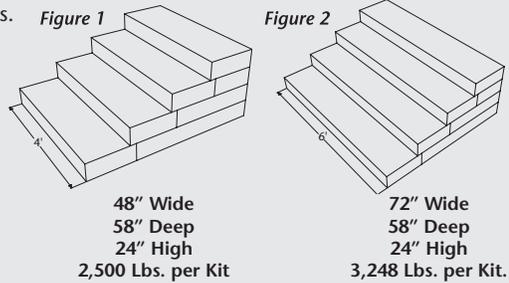
The steps will be finished with Cambridge Single Sided Caps (3H x 12D x 18W). This will allow a 2 inch overhang and a full 12 inch tread (run) depth. Apply adhesive to all cap stones. Note: Walls higher than 36 inches normally require the services of a professional engineer. Check with your local building department for specific local regulations. See Figure 4.

**Installation Instructions:
Cambridge Cast Stone Stair Kits**

**Stair Kits are offered
by Cambridge in 2 sizes:**

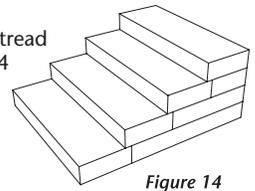
Each kit comes with 4 Steps and 6 Risers. See the below diagram for 2-6 Stair combination possibilities. Note: Risers can not be purchased separately. In order to achieve the 5-6 stair layouts, additional kits would have to be purchased.

All stairs are made from a 7000-psi concrete mix and are reinforced with 2 pieces of # 4 rebar.



Fourth Step

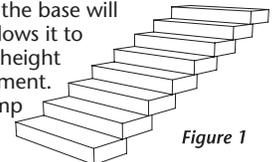
Install the last stair tread on top of the 2 – 14 inch risers to complete your kit.



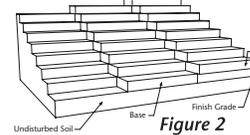
**Installation Instructions:
Cambridge Cast Stone Individual Stair Treads**
(Be sure to check with your town's local building codes and requirements before installation)

Base

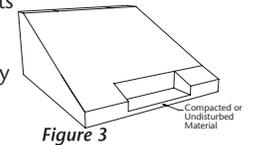
The base is vital for long term performance and stability. The base must be level and set at the proper height. The base can be constructed with 3/4 inch crushed stone or poured concrete. Start by digging the footing for the first step. The step will sit on the footing, so make sure the top of the base will be at a height that allows it to begin at the finished height of your existing pavement. Compact or hand tamp any loose soil.



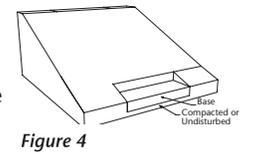
If using 3/4 inch crushed stone, the base should be 6-12 inches deep depending on your soil conditions.



Compact in 3 inch lifts until the footing has reached the proper height and is perfectly level.

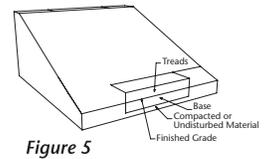


If using poured concrete, you will need to build a form that is slightly larger than the dimensions of the step. Fill in with concrete and level with a screed board back to front and side to side. Let the pad cure for 24 hours before removing the form and placing the step.



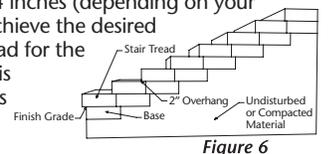
Setting the First Step

Place the first step onto the footing. Check to make sure it is positioned correctly and is seated firmly. The step should pitch forward slightly to allow water run off.

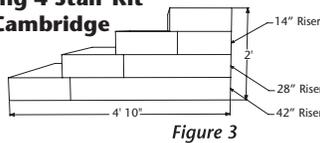


Second Step

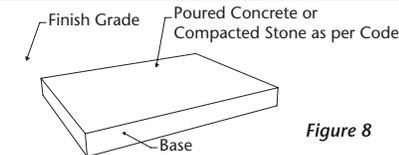
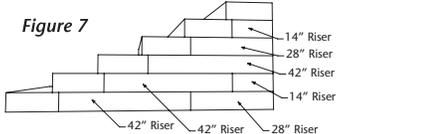
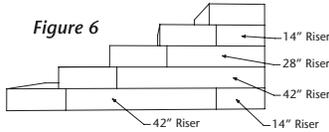
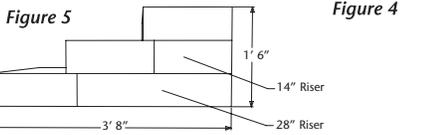
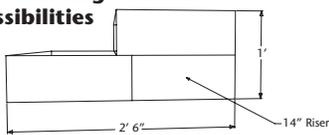
After installing the first step, dig the footing for the second step and repeat the above process. The footing should be high enough so that the next step rests on the step in front while firmly seated on the footing. Move the second step forward 2-4 inches (depending on your local code) to achieve the desired depth of the tread for the step in front. This dimension needs to be consistent with each step.



**Free Standing 4 Stair Kit
Layout by Cambridge**



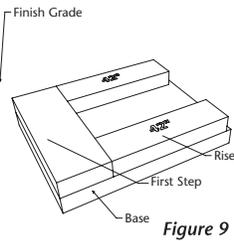
**Other Free Standing Stair Kit
Layout Possibilities**



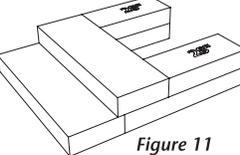
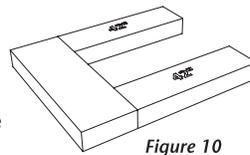
If using poured concrete, you will need to build a form that is 4 inches larger than the dimensions of the kit. Fill in with concrete and level with a screed board back to front and side to side making sure it is perfectly level. Let the pad cure for 24 hours before removing the form and installing the kit.

First Step

Install the first step tread and the 2 – 42 inch risers (install risers with rock faced side facing out). A construction adhesive can be used if desired. Make sure you install the steps from the ground up. As you go up, the front of each step will rest on the back of the step below it by 2 inches.



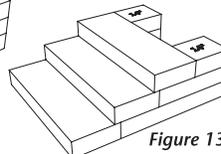
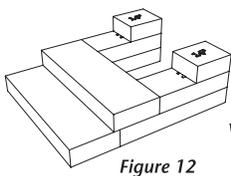
Second Step
Install the 2 – 28 inch risers on top of the 42's then add the second stair tread.



Check with your local code to see if they require you to fill in the inside open cavity of the kit. See Figures 10 and 11.

Third Step

Install the 2 - 14 inch risers on top of the 28's then add the third stair tread. See Figures 12 and 13.



(Be sure to check with your town's local building codes and requirements before installation)

Base

Start out by marking out and digging the footing. The base should be 4 inches bigger than the kit and should be a depth of 6-12 inches made out of either 3/4 inch crushed stone or poured concrete (based on your local code). One step and 2 – 42 inch risers will sit on the footing, so make sure the top of the base will be at a height that allows it to begin at the finished height of your existing pavement. Compact or hand tamp any loose soil. If using 3/4 inch crushed stone, the base should be 6-12 inches deep depending on your soil conditions. Compact in 3 inch lifts until the footing has reached the proper height and is perfectly level.

PAVINGSTONES COLOR SELECTION GUIDE



Chestnut	Onyx	Ruby	Sahara	Salmon	Shell	Bluestone Blend	Canyon Blend	Chestnut/Bronze	Chestnut/Salmon	Desert Beige	Golden/Onyx	Limestone Quarry Blend	Montauk Blue	New England Blend	Onyx/Chestnut	Onyx/Natural	Redrock Blend	Riverbed Blend	Ruby/Onyx	Sahara/Chestnut	Sahara/Chestnut Lite	Salmon/Onyx	Sandstone Blend	Toffee/Onyx	Toffee/Onyx Lite	Toffee/Onyx/Mauve	Vermont Slate
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THE SHERWOOD COLLECTION

Ledgestone 3-Pc. Design Kit	■	■				■	■	■		■	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Ledgestone 4 1/2 x 9	■	■				■	■	■							■	■		■	■	■	■	■	■	■	■	■	■	
Ledgestone 9x9, 9x18 & 18x18 Design Kit						■	■	■		■	■				■	■		■	■	■	■	■	■	■	■	■	■	
Ledgestone 18 x 18	■	■				■	■	■							■	■		■	■	■	■	■	■	■	■	■	■	
Ledgestone XL 3-Pc. Design Kit						■	■	■					■	■			■	■	■	■	■	■	■	■	■	■	■	
Ledgestone XL 15 3/4 x 23 5/8						■	■	■																				
Ledgestone Circle Design Kit	■	■				■	■	■											■	■	■	■	■	■	■	■	■	
XL Smooth 3-Pc. Design Kit						■	■	■							■	■		■	■	■	■	■	■	■	■	■	■	
XL Smooth 15 3/4 x 23 5/8						■	■	■																				
XL Smooth Circle Design Kit						■	■	■																				
Cast Stone Slabs	Available in Bluestone, Sandstone, Sage, Rose, Rustique and Dark Chestnut																											
Belgium 5-Pc. Cast Stone Kit	Available in Midnight Onyx, Ashland Blend and Heritage Gray																											
Brick Alley Cast Stone	Available in Brandywine, Potter's Kiln, Tawny and Heritage Gray																											

THE ROUNDTABLE COLLECTION

4 1/2 x 6	■							■	■						■	■		■	■	■	■	■	■	■	■	■	■	
6 x 6	■	■				■	■	■		■	■		■	■	■	■		■	■	■	■	■	■	■	■	■	■	
6 x 9	■	■				■	■	■		■	■		■	■	■	■		■	■	■	■	■	■	■	■	■	■	
Circle Design Kit	■	■						■	■						■	■		■	■	■	■	■	■	■	■	■	■	
Random Design Kit								■	■						■	■		■	■	■	■	■	■	■	■	■	■	
RoundTable 6 x 6 QuartzTec	Special order only.																											
RoundTable 6 x 9 QuartzTec	(In Shell with Black crystals; other crystal colors available.)																											
RoundTable Circle QuartzTec																												

THE RENAISSANCE COLLECTION

4 x 8 Holland																					■	■						
6 x 6																					■	■	■	■	■	■	■	
6 x 9	■	■																			■	■	■	■	■	■	■	
12 x 12																						■	■	■	■	■	■	
6 x 12 Bullnose - 2 3/8" Thick	■	■						■	■												■	■	■	■	■	■	■	
Circle Design Kit	■	■																			■	■	■	■	■	■	■	
Random Design Kit																					■	■	■	■	■	■	■	
Renaissance V																					■	■	■	■	■	■	■	
Ledgestone	Special order only.																											
Ledgestone 18 x 18																												
Ledgestone Circle Design Kit																												
Olde English 3-Pc. Design Kit																						■	■	■	■	■	■	
Aqua-Bric Type I																						■	■	■	■	■	■	

THE KINGSCOURT COLLECTION

4 x 8 Holland	■	■	■	■	■	■																					
Holland II	■	■	■	■	■	■																					
6 x 6	■	■	■	■	■	■																					
6 x 9	■	■	■	■	■	■																					
8 x 8	■	■	■	■	■	■																					
12 x 12	■	■	■	■	■	■																					

THE EXCALIBUR COLLECTION

Cobble I	■	■	■	■	■	■																					
Cobble I Edger	■	■	■	■	■	■																					
Diamond	■	■	■	■	■	■																					

THE CRUSADER COLLECTION

4 x 12 Bullnose - 2 3/8" Thick	■	■	■	■	■	■																						
6 x 12 Bullnose - 2 3/8" Thick	■	■	■	■	■	■																						
Ledgestone Cast Stone	Available in Sahara/Chestnut, Toffee/Onyx, Onyx Natural, Bluestone, Sandstone, Sage, Rose and Dark Chestnut																											
Holland without Spacer Bars & Chamfered Edges	■																											
Ledgestone Permeable 3-Pc. Design Kit																												
Aqua-Bric Type I																												
Turfstone	Available as a custom order in Natural only																											
4 x 8 Holland ADA Paver	■																											

■ = Custom Order Only

Fast Facts

Efflorescence

A whitish, powder-like deposit referred to as efflorescence sometimes appears on concrete products. In no way does it affect the structural integrity of the pavingstones and will wash away over time. The use of concrete setting beds may also increase the possible occurrence of efflorescence. Because this is a natural occurrence, you the contractor, the Cambridge Distributor, and Cambridge Pavers Inc. accept no responsibility or liability for this condition. If necessary, present the Interlocking Concrete Pavement Institute (ICPI) brochure, "Managing Efflorescence on Concrete Pavers" for more information on this natural occurrence.

The Color In Pavingstones

The color in pavingstones (synthetic iron oxide pigment) meets ASTM designation C-979-82 standards. Because concrete pavingstones are made from natural materials, colors may vary. Pavingstone colors exhibit excellent weatherability and are light fast. However, all pavements wear, as do pavingstones. ArmorTec® – our unique technology – the use of granite in our manufacturing process (one of the hardest rocks), and synthetic iron oxide pigments, in Cambridge Pavingstones, prevents the stone particles in concrete pavers from being revealed after prolonged wear. Learn more about these added value advantages in the ArmorTec® Section of this handbook.

Cambridge Blends are a combination of two or three select solid colors mixed in unequal amounts for an appearance that is truly unique to each pavingstone and as a result, every installation. Since the process of making Cambridge Pavingstones in two and three-color blends is random, every cube has a different blend wherein one color may predominate the other. To maximize color dispersion, install blends and solid colors by the band, removing the pavers from top to bottom, using multiple cubes.

Final color selections must be made from samples obtained from an Authorized Cambridge Distributor.

Scan Here
To Learn More
About Blending



Test Results

Concrete pavers must adhere to ASTM C936 specifications. Cambridge Pavingstones with ArmorTec® continuously exceed these specs for strength, absorption and freeze/thaw. See Page 9 for test results.

THE CAMBRIDGE TRANSFERABLE LIFETIME WARRANTY

Cambridge Pavers Inc. warrants to the owner that, should a Cambridge pavingstone or wallstone, installed according to our installation guidelines, prove defective, it will be replaced without cost. Replacement labor is not included. This warranty is transferable with valid proof of purchase.

Note: – Efflorescence, a whitish, powder-like deposit that sometimes appears on concrete products, in no way affects the structural integrity of the pavingstones and will wash and wear off over time. The use of concrete setting beds may also increase the possible occurrence of Efflorescence. Because this is a natural occurrence, Cambridge Pavers Inc. accepts no responsibility or liability for this condition. Cambridge Pavingstones are made from natural, environmentally-friendly material, and therefore, variations in color may occur.

– Polymeric haze from the use of polymeric joint sand may appear on your concrete products if the sand was not removed from the surface of the paver properly. This does not affect the integrity of the product or your installation. The hazing will weather away naturally with time and rain or it can be removed with a specialized cleaner, you are advised to contact your contractor. Cambridge Pavers, Inc. accepts no responsibility or liability for this occurrence.

– De-icing chemicals — We recommend using sand as the preferred method for providing skid and slip resistance. If using de-icer we recommend only sodium chloride (NaCl). De-icer should be applied sparingly. Once loosened snow and ice should be promptly removed to avoid a build-up in concentration of the de-icing chemical. Do not use products that contain a blend of chemicals.

Important Notice: A bolt-on urethane protection mat must be attached to the plate compactor as a precaution against surface scuffing on all pavingstones from The Sherwood and RoundTable Collections as well as textured pavingstones from The Renaissance Collection.

In order to make a claim under this warranty, the owner must return the defective pavingstone or wallstone to the dealer who sold the product. Any implied warranties of merchantability and/or fitness for a particular purpose are limited in duration as stated above. The exclusive remedy under this warranty is replacement of a defective pavingstone or wallstone. Cambridge Pavers Inc. shall not be liable for incidental or consequential damage arising from any breach of warranty. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. Any court action making a claim under this warranty must be commenced within one year of the date on which the defect was, or in the exercise of reasonable care, discovered. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Cast Stone Products Warranty: Cambridge Pavers, Inc. warrants to the original purchaser (with a proof of purchase) that should the Cast Stone products (Brick Alley, Belgium 5-Pc. Design Kit, Steps, Caps, Ledgestone Cast Stone, or Cast Stone Slab 3 Pc. Design Kit) installed according to industry standards and in compliance with our installation guidelines, prove defective, it will be replaced without cost. Replacement labor is not included. This Warranty is good for as long as the original purchaser owns the real property on which the Cast Stone was installed. Cast Stone products meet or exceed ASTM C672. The use of de-icing salts (sodium chloride [NaCl]) will alter the surface texture of these products over time. Cambridge cannot guarantee the color match of any replacement units. Cast Stone products cannot be compacted.



www.cambridgepavers.com