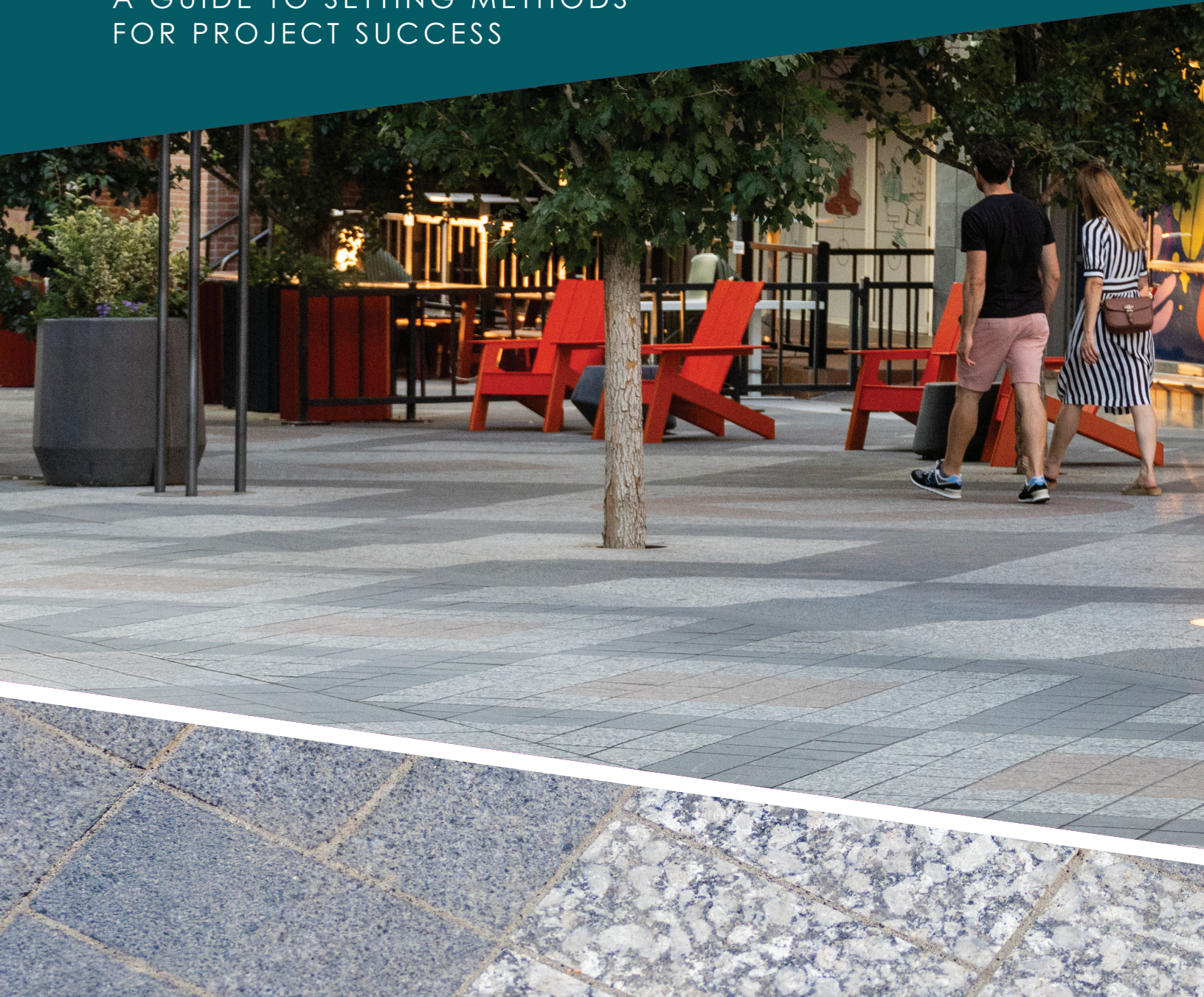




COLDSPRING®

NATURAL STONE PAVER INSTALLATION

A GUIDE TO SETTING METHODS
FOR PROJECT SUCCESS





BENEFITS OF NATURAL STONE PAVERS

Attractive public spaces for leisure and civic identity are increasingly vital in modern city planning. For thousands of years, natural stone has provided a beautiful, long-lasting foundation for vibrant urban environments.

Capable of withstanding harsh weather elements and heavy human interaction, natural stone excels in metropolitan hardscapes when specified correctly and set with the appropriate installation method.

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Natural stone redefines public spaces with unmatched durability, timeless beauty, and design flexibility. Long-term hardscape success depends on selecting the proper setting method for your site’s environmental conditions.

This guide is meant to empower landscape architects to evaluate installation systems, optimize performance, and build enduring civic spaces with confidence.



Natural stone is ideal for gathering places such as parks with fountains, memorial sites, and plazas. Timeless and durable, plazas built with stone pavers over half a century ago remain standing today as a lasting record of stone's performance.

KEY DESIGN & PERFORMANCE ADVANTAGES

In addition to longevity, natural stone provides engaging frameworks for open spaces that help projects:

- **Define a Sense of Place:** Establishes open, enticing frameworks that shape a city’s unique identity.
- **Express Environment:** Reflects and honors both the cultural and natural surroundings.
- **Encourage Community Gathering:** Creates functional, welcoming settings where crowds can gather and entices visitors to return.
- **Minimize Maintenance:** Delivers aesthetically appealing surfaces; certain stones, such as granite, require minimal upkeep, making them ideal for high-traffic settings.
- **Maximize Versatility:** Combines design flexibility with unmatched beauty and performance when paired with the correct setting method.



COMMON INSTALLATION METHODS

WHAT IS THE BEST MATERIAL TO PUT UNDER PAVERS?

The best base material depends on site conditions and the chosen installation method. A strong foundation is critical, uneven or cracked pavers typically stem from using the wrong base or improper installation. Selecting the appropriate setting system ensures long-lasting durability and performance, while consulting an experienced natural stone supplier helps determine the optimal base for your project.

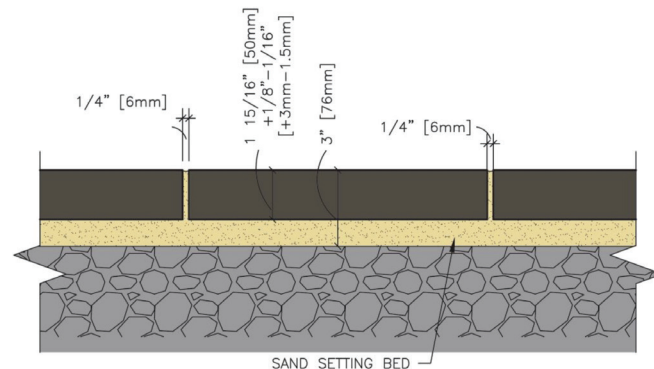
Sand Set

When is a Sand Set system recommended, and how does it function?

Sand set is an ideal flexible, permeable option when a concrete slab base is unavailable. Instead of mortar, joints are filled with polymeric sand, a fine sand with additives that fuses when exposed to water to lock pavers in place. It installs faster and more economically than concrete or mortar beds due to rapid base preparation.

What are the sizing and drainage requirements?

Sand set requires smaller, thicker pavers that lock together better and shift without breaking if the system moves. Uniform support and effective surface drainage are critical to prevent trapped water from shifting the sand bed and causing pavers to rock.



If base repairs are required, pavers can simply be lifted, the sub-base repaired, and the original stone reset—eliminating the risk of paver breakage common during mortar bed removals.

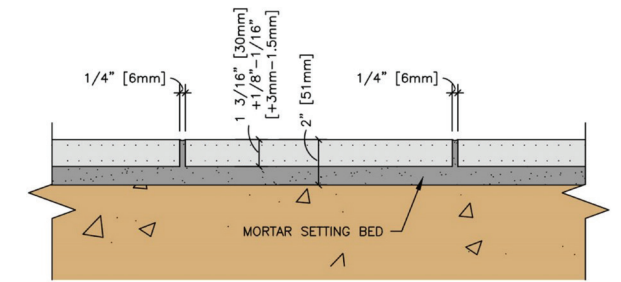
Mortar Set

Where does Mortar Set perform best?

Mortar set is the most widely used setting method for high-traffic pedestrian or vehicular areas requiring a rigid, high-performing system. In a mortar system, joints are fully grouted to create a unified surface.

How does Mortar Set accommodate custom paver sizing?

The mortar setting bed provides inherent flexibility that allows larger and irregularly shaped stones to be effectively set. Proper surface drainage is essential to evacuate water and protect the long-term bond of the system.



Excels in rigid, high-traffic commercial applications and accommodates complex, irregularly shaped stone dimensions.

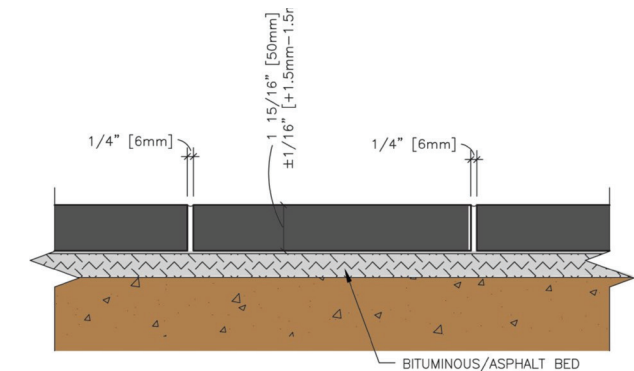
Bituminous Set

Why choose Bituminous Set for harsh or cold climates?

Bituminous set features a 1-inch asphalt setting bed with thin mastic and flexible ~1/8-inch polymeric sand joints. Unlike hydrophilic (water-absorbing) mortar, the oil-based bituminous bed is hydrophobic (water-repellent), making water infiltration and freeze-thaw cycles less impactful to long-term durability.

What installation tolerances are required?

Bituminous systems require strict paver thickness tolerances because the bed does not allow height adjustments during setting like sand or mortar beds. Specifying smaller piece sizes is a common way to accommodate this requirement.



The hydrophobic setting bed acts as an "insurance policy" for long-term durability in freeze-thaw climates if surface drainage is ever imperfect.

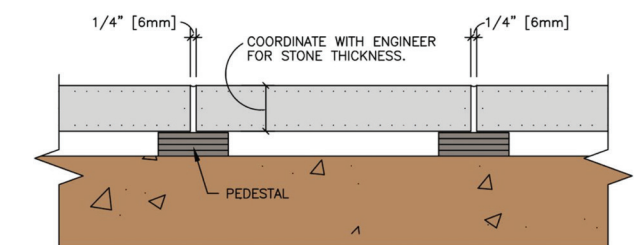
Pedestal Set

How does a Pedestal Set system handle drainage?

Pedestal systems completely eliminate mortar, sand, or asphalt beds by supporting stone on elevated pedestals, routing water drainage directly beneath the paving surface.

What applications and stone sizes are typical for Pedestals?

Pedestal set systems are ideal for street-level plazas, rooftop terraces, and fountain applications where water elimination is critical. Standard paver dimensions typically start at 2' x 2' and may require thicker stone pieces depending on overall panel size.



Removes standing surface water entirely by routing drainage through open joints, making it the primary solution for elevated decks, water features, and plazas.

Integrated Spacer System

What is an Integrated Spacer System, and how does it function?

An integrated spacer system like **TabStone™** by **Coldspring®** features natural stone pavers manufactured with pre-adhered spacer tabs on all four sides. Incorporating spacer technology directly onto each paver during fabrication eliminates manual jobsite spacer setting, ensuring effortless alignment and consistent joint spacing.

How does this method increase installation speed and jobsite efficiency?

Traditional installations require setting individual plastic or rubber spacers between every stone, adding extra labor steps and introducing human error. Pre-installed tabs eliminate setup steps and guesswork, streamlining jobsite workflow to cut installation time, control labor costs, and keep commercial schedules on track.

What design flexibility and structural advantages does it provide?

Produced on state-of-the-art automated lines, pre-adhered tabs ensure precise, uniform joint widths across high-volume installations. The system offers full design versatility, customizing stone finish, color, thickness, and dimensions while maintaining structural integrity and long-term pavement durability.



Pre-applied tab technology eliminates manual spacer placement on the jobsite, cutting installation timelines in half, lowering labor costs, and maintaining strict alignment tolerances across high-volume commercial paving projects.

FINISHING THE JOB

After selecting the setting bed method, choosing the optimal surface finish is essential to prevent slips and falls in wet or icy conditions.

- **Thermal Finish Performance:** As the most traditional option, a thermal finish provides a durable texture that holds up well over time while meeting standard slip-resistance testing requirements.
- **Tailored Aggressiveness:** The aggressiveness of the finish should be adjusted based on the selected stone type, site environment, and expected foot traffic volume.

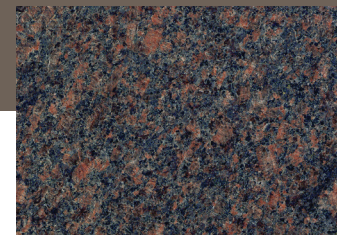
Evaluating environmental conditions both during and after installation ensures a natural stone hardscape that is both functional and beautiful.

COLD CLIMATE SUCCESS

STATE STREET | MADISON, WI

Climates with abundant freeze-thaw cycles present special considerations for natural stone paving due to water infiltration, expansion, and contraction. When a project stands for decades in excellent condition, a successful installation method plays a key role.

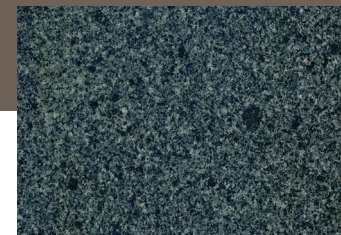
State Street in Madison, Wisconsin, provides a clear example of natural stone durability when paired with an appropriate setting bed. As the pulse of downtown Madison, this granite-paved pedestrian zone links the State Capitol Square with the University of Wisconsin-Madison campus. Closed to regular traffic, the corridor features well-marked bicycle lanes and extra-wide sidewalks for strolling, dining, and outdoor seating.



CARNELIAN®



IRIDIAN®



CHARCOAL BLACK®



MOUNTAIN GREEN®

DESIGN VISION & MATERIAL SPECIFICATIONS

In the early 2000s, Saiki Design of Madison carried out the vision for the State Street renovation, which was completed in four phases over a 10-year period. The design team preserved cherished elements of the existing streetscape and Library Mall while restoring views to iconic city features.

The renovation incorporated Coldspring granite pavers in four colors: Carnelian®, Iridian®, Charcoal Black®, and Mountain Green®. Selected for their durability, permanence, and ease of maintenance, all pavers were finished with a non-slip Diamond® 100 finish. This semi-rough finish provides a textured surface that reveals vibrant colors within a deep, rich background.

BITUMINOUS PERFORMANCE & LASTING DURABILITY

State Street's pavers were installed with a bituminous setting bed. Paired with proper drainage, bituminous beds offer an ideal solution for cold-weather climates because they resist water infiltration. Over 20 years after the initial granite pavers were installed, they look nearly the same as they did when first set. With its shopping, dining, entertainment, and public events, State Street remains a major attraction in Madison and a true reflection of the city's vibrant lifestyle.

VERSATILITY WITH PEDESTAL SET

PEAVEY PLAZA | MINNEAPOLIS, MN

Originally designed by landscape architect M. Paul Friedberg as the "living room" of Minneapolis, Peavey Plaza opened in 1975 as a one-acre respite in downtown Minneapolis, featuring a central reflecting pool and cascading concrete fountain. Following years of deterioration, landscape architecture firm Coen+Partners led a revitalization effort in 2017. Because the plaza is listed on the National Register of Historic Places, **preserving the original design intent was essential** while achieving key design goals:

- Increase accessibility and safety
- Improve long-term sustainability and maintenance
- Rehabilitate character-defining features

Very early on, we determined the granite needed to be a dark color, to maintain a sense of depth and create a highly reflective water surface. The color of the granite would have a huge impact on what the water would look like.

— **LAURA KAMIN-LYNDGAARD**
Senior Associate at Coen+Partners

MATERIAL SELECTION & LOCAL SOURCING

The design plan preserved the iconic cascading fountain and reflecting pool while replacing the original material backdrop with granite. Granite provided an ideal solution because its low absorption rate resists disintegration during frequent drying and rewetting cycles, outperforming traditional brick or concrete.

Because the original pool was built with warm-toned brown brick, the team initially evaluated foreign brown granites. However, long-term maintenance concerns led them to prioritize a domestic supplier closer to the project. Coldspring supplied over 10,000 square feet of Mesabi Black granite pavers featuring a Diamond 10 finish. This finish highlights the stone's reflective crystals, enhancing the depth of its dark tones.

PEDESTAL SYSTEM PERFORMANCE & ENGINEERING

A pedestal set system feeds water directly through the paver joints. Open joint spacing allows water to circulate continuously at a rate that maintains a still surface appearance. Custom-milled perimeter weir stones were grouted in place to hold a pristine level edge, directing water into a collection trough for recirculation. Operating with just a 1/4-inch water

depth, the pedestal system enabled contractors to meet critical 1/16-inch installation tolerances.

Additionally, the pedestal system allows the pool to drain completely within mere hours. This quick-drain functionality enables the plaza to rapidly transform into a functional venue for outdoor concerts and civic events.

A REVITALIZED CIVIC LANDMARK

Peavey Plaza reopened on July 18, 2019, with a completed design that enhanced sustainability and established accessibility for all visitors, incorporating wheelchair and stroller ramps across all levels. The finished revitalization successfully reclaimed the plaza's standing as a dynamic, vibrant public gathering space and an oasis of tranquility for city dwellers.

**MESABI BLACK®
DIAMOND® 10**

EFFICIENCY WITH PRE-TABBED PAVERS

16TH STREET MALL | DENVER, CO

Originally built in 1982 with a modernist design by architect I.M. Pei, Denver's 16th Street Mall featured a mile-long grid of red, black, and gray natural granite pavers. Four decades later, drainage issues below the surface caused the mortar bed to deteriorate through freeze-thaw cycles, driving maintenance costs over \$1 million per year. To address these challenges, a \$149 million renovation broke ground in 2022 to upgrade the entire installation. Primary project goals included:

- **Preserve the iconic modernist design and historic Navajo rug pattern**
- **Improve subsurface drainage and extend overall pavement lifespan**
- **Execute a massive, high-tolerance installation efficiently**



TABSTONE BY COLDSPRING

We couldn't have done this project without the tabbed pavers. On this job, the tolerances are very high. It would have been impossible to lay these pavers without tabs.

— **STEVE KALABANY**

Senior Project Manager at Gallegos

MATERIAL SELECTION & LOCAL SOURCING

Gallegos, the stone installer, partnered with Coldspring to supply both the natural stone and the custom fabrication needed for the project's unique shapes and custom curves. Over 960,000 natural granite pavers were produced in red, black, and gray tones to preserve the original 40-year-old aesthetic. The new design utilized smaller paver sizes paired with an updated grout, mortar, and drainage system to prevent water retention and withstand climate cycles.

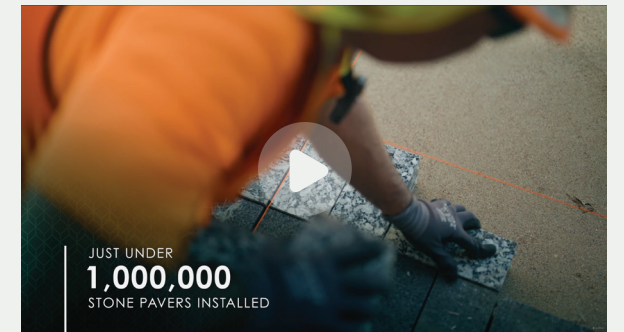
PAVING INNOVATION & HIGH-SPEED EFFICIENCY

Faced with the massive scale of installing nearly one million pavers, Coldspring developed an automated process to pre-apply spacer tabs to all four sides of each paver using a robotic arm. This breakthrough technology, now known as TabStone, allowed the installation crew to lay granite pavers with high speed and precise uniform spacing.

The TabStone innovation:

- Cut installation and quality control time in half
- Met strict high-tolerance requirements across more than a mile of paving
- Enhanced surface friction to prevent slipping and improve pedestrian safety

Scan the code to watch ***Paving the Future: TabStone by Coldspring at Denver's 16th Street Mall.***



A REVITALIZED DOWNTOWN LANDMARK

Completed in fall 2025, the revitalized 16th Street Mall successfully restored Denver's iconic pedestrian corridor. The combination of Coldspring's consistent stone fabrication and TabStone spacer technology ensured a durable, high-performing hardscape engineered to host millions of visitors and community events for decades to come.

TAILORED SURFACES. ENDURING PERFORMANCE.

YOUR VISION. CUSTOM FABRICATED.

At Coldspring, nothing is pulled from a warehouse shelf. Every paver is custom-fabricated from domestic quarries to your exact project specifications. This puts stone color, piece dimensions, and surface finishes entirely under your control.



**CARNELIAN
THERMAL FINISH**



**CARNELIAN
RUB & SAND FINISH**



**CARNELIAN
DIAMOND 100 FINISH**

100% Made-to-Order

Tailored piece sizes, precision edge milling, and custom waterjet or sandblasting options built to meet your design goals.

Signature Finishes

Pair signature granites like Carnelian with high-performance textures. From traditional Thermal to specialized Diamond 100 finishes, Coldspring's finishing capabilities will have your paver projects looking exceptional and standing the test of time.

ORDER FROM COLDSPRING TODAY

MAKE YOUR MARK.®

Partner with Coldspring's natural stone specialists to explore custom design and finishing opportunities for your next project.

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Natural stone is a product of nature; variations in texture, color, and veining are inherent characteristics, not flaws. Due to printing limitations, actual product colors may vary.

Visit our showroom and selection center to view our full collection in person.

