



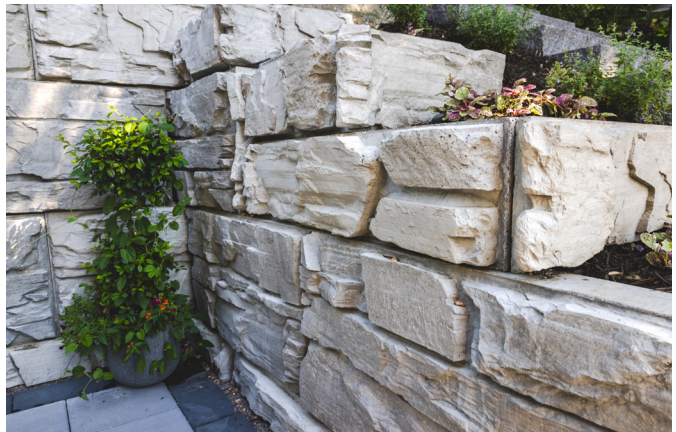
Terraced MagnumStone Walls Convert Steep Hillside to Modern Backyard Design

Discovering creative ways to make the most of yard space for outdoor living areas is a struggle for many homeowners. And creating a functional and inviting backyard on a hillside has its share of challenges, especially for smaller yards. Limited space, accessibility challenges, irrigation, drainage, and local regulations can complicate planning for sloped properties. Choosing between a backyard's competing priorities such as relaxing or entertaining, grilling, dining, and gardening space adds design complexities for any yard. For small yards with steep slopes, all available space should be used, and can be accomplished by building multi-level back yard living spaces.

Total Block Installed	930 sq. ft. (86 sq. m.)
Maximum Height	12 ft. (3.66 m.)
MagnumStone Manufacturer	<u>County Materials</u>
Contractor	<u>Neil's Outdoor Services, Inc.</u>
Engineer	<u>Geowall Designs</u>

TERRACED WALLS CONVERT STEEP HILLSIDE TO MODERN BACKYARD DESIGN

St. Paul, Minnesota, USA



■ CHALLENGES & SOLUTION: BACKYARD RETAINING WALLS CREATE EXCEPTIONAL OUTDOOR LIVING SPACE

This case study demonstrates how homeowners can maximize outdoor living space for a small, sloped backyard using MagnumStone retaining walls. By building a terraced retaining wall design on a steep property, this backyard was designed with multiple functional spaces, while safely stabilizing soil and preventing erosion. For any landscaping contractor and homeowner looking to create outdoor living areas in small hilly back yards, consider adding terraced retaining walls to create multi-level

outdoor living spaces offering modern, refreshed landscape design with greenery.

MagnumStone's versatility, hollow core design and natural stone aesthetics all contributed to the success of this hillside backyard development. Accessible by landscaped steps, the homeowners regained functional property space with three patios built into the steep-sloped natural terrain. MagnumStone's precast blocks, produced by [County Materials](https://www.countymaterials.com/), made the homeowner's vision for a multi-level backyard outdoor space come to life.

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PROJECT OVERVIEW: MAGNUMSTONE WALLS SOLVE BACKYARD SLOPE & SPACE CONSTRAINTS

The owners of this small, steep-sloped backyard in St. Paul, Minnesota, wanted to make better use of its backyard potential. The property presented substantial challenges with its sharp vertical incline, space and accessibility constraints, bedrock and natural underground springs. On top of these challenges, the home is located in a historically significant neighborhood of the city. This meant building materials for the project were subject to review and approval by the local heritage preservation association.

Despite the challenges of this hillside home's backyard, MagnumStone blocks supplied by County Materials transformed a hillside into functional outdoor living spaces in this residential landscape. The landscape design and installation company, [Neil's Outdoor Services Inc.](#) designed a terraced landscape system to maximize usable space for this property. The revamped backyard's two MagnumStone gravity retaining walls converted the steep, rugged hillside into a beautiful three tiered outdoor area. To achieve this safe and durable

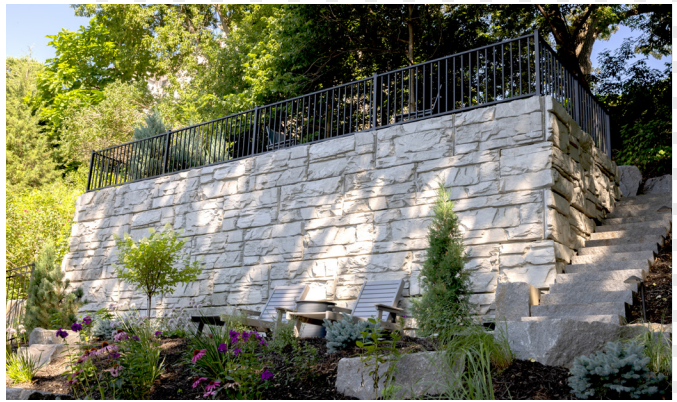
terraced gravity wall design, both retaining walls required [gravity extender reinforcement](#) for further stability.

"MagnumStone is by far the easiest big block system to use and install. The blocks were all installed by machine, which made the project faster and safer," said Joe Schroeder, Landscape Manager at Neil's Outdoor Services Inc.

The backyard also faced a challenge of underground water springs, which was overcome by supplemental drainage for both retaining walls. The additional drainage prevents pooling water near the retaining walls and the house to ensure these structures remain stable and uncompromised. The on-site drainage solution was faster and easier to customize with the versatility of MagnumStone's hollow core block design. MagnumStone's natural stone look easily won approval of the heritage preservation association, whose primary concern was the storied neighborhood's aesthetics. After seeing MagnumStone's textured block facings and reviewing the system's advantages, the blocks were quickly authorized.

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■ WALL DESIGN: TERRACED RETAINING WALL DESIGNS FOR HILLSIDE BACKYARDS

The terraced block walls blend functionality and modern design into the residential backyard's natural elevation changes. Designed to maximize usable property space, these tiered levels converted the steep hill into a unique outdoor living layout. Reinforced [MagnumStone gravity walls](#) are capable of handling the slope's heavy loading and will prevent potential soil erosion.

Retaining walls for this project were planned and engineered by the local experts at [Geowall Designs](#). MagnumStone's standard blocks interlock with the 2 ft. (0.61 m.) and 4 ft. (1.22 m.) gravity extender units to build reinforced gravity walls. The

additional reinforcement allowed Geowall Designs to plan taller gravity walls and minimize excavation depths for this compact backyard worksite.

The larger top wall spans 32 ft. (9.75 m.) wide and reaches 12 ft. (3.66 m.) high with embedment. Its 90° corners extend from the hillside for a level patio area and are fortified with overlapping gravity extenders. The lower wall measures 38 ft. (11.6 m.) long and 8 ft. (2.4 m.) tall with embedment and includes gravity extenders along its base course. Reinforced gravity walls secure the retained soil and slope stability, plus enhance the residential property's functionality, appearance and value.

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■ INSTALLATION: MAGNUMSTONE'S DRAINAGE SOLUTIONS FOR HILLSIDE RETAINING WALLS

The installation team for this residential property encountered a challenge of three underground natural springs, making on-site drainage upgrades necessary to install. The team at Neil's Outdoor Services built an advanced drainage system to account for regular runoff, plus the underground springs. This drainage network efficiently redirects water away from the house and the base of each retaining wall.

The top wall is installed with simple backside drainage, as the underground springs are located

further down the hillside. Drainage for the lower retaining wall is strategically placed behind the wall and embedded in front of the first course. Inside the base blocks required compactable material in the embedded area to prevent major water pooling along the main patio. The remaining portion of the first course and higher blocks are filled and compacted with clean crush gravel. MagnumStone's hollow core blocks delivered superior drainage capabilities and help safely convey runoff to the edge of the property.

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■ BLOCK AESTHETICS: RUGGED MAGNUMSTONE BLOCK FACINGS BLEND INTO LOCAL LANDSCAPE

Building materials for this project required approval from the local heritage preservation association. As an area of historical significance in the Twin Cities region, the group wished to keep the block facing aesthetics as natural as possible. MagnumStone was the contractor's original block choice, and its textured facings complemented the residential home's surrounding landscape exceptionally well.

The heritage preservation association confirmed the block aesthetics were a great selection and quickly approved MagnumStone for construction. The MagnumStone retaining wall system blends in with the neighborhood's natural elements for the steep backyard's impressive hillside transformation.

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PROJECT OVERVIEW:

TERRACED MAGNUMSTONE RETAINING WALLS MAXIMIZE OUTDOOR LIVING SPACE

The homeowners of this steep hillside backyard wanted to make the most of their residential property nestled in St. Paul, MN. To regain more functional area, a terraced MagnumStone retaining wall design integrated a modern outdoor living space with multiple patios. The tiered levels were separated by reinforced gravity retaining walls designed by Geowall Designs and installed by Neil's Outdoor Services. The MagnumStone blocks were produced and supplied by County Materials.

Key challenges to overcome in this project:

- The property's steep slope severely limited space
- Accessibility to the project site was limited
- Landscaping renovation required approvals by the local heritage preservation association
- Multiple underground natural springs were embedded within the slope

Despite these hurdles, the teams involved specified MagnumStone's retaining wall system to successfully transform the challenging landscape into a modern backyard with multiple outdoor living spaces. The steep hillside was converted into a functional three-tiered outdoor area with landscape steps and beautiful patios. Each level is securely reinforced with MagnumStone retaining walls and an extender system, including a comprehensive drainage system to divert water and the underground springs to safe areas. MagnumStone's precast block strength, design and natural stone appearance all helped transition the steep slope into a stunning backyard space.

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This case study is an example of how MagnumStone's hollow core blocks can help maximize sloped residential properties' potential. These precast retaining walls stabilize hillsides, level land and provide versatile landscaping solutions that overcome challenging natural terrain.

MagnumStone helps engineers, landscape architects and contractors plan, design and install residential backyard retaining walls quicker and safer. Begin planning your next project today with the system's [Retaining Wall Design & Analysis Software](#). Gain more insight about precast retaining walls and pricing details, [find your nearest MagnumStone block dealer here](#).

This project was successfully completed thanks to [County Materials](#) (MagnumStone Producer), [Neil's Outdoor Services Inc.](#) (Contractor) and [Geowall Designs](#) (Engineer).

CONTACT OUR TEAM TODAY

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Contact our MagnumStone experts for more details.

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