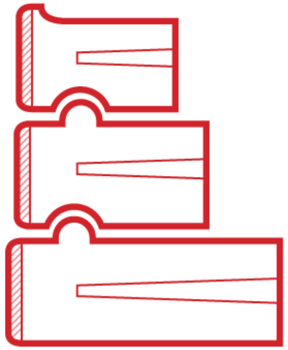
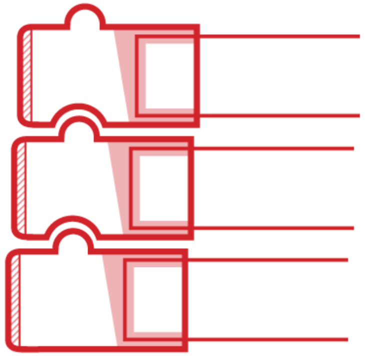
REDI-ROCK®

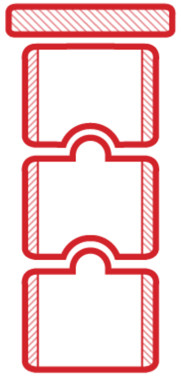
REDI ROCK®



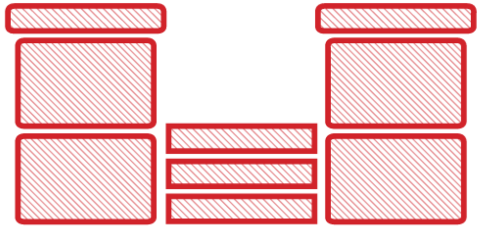
Gravity Walls



Reinforced Walls



Freestanding Walls



Steps, Caps, and Columns

What is a PMB?

Precast Modular Block PMB

- Wet-Cast, First Purpose Concrete
- Minimum Compressive Strength (4,000 psi)
- Freeze Thaw Durability (ASTM C666)
- Machine Placed

C1776 / C1776M - 17

REDI-ROCK® Textures

Ledgestone

Cobblestone

Limestone

Kingstone

Custom Textures

Redi-Rock blocks are like a one-ton Lego …

5.75 square feet (0.5 square meters) of face

Architectural-grade precast concrete

Versatility

Superior aesthetics

2240 pounds | 1015 kilograms

Redi-Rock

Standard Gravity Retaining

Standard Weight

1,500 – 3,500 lbs

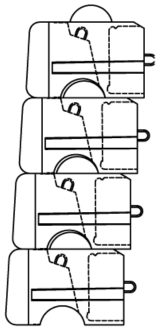
Standard Depths

28”, 41”, and 60”

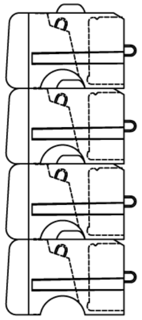
Face Dimensions

18” x 46 1/8”
5.75 square feet of face

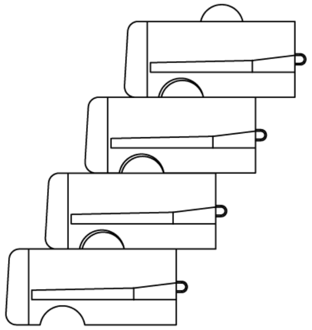
Multiple Batter Options



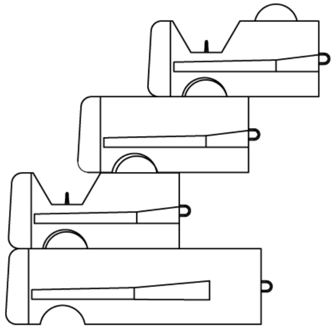
Standard Setback



Vertical Setback



9-inch Setback



Planter Setback

Standard

Standard Setback

9-Inch

9-inch Setback

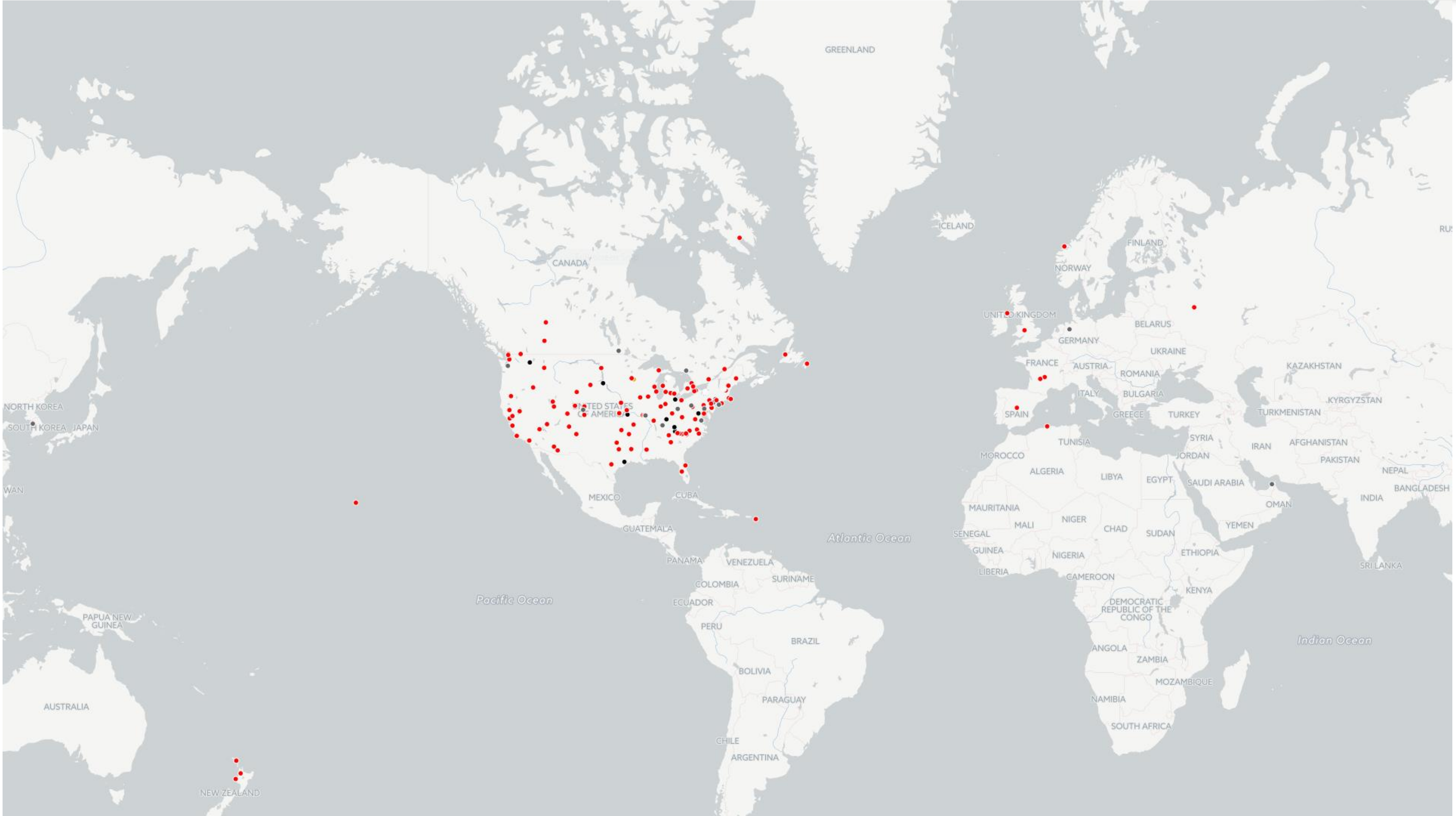
Planter

Planter Setback

REDI-ROCK®

Redi-Rock Footprint 2000

Redi-Rock Footprint 2020- 16 Countries

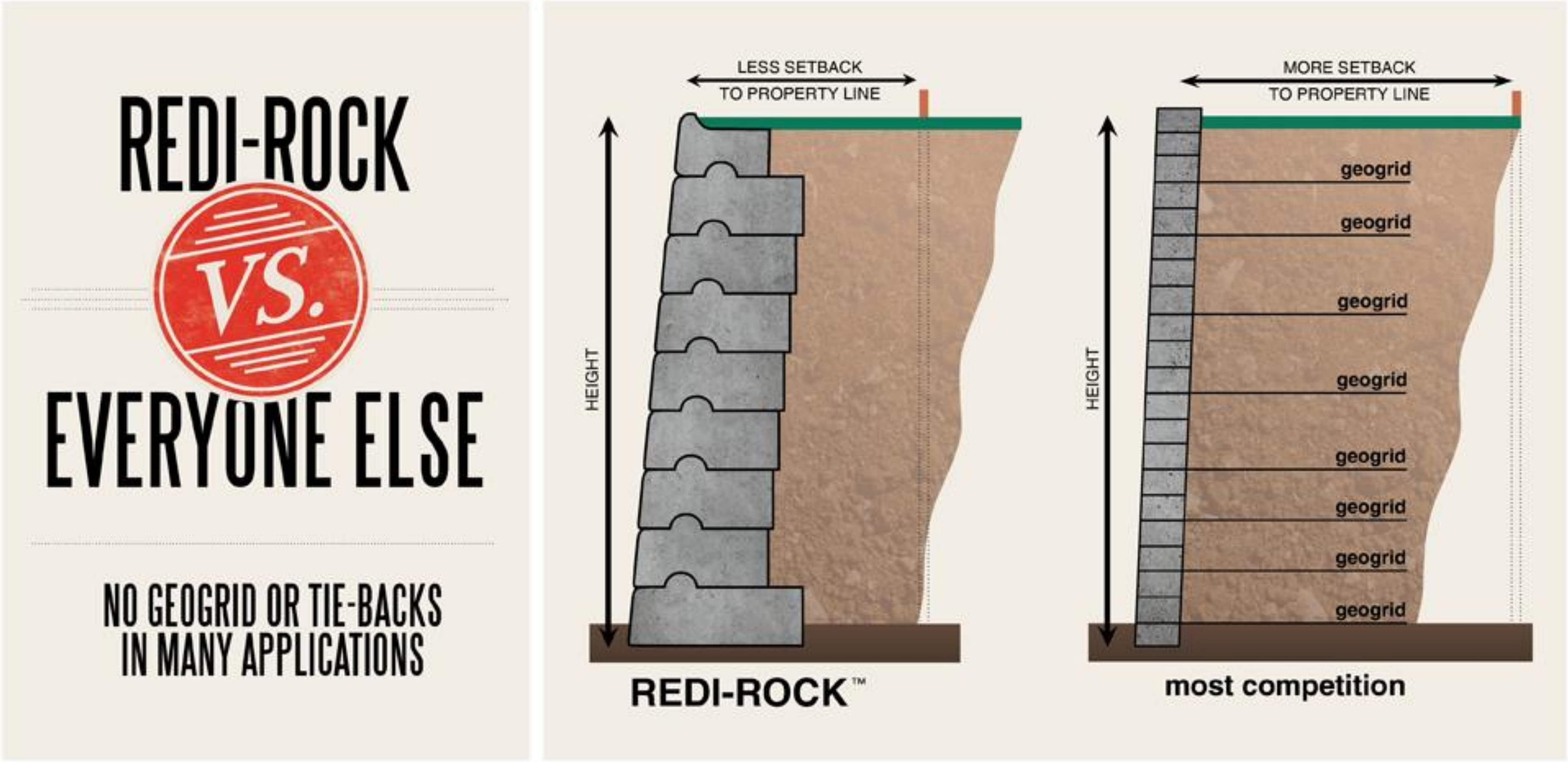


Types of PMB Walls

Gravity Walls

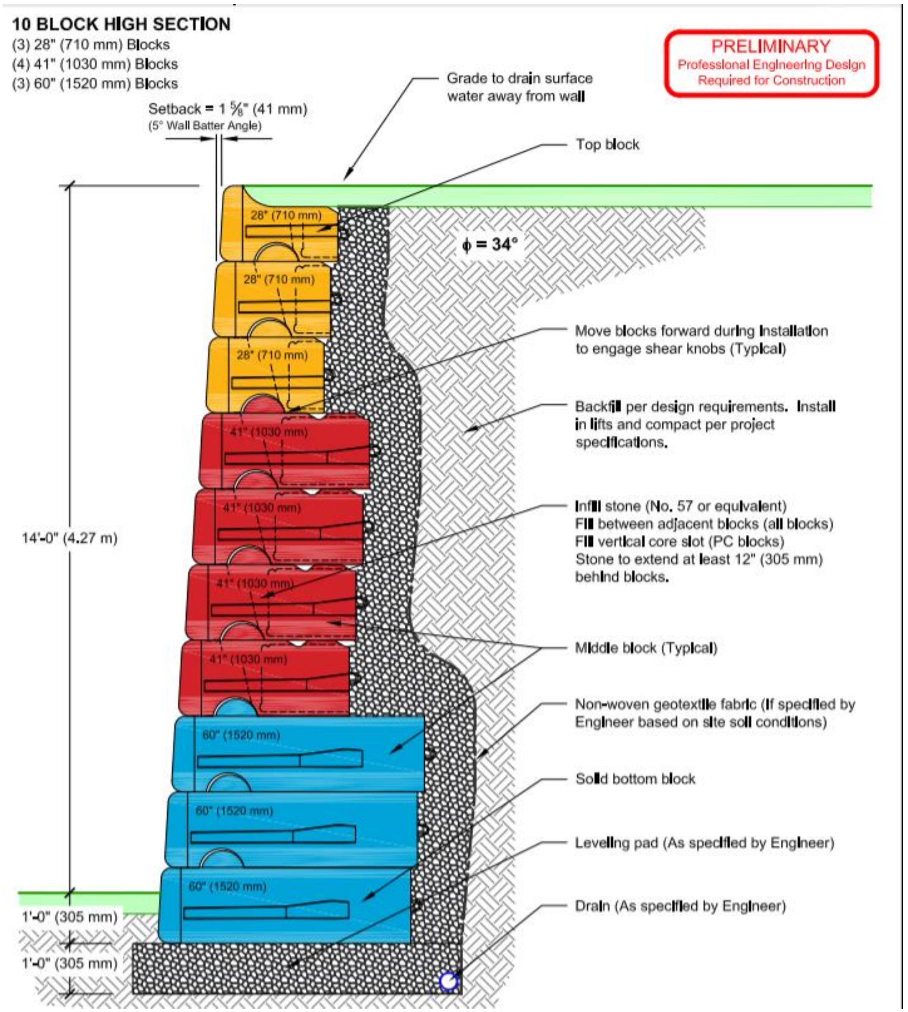
Gravity Retaining Walls

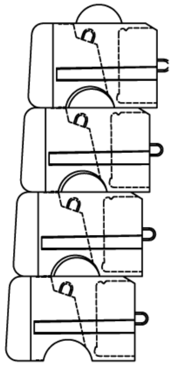
Unique, Non-Reinforced Solution



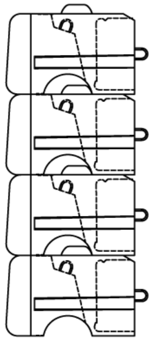
Redi-Rock

Standard Gravity Retaining

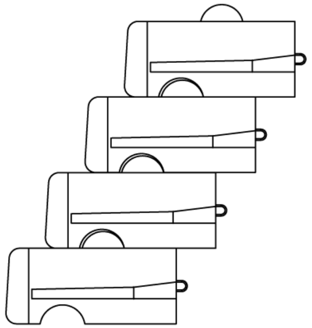




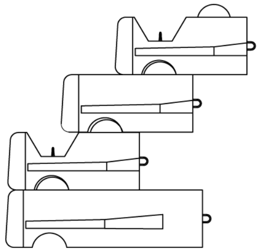
Standard Setback



Vertical Setback



9-inch Setback



Planter Setback


CAT

Redi-Rock XL

Gravity Retaining Walls

Standard Weight

3,500 – 4,900 lbs

Standard Depths

52”, 72”, 96”

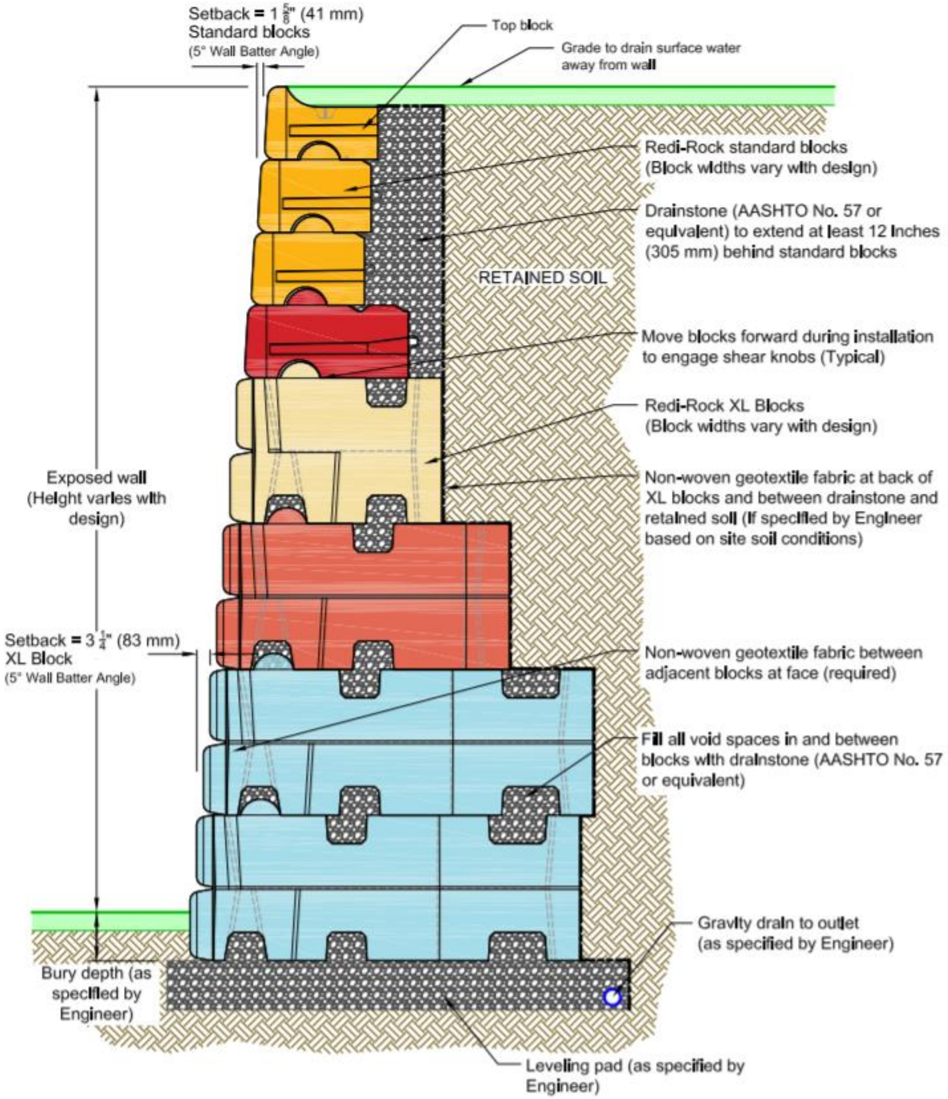
Face Dimensions

3’ x 46 1/8”
11.50 square feet of face

Redi-Rock XL

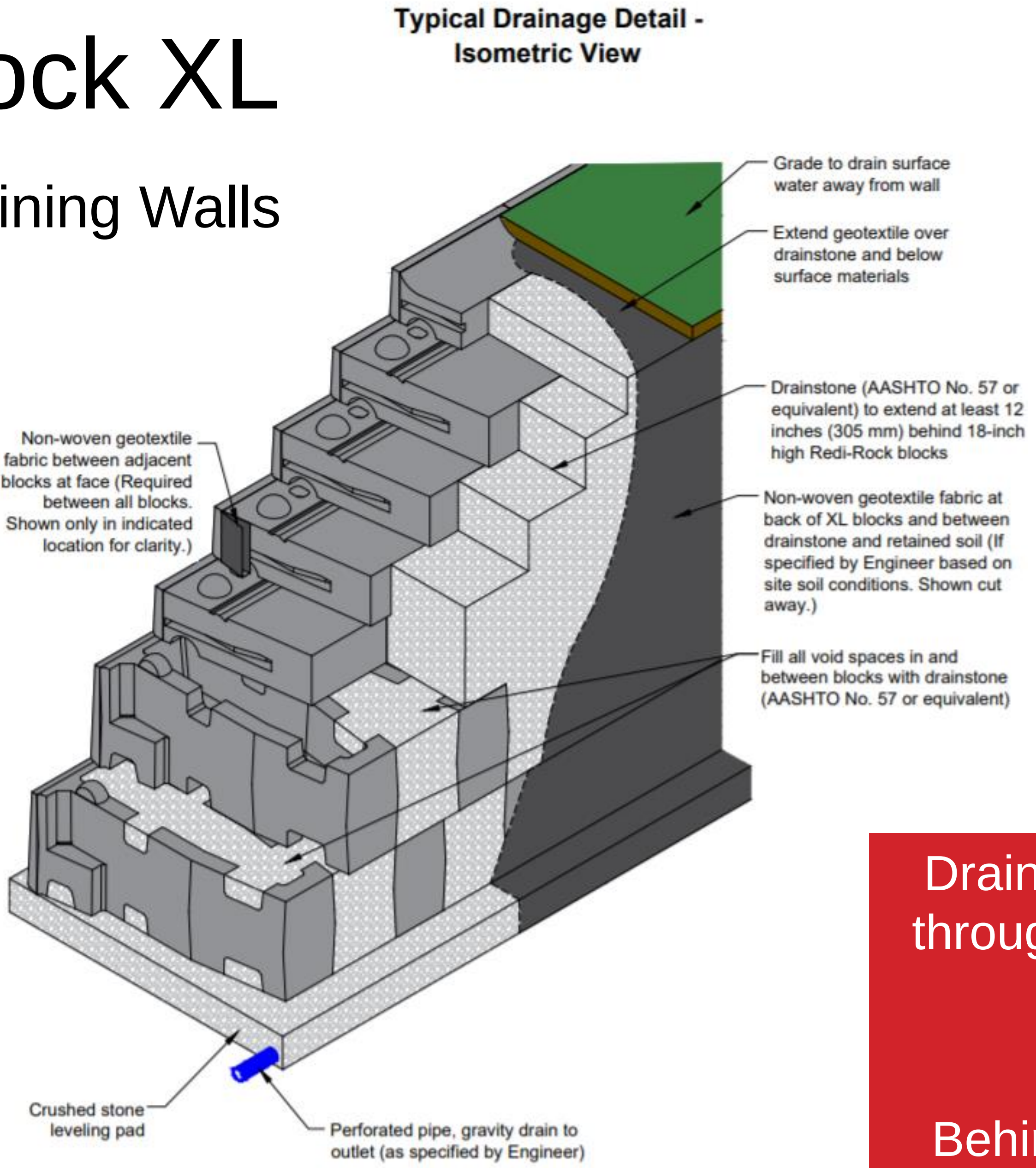
Gravity Retaining Walls

25’ Plus



Redi-Rock XL

Gravity Retaining Walls



Drainage occurs through the Block

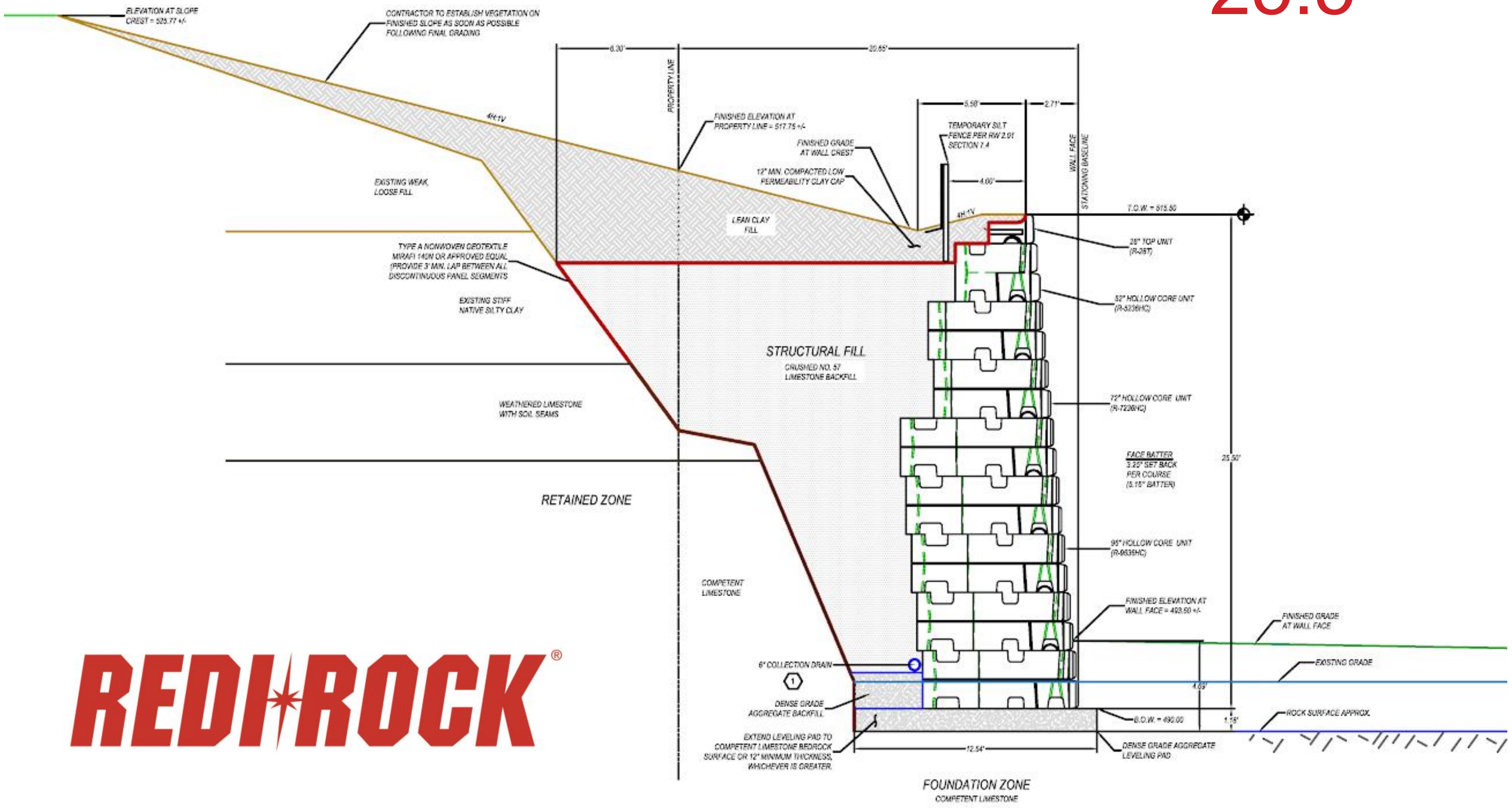
vs.

Behind the Wall

John C. Tune Airport

Nashville, Tennessee

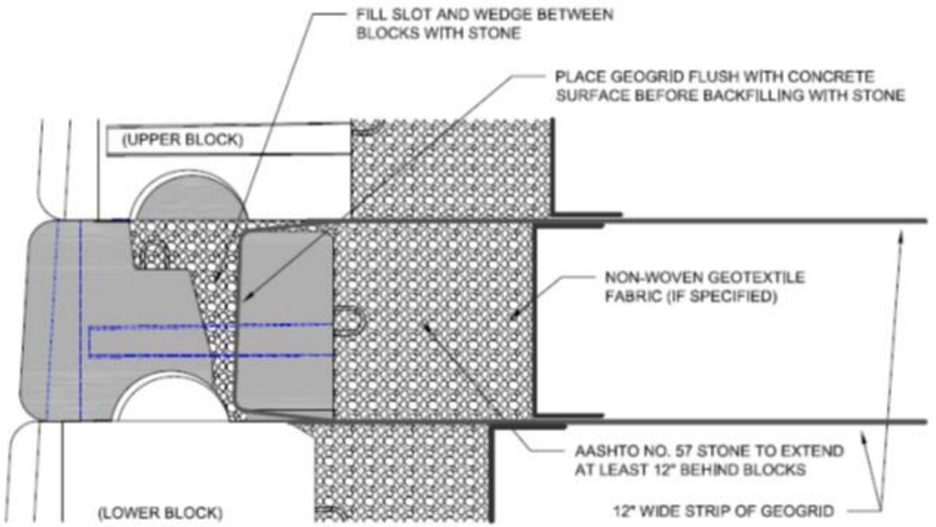
25.5’



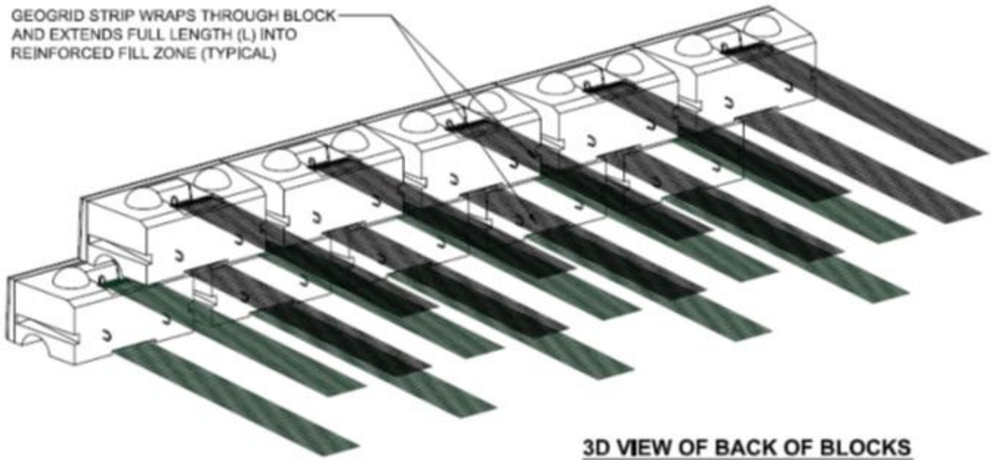
REDI-ROCK

Reinforced MSE Walls

POSITIVE CONNECTION SYSTEM



SECTION VIEW THROUGH BLOCKS
NO SCALE

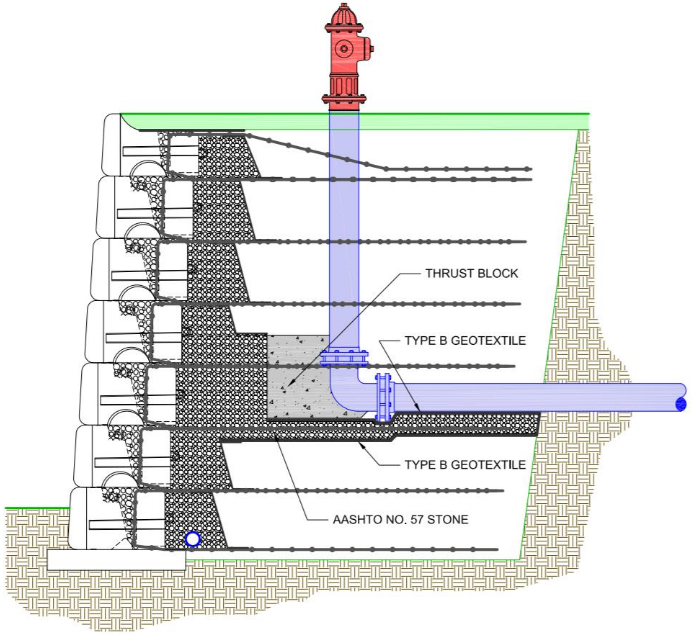


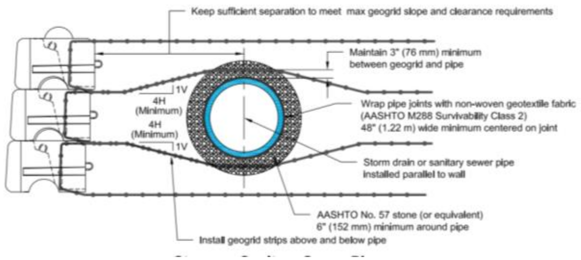
3D VIEW OF BACK OF BLOCKS
NO SCALE

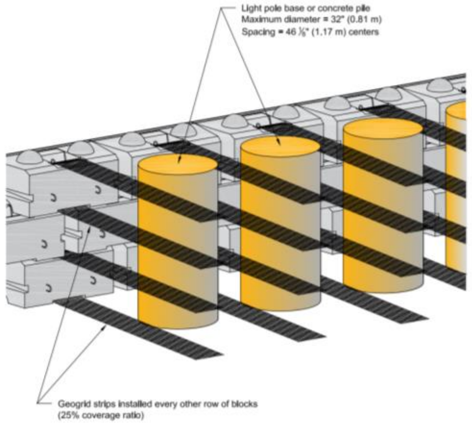
Miragrid XT Geogrid

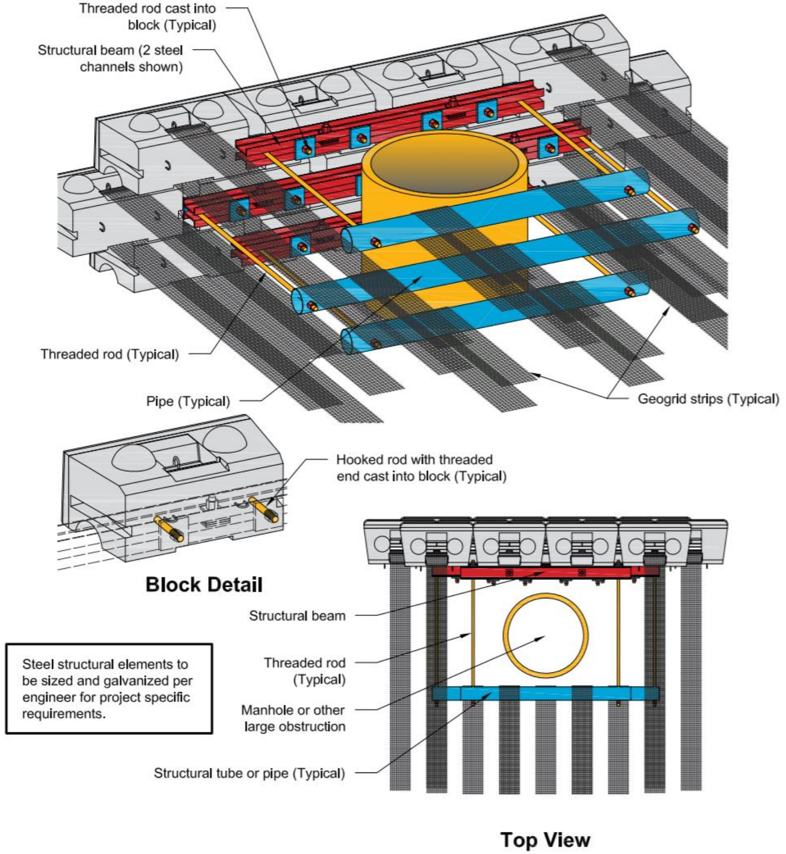
- 100% corrosion resistant
- Polyvinyl chloride (PVC) coated high tenacity polyethylene terephthalate (PET)
- 12” custom roll width
- Tensile Strengths: 4,700 - 27,400 lb/ft (5XT – 24XT)

Navigate Utilities





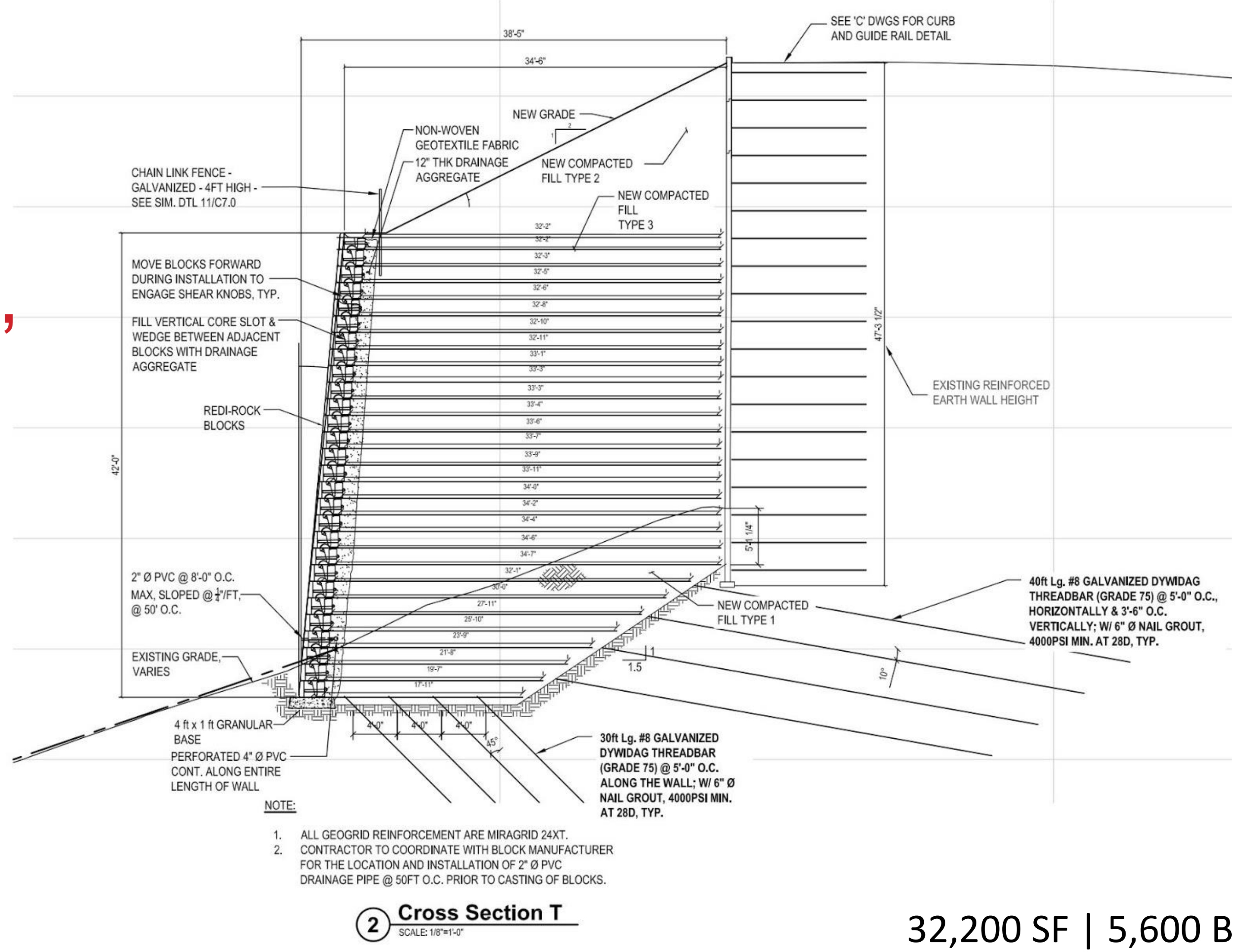




Site Development

Brewster, NY

42’

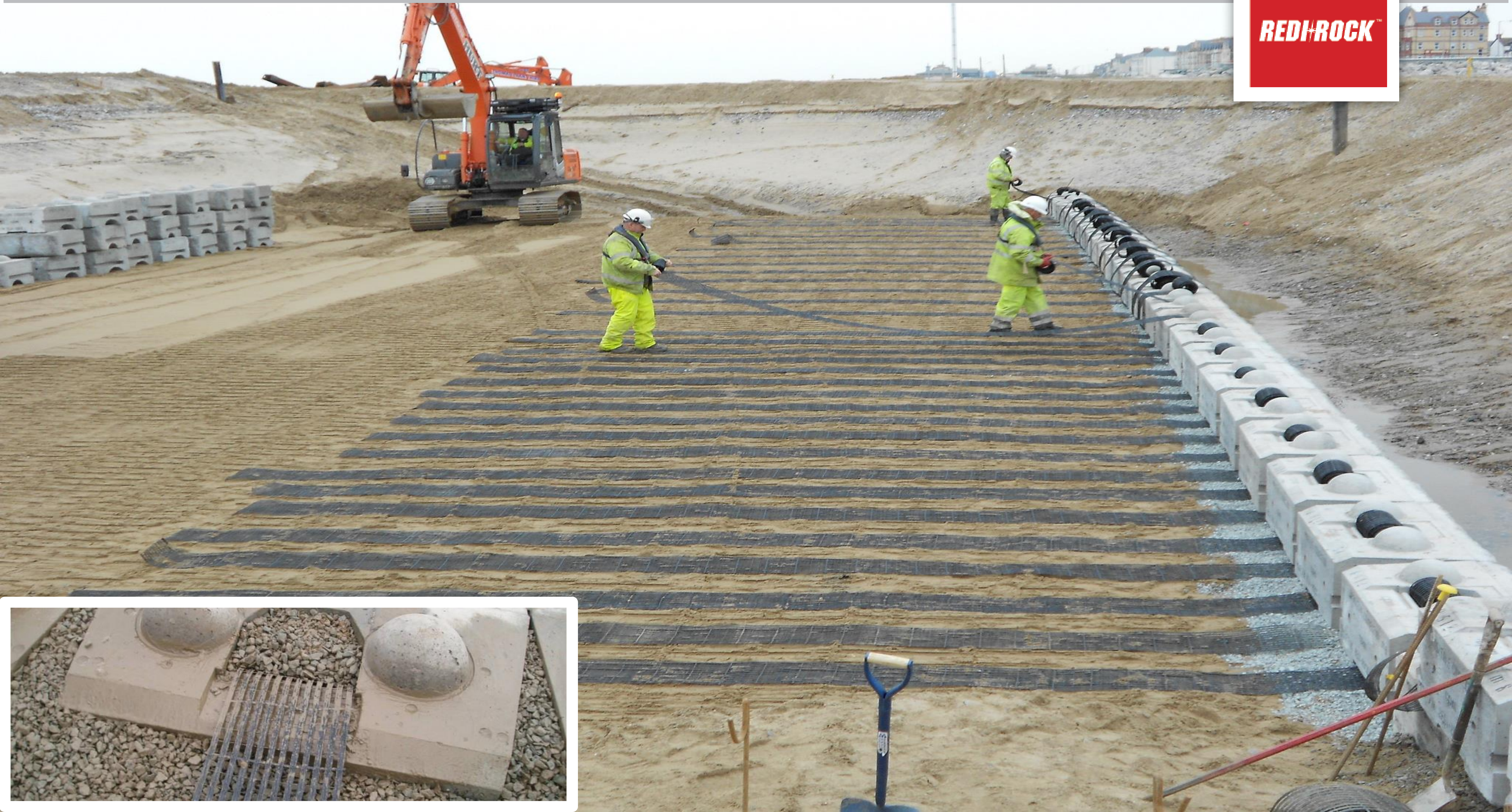


32,200 SF | 5,600 Blocks


CAT


PC

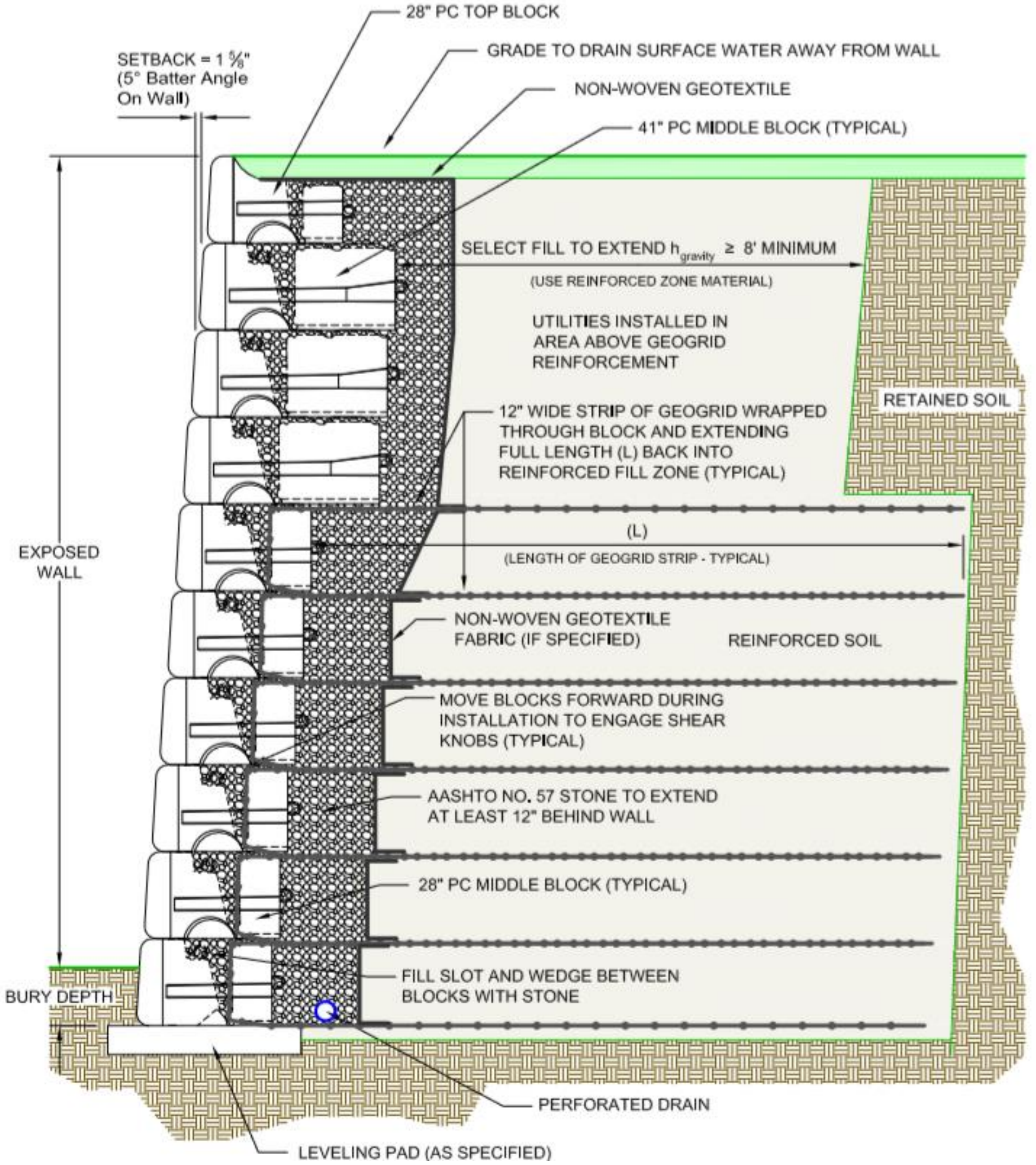
REDI-ROCK




8006
8006
CN
137

Combination
Gravity / MSE

Combination Gravity / MSE



Freestanding Walls

Redi-Rock

Freestanding / Hollow Core

Standard Weight

Solid: 1,200 lbs

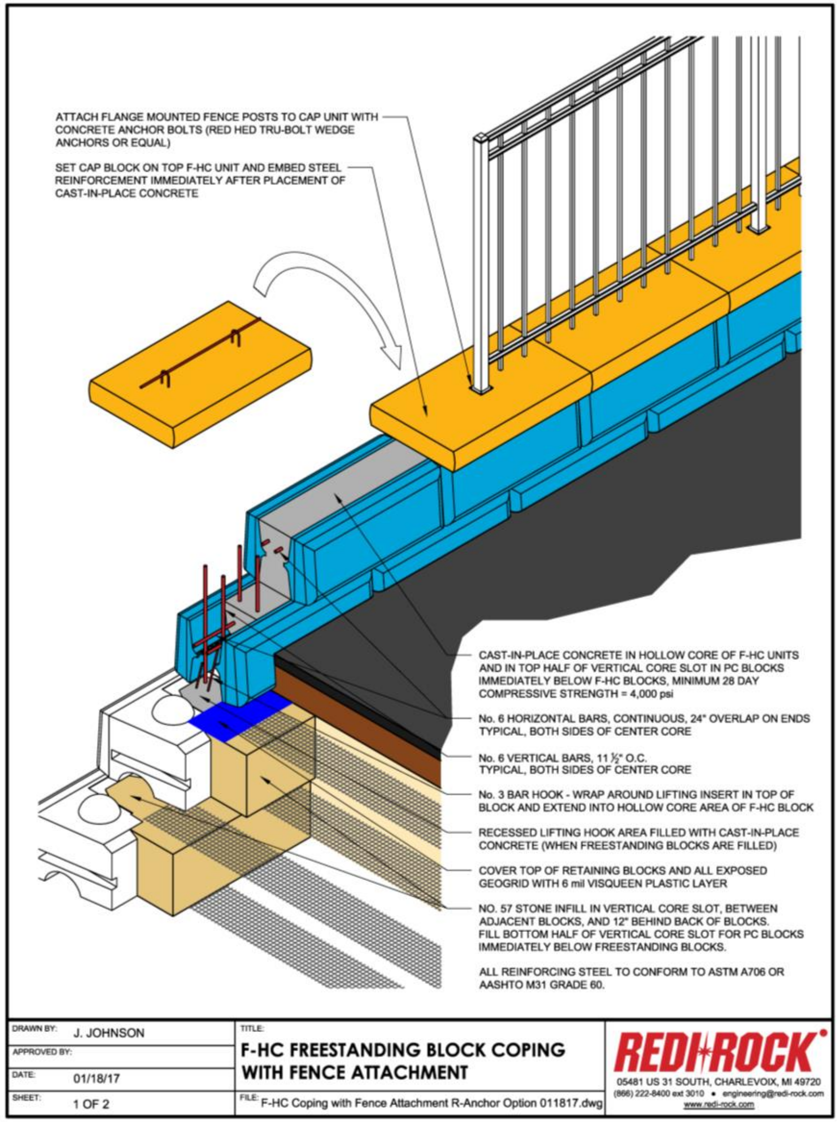
Hollow Core: 770 - 913 lbs

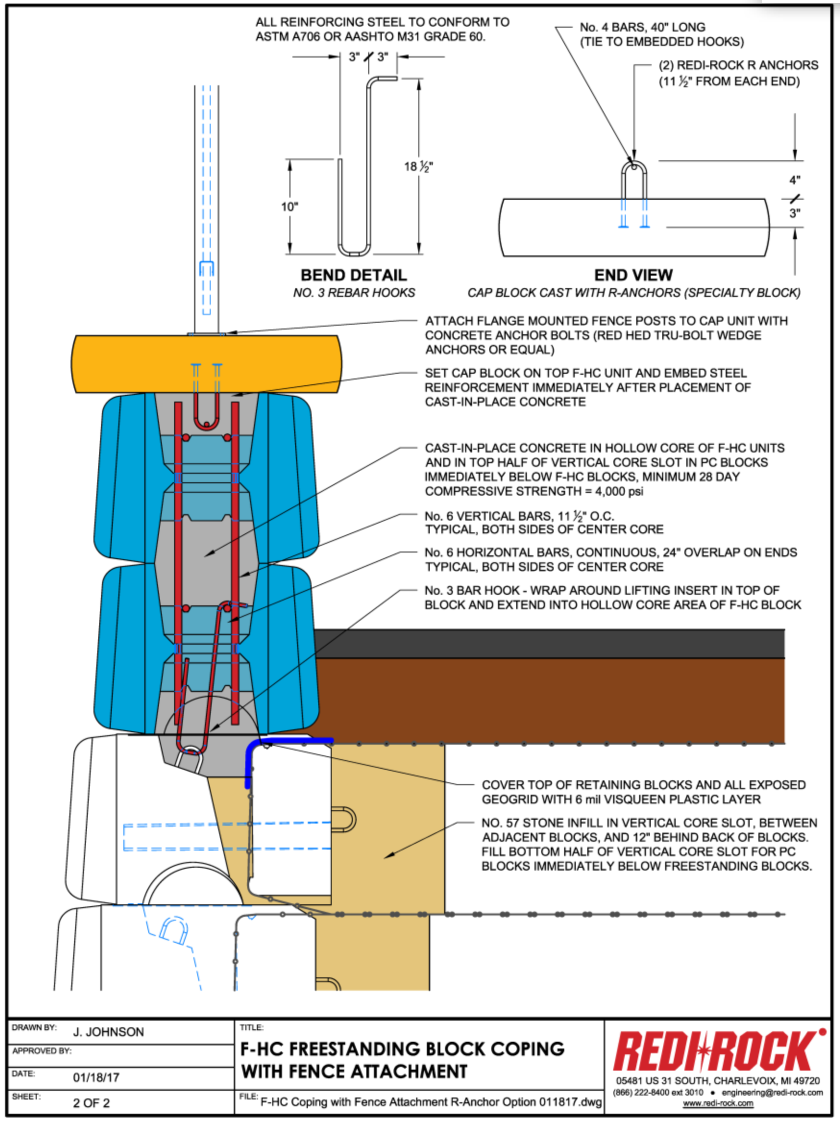
Standard Depths

24”

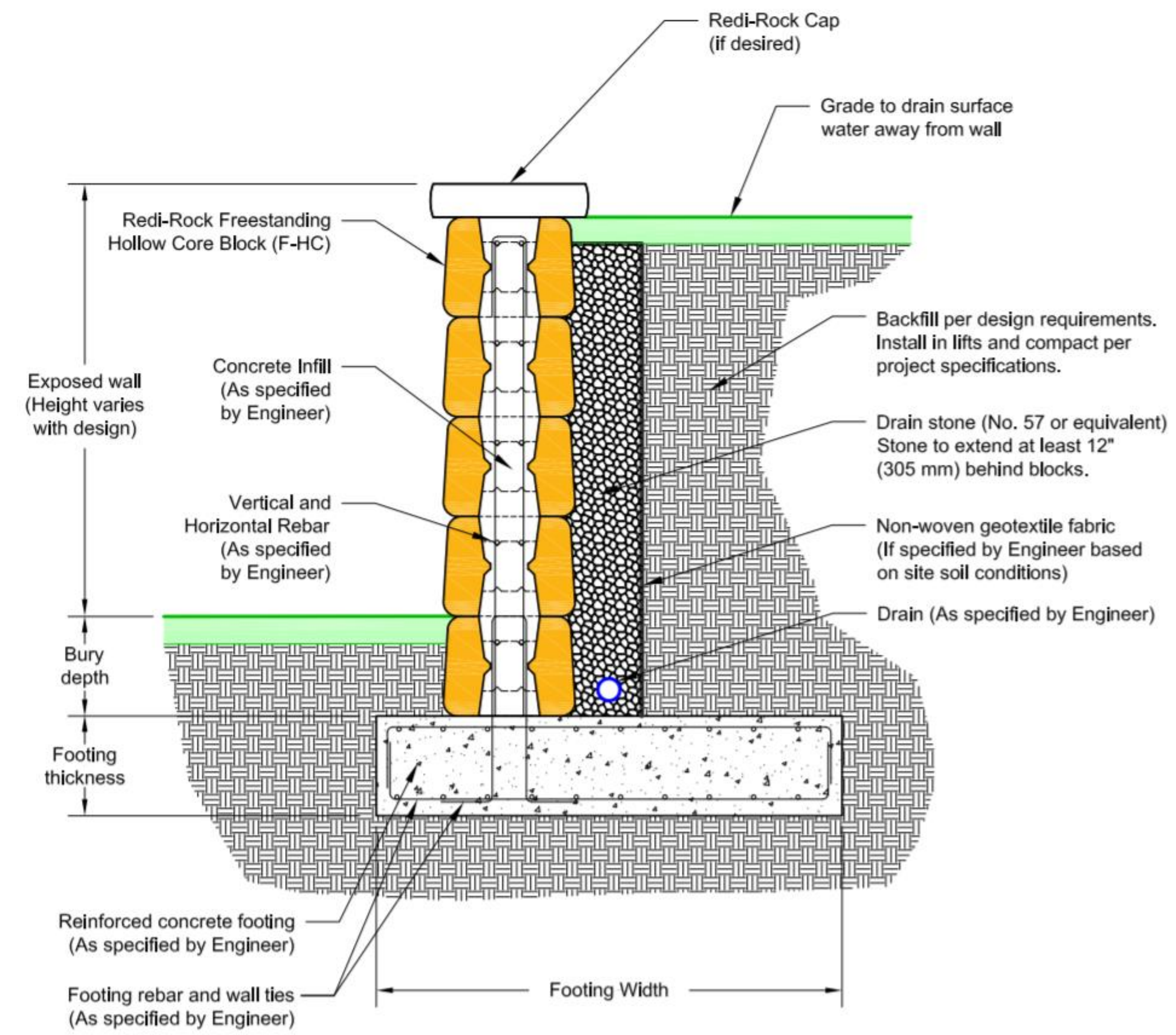
Face Dimensions

18” x 46 1/8”
5.75 square feet of face


ATTACH FLANGE MOUNTED FENCE POSTS TO CAP UNIT WITH CONCRETE ANCHOR BOLTS (RED HED TRU-BOLT WEDGE ANCHORS OR EQUAL)
SET CAP BLOCK ON TOP F-HC UNIT AND EMBED STEEL REINFORCEMENT IMMEDIATELY AFTER PLACEMENT OF CAST-IN-PLACE CONCRETE
CAST-IN-PLACE CONCRETE IN HOLLOW CORE OF F-HC UNITS AND IN TOP HALF OF VERTICAL CORE SLOT IN PC BLOCKS IMMEDIATELY BELOW F-HC BLOCKS, MINIMUM 28 DAY COMPRESSIVE STRENGTH = 4,000 psi
No. 6 HORIZONTAL BARS, CONTINUOUS, 24" OVERLAP ON ENDS TYPICAL, BOTH SIDES OF CENTER CORE
No. 6 VERTICAL BARS, 11 ½" O.C. TYPICAL, BOTH SIDES OF CENTER CORE
No. 3 BAR HOOK - WRAP AROUND LIFTING INSERT IN TOP OF BLOCK AND EXTEND INTO HOLLOW CORE AREA OF F-HC BLOCK
RECESSED LIFTING HOOK AREA FILLED WITH CAST-IN-PLACE CONCRETE (WHEN FREESTANDING BLOCKS ARE FILLED)
COVER TOP OF RETAINING BLOCKS AND ALL EXPOSED GEOGRID WITH 6 mil VISQUEEN PLASTIC LAYER
No. 57 STONE INFILL IN VERTICAL CORE SLOT, BETWEEN ADJACENT BLOCKS, AND 12" BEHIND BACK OF BLOCKS. FILL BOTTOM HALF OF VERTICAL CORE SLOT FOR PC BLOCKS IMMEDIATELY BELOW FREESTANDING BLOCKS.
ALL REINFORCING STEEL TO CONFORM TO ASTM A706 OR AASHTO M31 GRADE 60.
DRAWN BY: J. JOHNSON
APPROVED BY:
DATE: 01/18/17
SHEET: 1 OF 2
TITLE: F-HC FREESTANDING BLOCK COPING WITH FENCE ATTACHMENT
FILE: F-HC Coping with Fence Attachment R-Anchor Option 011817.dwg
REDI-ROCK
05481 US 31 SOUTH, CHARLEVOIX, MI 49720
(866) 222-8400 ext 3010 • engineering@redi-rock.com
www.redi-rock.com

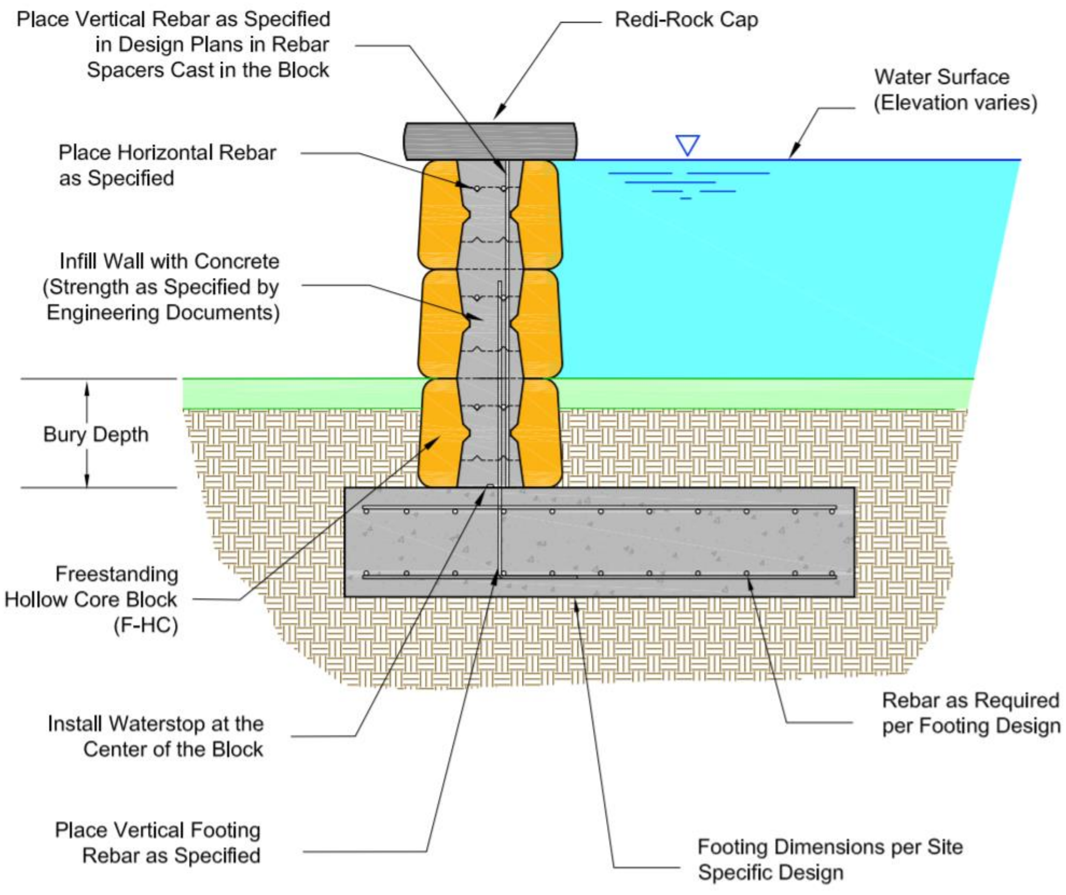

ALL REINFORCING STEEL TO CONFORM TO ASTM A706 OR AASHTO M31 GRADE 60.
3" 3"
18 ½"
10"
BEND DETAIL
NO. 3 REBAR HOOKS
No. 4 BARS, 40" LONG (TIE TO EMBEDDED HOOKS)
(2) REDI-ROCK R ANCHORS (11 ½" FROM EACH END)
4"
3"
END VIEW
CAP BLOCK CAST WITH R-ANCHORS (SPECIALTY BLOCK)
ATTACH FLANGE MOUNTED FENCE POSTS TO CAP UNIT WITH CONCRETE ANCHOR BOLTS (RED HED TRU-BOLT WEDGE ANCHORS OR EQUAL)
SET CAP BLOCK ON TOP F-HC UNIT AND EMBED STEEL REINFORCEMENT IMMEDIATELY AFTER PLACEMENT OF CAST-IN-PLACE CONCRETE
CAST-IN-PLACE CONCRETE IN HOLLOW CORE OF F-HC UNITS AND IN TOP HALF OF VERTICAL CORE SLOT IN PC BLOCKS IMMEDIATELY BELOW F-HC BLOCKS, MINIMUM 28 DAY COMPRESSIVE STRENGTH = 4,000 psi
No. 6 VERTICAL BARS, 11 ½" O.C. TYPICAL, BOTH SIDES OF CENTER CORE
No. 6 HORIZONTAL BARS, CONTINUOUS, 24" OVERLAP ON ENDS TYPICAL, BOTH SIDES OF CENTER CORE
No. 3 BAR HOOK - WRAP AROUND LIFTING INSERT IN TOP OF BLOCK AND EXTEND INTO HOLLOW CORE AREA OF F-HC BLOCK
COVER TOP OF RETAINING BLOCKS AND ALL EXPOSED GEOGRID WITH 6 mil VISQUEEN PLASTIC LAYER
No. 57 STONE INFILL IN VERTICAL CORE SLOT, BETWEEN ADJACENT BLOCKS, AND 12" BEHIND BACK OF BLOCKS. FILL BOTTOM HALF OF VERTICAL CORE SLOT FOR PC BLOCKS IMMEDIATELY BELOW FREESTANDING BLOCKS.
DRAWN BY: J. JOHNSON
APPROVED BY:
DATE: 01/18/17
SHEET: 2 OF 2
TITLE: F-HC FREESTANDING BLOCK COPING WITH FENCE ATTACHMENT
FILE: F-HC Coping with Fence Attachment R-Anchor Option 011817.dwg
REDI-ROCK
05481 US 31 SOUTH, CHARLEVOIX, MI 49720
(866) 222-8400 ext 3010 • engineering@redi-rock.com
www.redi-rock.com


79¢
CONE or
BIG Q



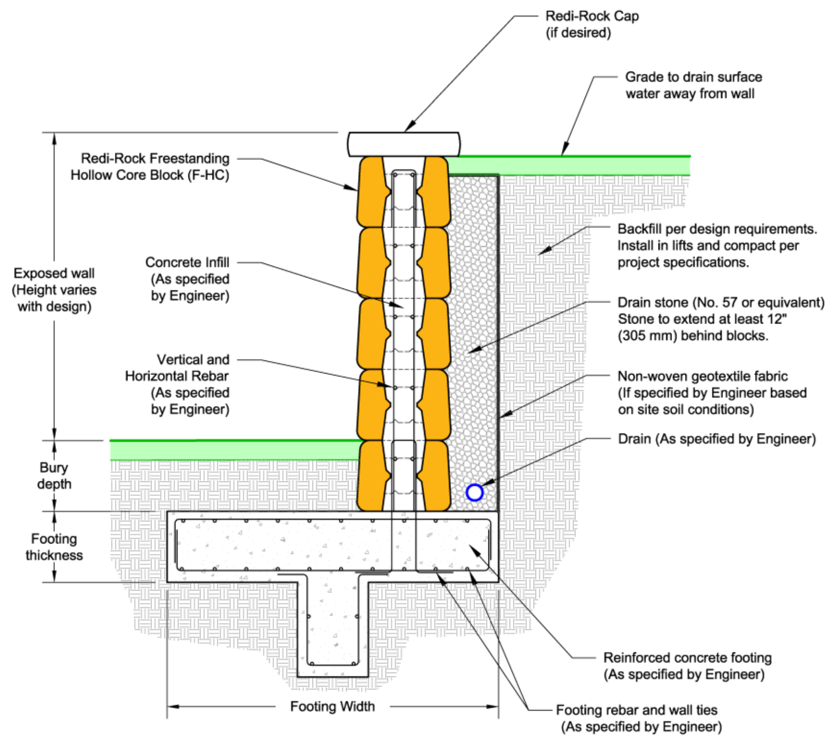
Redi-Rock Cap
(if desired)
Grade to drain surface
water away from wall
Redi-Rock Freestanding
Hollow Core Block (F-HC)
Exposed wall
(Height varies
with design)
Concrete Infill
(As specified
by Engineer)
Backfill per design requirements.
Install in lifts and compact per
project specifications.
Drain stone (No. 57 or equivalent)
Stone to extend at least 12"
(305 mm) behind blocks.
Vertical and
Horizontal Rebar
(As specified
by Engineer)
Non-woven geotextile fabric
(If specified by Engineer based
on site soil conditions)
Drain (As specified by Engineer)
Bury
depth
Footing
thickness
Reinforced concrete footing
(As specified by Engineer)
Footing rebar and wall ties
(As specified by Engineer)
Footing Width

CONCEPTUAL FLOOD CONTROL WALL



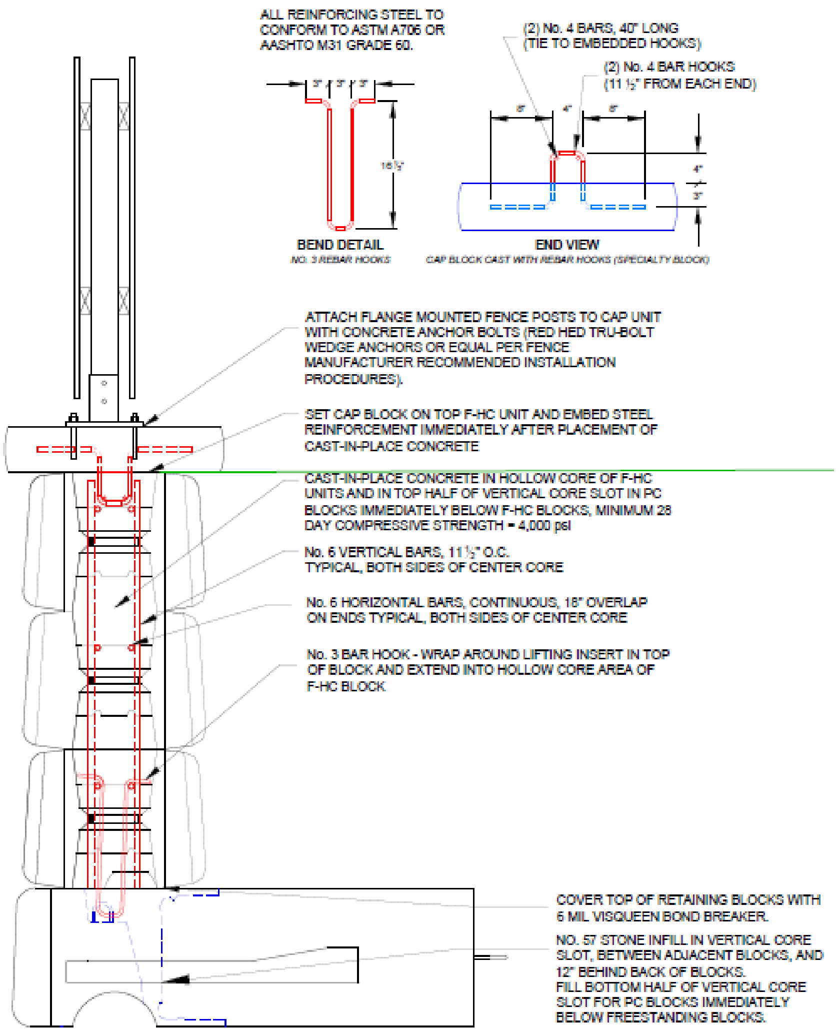
NOTE: Degree of water tightness depends on many factors. Slight seepage through joints can be expected using standard construction practices. See www.Redi-Rock.com for more information on flood control walls including detailed notes from full scale demonstration project testing.

TYPICAL CANTILEVER WALL SECTION



This drawing is for reference only. Determination of the suitability and/or manner of use of any details contained in this document is the sole responsibility of the design engineer of record. Final project designs, including all construction details, shall be prepared by a licensed professional engineer using the actual conditions of the proposed site. Final wall design must address both internal and external drainage and all modes of wall stability.

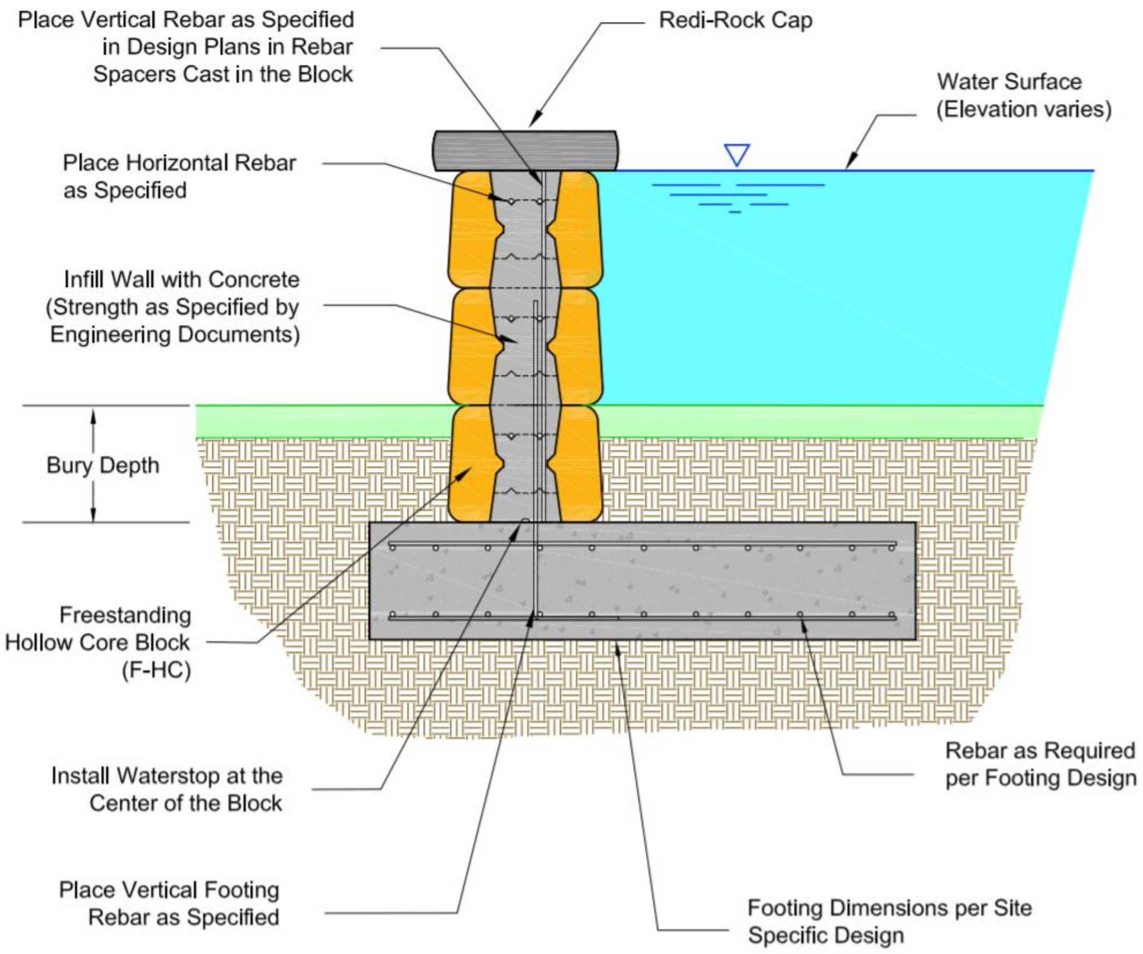
DRAWN BY: J. Johnson	TITLE: **Typical Cantilever Wall Section**	REDI-ROCK
APPROVED BY:		05481 US 31 SOUTH, CHARLEVOIX, MI 49720
DATE: June 1, 2017		(866) 222-8400 ext 3010 • engineering@redi-rock.com
SHEET: 1 of 1	FILE: F-HC Typical Wall Sections 060117.dwg	www.redi-rock.com



11 FREESTANDING HOLLOW CORE REINFORCEMENT DETAIL
SCALE: NONE

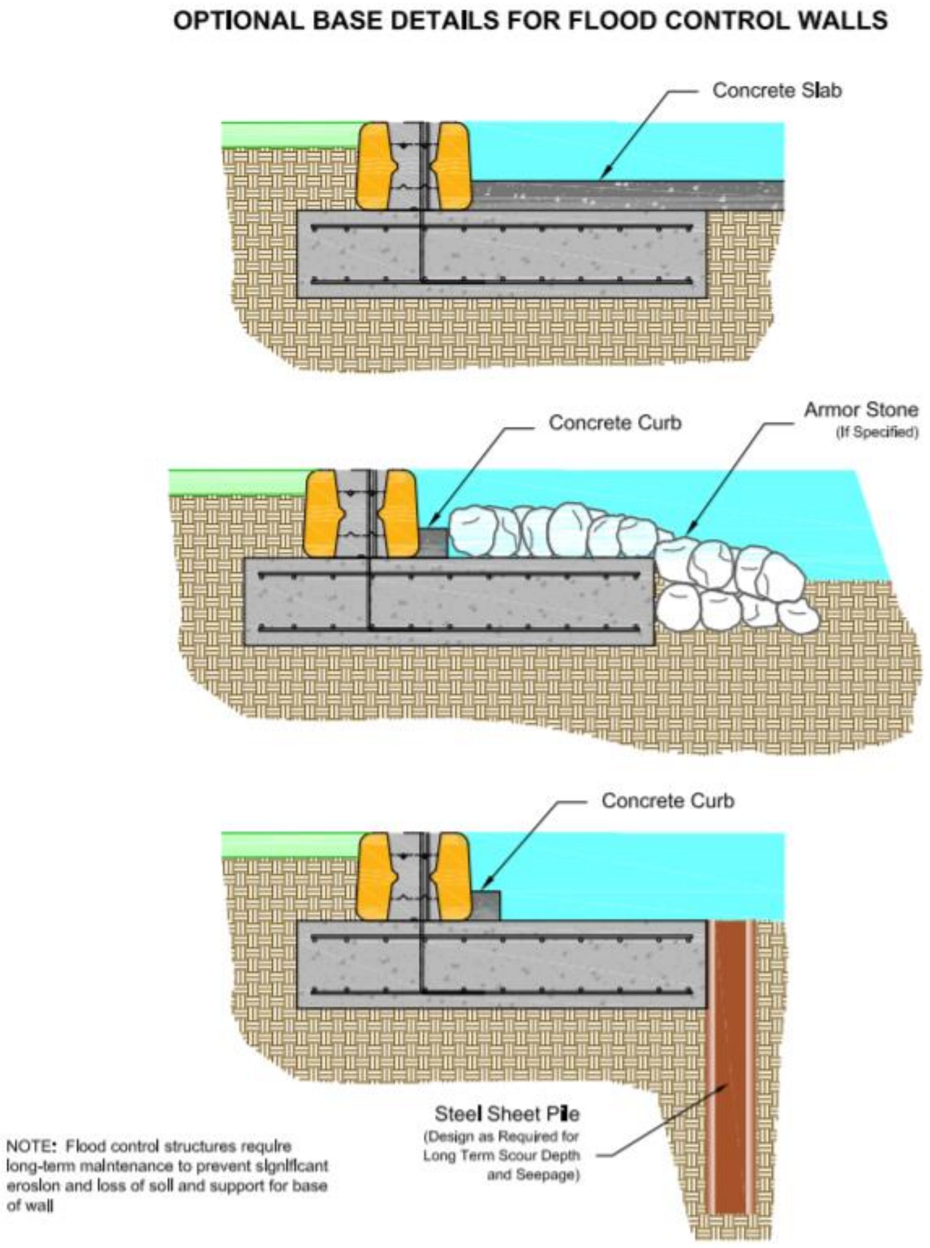
Flood

Conceptual Flood Control Wall

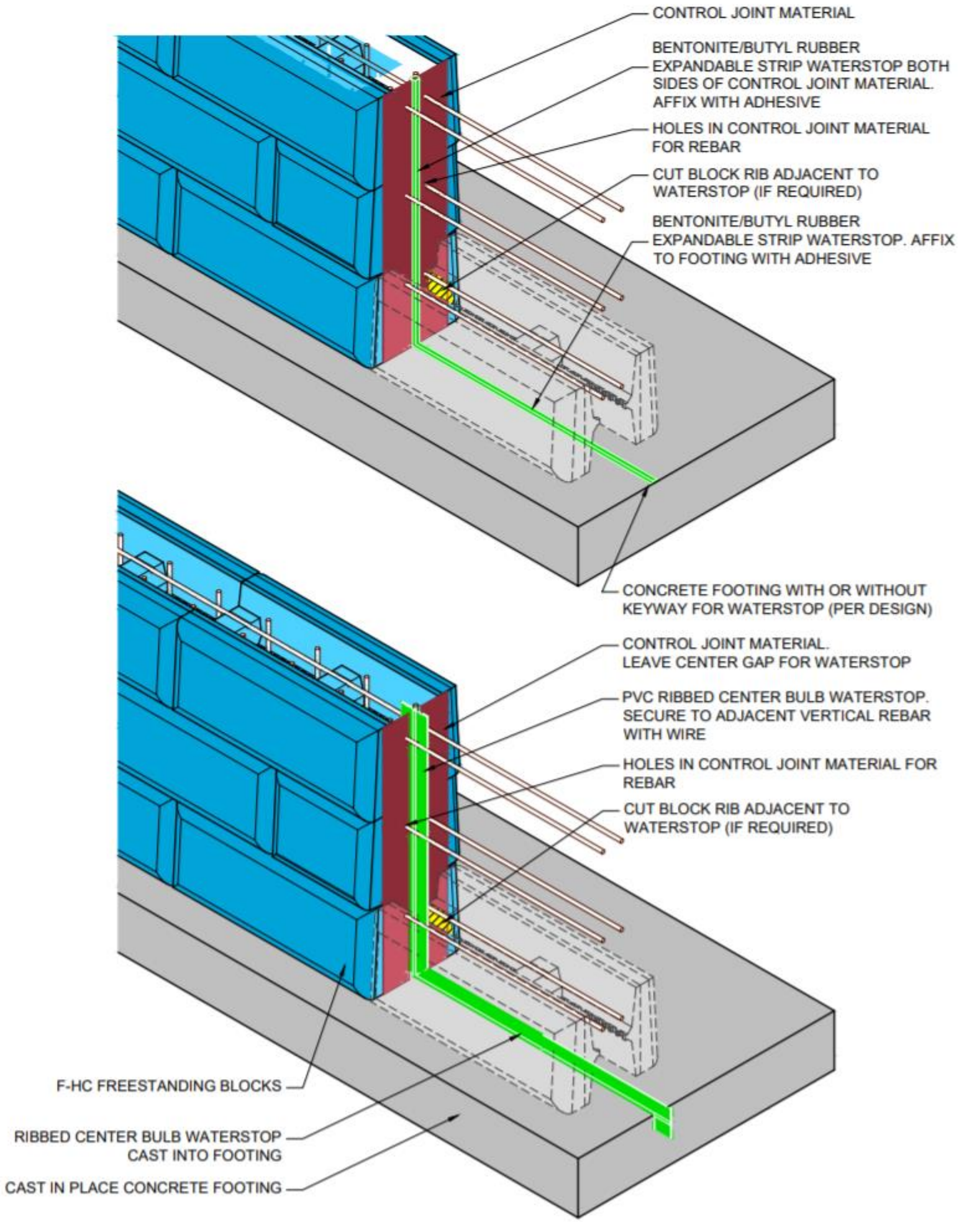


NOTE: Degree of water tightness depends on many factors. Slight seepage through joints can be expected using standard construction practices. See www.Redi-Rock.com for more information on flood control walls including detailed notes from full scale demonstration project testing.

Optional Base Details for Flood Control Walls

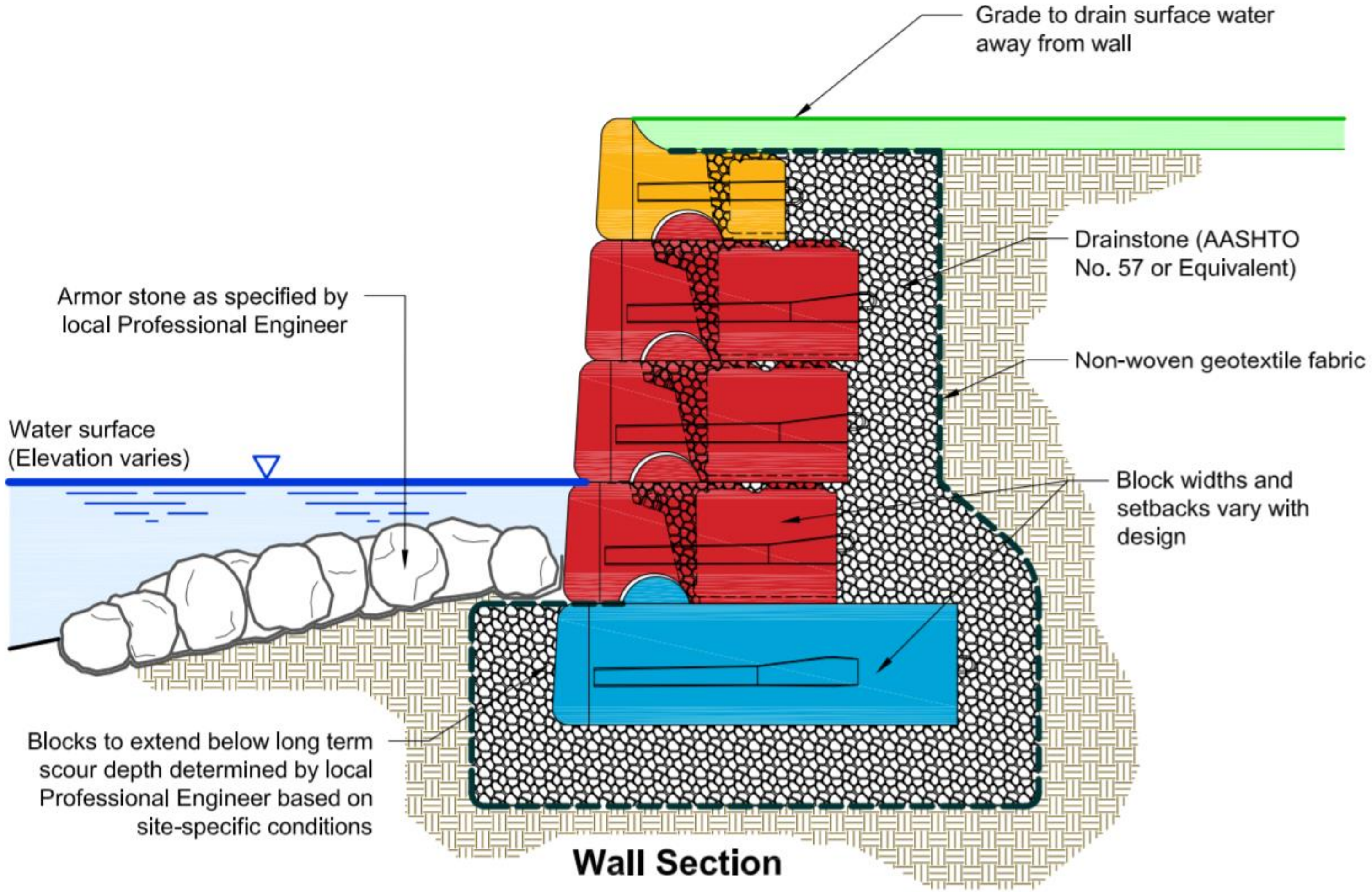


Water Stop Options



Revetment / Water

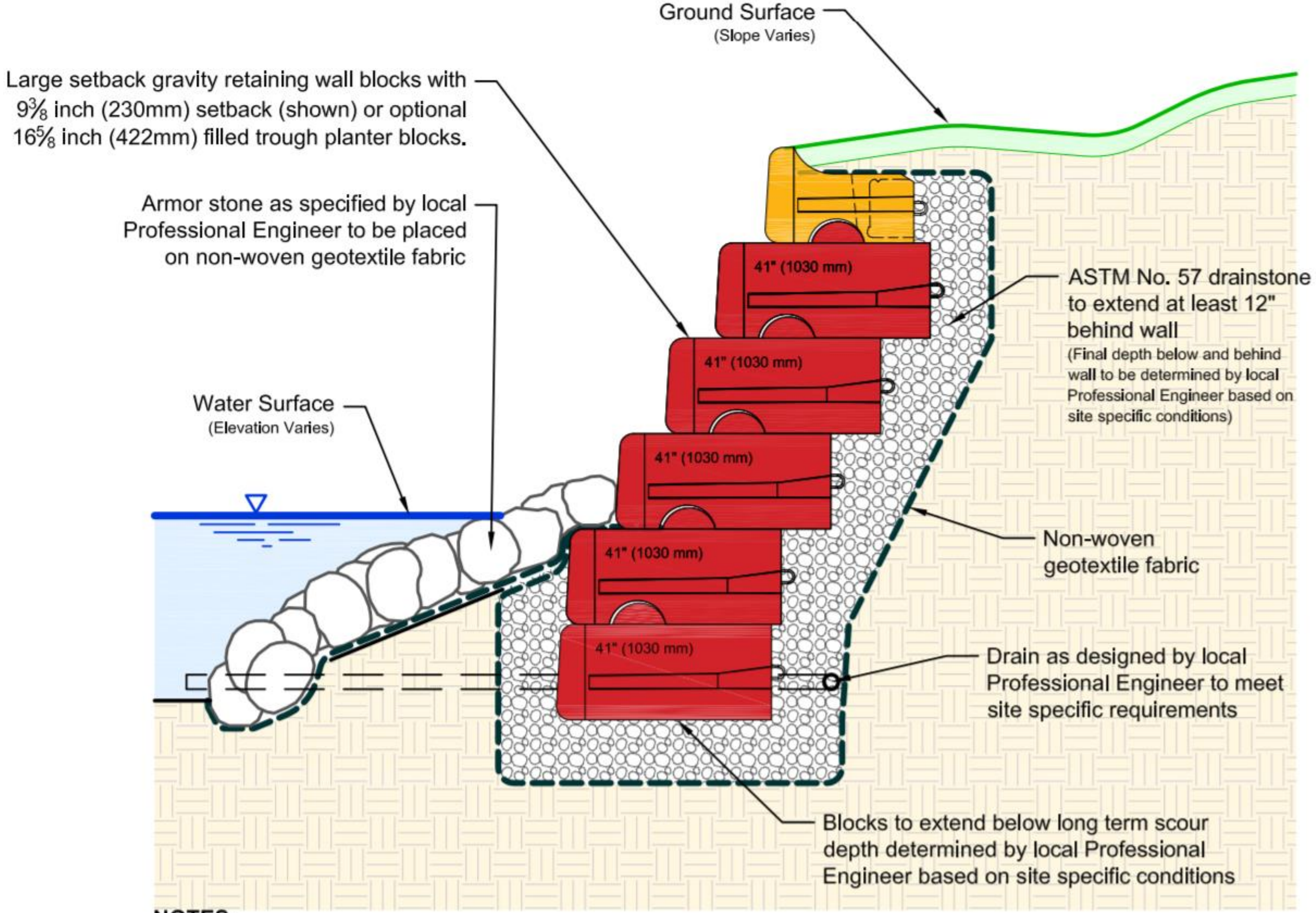
Conceptual Seawall Detail



Wall Section

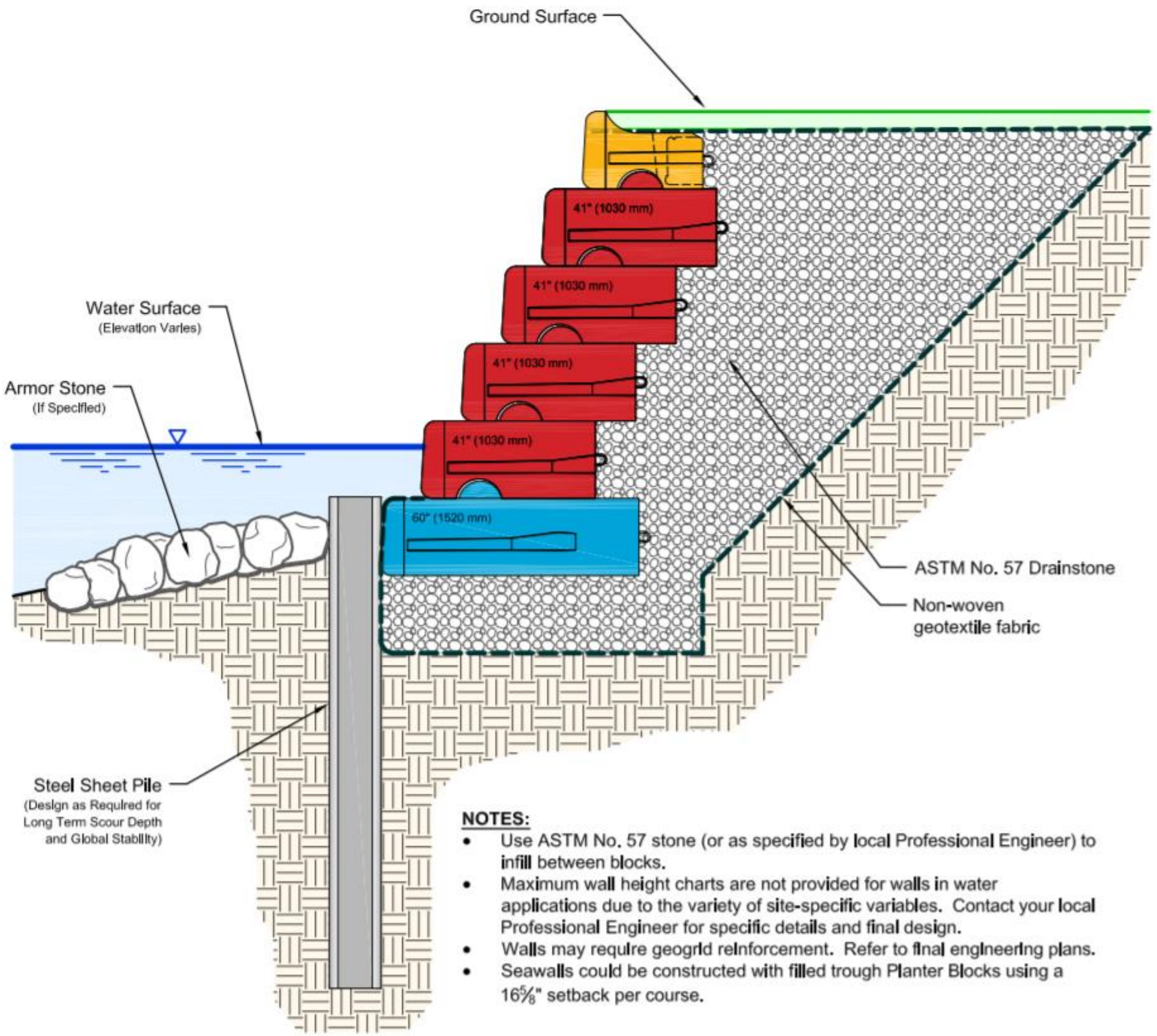
Notes:

- Use ASTM No. 57 stone (or as specified by local Professional Engineer) to infill between blocks.
- Preliminary wall height charts do not apply and should not be used for walls in water applications due to the variety of site-specific variables.
- Contact your local Professional Engineer for specific details and final design.
- Walls may require geogrid reinforcement.
- Refer to final engineering plans.



NOTES:

- Both 9⅜" (230mm) and 16⅝" (422mm) (with filled trough) setback blocks could be considered for seawall applications
- Use ASTM No. 57 stone (or as specified by local Professional Engineer) to infill between blocks.
- Maximum wall height charts are not provided for walls in water applications due to the variety of site-specific variables. Contact your local Professional Engineer for specific details and final design.
- Walls may require geogrid reinforcement. Refer to final engineering plans.



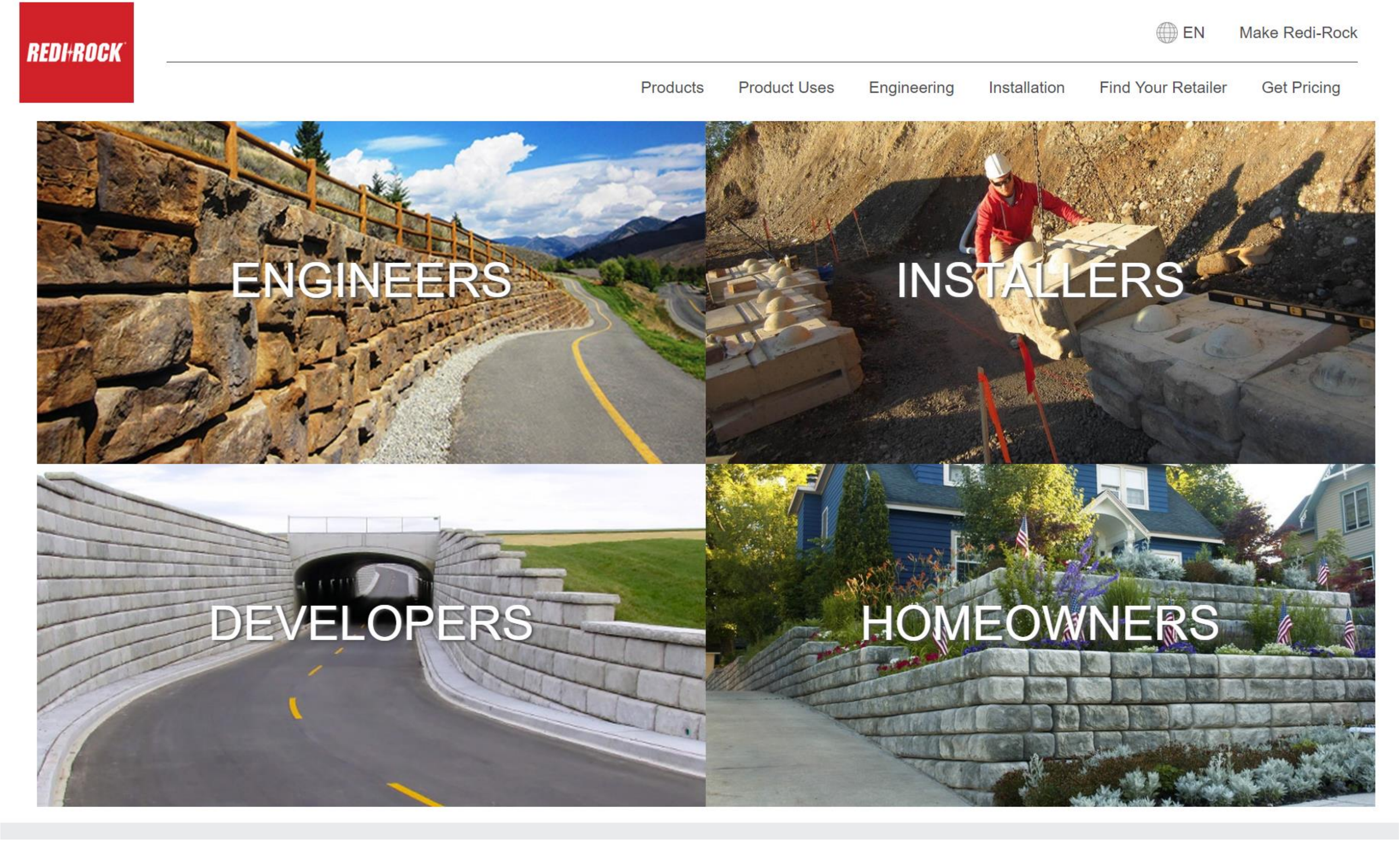
NOTES:

- Use ASTM No. 57 stone (or as specified by local Professional Engineer) to infill between blocks.
- Maximum wall height charts are not provided for walls in water applications due to the variety of site-specific variables. Contact your local Professional Engineer for specific details and final design.
- Walls may require geogrid reinforcement. Refer to final engineering plans.
- Seawalls could be constructed with filled trough Planter Blocks using a 16⅝" setback per course.

Steps, Caps & Columns

Engineering Resources

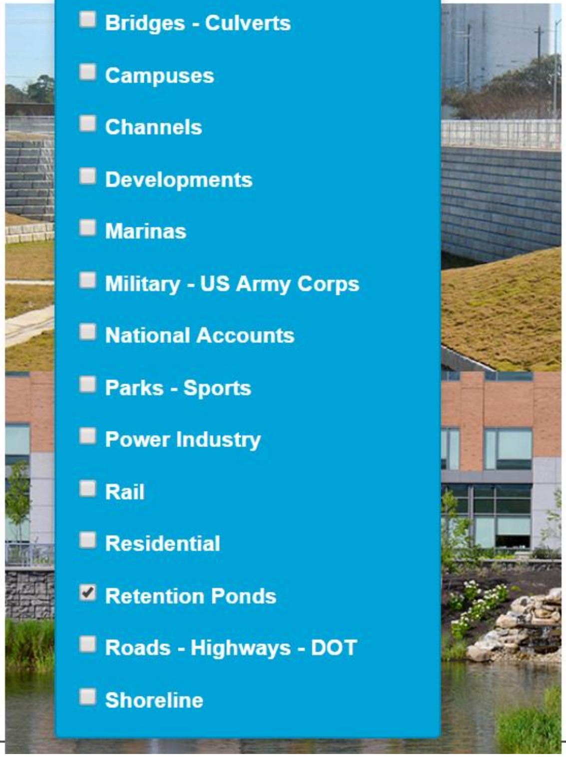
Redi-Rock.com



Case Studies

Find more case studies: Applications ▾ Products ▾ Textures ▾ Clear Selections

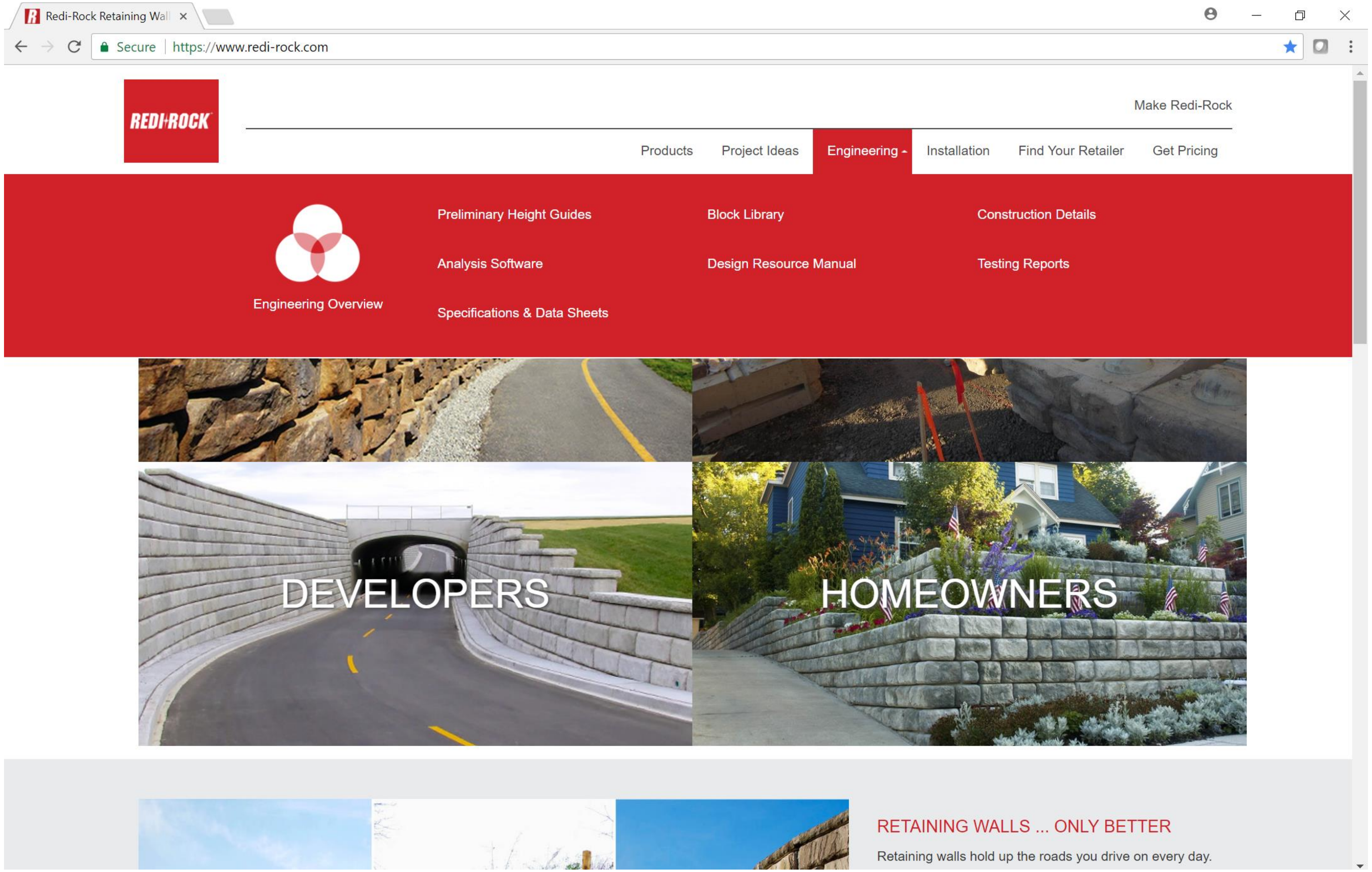
- [ ] Amphitheaters
- [ ] Bridges - Culverts
- [ ] Campuses
- [ ] Channels
- [ ] Developments
- [ ] Marinas
- [ ] Military - US Army Corps
- [ ] National Accounts
- [ ] Parks - Sports
- [ ] Power Industry
- [ ] Rail
- [ ] Residential
- [x] Retention Ponds
- [ ] Roads - Highways - DOT
- [ ] Shoreline



Detention Pond Walls for Hospital Expansion

Learn how engineers used Redi-Rock retaining walls on this Denver area hospital expansion project to combine two detention ponds on the property in order to create desperately needed parking space in a very limited construction area.

Redi-Rock : Engineering



Preliminary Height Guide

Provides Retaining Wall Design Options

Preliminary Height Guides

Choose your retaining wall specifications and then click 'Search'.

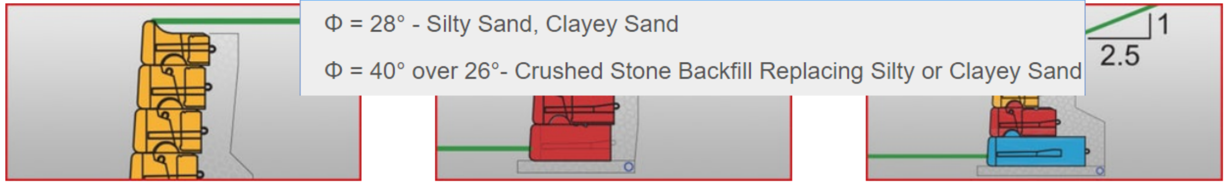
Units Imperial ?

Wall Height 6.00 Feet ?

Soil Type Φ = 28° - Silty Sand, Clayey Sand ?

- Φ = 34° - Dense Well Graded Sand, Sand and Gravel
- Φ = 30° - Silty Sand, Fine to Medium Sand
- Φ = 28° - Silty Sand, Clayey Sand
- Φ = 40° over 26°- Crushed Stone Backfill Replacing Silty or Clayey Sand

Load Conditions ?



No Slope, No Surcharge

250psf (12 kPa) Live Load Surcharge

1:2.5 Slope

Search for Wall Sections

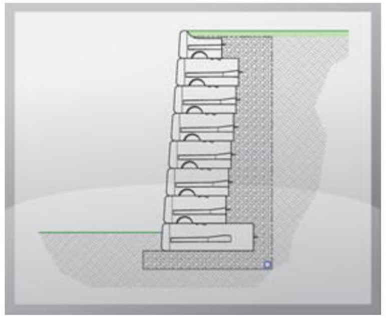
Still not finding what you are looking for?

Call a Redi-Rock engineer at 866-222-8400

Standard Batter

Standard batter gravity walls rely on the size and weight of each Redi-Rock block to literally hold back the earth. Wall cross-sections are optimized with the use of 28" (710 mm), 41" (1030 mm), and 60" (1520 mm) Redi-Rock blocks to provide the most efficient support possible at all elevations within the wall.

Download Wall Section PDF | Download Wall Section CAD | Download Backup Calcs



PC System

Mechanically Stabilized Earth (MSE) walls combine Redi-Rock Positive Connection blocks and 12" (300 mm) wide strips of Mirafi XT geogrid soil reinforcement. The strips of geogrid wrap through a vertical core slot cast into the PC blocks, providing an industry-leading incredibly strong, weight independent connection. Redi-Rock PC System walls have been built to truly astounding heights and have been used to support massive surcharge loads.

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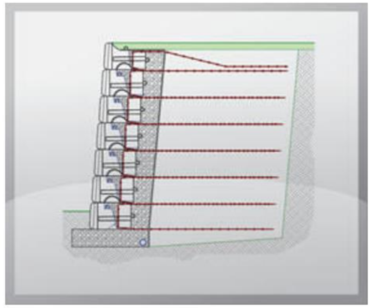

Large Batter

Large batter gravity walls utilize Redi-Rock 9" (230 mm) setback blocks which provide an average batter of 27.5°. Although large batter gravity walls require more room than walls constructed with standard setback blocks, they allow for significantly taller walls. Large batter walls also work great for select applications such as channelization projects.

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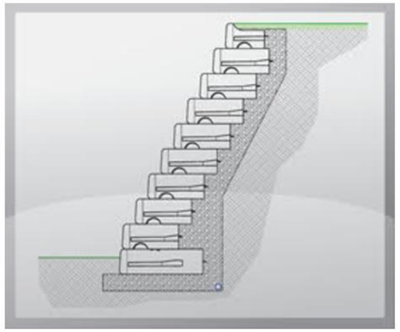
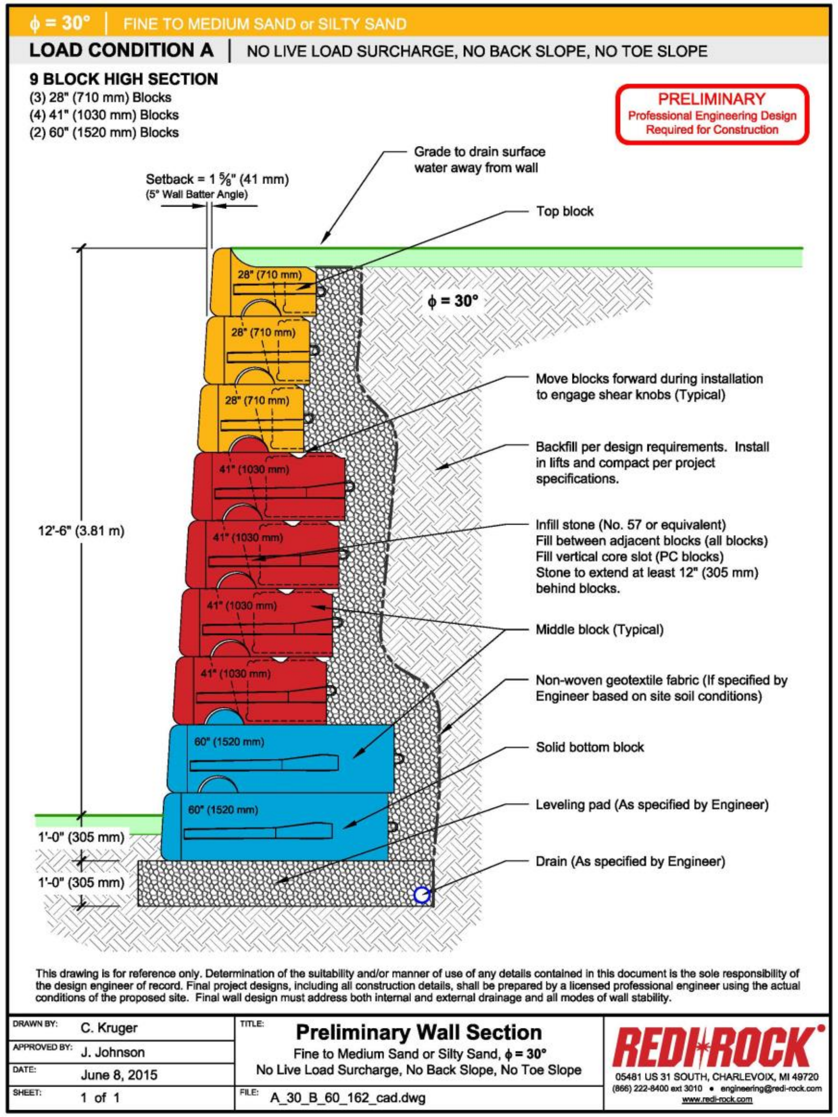
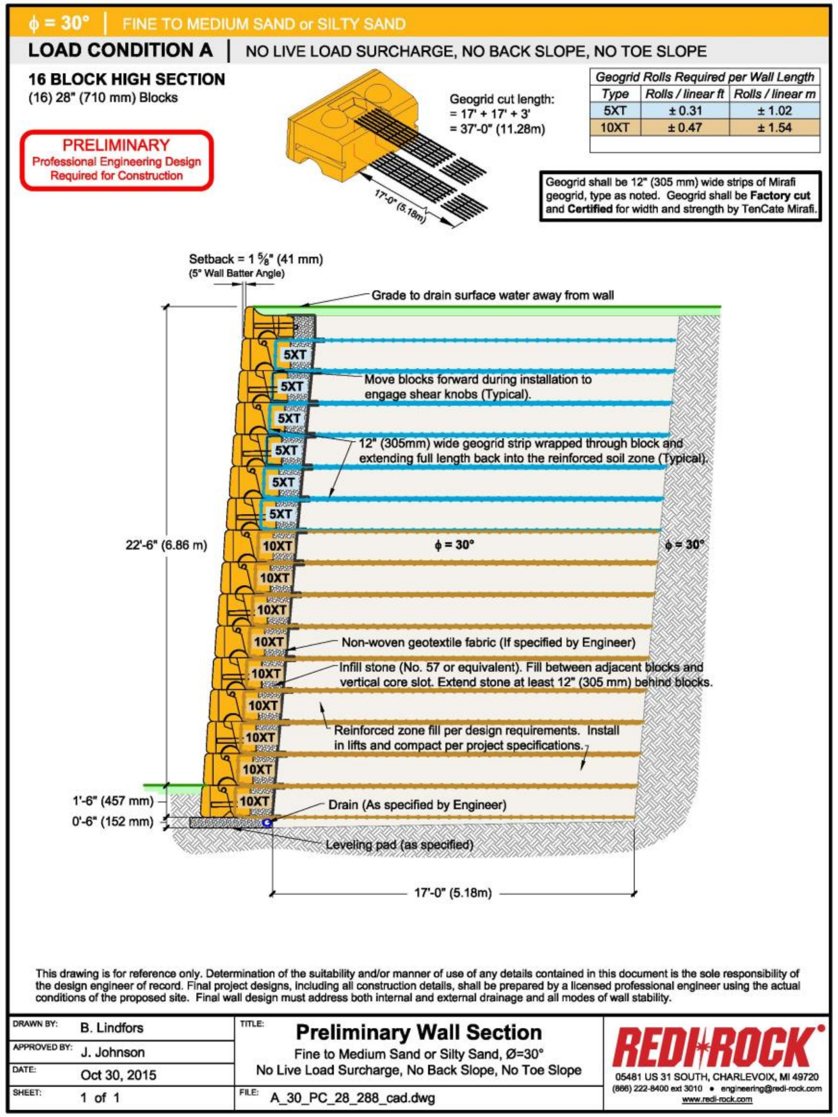
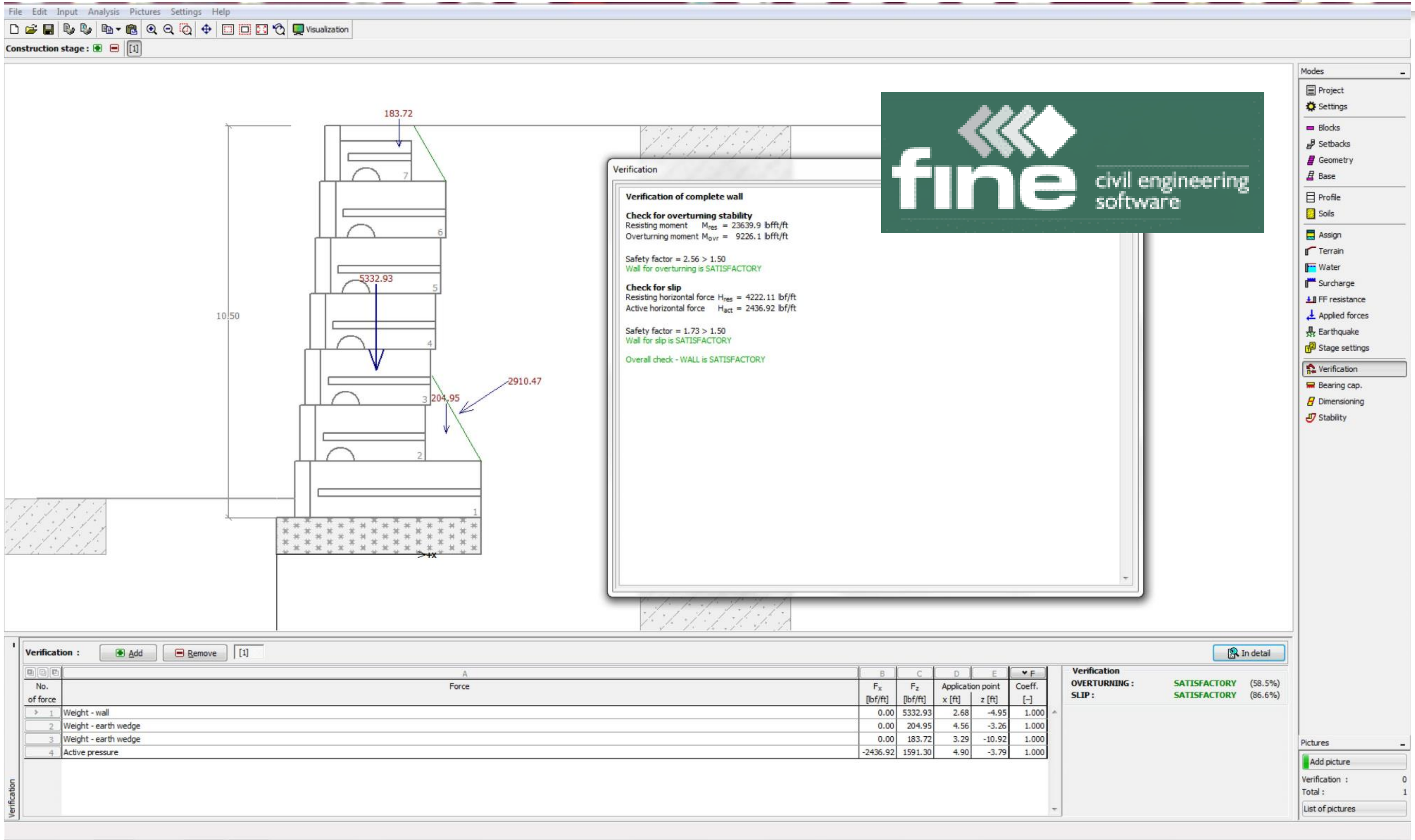


323 PRELIMINARY SECTIONS





DESIGN GRAVITY WITH FREEWARE



Redi-Rock Wall Software

Freeware and Professional versions

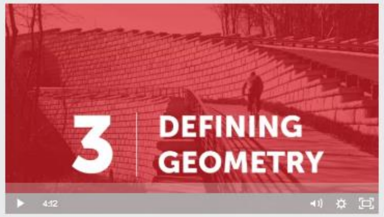
Redi-Rock Wall Software

Freeware and Professional versions

CURIOUS HOW REDI-ROCK WALL FREEWARE COULD HELP YOU? WATCH THESE VIDEO TUTORIALS TO SEE HOW THE ROBUST SOFTWARE TOOL CAN HELP YOU DESIGN AND ANALYZE GRAVITY WALL CROSS SECTIONS.

The first video in the Redi-Rock Wall tutorial details the steps to start a new Redi-Rock Wall project.

The second video in the Redi-Rock Wall tutorial overviews the general layout of the program.



The third video in the Redi-Rock Wall tutorial gives an overview of the setting related to wall geometry.

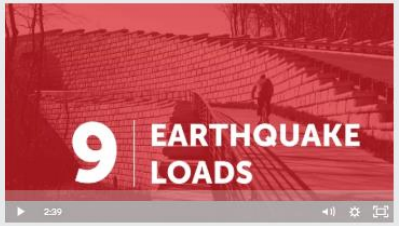
The fourth video in the Redi-Rock Wall tutorial walks through defining soils for use in your project.

The fifth video in the Redi-Rock Wall tutorial examines setting up the wall footing.

The sixth video in the Redi-R… defining and assigning soil a…

The seventh video in the Redi-Rock Wall tutorial looks at the impacts of water and surcharge loads on the wall.

The eighth video in the Redi-Rock Wall tutorial looks at Front Face (FF) Resistance and Applied Forces.



The ninth video in the Redi-Rock Wall tutorial overviews how to analyze earthquake loads in Redi-Rock Wall.

The tenth video in the Redi-Rock Wall tutorial examines … program results.

The eleventh video in the Redi-Rock Wall tutorial shows how to use the Spread Footing module bundled with Redi-Rock Wall.

The twelfth video in the Redi-Rock Wall tutorial shows how to use the Stability module bundled with Redi-Rock Wall.

The thirteenth video in the Redi-Rock Wall tutorial series examines reports that can be generated in Redi-Rock wall.

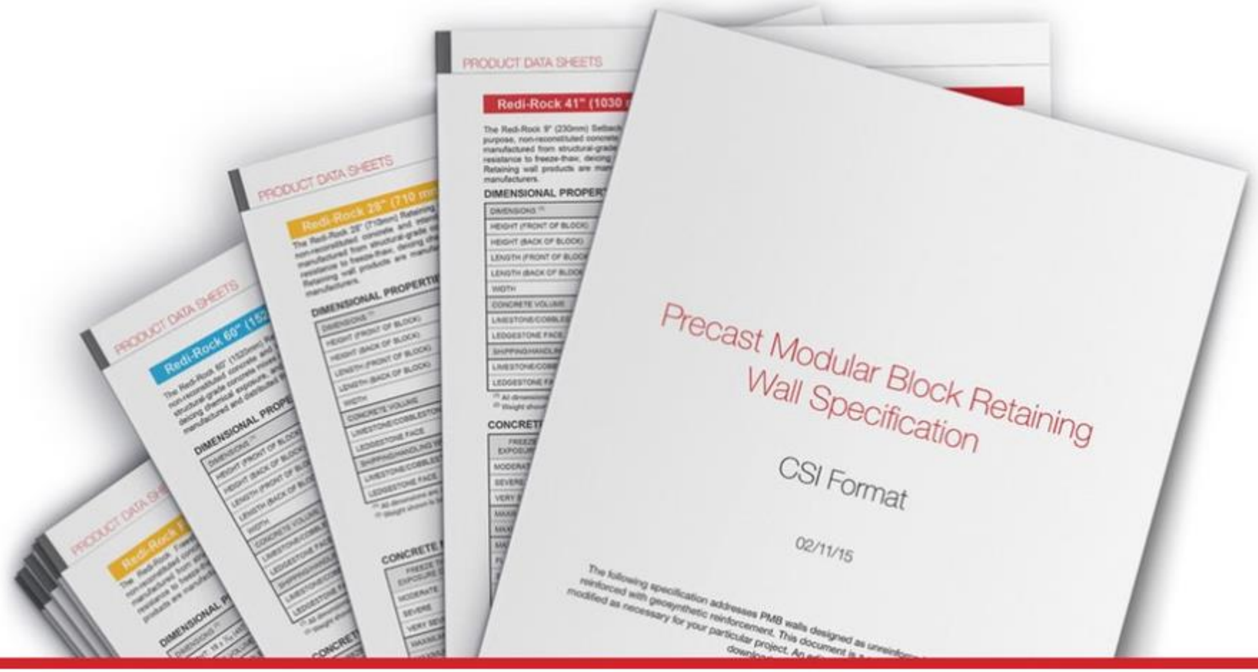
Design Resource Manual

Download the Manual

Download the Complete Manual

Or, Download by Section:

1. Introduction/General Info
2. Case Studies
3. Block Library
4. Design Information
5. Gravity Walls
6. Large Batter Walls
7. MSE Walls
8. Product Data Sheets
9. CSI Specs
10. Installation Guide
11. Construction Details

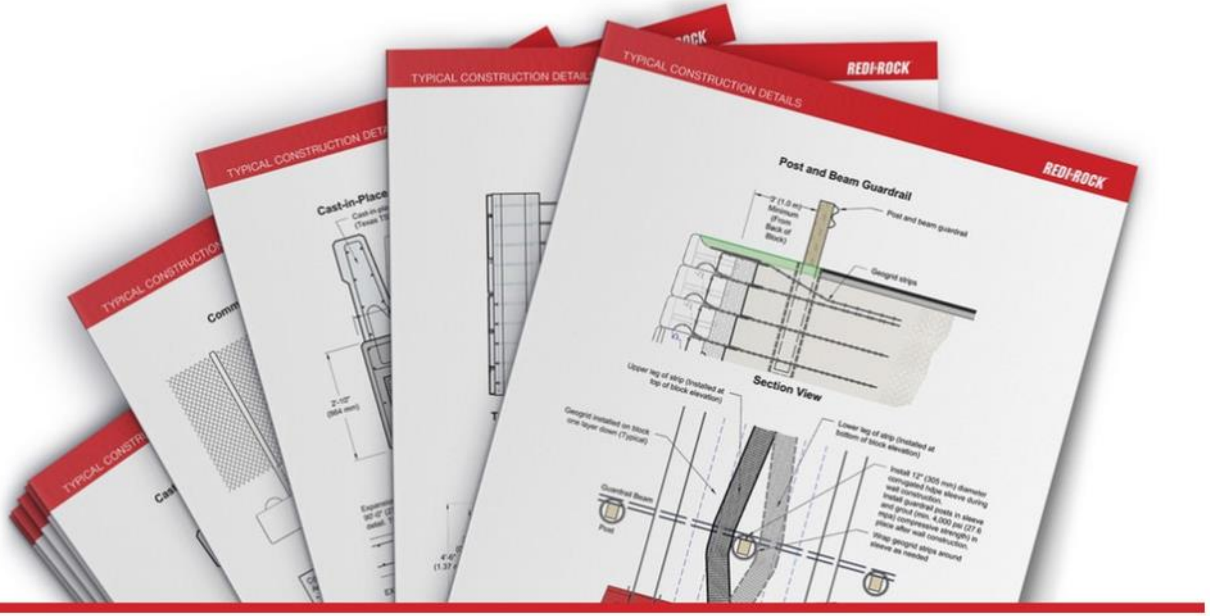


Guide Specifications and Redi-Rock® Product Data Sheets

SPECIFICATIONS PDF WORD

GRAVITY SPECIFICATIONS PDF WORD

XL SPECIFICATIONS PDF WORD

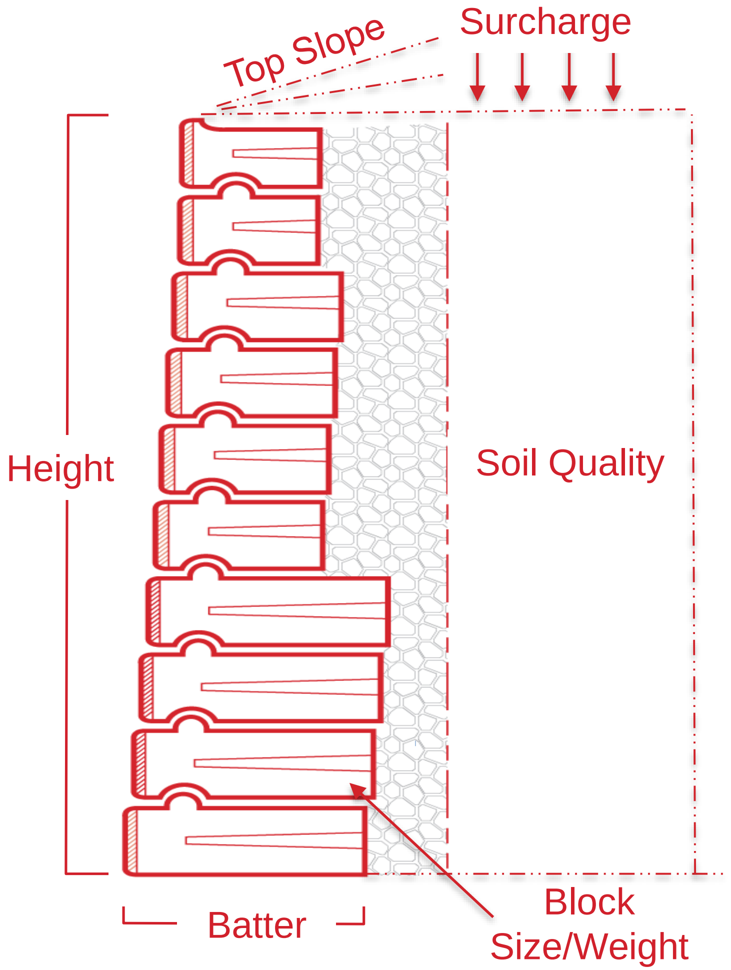


Redi-Rock® Construction Details

Scroll down to see all the construction details available, or click one of the links below to drop down to the section you're looking for!

- XL Block Details
- Foundation & Drainage
- Wall Sections
- PC System Details
- Water Sections
- Corners & Curves
- 9 Inch Setback
- Top of Wall Finishes & Guards
- Freestanding & Columns
- Magic Block Details
- Pipes & Utilities
- Specialty Details
- Legacy Details

Key Design Characteristics



Installation

REDI ROCK™

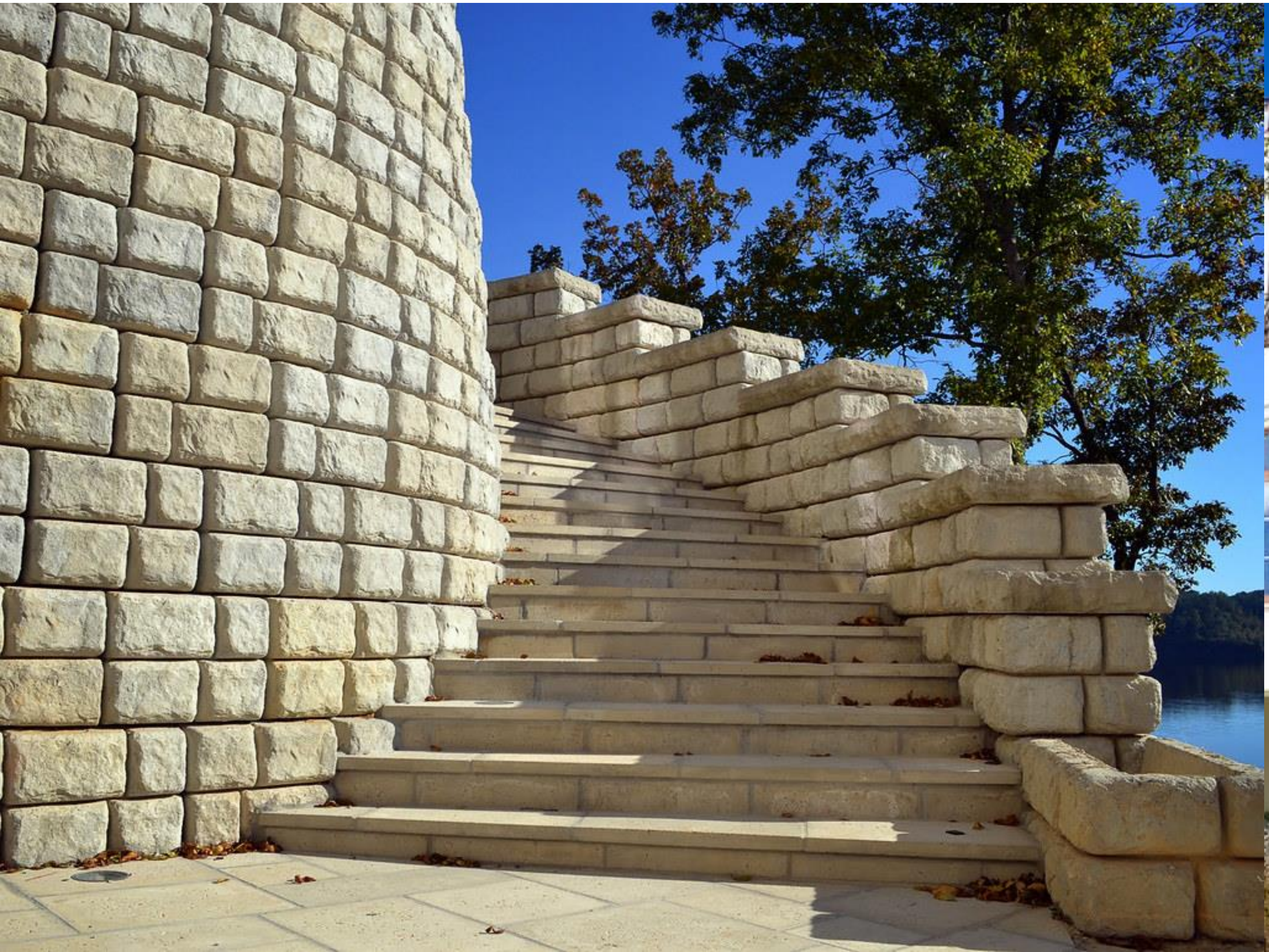
CAT

Case Studies

Case Study:
Building Homes on Hilly Lots

- ALABAMA BUILDER CHOOSES REDI-ROCK® TO CREATE USABLE SPACE FOR HOME CONSTRUCTION
- Tuscaloosa, AL
- Designed by Barganier Davis Sims
- Built in 2008
- The project included a total of three Redi-Rock walls. Two were reinforced to support the house, and the third wall was a gravity cut wall to make room for the driveway.
- The reinforced walls stood 30 feet (9.1 meters) at their highest point, and the gravity wall stood 12 feet (3.7 meters) at its highest point. But these impressive tall walls are not the focal point of this project. The most eye-catching portion is the spiral staircase created by two reinforced barrel walls.
- In total, the project required 9,500 square feet (882.6 square meters) of Redi-Rock.

Case Study:
Building Homes on Hilly Lots



Case Study:
Unique Bridge Repair Using GRS

- MAINE BRIDGE USES FIRST GRS WALL IN A MARINE ENVIRONMENT
- Maine DOT Beach Bridge #169
- City of North Haven
- Designed by Maine DOT and TY Lin International
- Built in 2013

Case Study:
Unique Bridge Repair Using GRS

Challenges:

- North Haven is an island located on the coast of Maine; all construction materials and equipment needed to be transported to the island by boat.
- The significant daily tidal fluctuations affected the duration of daily construction. At high tide, most of the abutments are/were actually under water.
- The town wanted to integrate an existing pier with the new bridge construction to minimize construction time and costs.
- Construction needed to be completed during the winter and early spring to minimize the impact on residents and fishermen.
- The wall had to withstand potential impact from the boats navigating the waterway.

Case Study:
Unique Bridge Repair Using GRS

Solution:

- The solution was a Geosynthetic Reinforced Soil - Integrated Bridge System (GRS-IBS), completed as a joint effort of the town of North Haven and the Maine Department of Transportation.
- "The main difference between a GRS wall and a traditional, mechanically stabilized earth (MSE) abutment wall is that reinforcing fabric is used in much more closely spaced layers, and the fabric is not geogrid,"
- The existing bridge pier was reused to cut down on cost and time, which was important because the project needed to be completed during the winter and the spring. They were able to reuse the bridge pier by using lightweight concrete beams that were specified by the engineering team.

Case Study:
Unique Bridge Repair Using GRS

Case Study Video- Lacey, WA

Case Study Video- Louisville, KY

QUESTIONS