

August 26, 2003

Mr. Roger Valdez
Technical Service
NDS, Inc.
851 North Harvard Ave.
Lindsay, Ca 93247

Sent by email: Roger Valdez@ndspro.net

Re: Installation Report for NDS Flo-Well

Dear Mr. Valdez:

I am pleased to write this letter report following my very successful installation of the NDS Flo-Well on Saturday August 23, 2003. In this report I intend to highlight the application of the Flo-Well and comment on the ease of installation. Thank you for encouraging the critical evaluation of the product.



Site Conditions:

The site is a residential property in Lambertville, New Jersey situated on the Delaware River floodplain terrace. Due to a lack of positive drainage around the house, water seeps through the basement walls. There is no opportunity to perform a grading remedy or discharge to grade from a collection system due to the lack of topographic relief and due to the proximity of adjacent properties. Although there is a sump pump in the basement, the slab's slope to the sump pump well is not consistent and cracks in the concrete permit water to flow upward and pond.



Two (2) separate conditions are believed to exacerbate the flooding of the basement. The first is a concrete low area that fills with stormwater runoff from a neighbor's roof. This area continues to be ponded until water seeps through expansion joints with help from evaporation.

The second is a roof downspout that discharges adjacent to the house. Water from the downspout infiltrates the ground and enters through the stone foundation wall and into the basement.

A 4" PVC capture and collection system was installed to drain the problematic areas. An area drain collects the ponded concrete area and the downspout is connected to the drainage system.



Application:

It was decided to install a subsurface infiltration system away from the foundation to collect and percolate the stormwater into the sandy-loam soils. The Flo-Well product by NDS was an appropriate size and weight in an area restricted for equipment and materials. The Flo-Well was delivered by mail and assembled onsite.



A four (4) foot deep by four (4) foot diameter hole was dug by hand to prepare for the Flo-Well. Geotextile was installed around the soil walls. One (1) foot of clean stone, sized inch was placed on the bottom of the hole. The Flo-Well (wrapped in geotextile) was set and the drainage pipes were connected to the device. Stone was backfilled up to the top of the Flo-Well. Geotextile was placed on the top of the stone to permit the placement of eight (8) inches of soil to match original grade.





Evaluation:

The Flo-Well was an excellent choice for an infiltration product. Installation was made easy by the simple assembly of the product, the lightweight character of the material, and the small footprint required in the excavation.

I would like to thank NDS for manufacturing the Flo-Well as a much more practical product for residential use. Concrete dry wells, large diameter perforated underground pipes, and stone beds (as well as other infiltration designs) all have applications, but to obtain stormwater storage volume in a tight area with limited equipment access the Flo-Well is a superior product.

I would be happy to be a reference for the Flo-Well in the future. Thank you again for helping keep my basement dry.

Sincerely,

John A. Miller, P.E.
Licensed Professional Engineer
PA, NJ, NY, DE & ME
Water Resource Engineer