In July 2012 Chester Township installed 3 bioretention cells totaling 1,300 square feet and 3,806 square feet of pervious pavers within the new Town Hall parking lot to capture, filter, and treat storm water runoff before it enters the existing storm sewer system and empties into Marsh Hawk Run, a tributary to the Chagrin River.

This project serves to demonstrate to local developers, businesses, public officials and residents in Chester Township and the greater Geauga County area that innovative stormwater retrofits can be effectively incorporated into existing commercial and public parking areas to reduce stormwater runoff, which minimizes local flooding.

- Manufactured paver units provide consistent quality concrete, can be installed mechanically and are traffic ready upon completed installation.
- Freeze-thaw and deicing salt resistant concrete, water in base does not freeze and heave pavers.
- Snow melts faster, drains immediately reducing puddles and black ice formation on parking surface.
- Individual paver units can be replaced if damaged at minimal effort and cost with repair surface matching existing color.
- Paver units with specific coloring can achieve solar reflectance index (SRI) reductions lessening urban heat island effects.
- Pervious pavement systems are American with Disabilities Act (ADA) compliant.

Pervious pavements remove pollutants such as oils, grease, sediment and heavy metals from the water as runoff enters the gravel filled joints between the paver units and continues downward through the underlying larger sized gravel layers within the system.

Funding provided through a grant from the Ohio Environmental Protection Agency’s Surface Water Improvement Fund
Pervious Paver Design and Construction

Permeable Interlocking Concrete Pavement

Typ. No. 8 aggregate in openings
Curb/edge restraint with cut-outs for overflow drainage
Concrete pavers min. 3 ⅛ in. (80 mm) thick
Bedding course 1 ½ to 2 in. (40 to 50 mm) thick (typ. No. 8 aggregate)

4 in. (100 mm) thick No. 57 stone open-graded base
No. 2 stone subbase – thickness varies with design
Optional geotextile on bottom and sides of open-graded base
Soil subgrade

Maintenance

- Pervious paver systems require regular inspection and periodic removal of accumulated sediments from the surface. Annual vacuum-sweeping is recommended.
- If heavy sediment accumulation occurs on the paver surface a strong vacuum can remove the stone jointing material (typically No. 8 stone) along with the trapped sediments. The stone jointing material can be swept back into the joints between the pavers using a broom to restore the surface of the system.
- Deicing salts should be used sparingly. Due to the high quality concrete construction of the paver units deterioration of the pavers caused by salts is resisted.
- No special plows or plow blades are required.

Diagram courtesy of the Interlocking Concrete Pavement Institute (ICPI)