



State of Ohio Environmental Protection Agency

Southwest District

401 East Fifth Street  
Dayton, Ohio 45402-2911

TELE: (637)285-6357 FAX: (637)285-6249  
www.epa.state.oh.us

Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director

October 16, 2008

Mr. D. Cory Kinnison, P.E.  
City Engineer  
City of Huber Heights  
6131 Taylorsville Road  
Huber Heights, Ohio 45424

**RE: Stormwater Program Evaluation, NPDES permit # 1GQ00050\*AG**

Dear Mr. Kinnison:

On Wednesday September 17th I conducted a "screening evaluation" of Huber Heights' storm water management program. The city was represented by you and Russ Bergman. A screening evaluation is not as involved as a true audit, which may be conducted in the future to more fully assess the city's stormwater program against requirements spelled out in its Small "Municipal Storm Sewer System" (MS4) discharge permit.

Based on a review of the city's original storm water management plan, the most recent annual report, and our discussions, I offer the following observations and recommendations:

**MCMs 1 and 2 – Public Education/Outreach and Participation/Involvement**

The Miami Conservancy District (MCD) is assisting many MS4 communities within its jurisdictional area by creating or otherwise providing various stormwater related public outreach, education and involvement activities. As one of these collaborating communities, Huber Heights can get credit for these activities, but only if city staff, residents or school kids attend or otherwise participate in the listed events.

There is no information provided in recent annual reports to suggest that city staff or residents have participated in stormwater activities/events developed by the MCD. During our discussion, however, you stated that Huber Heights makes stormwater information available through pamphlets that are available at city hall, and also provides stormwater information on its web site.

agent.

4. The request for a waiver shall be in writing and shall include sufficient detail to determine that granting a waiver will not be detrimental to abutting properties or to the drainage system. However, the waiver does not in any way imply a relaxation of any of the other standards in this regulation including the requirement for adequate on-site drainage, the ability to accept runoff from land tributary to the development or reasonable control of soil erosion and sediment.

Development activities for which waivers may be considered include the following:

- a. Single family residential developments involving improvement of an individual lot in a previously approved subdivision.
  - b. Multi-family residential, commercial or industrial developments which total two (2) acres or less.
  - c. Modifications to, or redevelopment of, an existing development which will not result in additional impervious areas.
  - [d. Additions of 250 sq. ft. or more to existing property, such as driveways, sidewalks, patios, etc.]
5. Development activities that are exempt from this Ordinance include the following:
    - a. Additions of less than 250 sq. ft. to existing property such as driveways, sidewalks, patios, etc.
    - b. Regular farming procedures on land designed for such use.

### SECTION 3. Stormwater Runoff Control Standards

1. In general, drainage systems shall be designed according to locally accepted design practice, sound engineering judgment and conform to the following:
  - a. Storm sewer design shall be sufficient to convey the design storm discharge (Q) with an

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### **Recommendation**

The city's stormwater management plan (swmp) should be re-written to more accurately reflect the sorts of outreach/educational activities the city conducts. Subsequent annual reports can then document the scope and possible effectiveness of these efforts. Huber Heights should continue its collaborative partnership with the MCD, but should not list stormwater related activities developed by MCD unless the city was actively involved. The city should also take advantage of its periodic newsletter as a way of sending stormwater related information to residents, and should track the number of visitors to the section of its website that contains stormwater information.

A second DVD copy of a stormwater video created by Ohio EPA is being sent in hopes the city is able to broadcast the program over its public access TV station. Copies of the video, which targets a general audience, were provided to all MS4s across the state back in 2005, but it's not clear (based on information submitted in previous annual reports) if the program was ever broadcast, or used in other ways, such as at city council meetings or other gatherings. Huber Heights can credit use of the video towards the public outreach and education portion of its stormwater management plan by tallying the numbers of times it is broadcast, and providing an estimated audience size

### **MCM 3 – Illicit Discharge Detection and Elimination**

Storm sewer outfall mapping is continuing, though it's not clear from annual reporting how much of the city's storm sewer network remains to be mapped. Nor is it clear how much of this information is being provided by the Miami Conservancy District, versus what Huber Heights' engineering department is compiling.

Because there's so little industry in Huber Heights, illicit discharges into storm sewers have not been significant historically. As such, the city has not passed an illicit discharge ordinance (or other regulatory mechanism) to provide the legal authority necessary to investigate and eliminate suspected discharges. The city is able to investigate suspicious discharges though use of specialized video equipment it can borrow from the Tri-Cities Wastewater Authority.

Storm sewer inlet grates installed in roadways constructed as part of new developments contain basic "Do not dump" messages, which are stamped right into the grate by the manufacturer. But older grates found across the city have no such markings.

### **Recommendations**

The city's stormwater management plan should be rewritten to more accurately describe how illicit discharges are reported, investigated and resolved. (Note that future annual reports will require MS4s to track the numbers of complaints received, illicit discharges detected, and how they were eliminated.) The plan should more fully explain the role of

- b. not result in increasing current potentials for sedimentation of lands, siltation of waters, and flooding of watercourses that are at lower elevations off-site.
  2. No changes subject to regulation under this section shall be made in the existing natural surface composition or subsurface configuration of any land proposed for development or redevelopment within the City [for land uses specified under Section 3 (1)] without prior written approval of a site development plan by the approving agent. Approval of a site development plan required according to Section 5 shall not be given:
    - a. unless a determination is made by the approving agent that implementation of an approved site grading and drainage development plan would not cause runoff, erosion, and sediment impacts that would be harmful or damaging to the lands and waters off-site, or,
    - b. until a plan for minimizing the harmful and damaging potentials of runoff, erosion and sediment impacts anticipated to result from implementation of a proposed site grading and drainage development plan has been approved by the approving agent.
  3. Development situations may exist such that the development will have none of the harmful effects associated with increased runoff rates and volumes, or sediment disposition. Such developments are eligible for a waiver from these standards; however, the waiver applies only to the following requirements and may have specific conditions attached by the Approving Agent, including but not limited to:
    - a. The preparation of plans, maps and/or information specified in Section 5.
    - b. The installation of sediment abatement control devices until such time as site inspection indicates they may be necessary.
    - c. Controlling runoff to predevelopment conditions as specified in Section 3, except that stormwater runoff must be controlled to the maximum volume and minimum rate feasible for the site as determined by the approving

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Earth Tech in this process, track the number of instances when video equipment is borrowed from the Tri-Cities Wastewater Authority, and what the outcome of those investigations revealed. (This information can be summarized for the purposes of annual reporting; specific information compiled from individual investigations does not have to be submitted to Ohio EPA.)

At some point the city may need to create an ordinance or other regulatory mechanism to address illicit discharges to its storm sewer system; such an ordinance was supposed to be in place by March of 2008. Despite the lack of industry within the city, many other types of discharges into storm sewer systems are considered illicit, and a legal mechanism of some sort needs to be in place to address such situations.

Storm sewer mapping efforts are ongoing, and will continue over the next few years until the entire city has been covered. Future annual reports should mention what percentage of the system has been mapped (as of the end of the reporting year in question), and estimate how much of the area remaining will be mapped in the upcoming year.

In the future, the city should plan to mark its older storm sewer inlets with "Do not dump" messages. This is another large scale project that will take time to complete, and future annual reports should report the status of the effort in terms of what was accomplished in the reporting year, and how much remains to be done. When the city decides to rewrite its stormwater management plan, a portion could be devoted to explaining what the project will entail and how long it might take to complete.

Dry weather screening of storm sewer outfalls was not discussed during this evaluation, but is a requirement all MS4s must address. In its re-written stormwater management plan, the city must either identify outfalls within its storm sewer network where dry weather flows have been observed in the past, or suggest specific outfalls where sampling could be done, such as those downhill from residences with septic systems, or downhill from commercially developed properties.

#### **MCMs 4 and 5 – Construction and Post Construction**

The city's stormwater management ordinance (2002-O-1325) and code (Chapter 922) do not appear to contain specific requirements developers must follow regarding erosion and sediment controls practices at construction projects within Huber Heights. While it does appear that such information is required, and is subject to city review, it is difficult to follow the specific process a proposed development will follow from initial submittal until final approval. It is also unclear if the same requirements apply to non-Planned Unit Development (PUD) projects, and if such projects are subjected to the same level of review. Likewise, the code provides no details regarding when specific enforcement mechanisms will be used, if erosion and/or sediment control problems occur at a project

- [47]52. Subsoil: that part of the soil below the surface soil or plow layer.
- [48]53. Surface Soil: the uppermost part (5 to 8 inches) of the soil commonly stirred by tillage implements, or its equivalent in uncultivated soils.
- [49]54. Swale: a [low lying stretch of vegetated land] mildly sloped channel or ditch with side slopes less than 4 to 1 which gathers and carries surface water runoff at a reduced rate of flow and conveys it downstream at less erosive velocities.
- [50]55. Temporary vegetation: short term vegetative cover used to stabilize the soil surface until final grading and installation of permanent vegetation (i.e., oats, rye or wheat).
- [51]56. Topsoil: surface and upper surface soils which presumably are darker colored, fertile soil materials, ordinarily rich in organic matter or humus debris.
- [52]57. Watercourse: any natural or artificial waterway (including, but not limited to, streams, rivers, creeks, ditches, channels, canals, conduits, culverts, drains, drainageways, waterways, gullies, ravines, or washes) in which waters flow in a definite direction or course, either continuously or intermittently; and including any area adjacent thereto which is subject to inundation by reason of overflow of flood water.
58. Wet Detention: The capture and subsequent slow release of stormwater runoff. The capture facility has a permanent pool of water in the facility.

## SECTION 2. Scope and Intent

1. Any person or persons proposing to develop or redevelop land [for any of the uses listed above] as defined under Section 1, paragraphs 9 and 51 shall design and implement a site grading and drainage development plan which will:
  - a. yield quantities of surfacewater runoff from the development site at rates which are the same as or less than those before development occurred and result in rates of gross erosion as specified by Section 3.

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within Huber Heights' jurisdiction. Stop work orders represent one option, but this is not stated in the ordinance or code.

Regarding post-construction stormwater management requirements, the ordinance which established creation of the city's stormwater utility does not appear to address water quality concerns, focusing instead on water quantity and conveyance issues.

The city does appear to have an inventory of stormwater management features (primarily detention/retention basins) located across the city, and can require corrective actions to be taken when a given structure is in need of maintenance or repair. But the ordinance does not appear to require developers to devise and implement post-construction operation and maintenance agreements as part of the overall project proposal.

#### **Recommendations**

When the city re-writes its stormwater management plan, the sections addressing construction ordinances and post-construction stormwater management requirements should more clearly describe 1) the process proposed projects take from initial proposal to final construction, 2) steps in the enforcement process that apply to active sites that are deficient with erosion and sediment controls, and 3) how newly developed sites address water quality concerns, ie, how the "water quality volume" will be treated prior to discharge from the site.

The revised plan should also more clearly explain the city's inspection and maintenance program for stormwater management features in the city, and if other best management practices will be approved for use.

The city should consider incorporating into its construction ordinance (by reference) Ohio EPA's "Construction General Permit", which provides specific timelines for various erosion and sediment control practices. Use of the permit will help standardize sediment control requirements across municipal jurisdictions in the Dayton area, which might be of significant help to developers and their respective contractors.

Note that future program audits will involve reviewing records that MS4s are supposed to be keeping to meet construction and post-construction stormwater management requirements, which are spelled out in the general MS4 permit.

#### **MCM 6 Pollution Prevention/Good Housekeeping**

Specific facilities maintained by the city were not inspected, but information submitted in accordance with this section suggests sound management practices are employed for the storage of salt and liquid calcium chloride used for road deicing in winter months. City vehicles are inspected for leaks while undergoing regular maintenance, and leaves

or the earth-disturbing activity of man.

- [40]45. Soil: all earth material of whatever origin that overlies bedrock, and may include the decomposed zone of bedrock which can be readily excavated by mechanical equipment.
- [41]46. Soil loss: soil moved from a given site by the forces of erosion, and redeposited at another location.
- [42]47. Steep Slope: a slope over fifteen percent (15%) grade, which is characterized by increased run-off, erosion and sediment hazards.
- [43]48. Storm [Frequency] Return Interval: the average period of time in years within which a storm of a given duration and intensity can be expected to be equaled or exceeded.
- [44]49. Stream: a body of water running or flowing on the earth's surface or channel in which such flow occurs. Flow is continuous or seasonally intermittent.
- [45]50. Stripping: any activity which removes or significantly disturbs the vegetative surface cover.
- [46]51. Subdivision: (1) The division of any parcel of land shown as a unit or as contiguous units on the last preceding tax roll, into two or more parcels, sites or lots, any one of which is less than five acres for the purpose, whether immediate or future, or transfer of ownership provided, however, that the division or partition of land into parcels of more than five acres not involving any new streets or easements of access, and the sale or exchange of parcels between adjoining lot owners, where such sale or exchange does not create additional building sites, shall be excepted; or (2) The improvement of one or more parcels of land for residential, commercial or industrial structures or groups of structures involving the division or allocation of land for the opening, widening or extension of any street or streets, except private streets serving industrial structures; the division or allocation of land as open spaces for the common use by owners, occupants or lease holders or as easements for the extension and maintenance of public sewer, water, storm drainage or other public facilities.

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removed from properties are transported to a Class IV composting facility. Street sweeping and catch basin cleaning goes on routinely across the city.

#### **Recommendations**

Future stormwater program reviews may involve evaluating information compiled as part of this control measure. Future annual reports should summarize the amounts of material collected from streetsweeping activities. If composting activities are occurring in (and are overseen by) Huber Heights, the site may be required to have its own Stormwater Pollution Prevention Plan (SWP3), detailing how runoff water is managed prior to its discharge from the site. This requirement is likely to be included in the new small MS4 permit that will be issued near the end of 2008.

#### **Conclusions**

Overall, it appears Huber Heights is doing a reasonable job of implementing requirements of its MS4 permit. As currently written, however, the city's stormwater management plan is not a good reflection of the types of activities that are being carried out day to day. For this reason I am suggesting that the plan be re-written so it provides a more clear and accurate account of the city's efforts with respect to its MS4 permit. Potential re-writing should be done after the new MS4 permit has been issued, which will be near the end of 2008. I would advise that plan content should be based on the requirements as outlined in the MS4 permit, but the writing should be done in a more narrative fashion, without specific adherence to the numerous sub-points the permit is broken in to.

If you have questions about anything in this letter, I can be reached at 937.285.6442 or via email at [chris.cotton@epa.state.oh.us](mailto:chris.cotton@epa.state.oh.us).

Sincerely,



Chris Cotton  
Division of Surface Water

Cc: OEPA/SWDO/DSW Files  
Jason Fyffe, DSW/CO

CC\bp

stormwater runoff without subsequent discharge other than through infiltration into the ground, or evapotranspiration.

- [33]38. Runoff: the portion of rainfall, melted snow or irrigation water that flows across the ground surface and eventually is returned to streams.
- a. Accelerated Runoff - increased rate and volume of runoff due to less permeable surface or reduced time of concentration primarily caused by urbanization.
  - b. Peak Rate of Runoff - the maximum rate of runoff for any 24 hour storm of a given frequency.
- [34]39. Sediment: solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site or origin by air, water, gravity, or ice, and has come to rest on the earth's surface either above or below water.
- [35]40. Sediment Basin: a facility such as a barrier, dam, or other suitable detention facility built across an area of waterflow to settle and retain sediment carried by surface drainage runoff water.
- [36]41. Sediment Pollution: failure to use management or conservation practices to abate wind or water erosion of the soil or to abate the degradation of waters by soil sediment in conjunction with land grading, excavating, filling, or other soil disturbing activities.
- [37]42. Site: any lot or parcel of land or a series of lots or parcels of land adjoining or contiguous or joined together under one ownership where clearing, stripping, grading or excavating is performed.
- [38]43. Slope: [the face of an embankment or cut section; any ground whose surface makes an] rate at which the elevation of the ground changes expressed as the angle the ground makes with the plane of the horizon. Slopes are usually expressed in a percentage based upon vertical difference in feet per 100 feet of horizontal distance.
- [39]44. Sloughing: a downward movement of an extended layer of soil over a slope frequently resulting from the undermining action of surface water runoff