

# Tacoma Community College

Tacoma, Washington

*The parking lot was designed to store runoff and infiltrate water into the underlying native sandy loam subgrade.*



#### Engineering:

*JKA Civil Engineering*

#### General Contractor:

*Harlow Construction.*

#### Hardscape Contractor:

*BC Paver, Inc.*

#### Mutual Materials Products:

*Uni-EcoLoc 8cm®*

*Holland Charcoal*



Recently, JKA was invited to be involved with creating an innovative approach to addressing stormwater treatment and control for a 250 stall parking facility on the Tacoma Community College campus. The project was to be built in an undeveloped area historically used for "overflow" parking by students when conventional paved parking lots were full. This "overflow" area was comprised largely of bare earth and worn grass. During and after rainfall events, water would pond in low areas of the site, causing inconvenience to students and staff.

The project site is located in the Leach Creek watershed. Private and primarily public stormwater conveyance systems located in Tacoma and Fircrest collect and convey stormwater runoff (largely undetained and untreated) from the watershed, with ultimate discharge to the Leach Creek Holding Basin in the City of Fircrest. The Leach Creek facility is operated by the City of Tacoma Public Works Department. Restricted release from this system is directly to Leach Creek itself. The City of Tacoma takes an appropriate aggressive stance with respect to protecting the integrity of the Leach Creek environment. Thus, the design team approached the City's Public Works staff with the idea of using a pervious-paver-type design in conjunction with improving the overflow parking lot area. The goal was to infiltrate (retain) as much runoff as possible and address treatment of stormwater.

Working with City of Tacoma staff, Tacoma Community College representatives, and the Washington State General Administration Department, JKA designed a pervious parking lot using Mutual Materials' Uni-Ecoloc permeable paving system. The parking lot was designed to store runoff and infiltrate water into the underlying native sandy loam subgrade. Supporting the pavers is 8 inches of #57 open-graded aggregate base and 2 inches of #8 open-graded aggregate bedding/leveling course. The rock bases are separated from the soil subgrade by geotextile filter fabric. The rock bases provide storage of runoff from significant rainfall events.



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The sandy loam subgrade provides filtering of runoff, capturing pollutants typical of an automobile parking lot.

The parking lot includes typical amenities such as landscape islands, perimeter concrete soldier curbing, and concrete pedestrian accesses. It is equipped with shallow observation wells at strategic locations for monitoring of runoff storage within the rock base.

The facility was constructed in approximately six weeks and was completed in time for the first day of classes for the fall 2004 semester. On that first day, the parking lot was filled to capacity and has been used to a significant extent ever since.



## Uni-Ecoloc®

Uni-Ecoloc® is an environmentally beneficial heavy-duty paving system designed to reduce stormwater runoff on industrial and commercial pavements.

Uni-Ecoloc is a L-shaped interlocking concrete paver and part of the

Uni-Anchorlock family of pavers. Ecoloc pavers provide a highly durable, yet permeable pavement capable for supporting the highest vehicle loads. When installed, the unique patented design creates drainage openings in the pavement's surface, which facilitate rainwater infiltration like the Eco-Stone® system. Uni-Ecoloc is a mechanically installed product.

Ecoloc pavers are perfect for municipal, commercial and industrial applications.



3 1/8" x 8 7/8" x 8 7/8"  
8 cm x 22.5 cm x 22.5 cm