



Metropolitan
St. Louis Sewer
District

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July 25, 2012

Mr. Dave Schuster
ASP Enterprises
1099 Cassens Industrial Ct.
Fenton, MO 63026

RE: Pavedrain Articulating Permeable Paving Surface - A Structural BMP

Dear Mr. Schuster,

The Metropolitan St. Louis Sewer District (MSD) has reviewed your application of the Pavedrain Articulating Permeable Paving Surface and hereby grants the product Provisional Use Level (PUL) approval. MSD understands that Pavedrain is an articulating concrete block mat system that enhances surface permeability by the open space created between the blocks. Pavedrain is recognized as a permeable pavement in satisfying MSD stormwater management requirements.

MSD has determined that Pavedrain may be used under the following conditions:

1. Proposed uses and designs of Pavedrain, must be in general conformance with the information and methodologies provided by ASP Enterprises and PaveDrain LLC received March 28, 2012 and the detail attached to this approval letter.
2. Channel Protection Volume (CPv) storage may be provided in the sub base stone beneath the articulating block and bedding layer.
3. The articulating block mat shall rest on a 4-inch thick layer of base stone (ASTM No. 57 or similar size), and a layer of subbase stone (ASTM No. 2 or similar size), all underlain by MSD type 4 filter fabric. The thickness of the subbase will vary depending on storage and anticipated traffic loads. However, a minimum 12-inch thick subbase will be required for all applications.
4. The post-developed curve number (CN) for the footprint of the Pavedrain Articulating Permeable Paving Surface may be reduced. Reduced CN numbers are provided below.

Soil	A	B	C	D
CN	61	61	74	80
5. The Pavedrain system will be considered as pervious area for the purpose of calculating Water Quality Volume (WQv) and 5 percent impervious when calculating the differential runoff with PI factors. However, the Pavedrain will be considered as 100 percent impervious area for the purpose of calculating pipe sizes downstream and when evaluating a site's annual post developed runoff condition.
6. Pavedrain may be considered as a stand-alone BMP in certain design instances. Those designs are subject to MSD review and approval.

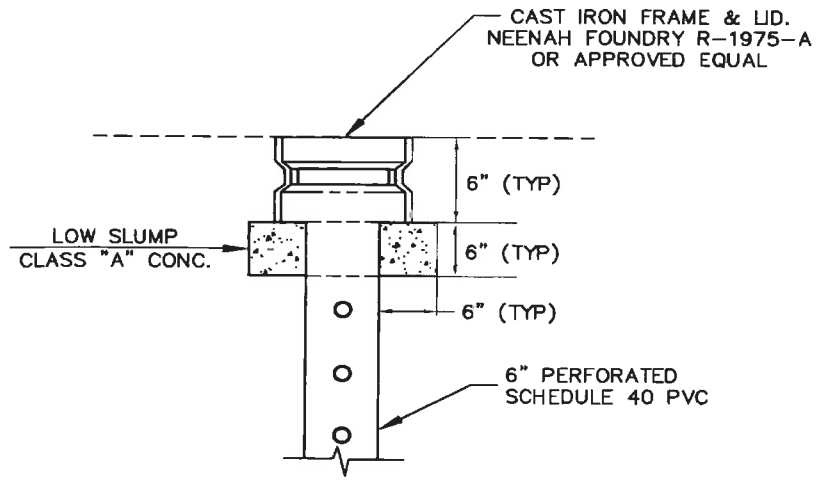
7. Project specific design calculations and maintenance plans must be included within the project's "Stormwater Management Facilities Report" prepared by the consulting Engineer.

MSD reserves the ability to withdraw or modify this approval based on subsequent information, including information indicating that Pavedrain does not satisfy MSD rules, requirements, or construction and material specifications. Please provide MSD with a representative sample of the product your supplying manufacturer is producing.

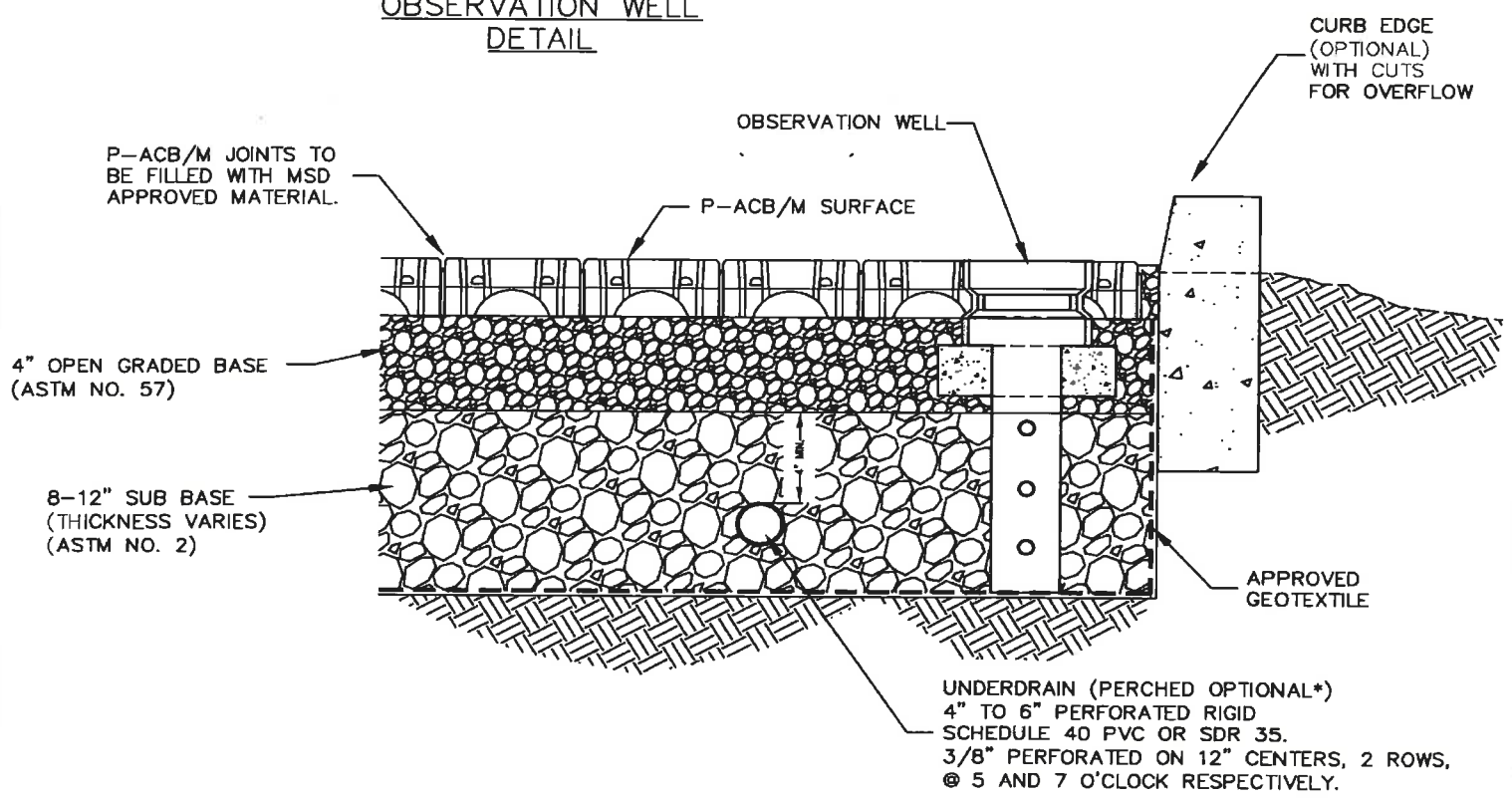
Sincerely,



Jason T. Peterein, P.E.
Civil Engineer (BMP Committee Chairman)
Engineering / Planning / Development Review
Metropolitan St. Louis Sewer District



**OBSERVATION WELL
DETAIL**



**PERMEABLE - ARTICULATING CONCRETE BLOCK/MAT
TYPICAL SECTION**

* THE NEED FOR A PERCHED UNDERDRAIN IS OPTIONAL AND IS DEPENDENT ON THE INFILTRATION RATE OF THE SUBGRADE SOIL. PLASTIC SOILS SHOULD NOT PERCH THE UNDERDRAIN. THE HORIZONTAL AND VERTICAL LOCATION OF ALL UNDERDRAINS SHALL BE DETERMINED BY THE ENGINEER, AND SHOWN ON THE PLANS.

* ADDITIONAL UNDERDRAINS MAY BE PERCHED ABOVE THE REQUIRED STORAGE ELEVATION AND WITHIN THE STORAGE BED IN ORDER TO PROTECT THE PAVER BLOCKS FROM UPFLOWS RESULTING FROM SURCHARGE.

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