Pavers by Ideal®

GravityStone®

The 1-2-6 System

Single Cell

- One Product
- Two Systems
- Six Structural Solutions

- *Components suitable for Modular gravity and MSE construction at any wall height*
- *Up to 50% reduction in geogrid - in both layers and length*
- *Minimizes scope and volume of soil excavation resulting in a significant reduction in labor and equipment hours*
- *Self-draining in-fill permits all weather construction*
- *Industry-leading design and construction flexibility*

Thin Face

Trunk

Anchor/Junction

ONE ANSWER

It's true! The GravityStone Earth Retention System is the industry leader in structural design flexibility for segmental retaining wall products. One product, incorporating two design options - Modular and MSE - provides engineers, design professionals, developers and contractors six design solutions for the complete utilization of a building site's capabilities.

TWO SYSTEMS

Modular: GravityStone Modular "Stack N' Fill" system is comprised of Thin Face, Trunk and Anchor/Junction units. The components easily connect by a patented Gridlock System to form a strong crib-wall assembly that is filled with free-draining gravel. *Modular's footprint typically requires 30% less excavation and shorter grid lengths than MSE systems.* As the height of the wall increases, the length of Modular's Trunk and Anchor/Junction cells decreases, forming a pyramid shape that permits building structures to be located closer to the face of the wall along the edge of property lines.

MSE: On sites best served by SRWs combined with geogrid, GravityStone MSE offers a choice of three configurations with increasing levels of connection strength, to maximize the performance of geogrid walls. For walls up to intermediate heights, Fat Face Core is the best choice. For applications with heavy surcharges or wall heights above 30 feet, use a combination of GravityStone Mini-Cell and Single-Cell configurations to create a broad footprint needed to achieve maximum vertical spacing of high strength geogrids.

SIX SOLUTIONS

1. GravityStone **Modular** Thin Face - Trunk - Anchor/Junction is ideal for a crib wall structure that does not require geogrid.
2. GravityStone **MSE** incorporates a standard Fat Face Core Unit to build tall, strong structural walls with geogrid.
3. A **hybrid design** is created by integrating GravityStone **Modular** with **MSE** to obtain the best features of both. The Fat Face Core unit matches **Modular** Thin Face unit in size, color and texture to allow seamless transition from **Modular** to **MSE** construction as the wall height increases.
4. **Modular, MSE**, and **hybrid** combinations can be built vertically.
5. **Slide Stop** - If your site has poor soils, but you need a wall with a narrow footprint, GravityStone Slide Stop is the solution that keys the base to the subgrade to counteract limiting factors of low strength soil.
6. **Double-sided**, free-standing walls or parapets are easily assembled from GravityStone **Modular** components. A double-sided, **Modular** crib structure filled with flowable, high-strength concrete saves as much as 40% over cast in-place walls!

GravityStone®

GravityStone Modular wall system is comprised of Face, Trunk and Anchor/ Junction units. The components easily connect with a patented Gridlock System to form a strong crib-wall assembly that can be built in a vertical or battered position. GravityStone Modular can be used to construct substantial, free-standing, double-sided walls!

Single Cell

GravityStone System Components

The three primary components are:

Thin Face: The standard unit for all cell configurations.

- Finish: Split face texture
- Face area: 1 sf/unit
- 18" w x 8" h x 6" d • 1 sf/pc • 59 lb/pc
- Batter: 3/4" per foot in set-back position.

Trunk: Connects the Face and Anchor/ Junction to complete the structural assembly for each cell.

- 24" l x 8" h x 4"w • 55 lb/pc

Anchor/Junction: Connects to the Trunk and creates passive resistance to prevent the cell from moving outward.

- Provides the connection for additional cells in multi-cell structures.
- The Anchor/Junctions can be used to connect to Face units as a Mini-Cell or Double-Sided Mini-Cell assembly.
- 12" l x 8" h x 5" w • 30 lb/pc

The following units complete the GravityStone system:

Corner Unit - Reversible: Used to construct outside corners.

- Finish: Split face texture
- 15" l x 8" h x 6" d • 52 lb/pc

Reversible Alignment Plug: Connect the Face units in one course to the Face units in the next course.

- Reversible design creates vertical walls when placed in forward position or battered walls with a 5/8" setback per course or 1" per foot of wall height (4.5° batter) when placed in rear position.
- Plugs are for alignment purposes and do not contribute to structural strength.

Mini-Cell:

- Consists of a Thin Face unit, and two Anchor/Junction units.
- Overall dimensions: 18" w x 8" h x 21"d

Single-Cell:

- Consists of a Thin Face unit, a Trunk unit, and an Anchor/ Junction unit.
- Overall dimensions: 18" w x 8" h x 32"d

Multi-Cell:

- Consists of a Thin Face unit, multiple (two or more) Trunk units, and multiple Anchor/ Junction units.
- Overall dimensions: 18" w x 8" h x varying depths shown below
- 2 cell depth = 58"
- 3 cell depth = 84"
- 4 cell depth = 110"

(For each additional cell add 26")

GravityStone Modular Assemblies

The units comprising the GravityStone system assemble into various cellular configurations to create a large, stable wall mass. The assembly is created by interlocking the "GridLock" couplings molded into each unit.

Double-Sided Mini-Cell:

- Consists of two Thin Face units and a Anchor/Junction unit.
- Overall dimensions: 18" w x 8" h x 21" d

Double-Sided Single-Cell:

- Consists of two Thin Face units and a Trunk unit.
- Overall dimensions: 18" w x 8" h x 33 1/4" d

GravityStone®

Composition & Performance

GravityStone is produced under controlled factory conditions, molded from a cement-rich mixture blended with select aggregates and pure iron oxide pigments formed under extreme pressure and vibration.

Physical Characteristics

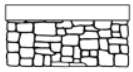
GravityStone products meet or exceed North American industry standards, including ASTM C1372 Standard Specification for Drycast Segmental Retaining Wall Units. Strict quality control ensures consistent strength and durability.

Vineyard Blend

Quarry Blend

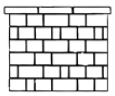
Applications

Commercial/ Municipal



Garden & Seat Walls

Pillars & Caps



Retaining Walls

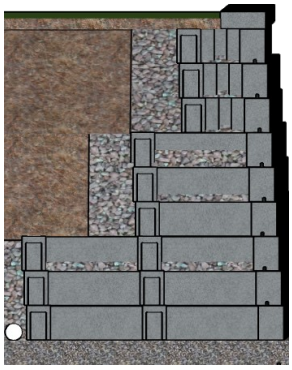
Stairs, Steps & Elevations

Two Systems

Modular: Assemble the components and place the aggregate, it's that easy. *Modular's narrow footprint typically requires 30% less depth than MSE*, allowing a fit on tight sites, minimizing excavation, and all weather construction.

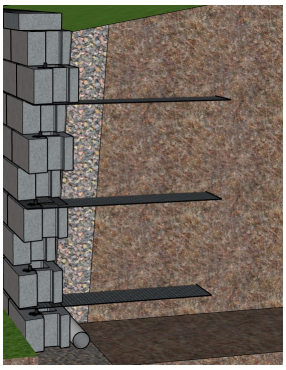
MSE: "Fill" sites typically are best served by Fat Face combined with Geogrid reinforcement (MSE).

Six Structural Solutions



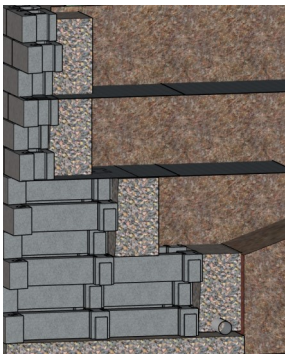
GravityStone Modular

Components assembled into "cells," form narrow walls ideal for cut wall applications.



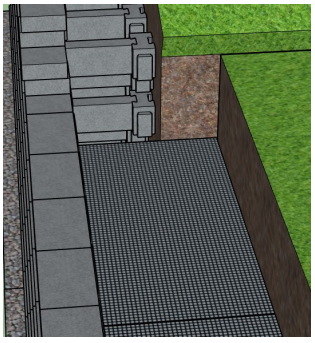
GravityStone Fat Face

With Geogrid (MSE) reinforcement for use in "Fill" wall applications.



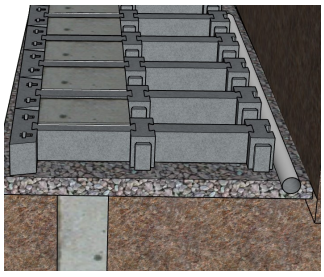
Vertical Hybrid

Combine Modular and MSE systems within the structure.



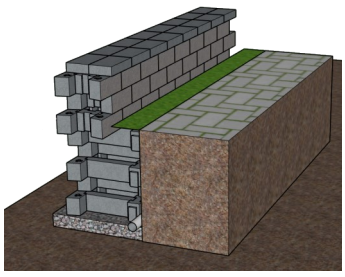
Lateral Hybrid

Combine Modular and MSE systems side by side.



Slide Stop®

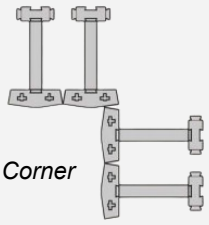
Use when soils are weak and the wall must be narrow.



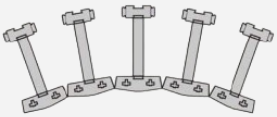
Parapets/Columns/ Double Sided

Create double-sided walls above grade with Face-Anchor/Junction Face Mini-Cell

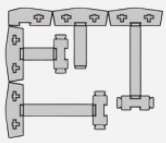
Corners



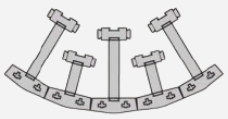
Inside Corner



Concave Walls



Outside Corner

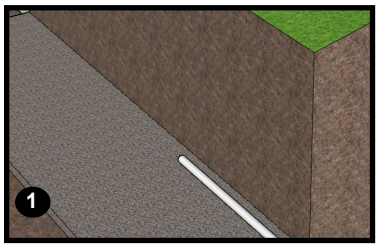


Convex Walls

GravityStone Installation

Leveling Pad

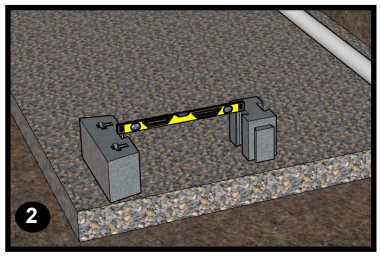
Prepare a foundation by excavating and filling with a minimum of 6" of crushed stone; ensure it is level and compacted.



Laying the First Course

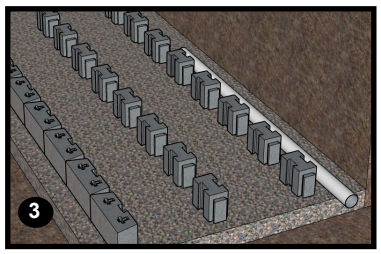
Begin the first course by starting at the lowest elevation. After placing a string line, position each Face block along the line, level side to side and front to back, using a rubber mallet to seat the block.

Tip: Use a 2 foot level to position the Anchor/Junction unit back from the face.



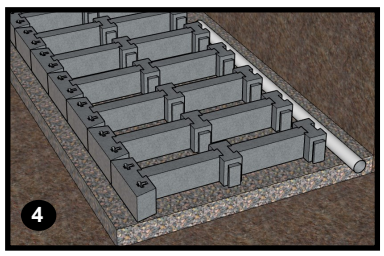
Placing Additional Anchor Junctions

Continue by laying out the full length of Faces and Anchor Junctions along the length of the wall.



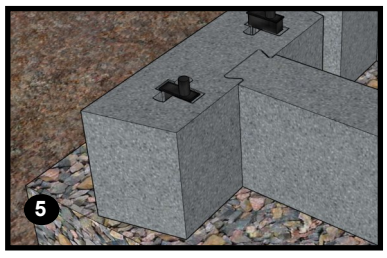
Place Trunks

Once the Anchor/Junctions and Faces are in position, simply slide the Trunk blocks into the gridlock slots of the Face and Anchor/Junctions.



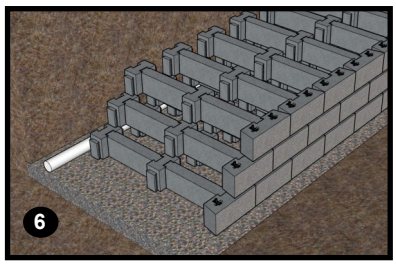
Alignment Plugs

After completing each course, place a Reversible Alignment Plug into the slots in the Face block. Placed in the forward position create a 0° batter, while reversing the plug will create a 4.5° batter.



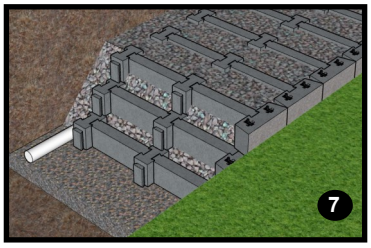
Stack the Cells

Follow sequence - Face, Anchor/Junction Trunk, Anchor/Junction until reaching a maximum of three courses.



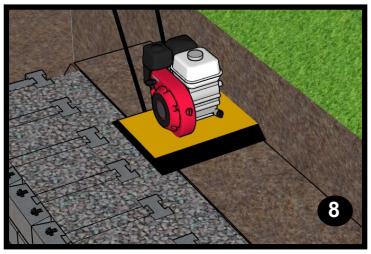
Backfill

After reaching a maximum of three courses, backfill the crib structure with the specified aggregate. Clean the tops of the Faces and Anchor/Junctions and then continue stacking.



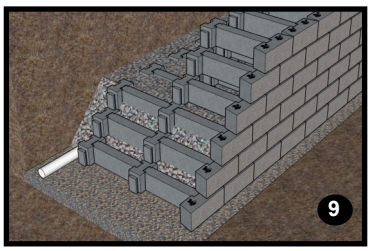
Compaction

Once the cells have been filled with aggregate, fill in the remaining cavity behind the wall assemblies with retained soils and compact.



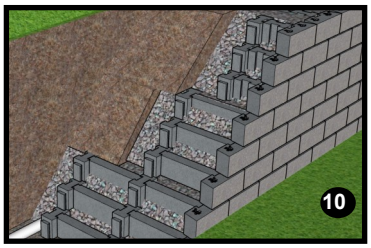
Stack Additional Courses

Continue stacking the wall to the appropriate depth and height, backfill and compact with the specified aggregate.



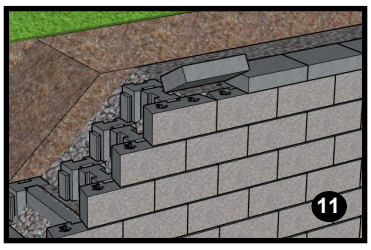
Approaching Finished Grade

Mini-cells or Fat Face Core units may be used in the top courses to maximize efficiency of the GravityStone System.



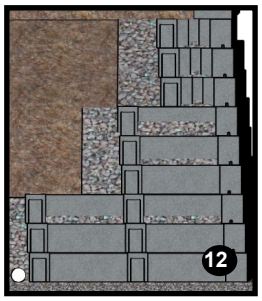
Capping the Wall

Once the body of the wall is complete and backfilled, permanently affix a solid cap to the Face Block using an approved concrete adhesive. Place 1/4' bead of adhesive along the top of the Face Block. Place the cap block onto the adhesive, making sure of its proper position



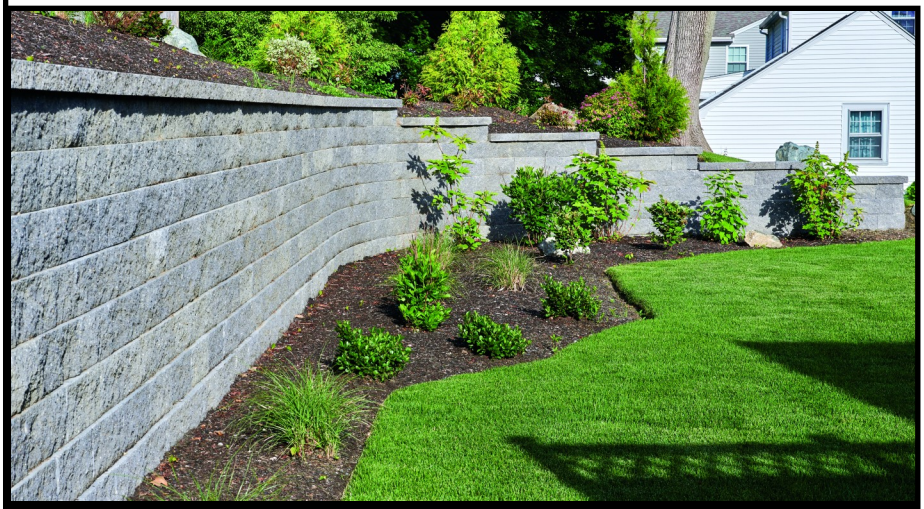
Finished Grade

Finish grading consists of properly placing and compacting fill above the top of the wall and at the toe of the wall.



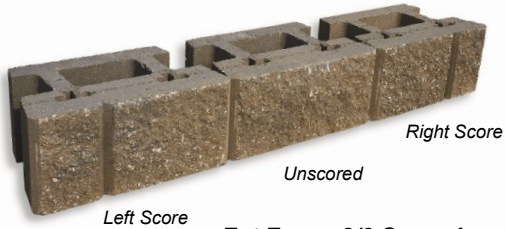
Animation *GravityStone*

GravityStone® Fat Face & Fat Face 2/3 Scored



Fat Face

Fat Face



Fat Face - 2/3 Scored

Part of the GravityStone family of wall systems, Fat Face and Fat Face 2/3 Scored provide a strong, durable, and attractive retaining wall solution for a variety of site conditions. Fat Face is our original split face unit. Fat Face 2/3 Scored is a three-piece set. Two units have a chamfered score located 2/3 along the length of the split face; the third unit an unscored split face. All three have well-defined chamfers molded into each end providing a distinctive sculptured appearance.

Both styles are one square foot blocks. The open-core design optimizes interlock from one course to the next with a “rock-to-rock” connection. For additional design flexibility, both Fat Face and Fat Face 2/3 Scored can be integrated together and used in combination with the GravityStone Modular System.

Applications

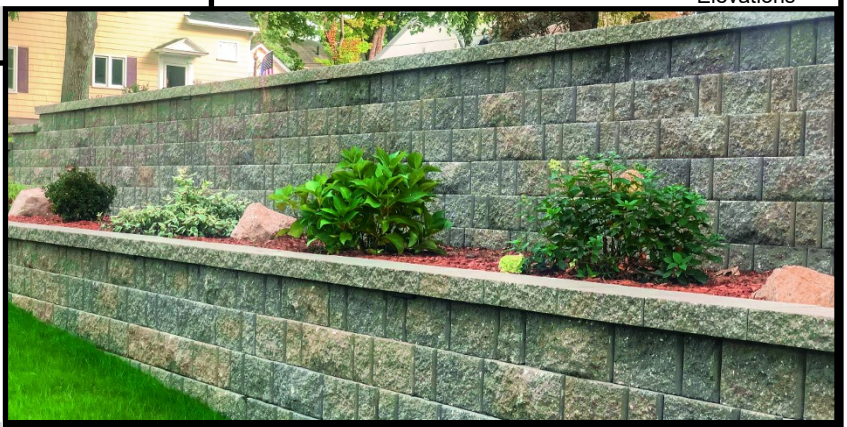
Commercial / Municipal

Retaining Walls

Stairs, Steps & Elevations

Composition & Performance

Fat Face and Fat Face 2/3 Scored are produced under controlled factory conditions, molded from a cement-rich mixture blended with select aggregates and pure iron oxide pigments formed under extreme pressure and vibration. Both style can create straight, concave, or convex retaining walls in either a vertical or battered configuration using a unique reversible alignment plug. When used with geogrid, walls as tall as 20' and higher can be constructed.



Fat Face - 2/3 Scored

Physical Characteristics

Ideal’s wall products meet or exceed North American industry standards, including ASTM C1372 Standard Specification for Drycast Segmental Retaining Wall Units. Strict quality control ensures consistent strength and durability.

Vineyard Blend

Fat Face & 2/3 Scored

Quarry Blend

Fat Face

Fat Face:	Single standard unit
Face Face - 2/3 Scored:	2 scored units, 1 standard unit
Dimensions:	18" l x 8" h x 11.25" d
Weight:	75 lbs
Face Area:	1 sf/unit
Corner Unit:	15"l x 8" h x 6" d
Compressive Strength:	4500 psi minimum
Water Absorption:	7% maximum
Dimensional Tolerance:	± 1/8"
Wall Batter:	Vertical to 4.5° (3/4" per foot)

GravityStone® Fat Face & Fat Face 2/3 Scored

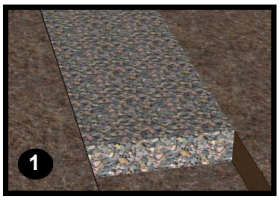
Design Considerations

Ideal provides general information on design and construction. In all cases, the user should exercise diligence in determining its suitability for the side. Walls 4' and higher, terraced walls, and sites with weak soils, slopes and surcharges require special consideration and construction techniques, including the use of geogrid. These conditions require the services of a qualified soils engineer and a professional contractor familiar with wall construction. Always comply with local building codes.

Fat Face Installation

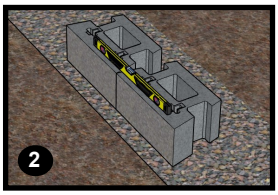
Leveling Pad

Prepare a foundation by excavating and filling with a minimum of 6" of crushed stone, ensure it is level and compacted.



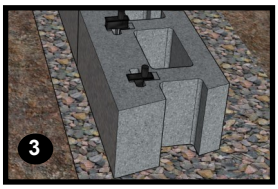
Laying the First Course

Begin the first course by starting at the lowest elevation. After placing a string line, position each Face block along the line, level side to side and front to back, using a rubber mallet to seat the block. Place perforated pipe behind.



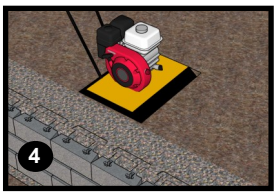
Placing Plugs

After completing each course, place a Reversible Alignment Plug into each of the two plug cores cast into the top of each block. Placing the Plug in the forward position will create a vertical wall, reversing the plug will create a 1/12 {4.5 degree} batter.



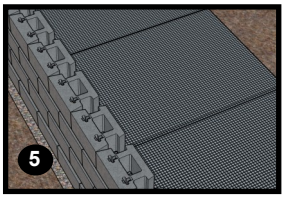
Backfill/Compaction

After reaching a maximum of three courses, backfill the GravityStone units with the specified aggregate, filling the core of the face units and an additional 12" behind. Compact the soil with a vibratory compactor to the proper density. Sweep debris from the top of the blocks before starting the next block course.



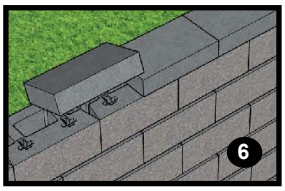
Placing Geogrid

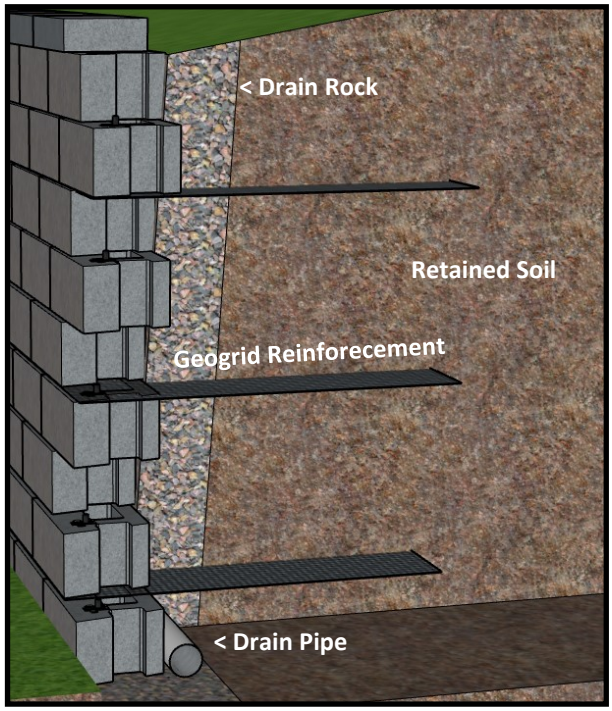
Following the engineer's design, place the Geogrid at the proper course and to the specified length. Make sure that the Geotextile is in full contact with the soil.



Capping the Wall

Once the body of the wall is complete, permanently affix a Cap Block to the Face Block using an approved concrete adhesive parallel to the wall face on both sides of the plug holes. Place the Cap Block onto the adhesive, making sure of its proper position.





Always wear proper safety equipment when cutting or sawing concrete products.

A white deposit known as efflorescence may appear naturally on any concrete or masonry product. It does not affect the structural integrity and will dissipate over time. Efflorescence is not indicative of a flawed product. For more information, ask for our Efflorescence Advisory.

Technical Information & Services

We recommend **WSB** Design software, **Ideal's** Contractor's Guide to Installing SRWs, and **NCMA's** SRWs Best Practice Guide as resources for design and technical information. We provide design consultation, including free Preliminary Engineering Design Service, specification assistance and job-site quality review.

Pavers by Ideal®

Westford & Waltham, MA
781.894.3200 ▪ info@IdealConcreteBlock.com
www.IdealConcreteBlock.com

6/21-2,500