



September 21, 2012

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Brian Clevenger  
Maryland Department of the Environment  
Sediment, Stormwater and Dam Safety Program  
1800 Washington Boulevard  
Baltimore, MD 21230

Re: Comments on behalf of the City of Baltimore Department of Public Works on the Maryland Department of the Environment's tentative Determination to reissue the City's Phase 1 Municipal Separate Storm Sewer System Permit

Dear Mr. Clevenger:

The following comments are submitted on behalf of the Mayor and City Council of the City of Baltimore (the "City") on the Maryland Department of the Environment's ("MDE") tentative Determination to reissue the City's Phase 1 Municipal Separate Storm Sewer System ("MS4") Permit (the "Draft Permit"). These comments are intended to respond to some of the assertions made by third parties (hereafter "Commenters") regarding the factual and legal support for the Draft Permit.

**I. Use of Environmental Site Design for Restoration Requirements is not required under the Stormwater Act of 2007 and is not consistent with other MS4 permits issued by MDE**

Various Commenters suggest that the provisions of the Stormwater Management Act of 2007, Md. Code Ann., Envir. § 4-201, *et seq.* ("2007 Act"), require the City to implement the restoration efforts required by Part III.E<sup>1</sup> of the Draft Permit by using environmental site design ("ESD") techniques<sup>2</sup> to the maximum extent practicable ("MEP") on retrofit projects.<sup>3</sup> The

<sup>1</sup> Paragraph III.E.2.b of the Draft Permit describes Baltimore City's obligation to, by the end of the permit term, "commence and complete the implementation of restoration efforts for 20% of the City's impervious surface area consistent with the methodology described in the MDE document ["Accounting for Stormwater Wasteload Allocation and Impervious Areas Treated, Guidance for National Pollution Discharge Elimination System Stormwater" ("Guidance")] (MDE, June 2011 or subsequent versions)".

<sup>2</sup> ESD is a design strategy for maintaining predevelopment runoff characteristics and protecting natural resources from stormwater effects. The strategy attempts to integrate site design, natural hydrology, and smaller controls to capture and treat runoff. *See* Ex. A for examples of ESD implementation in new construction in an urban environment.

<sup>3</sup> As MDE is aware, "maximum extent practicable" is used in federal and state law in different contexts. Federal law does not define the term and uses it only when referring to the performance obligations of MS4 permittees, which Congress has dictated be less stringent than those applicable to other NPDES permittees. 33 U.S.C. § 1342(p)(3)(B). Under Maryland law, the term MEP is defined only at Code of Maryland Regulations ("COMAR") 26.17.02.02B(22), where MEP "means designing stormwater management systems so that all

commenters anticipate that the City will not use ESD to the MEP to satisfy the restoration obligation, but instead will address the majority of its obligation to restore 4,000 acres of impervious area by using pond retrofits, supposedly in contravention of the 2007 Act.<sup>4</sup> The Commenters' interpretation of the 2007 Act is incorrect for the following reasons.

A review of the 2007 Act, which amended a stormwater management law first adopted in 1982, indicates that it addresses the installation of stormwater management to serve future development. Nothing in the 2007 Act suggests that it is intended to apply to the installation of stormwater management retrofits conducted to satisfy MS4 permit requirements to restore water quality that has been affected by already *existing* development. A review of the legislative history of the 2007 Act reflects that the proposed legislation that became the 2007 Act makes no mention of MS4 permit requirements. Furthermore, *no one* who commented on the legislation (no agency of the State of Maryland, no county, not the Maryland Association of Counties, and not a single environmental group) suggested that the 2007 Act would result in a requirement that Maryland's 99 MS4 permittees<sup>5</sup> be required to implement environmental site design as part of MS4 permit compliance. See legislative history attached as Ex. D.

The implementing regulations for the 2007 Act and the Model Ordinance that MDE subsequently developed and required local governments to adopt pursuant to the 2007 Act focus on stormwater requirements for future development, not on restoration or retrofit efforts intended to compensate for runoff from existing land uses. See COMAR 26.17.02 and Ex. E, Model Ordinance.

The City's Draft Permit is not the first MS4 permit proposed since the adoption of the 2007 Act. MDE issued a new MS4 permit to Montgomery County in 2010, three years following the adoption of the 2007 Act. See Ex. B. That permit requires that Montgomery County develop an acceptable stormwater management *program* that implements the 2007 Act. Part III.E.1. The Montgomery County permit does not require that ESD be used to satisfy the County's restoration obligation. Part III.G.2. Thus, neither the 2007 Act nor MDE's regulatory and permitting interpretations of the 2007 Act support commenters' claims that ESD to the MEP is required.

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reasonable opportunities for using ESD planning techniques and treatment practices are exhausted and, only where absolutely necessary, a structural BMP is implemented." The State's stormwater regulations apply "to the development or redevelopment of land" (COMAR 26.17.02.01) and, for the reasons stated in the body of this letter, are not applicable to MS4 permits.

<sup>4</sup> Commenters specifically object to MDE's incorporation by reference of the Guidance referenced in footnote 1. While not endorsing the Guidance, the City notes that it provides a degree of specificity that Commenters claim to be seeking in the permit. By comparison, the MS4 permit issued by MDE to Montgomery County contains no reference to similar Guidance. Instead, it allows Montgomery County to decide how it will employ "ESD and other nonstructural techniques, structural stormwater practice retrofitting, and stream channel restoration" to meet its restoration requirements. See Ex. B, Montgomery County MS4 permit effective February 16, 2010, Part III.G.

<sup>5</sup> According to MDE's website, Maryland has five large jurisdictions, five medium jurisdictions, 51 small jurisdictions, and 38 State and federal agencies covered by MS4 permits. See Ex. C.

In addition, Commenters ignore practical constraints on the use of ESD to the MEP on restoration retrofit projects. Unlike future development that is subject to the 2007 Act, MS4 restoration retrofits are focused on compensating for stormwater pollutants that may be generated by *existing* development. The existing development for which a retrofit project may be implemented may not be owned by the MS4 permittee at all. Rather, retrofits may be installed to address stormwater from numerous privately owned and occupied properties that were developed prior to modern stormwater management requirements. This is a completely different proposition than implementing ESD to the MEP to serve a defined parcel of vacant land over which a single owner and developer have control.<sup>6</sup>

Commenters also claim that the costs of ESD have been exaggerated compared to more traditional stormwater best management practices ("BMPs"). In fact, ESD is often more expensive to install and to maintain. *See* Ex. F, Draft Final Report (October 10, 2011), Costs of Stormwater Management Practices in Maryland Counties, prepared by Dennis King and Patrick Hagen, University of Maryland Center for Environmental Science, for Maryland Department of the Environment (hereafter "MDE BMP Cost Report").

The cost of ESD implementation in a built out urban area is likely to be significantly higher than in a "green field" development and the cost of an ESD retrofit in an urban area is likely to be higher still. Retrofits in urban areas typically include demolition and disposal costs, potential utility re-alignments and additional costs related to existing field conditions (e.g. increased concrete replacement for aesthetics or structural purposes). These costs can be highly variable. By way of example, a pilot project in Baltimore City known as Watershed 263 included the installation of retrofits within the right-of-way of ultra urban area. In two locations, the same type and size of BMP was installed: a curb extension and three tree inlets (acting as bioretention). The base construction costs were on the order of \$48,000; however the additional costs to adapt the BMP into field conditions at the second location added \$17,000 to the base construction cost (a 35% cost increase).

The maintenance costs for ESD practices are also high. MDE's BMP Cost Report (Ex. G) is the first to try and quantify maintenance costs for BMPs; however, the study did not differentiate ESD micro-practices from structural practices (like bioretention). The frequency of inspections and labor/equipment may be similar for both practices but costs are affected when a crew must visit 20 micro-bioretention areas (drainage area of < 0.5 acre) within a neighborhood instead of 1 bioretention area (structural, drainage area = 10 acres). Couple the increased number of facilities with the distance between the facilities and the cost of maintenance rises further because of travel time and mileage. ESD practices in an urban area also tend to be highly visible (located mostly in the right-of-way) and small in size. They can quickly become overgrown and accumulate trash. Weekly inspection and maintenance is recommended,

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<sup>6</sup> Even where ESD to the MEP *is* required by the 2007 Act, there are myriad technical constraints on its successful implementation. *See* Ex. F. Many ESD practices are not feasible for commercial and industrial areas (hot spots) or in established developed areas where hydrologic soil groups are usually Type D (highly compacted with a low permeability).

especially in summer and early fall when rain storms are frequent. Each scattered small practice may require trash and sediment removal, landscaping, and repair, at significant cost. See Ex. H and Ex. I.<sup>7</sup>

The requirement to commence and complete the implementation of restoration efforts for 20% of the City's impervious surface area is a significant burden in a densely-developed urban setting. Many of the restoration options that would be otherwise available in parts of the State with less dense development are not feasible in the City. Land availability, compact density, aged infrastructure and other impediments frustrate the ability of the City to pursue restoration and retrofit strategies that are otherwise available in less densely-developed landscapes.

Accordingly, the City needs an array of options to meet the 20% restoration requirement under the Draft Permit. To that end, the City needs the latitude to achieve the required restoration efforts by means of structural and nonstructural water quality projects, programmatic modifications to the existing stormwater management program, and alternative stormwater control initiatives in order to meet this obligation. As noted, the densely-developed nature of the City creates unique challenges to achieving what is a very ambitious restoration target. The City needs all available means to accomplish this goal.

For all these reasons, Commenters ESD theories are without merit.

## **II. MDE has no Obligation to Impose Compliance Schedules on MS4 Permittees that Cannot Immediately Meet Waste Load Allocations**

Various comments in the record contain expansive and inaccurate descriptions of the legal obligations that MS4 permittees are required to meet under the Clean Water Act. Among them is the claim that 33 U.S.C § 1311 requires that MS4 permittees must meet effluent limitations and "any more stringent limitation including those necessary to meet water quality standards." MDE responded to similar assertions in a challenge to the 2010 Montgomery County MS4 permit, noting that, unlike industrial stormwater permittees, MS4 permittees are held to a lesser standard:

... With respect to industrial storm water discharges, Congress provided that permits shall meet all applicable provisions of [§ 1342(p)(3)(A)] and section 1311 [requiring achievement of effluent limitations, including any more stringent limitation, including those necessary to meet water quality standards.] 33 U.S.C. § 1342(p)(3)(A). *Defenders of Wildlife, supra*, 191 F.3d 1159, 1165- 66...

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<sup>7</sup> Nor is ESD a magic bullet. To date, EPA, MDE, and the Chesapeake Bay Program have not quantified lag times and expectations of response times for pollutant reductions from various BMPs. However, lag time may be highly variable. For example, infiltration practice efficiency peaks at initial installation but the efficiency will decrease due to clogging and potential soil compaction (2 to 10 years). Conversely, reforestation pollutant removal efficiency won't reach its full potential until the trees mature (10 to 20 years). Furthermore, the water quality benefits of ESD are significantly dependent on rainfall intensity and duration. High intensity, short-duration storms have an increased ability to by-pass smaller ESD practices and carry more pollution (sediment and trash).



However, permits authorizing the discharge of municipal storm water were required to impose controls to reduce the discharge of pollutants to the maximum extent practicable. The Ninth Circuit explained: § 1342(p)(B)(iii) *replaces* the requirements of § 1311 with the requirement that municipal storm sewer dischargers reduce the discharge of pollutants to the maximum extent practicable. ...In the circumstances, the statute unambiguously demonstrates that Congress did not require municipal storm-sewer discharges to comply strictly with 33 USC § 1311(b)(1)(c). *Defenders of Wildlife, supra*, 191 F.3d 1159, 1165-66.

See Ex. J, Memorandum of Law in Support of Maryland Department of the Environment's Motion for Summary Decision, at 7, interior quotations omitted.

The City will not repeat here the legal arguments made by MDE in support of the 2010 Montgomery County MS4 permit.<sup>8</sup> However, the City will respond to comments that appear to suggest that COMAR 26.08.04.02 and 26.08.04.02-1 impose more stringent requirements on MS4 permittees than are provided by the maximum extent practicable standard in federal law.

Some Commenters suggest that these regulations require the Department to include compliance schedules in the permit by which water quality standards will be met and that there be *quantitative* limits for interim compliance periods and for the period following the final compliance date.<sup>9</sup> (Emphasis added.) Commenters ignore the fact that the cited COMAR provisions state that discharge permits should include: "*applicable* requirements" (26.08.04.02A); that "[i]n the absence of formally promulgated effluent standards and limitations under the Federal Act, the Department shall apply, in the terms and conditions of issued discharge permits, effluent limitations *to achieve the purpose of the Federal Act*" (26.08.04.02B); that, *if* MDE exercises its discretion to impose a compliance schedule, it is to be "consistent with the requirements of the Federal Act (26.08.04.02C); and that quantitative limits may in fact be inappropriate in discharge permits (26.08.04.02-1A(1)).

Since 1993, MDE has issued two permits to each of Maryland's five large MS4 jurisdictions, two permits to each of Maryland's five medium MS4 jurisdictions, and two permits to the State Highway Administration. In addition, MDE has issued a general permit covering 37 State and federal agencies and a general permit for covering 51 small jurisdictions ("Phase II jurisdictions"). From the inception of the MS4 program, MDE has applied the federal maximum

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<sup>8</sup> The City notes, however, that neither the CWA nor the federal MS4 regulations have been amended since MDE articulated its position.

<sup>9</sup> Commenters concede that, assuming these regulatory provisions are applicable, TMDL implementation plans are acceptable compliance plans and schedules, so long as they are subject to certain conditions for which Commenters provide no legal support. Commenters' advocacy of quantitative limits is yet another effort to impose numeric limits on stormwater permittees (both industries and MS4 jurisdictions). MDE has repeatedly confirmed that it is not required to impose numeric limits in stormwater permits. See Ex. J and K.

extent practicable" standard in all 24 of these permits, without compliance schedules and without quantitative limits. Ex. B.

Part III.E.2.C requires the City to submit to MDE "restoration plans for subsequent TMDL WLAs within one year of EPA approval." Part III.E.4 requires the City to annually document "the progress towards meeting all applicable stormwater WLAs included in EPA approved TMDLs."

While the City acknowledges its obligations under these two provisions, the City reserves the right to challenge the inclusion of the TMDL as "applicable" under the terms and conditions of the Draft Permit. The City likewise reserves the opportunity to challenge the applicability, scientific basis, modeling assumptions and any other criteria articulated in the TMDL as it applies to the Draft Permit.


**III. MDE Can and Should Consider the Cost of MS4 Permit Compliance in Light of Other Demands on City Resources**

The City of Baltimore has a median household income of \$41,504 and a poverty level of 21.02%. *See* Ex. L, 2010 Census Tract Data with Affordability Statistics. Exhibit L adds the projected cost of the stormwater program to the projected cost of water and sewer utilities over the next 18 years and shows the percentage of City households for whom these combined costs will become unaffordable.<sup>10</sup> The data projects that by 2030, utilities will be unaffordable for more than 70% of City households. These costs do not include the projected cost of meeting the City's portion of the Chesapeake Bay Watershed Implementation Plan, estimated to be in excess of \$250 million. *See* Ex. N, Baltimore City portion of Chesapeake Bay Total Maximum Daily Load Phase II Watershed Implementation Plan.

Furthermore, the resources available to meet the City's many competing demands are limited. *See* Ex. M.

Thank you for your consideration of these comments.

Sincerely,



Alfred H. Foxx

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<sup>10</sup> The exhibit assumes that an expenditure of 4% of median household income on utilities is affordable. The costs of water and sewer includes the costs associated with performing the Consent Decree entered into between the City and the State and federal governments, estimated to exceed \$1.2 million. Ex. M, p. 3.