WATER APPLICATIONS

REDI ROCK

Photo: Freestanding blocks create a functional and attracitve bench wall at the Mackinac Island State Harbor of Refuge in Michigan.

THE PRODUCT

LIMESTONE **COBBLESTONE** **LEDGESTONE**

TOP BLOCK:
Weight: 1225 lbs. | 46" x 28" x 18" High | 5.75 sq. ft. of face

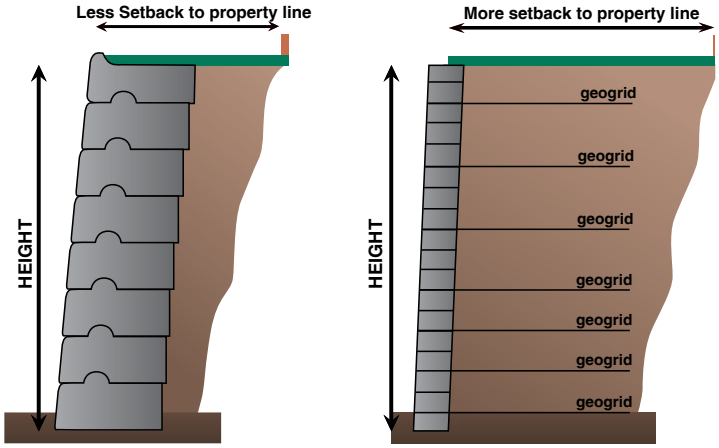
MIDDLE BLOCK:
Weight: 2400 lbs. | 46" x 41" x 18" High | 5.75 sq. ft. of face

BOTTOM BLOCK:
Weight: 2500 lbs. | 46" x 41" x 18" High | 5.75 sq. ft. of face

Redi-Rock's diverse product line:

- RETAINING WALLS
- FREESTANDING WALLS
- COLUMNS
- STEPS AND CAPS

NO GEOGRID OR TIE-BACKS
In Many Applications



REDI-ROCK™ **most competition**

INTRODUCING RED-ROCK'S 10th ANNIVERSARY TEXTURE...**LEDGESTONE**

THE APPLICATIONS

SHORELINE PROTECTION

Polson, Montana: The Blaine Wright Residence on Flathead Lake

When Blaine Wright needed to replace a failing wood shoreline protection wall at his home of Flathead Lake, he needed a product that would meet the strict guidelines set in place for reducing wave action and erosion. After investigating poured in place walls which actually increased wave action, Wright contacted his local Redi-Rock dealer who designed a retaining wall using the Redi-Rock cobblestone textured face and Redi-Rock's unique protruding planter blocks. The planter walls, which are usually filled with soil and ornamental plants, were filled with concrete thus mitigating wave action. The planter blocks also acted as a modified ladder system to allow swimmers access in and out of the lake.

MARINAS

Hope, Idaho: Beyond Hope II Restoration on Lake Pend Orielle

A popular resort in northern Idaho needed to renovate a completely deteriorated marina. The developers chose Redi-Rock retaining wall systems because Redi-Rock provided the clean look they desired coupled with the structural engineering they needed. The local Redi-Rock dealer provided the 13,225 sq. ft. of cobblestone-face blocks to outline the 50 slip marina in two tiers. The marina basin is outlined with a 9-foot gravity Redi-Rock wall that is completely submerged except for the top 12 inches when the water is at "full pond." The second 9-foot tier creates a 10-foot wide level access area for boaters to walk to and from the docks. The project utilized Redi-Rock's freestanding walls, steps, caps and fences to create a unified look throughout the project.

THE APPLICATIONS

OPEN CHANNELS / FLOOD CONTROL

Lenexa, Kansas: Brentwood Stream Stabilization and Flood Control Project

Managing flood control and preventing soil erosion on residential properties are top priorities for the city of Lenexa, Kansas. Due to existing infrastructure, geogrid reinforcement was impossible in many areas. Redi-Rock's massive block size allowed taller walls to be built without using geogrid, reducing excavation and preserving valuable space. These qualities made Redi-Rock a natural fit for the Brentwood Stream Stabilization and Flood Control Project, in which the Redi-Rock 9" setback block was used in areas where geogrid was not an option. Redi-Rock 41" and 28" blocks were used for the remainder of the 38,000 sq. ft. project.

WATER CONTROL

Alba, Texas: Lake Fork Water Pump Station

The new pump station under construction for the City of Dallas Water required retaining walls at the water intake structure submerged deep within the waters of Lake Fork. Pinnacle Design/Build provided a MSE retaining wall as a value engineering alternative to cast in place retaining walls. The design utilized the Redi-Rock 41" deep unit to withstand the lake's wave action. At the tallest point, the wall stands 33 ft. tall. The total project contains 6,000 square feet of Redi-Rock blocks. The engineered solution provided structural stability and aesthetic appeal.

RETENTION PONDS

CULVERTS & BRIDGES

RIVER BANKS

Clermont County, Ohio: Gaynor Road Bridge

THE ENGINEERING

Redi-Rock International's diverse product line can be used for various water applications. Here are some additional tools to assist you in your design.

<u>All</u> projects should be engineered site specific by a professional engineer.

ENGINEERING TOOLS

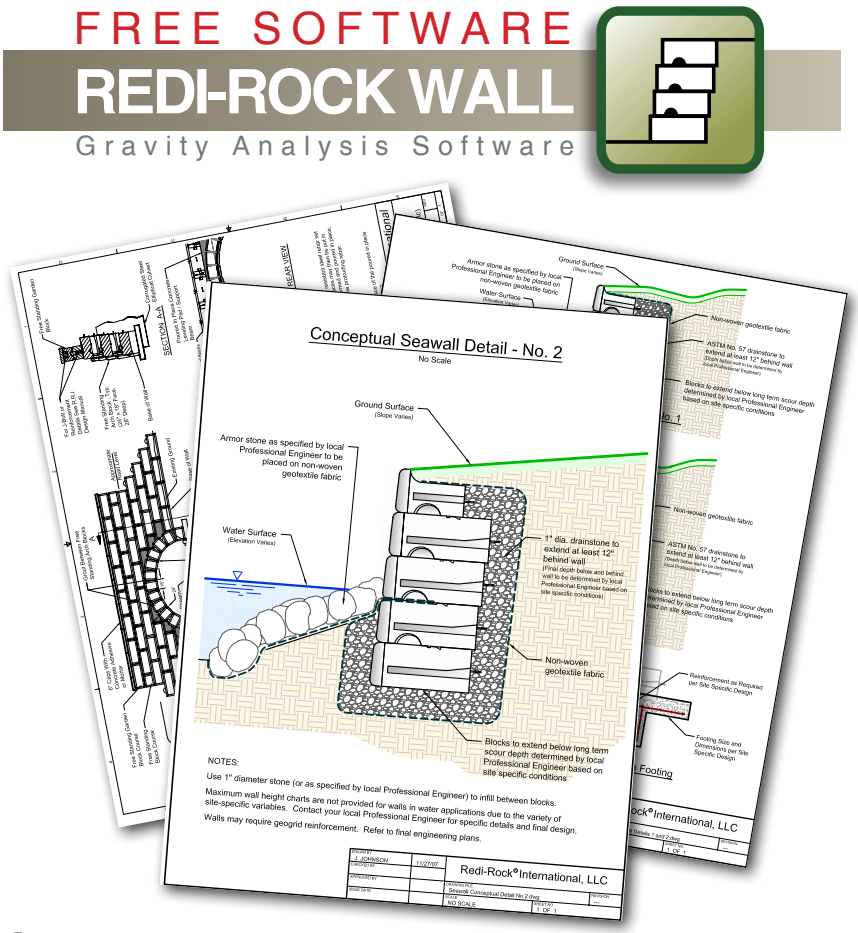
ANALYSIS SOFTWARE - Redi-Rock purchased a Freeware Liscense from Fine Corporation for their Geo5 software. This analysis software allows engineers to design Redi-Rock walls and water to be placed in front of and behind structures. Redi-Rock's Wall Analysis Software is available free for download at redi-rock.com.

CONSTRUCTION DETAILS - Redi-Rock has created preliminary construction details that include cross sections in CAD format as well as a PDF. Preliminary construction details are available at:

www.redi-rock.com/engineering/

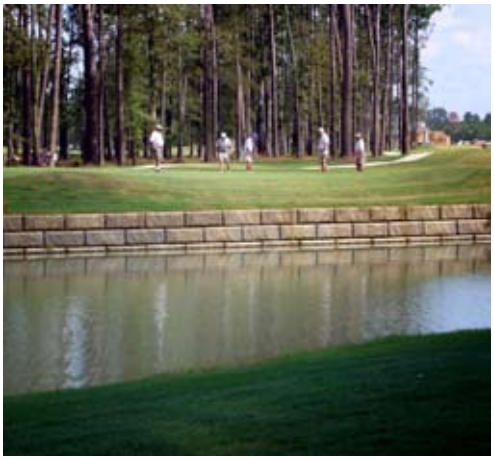
WATER SHEAR FORCE EQUATION
According to the analysis of Redi-Rock blocks subject to drag shear force from flowing water—prepared by LMNO Engineering, Research and Software Ltd., based on information contained in Fundamentals of Fluid Mechanics —the blocks are ideal products in channel applications such as the Brentwood Stream Stabilization and Flood Control Project. For more detailed information about this equation please visit:

http://www.redi-rock.com/engineering/retaining%20walls/water%20applications/



THE INSTALLATION

The Redi-Rock system minimizes labor costs while allowing for taller, non-reinforced walls. Retaining wall blocks weigh about one ton each, and are installed using heavy equipment and a small crew. The Redi-Rock system is designed with interlocking knob and groove connections.











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