

CASE STUDY

STORMWATER MANAGEMENT

Underground Detention System & Permeable Pavers

1 Modular tanks being installed.



Project	32 South Maple
Location	Webster Groves, MO
Date	July 2012
Salesperson	Mark Stirnaman & Guy Litteken
Engineer	Oats and Associates
Contractor	General - Piffel Excavating Hardscape - Conoyer Bros

2 Modular tanks completed & connected to outlet pipe.



THE CHALLENGE

The issue at this home was a combination of combined sewer overflows and localized flooding. The flooding was a function of the front and side yards draining towards the back yard, as well as the driveway. There was not a clear, easy path for the water to leave the back yard which caused the flooding.

3 Installing the clean base rock for the permeable pavers.



THE SOLUTION

The combined sewer overflow was somewhat easy to fix. The sewer and stormwater were not meant to be combined. At some point, a solid grate covering a cleanout was replaced with an open grate in hopes to mitigate the flooding. That grate was replaced with another solid grate and the attention went to managing the stormwater. Ultimately the designers chose to use modular tanks and permeable concrete pavers to capture the water. There was an issue with the grade of the yard in relation to a box culvert at the back of the yard. The water could drain to the culvert only during low flows. During a high flow event, the water would back up into the pipe and ultimately the back yard. This problem was solved by using the tanks and creating roughly 3,200 cubic feet of storage.

THE PRODUCTS



**Manufacturers & Products
included in solutions:**

Product: Modular Tanks

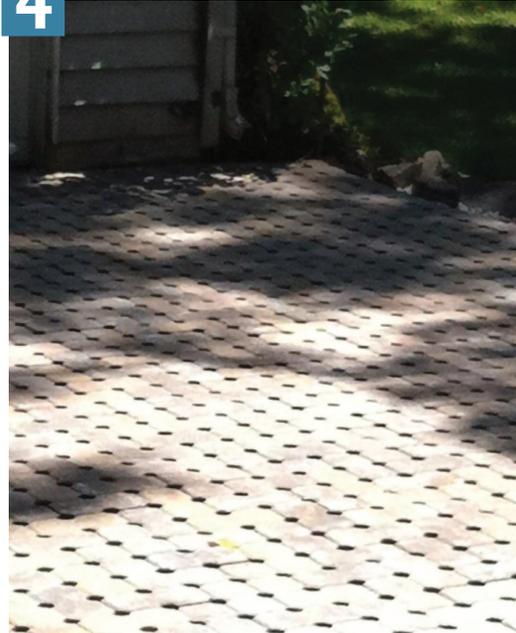
Product: Infiltra Stone Permeable Pavers

Manufacturer: Pavestone

5 Close up view of how water gets through the joints of the permeable pavers.



4 Completed permeable pavers.



THE RESULTS

The system performed as designed. The water entered the modular tanks by way of permeable pavers and a small grated inlet. The permeable pavers and the clean rock below acted as a filter and provided water quality. The modular tanks allowed for storage and gave the water a place to go to avoid the high peak flows and allowed the system to drain over a period of time.

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