PRINCE GEORGE'S COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MANAGEMENT SERVICES
PERMITS AND REVIEW DIVISION

BULLETIN 2005-1

February 2, 2005

SUBJECT: Stormwater Management Concept and Technical Procedure Updates

PURPOSE: This is to establish a new guideline to clarify requirements and procedures in reviewing and developing stormwater management concept and technical plans and the 100-year floodplain delineation approval.

Effective February 2, 2005, the following guidelines are to be implemented:

1. The stormwater management (SWM) concept-phasing plan is required to show the delineation of the proposed phases of the development. Each phase is required to obtain an approved concept plan. The overall approved concept plan will serve as a parent case number that can also represent one of the development phases. The remaining phases are to be designated as a child of the parent case that has its own corresponding case number. The concept review fee is to be paid for each phase application. The phase plan is to be reviewed to ensure that the permit contingency is established properly and the SWM requirements are adhered to and applied effectively to each phase. The Division reserves the right to establish the order of construction for each phase based on stable, adequate, downstream outfall conditions.

2. The SWM construction plans must show the entire proposed grading, as well as the existing topographic contour lines. This is necessary to establish the areas requiring a surface drainage easement and to cross-reference its consistency with the proposed drainage divides.

3. A storm drain review fee must be assessed per linear foot of pipe on all cases where the portion of roof-drain pipe in the ground will be tied to a storm drain system. However, a roof drain system that will be tied into an infiltration trench or other water quality structure will not be included in a review fee assessment. The total review fee must be paid at the first technical plan review submission.

4. The storm drain system and SWM facility construction cost estimates must be submitted at the technical reviewer's second review. This is to establish the necessary bond amount early in the permitting process.

5. SWM technical plan approval is required prior to approval of the proposed 100-year floodplain study submitted by the applicant. An existing floodplain approval is required prior to technical review.

6. Approval of the storm drain as-built plans shall be contingent upon a completed as-built for the receiving downstream storm drain or SWM system.

7. All SWM facilities must be selected and sized based on the Maryland Department of the Environment (MDE) 2000 SWM Manual. All innovative practices must be justified based on the MDE 2000 SWM Manual, Section 1.2 "General Performance Standards for Stormwater Management in Maryland."

8. It is incumbent upon the applicant to develop acceptable mitigation plans to justify requests for reduced pond landscaping or floodplain buffers.

9. Bioretention facilities must be privately owned and maintained and may be used to treat public stormwater runoff. The following note must be signed by the owner and added to all plans containing bioretention facilities:

   - When the filtering capacity of the facility diminishes substantially causing the water to pond on the facility for more than 72 hours, the top few inches of discolored material shall be removed and replaced with fresh material. The removed sediments should be disposed of in an acceptable manner, i.e., at a landfill.

   - Trash and debris shall be removed as necessary.

   - Dead or diseased plant materials shall be replaced in-kind according to the permitted plans. Areas with depleted mulch should be re-mulched on an annual basis.

10. Please note the attached guidelines for developing SWM concept and technical plans.

Effective February 2, 2005, the Permits and Review Division, Site Review Section, will implement this new procedure. Should you have any questions regarding this process, please contact them at (301) 883-5905.

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Stan E. Wildesen, P.E.
Building Code Official

Attachment: Guidelines for Developing SWM
Concept and Technical Plans

GUIDELINES FOR DEVELOPING
STORMWATER MANAGEMENT AND TECHNICAL PLANS

I. EXEMPTIONS

A. All projects that disturb less than 5,000 square feet in total project disturbance shall be exempt from the Stormwater Management (SWM) Ordinance requirements for quality and quantity treatment. This is not an exemption from the fee-in-lieu requirements that are normally charged based on the type of development and impervious area added.
B. Agricultural land management practices.
C. State and Federal projects.
D. Maintenance projects that do not alter the footprint or the designated use.

II. WAIVERS

The Director of the Prince George's County Department of Environmental Resources (DER) may grant a waiver of the SWM Quantity and Quality control when the applicant can satisfactorily demonstrate that:

A. The project shall return the disturbed area to pre-development runoff conditions (no hydrologic change and/or redevelopment occurs), such as a pipeline or conduit project, pond retrofit projects, stream restoration projects, environmental enhancement projects, certain landscaping projects, certain maintenance projects, certain underground projects; or
B. The project directly discharges into a regional pond that provides adequate quality and quantity treatment and was designed to incorporate the development. However, on-site pretreatment of runoff is required for all infill development. This is mostly applied to proposed commercial and industrial development.

The Director may grant a waiver for the SWM Quantity control requirements when:

A. The impervious area created by the project does not exceed six feet in width, is linear in nature (such as bike paths, walkways, fences, noise barriers, etc.), and retains the predevelopment drainage patterns.

B. The project generates a maximum channel protection volume (Cpv) of two cubic feet per second.
C. The project discharges directly into a major stable waterway; Cpv may be required based on the condition of the channel.

A SWM waiver request, submitted by the applicant, shall specifically state the item of this section for which the project is eligible. The applicant shall provide sufficient descriptions, drawings, and other information necessary to evaluate the proposed project and confirm the applicability of the waiver request. A separate SWM waiver request may be required in accordance with the provision of this section if there are subsequent additions, extensions, or modifications to a project receiving a waiver. A waiver shall be valid only after it has been reviewed and approved at concept stage.

III. WATER QUALITY CREDITS

Water quality credits may be used in accordance with Chapter 5 of the MDE 2000 SWM Manual. All credits must be delineated and tabulated clearly on the plan. An as-built certification is required for plans utilizing water quality credits. The certification shall be signed and sealed by an engineer and shall read as follows:

> "I certify that I have inspected this site and that all drainage from rooftops has been disconnected per Section 5.2. The minimum criteria for rooftop disconnection have been addressed in substantial accordance with applicable codes."

The design limitation for using the natural area conservation and sheet flow to buffer is limited to subtracting the conservation area from the total site area when computing the water quality volume. The use of these credits may not totally relieve the applicant from providing water quality for the contributing impervious area. If the rooftop or non-rooftop impervious surface is adequately disconnected, per Section 5.2 and 5.3 of the MDE Manual, the disconnected impervious area may be deducted from the total impervious cover (therefore reducing or eliminating water quality volume).

Having the limits of disturbance clearly shown on all construction drawings shall protect the use of natural area conservation and sheet flow to buffer credits. These areas shall be located within the development property limits, and

within a conservation easement or other enforceable instrument that ensures perpetual protection of the proposed area. The easement must clearly specify how the natural area vegetation shall be managed.

Grass Channel Credits must be designed per the addendum issued by the Maryland Department of the Environment (MDE). To obtain a copy, please contact MDE at (410) 537–3548. The Grass Channel Credit is intended for projects draining to existing swales that could be engineered to meet the requirements. This credit is most suited for existing roadway improvement projects, redevelopment projects, and certain infill projects. It is imperative to maintain the existing ratio of grass buffer length to contributing impervious flow length. This buffer requirement cannot be maintained for most new developments that drastically alter the hydrologic feature of the pre-development and, in these cases, a dry water quality swale may be used.

IV. COMPENSATING WATER QUALITY TREATMENT (WATER QUALITY VOLUME AND RECHARGE VOLUME)

Projects may have drainage areas where it is not possible to provide water quality treatment for all new impervious areas. Compensating water quality treatment of existing impervious areas, equal to 120% of the untreated new impervious area, may be provided elsewhere within the same watershed.

In order for existing impervious areas to qualify as compensating water quality treatment, there must be no existing water quality treatment for these existing impervious areas. However, if there is an existing substandard water quality treatment to the impervious site, this is to be prorated and provided in accordance with the regulations.

Off-site mitigation, SWM retrofit, or stream restoration projects may qualify as total or partial compensation for water quality treatment on a case-by-case basis.

V. DOWNSTREAM INVESTIGATION STUDIES

All development projects proposing to change drainage patterns shall submit a downstream investigation study emphasizing conveyance impacts and stability impacts. A downstream investigation shall extend downstream:

A. To the first downstream control structure and/or the point of which the drainage area doubles that of the project area; and
B. To the first downstream tributary whose peak discharge exceeds the largest designed release rate of the pond.

The adequacy of the channel or the storm drain system shall be assessed based on the ability to convey the required design storm flow. Any needed conveyance improvements shall be submitted at the time of concept review. The stability of the storm drain outfalls or stream channels shall be addressed by providing photographs, a geomorphic report, computing the existing versus proposed velocities and critical shear stresses, and upgrading the channel/outfall to accommodate these new stresses. Grade controls, armoring, and reducing the entrenchment ratios of the channel are some of the methods that could be used to accommodate the new stresses and stabilize the channel.

When deemed necessary, due to increase volume or rate of discharge from the project site, DER may require easements or other necessary property dedications from adjacent property owners.

VI. SWM MEASURES

The structural and non-structural SWM measures listed shall be used, either alone or in combination, in developing a SWM concept plan. The use of any of the non-structural or structural measures shall not conflict with existing County and State laws.

A. Non-structural SWM Measures:

(1) Natural area conservation;
(2) Disconnection of rooftop runoff;
(3) Disconnection of non-rooftop runoff;
(4) Sheet flow to buffers;
(5) Grass channels; and
(6) Environmentally sensitive development.

B. Structural SWM Measures:

(1) SWM ponds;
(2) SWM wetlands;
(3) SWM infiltration;
(4) SWM filtering systems; and

(5) Open channel systems.

VII. REDEVELOPMENT

This pertains to any construction, alteration, or improvement exceeding 5,000 square feet of land disturbance performed on sites where existing land use is commercial, industrial, or multifamily residential. All redevelopments shall reduce existing site impervious areas by at least 20%. Where site conditions prevent the reduction in impervious area, then SWM practices shall be implemented to provide qualitative control for at least 20% of the site's impervious areas. When a combination of impervious area reduction and SWM practice implementation is used, the combined area shall equal 20% of the site.

For redevelopment of an existing developed site where there is no proposed additional impervious area, the required reduction of impervious area or water quality volume shall be not less than 20% of the proposed land disturbance. No ground water recharge and channel protection volumes are required.

For redevelopment of an existing developed site where there is a proposed new impervious area, the required reduction of impervious area or water quality volume shall be calculated as follows:

- 100% of new impervious area plus 20% of the proposed land disturbance.

No ground water recharge and channel protection volumes are required.

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