



**Environmental
Protection Agency**

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

December 28, 2011

Re: Tuscarawas County
Holly Heights Development 1st Addition
Storm Water Construction Activity
3GC01908*AG

Mr. David Krizman
c/o American Dream Homes
P.O. Box 1270
Massillon, Ohio 44648

Dear Mr. Krizman:

On December 8, 2011, I visited the above referenced site on North Orchard Road near Bolivar. The purpose of the inspection was to determine the compliance of this site with the National Pollutant Discharge Elimination System (NPDES) permit for discharges of storm water associated with construction activity. The inspection was conducted under the provisions of Ohio's water pollution control statutes, Ohio Revised Code (ORC) Chapter 6111. The following areas need to be addressed:

Part III.G.2 e. of the permit states:

Post-Construction Storm Water Management Requirements.

So that receiving stream's physical, chemical, and biological characteristics are protected and stream functions are maintained, post-construction storm water practices shall provide perpetual management of runoff quality and quantity. To meet the post-construction requirements of this permit, the SWP3 must contain a description of the post-construction BMPs that will be installed during construction for the site and the rationale for their selection. The rationale must address the anticipated impacts on the channel and floodplain morphology, hydrology, and water quality.

Detail drawings and maintenance plans must be provided for all post construction BMPs. Maintenance plans shall be provided by the permittee to the post-construction operator of the site (including homeowner associations) upon completion of construction activities (prior to termination of permit coverage). For sites located within a community with a regulated municipal separate storm sewer system (MS4), the permittee, land owner, or other entity with legal control of the property may be required to develop and implement a maintenance plan to comply with the requirements of the MS4. Maintenance plans must ensure that pollutants collected within structural post-construction practices, be disposed of in accordance with local, state, and federal

regulations. Permittees, except for those regulated under the small MS4 program, are not responsible under this permit for operation and maintenance of post-construction practices once coverage under this permit is terminated.

This permit does not preclude the use of innovation or experimental post construction storm water management technologies. However, the director may require discharges from such structures to be monitored to ensure compliance with Part III.G.2.e of this permit. The installation of structural controls in certain scenarios may also require a separate permit under section 404 of the CWA. Permittees are only responsible for the installation and maintenance of storm water management measures prior to final stabilization of the site and are not responsible for maintenance after storm water discharges associated with construction activity have been eliminated from the site. However, post-construction storm water BMPs that discharge pollutants from point sources once construction is completed, may in themselves, need authorization under a separate NPDES permit. Linear construction projects, (e.g., pipeline or utility line installation), which do not result in the installation of impervious surface, are not required to comply with the conditions of Part III.G.2.e of this permit. However, linear construction projects must be designed to minimize the number of stream crossings and the width of disturbance.

Large Construction Activities. For all large construction activities (involving the disturbance of five or more acres of land or will disturb less than five acres, but is a part of a larger common plan of development or sale which will disturb five or more acres of land), the post construction BMP(s) chosen must be able to detain storm water runoff for protection of the stream channels, stream erosion control, and improved water quality. Structural (designed) post-construction storm water treatment practices shall be incorporated into the permanent drainage system for the site. The BMP(s) chosen must be sized to treat the water quality volume (WQv) and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1. The WQv shall be equivalent to the volume of runoff from a 0.75-inch rainfall and shall be determined according to one of the two following methods:

- i. Through a site hydrologic study approved by the local municipal permitting authority that uses continuous hydrologic simulation and local long-term hourly precipitation records, or
- ii. Using the following equation:

$$WQv = C * P * A / 12$$

where:

WQv = water quality volume in acre-feet

C = runoff coefficient appropriate for storms less than 1 inch
(see Table 1)

P = 0.75 inch precipitation depth

A = area draining into the BMP in acres

Table 1
Runoff Coefficients Based on the Type of Land Use

Land Use	Runoff Coefficient
Industrial & Commercial	0.8
High Density Residential (>8 dwellings/acre)	0.5
Medium Density Residential (4 to 8 dwellings/acre)	0.4
Low Density Residential (<4 dwellings/acre)	0.3
Open Space and Recreational Areas	0.2

Where the land use will be mixed, the runoff coefficient should be calculated using a weighted average. For example, if 60% of the contributing drainage area to the storm water treatment structure is Low Density Residential, 30% is High Density Residential, and 10% is Open Space, the runoff coefficient is calculated as follows $(0.6)(0.3) + (0.3)(0.5) + (0.1)(0.2) = 0.35$.

An additional volume equal to 20 percent of the WQv shall be incorporated into the BMP for sediment storage and/or reduced infiltration capacity. Ohio EPA recommends that BMPs be designed according to the methodology included in the Rainwater and Land Development manual or in another design manual acceptable for use by Ohio EPA. BMPs shall be designed such that the drain time is long enough to provide treatment, but short enough to provide storage available for successive rainfall events as described in Table 2 below.

Table 2
Target Draw Down (Drain) Times for Structural Post-Construction Treatment Control Practices

Best Management Practice	Drain Time of WQv
Infiltration	24 - 48 hours
Vegetated Swale and Filter Strip	24 hours
Extended Detention Basin (Dry Basins)	48 hours
Retention Basins (Wet Basins)*	24 hours
Constructed Wetlands (above permanent pool)	24 hours
Media Filtration, Bioretention	40 hours

* Provide both a permanent pool and an extended detention volume above the permanent pool, each sized at $0.75 * WQv$

The permittee may request approval from Ohio EPA to use alternative structural post-construction BMPs if the permittee can demonstrate that the alternative BMPs are equivalent in effectiveness to those listed in Table 2 above. Construction activities shall be exempt from this condition if it can be demonstrated that the WQv is provided within an existing structural post-construction BMP that is part of a larger common plan of development or if structural post-construction BMPs are addressed in a regional or local storm water management plan. Public entities (i.e., the state, counties, townships, cities, or villages) shall comply with the post-construction storm water management requirements of Part III.G.2.e for roadway construction projects initiated after March 10,

2006 and where practicable for projects initiated as of the effective date of this permit and thereafter.

For redevelopment projects (i.e., developments on previously developed property), post-construction practices shall either ensure a 20 percent net reduction of the site impervious area, provide for treatment of at least 20 percent of the WQv, or a combination of the two.

After various meetings and conversations concerning this project it was requested that I send a letter stating what Ohio EPA expects in regards to bringing the site into compliance over the next few months.

Currently the site is stabilized and the existing post construction storm water pond is located in waters of the state.

Over the next few months Ohio EPA expects the following to occur:

- 1. Transfer permit coverage to the new owner.**
- 2. Choose a location for a permanent post construction storm water pond.**
 - In this situation two scenarios exist for a location of the pond. One scenario consists of the construction of a new pond entirely and the second scenario consists of changing the design of the existing pond to meet permit requirements. Please note that the second scenario will require you to contact the Army Corps of Engineers to determine if any permitting will be required through their office. Treatment cannot occur in waters of the state. Therefore, the stream pathway must be removed from the pond.**
- 3. Utilize the calculation above considering the drainage area to determine the size of the post construction storm water pond.**
- 4. Show the post construction storm water pond design on a plan sheet in the Storm water Pollution Prevention Plan. A checklist for the storm water pollution prevention plan designer can be found at http://www.epa.state.oh.us/dsw/storm/const_SWP3_check.aspx**
- 5. Create and/or submit assurance that all storm water controls are protected in perpetuity via easements or other means.**
- 6. Create an operations and maintenance plan for the permanent storm water controls serving the subdivision.**
- 7. Give an explanation of who will be responsible for operating and maintaining the storm water controls in perpetuity.**
- 8. Submit proof of these actions to Ohio EPA**

Given the good stabilization at the site and the nature of the minimal building that will be occurring in the subdivision, the new operator may elect to utilize other storm water controls on a lot by lot basis until the storm water pond is in place and operational. In this scenario, the operator may utilize silt fence on the down slope side of each disturbed lot. This will ensure permit compliance while giving the permittee time to meet the conditions above.

Sediment and erosion controls for your site must meet the guidelines and design criteria set forth in the above mentioned *Rainwater and Land Development* manual and the general construction storm water permit. A copy of this manual may be obtained by contacting the Ohio Department of Natural Resources, Division of Soil and Water Conservation, at (614) 265-6610 or at:

<http://www.dnr.state.oh.us/water/rainwater/default/tabid/9186/Default.aspx>

Within thirty days of receipt of this letter, please submit to me at this office a written notification as to actions taken or proposed to eliminate violations of the permit. Your response should include the dates, either actual or proposed, for the completion of the actions. If you have any questions, please contact me at (740) 380-5277.

Sincerely,



Aaron Wolfe
Storm Water Coordinator
Division of Surface Water

AMW/dh