

Multnomah Arts Center

Portland, Oregon



The City of Portland Parks and Recreation, owner and manager of the Multnomah Arts Center, was looking to create a paved parking lot of adequate size to support the many programs offered there. The project presented the City with numerous challenges. On the south side of the building a large parking place was created which included an extensive infrastructure of catch basins and a bioswale. The surface was dressed with gravel. This was not an adequate durable solution to the numerous cars parking at the site. Seeking an environmentally friendly solution to the problem, Portland Parks and Recreation attempted to try a plastic-celled rollout product filled with gravel and used as the structural support for traffic. Over time, grass is supposed to grow through the cells and provide additional support and stability. However, this product failed for a combination of reasons:

- It was determined that the rock base provided by a private contractor was not built to specifications. This was verified when core samples were taken in 2000 prior to installation of the Uni Eco-Stone® pavers. The City required a minimum of six inches compacted 1 1/2" rock under the Grasspave product. In many places, it turned out, there was only two inches and the rock sizing was erratic.



- The existing system was better suited for irregular parking needs and not the steady daily parking requirements of the center. The system was removed and the City continued to explore possibilities for a paving system that would provide both permeability and outstanding durability.

Available in a wide array of shapes, textures and colors, Mutual Materials has an interlocking concrete paver to meet your aesthetic and technical needs.

Mutual Materials also produces full lines of segmental retaining walls, architectural slabs, brick and concrete masonry units.

Location:

Portland, Oregon

Architecture & Engineering:

Barbara Baker
Building Designer,
Planning and
Development Division,
City of Portland
Parks and Recreation

General Contractor:

City of Portland
Parks and Recreation

Mutual Materials Products:

Uni Eco-Stone® 8 cm



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One of the possibilities was the permeable system of the Uni Eco-Stone Paving System. With its permeability, high load-bearing capabilities, and pedestrian-and vehicle-friendly surface, Eco-Stone offered the full range of capabilities desired by the City. In addition, the Uni Eco-Stone permeable paver system installation specifications are site specific. The system is highly flexible, and can be adjusted to fit a broad range of site conditions. Thus, the aggregate base material, which acts as a reservoir for the water as it drains to slowly permeate the soil, is adjusted as site conditions dictate.

"I inherited this project in the fall of 2000," notes Barbara Baker, project manager. "The choices at the time were a recycled PVC paver from Italy or the Uni Eco-Stone system. In evaluating choices, we took into consideration such things as accessibility of product, customer service, availability of installation information, as well as maintenance and long-term expenses. We also were seeking an opportunity to play a larger role in the development of new technology applicable to healthy stormwater management. Because this entire project was a learning experience, we needed to create a team of local professionals committed to a positive outcome on multiple levels. It appears we have met all of our objectives using this system."

The project spanned an area of approximately 10,500 square feet, and was executed over three phases to accommodate parking needs at the Art Center. Completing each phase required approximately 10-12 working days.

The City wanted to handle the installation

of the pavers itself, rather than using an outside contractor. The perceived benefits were that the City could save money by doing it themselves, and doing it the right way. In addition, City employees could be kept busy during slow times. The City's goal is to use pavers in many applications in the future. It was suggested that the City send three employees to an ICPI Contractor Certification Class to learn how to install pavers and to gain certification.

In April 2001, the City completed Phase 1, the installation of 18 parking spaces. In Phase 2, another 18 parking spaces were installed on the other side of the bioswale, mirror-imaged. Phase 3 included the installation of the remainder of the parking spaces. The pavers were laid on an 8" bed of gravel topped with a bedding layer of 1/4-10. The paver layout was a 90-degree herringbone pattern. A reinforced concrete header was poured between the asphalt roadway and the pavers to solidify the installation. PAVE EDGE, an extruded plastic paver edging material manufactured by PAVE TECH and supplied by Mutual Materials, was used on the inside edge where any excess water that was not absorbed could flow into an already existing bioswale. Bumper block was also installed to prohibit cars being driven into the bioswale.

An exciting aspect of this project that must be noted is the aesthetic quality achieved by the paver layout design suggested by the City's project manager. Using alternating gray and red-colored pavers for parking spaces not only complemented the color scheme of the building and roof, but eliminated the need for painting typically unattractive parking space lines over the top of the pavers, and having to maintain the upkeep of the painted lines in the future. This was the first time this innovative design was used and it is expected to launch a trend.

The City of Portland has already seen some significance of using EcoStone. Visual observations confirm that water that falls onto the pavement system is absorbed into the subgrade.

Uni Eco-Stone®

Uni Eco-Stone is an innovative, environmentally beneficial permeable paving system that allows rainwater infiltration. Excellent for driveways, parking areas and patios; easily supporting the weight of cars, trucks and RVs.

