MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE

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MARYLAND
Department of the Environment

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INTRODUCTION

The Environment Article, Title 4, Subtitle 2 requires the Maryland Department of the Environment (MDE) to implement a statewide stormwater management program to control new development runoff. MDE is obligated to perform many duties to meet this mandate. The most significant of these is adopting regulations that establish criteria and procedures for stormwater management throughout Maryland.

The Stormwater Management Act of 2007 (Act) further requires that the Code of Maryland Regulations (COMAR) be modified and a model ordinance developed for the purpose of implementing environmental site design (ESD) to the maximum extent practicable (MEP). Significant changes to COMAR and the 2000 Maryland Stormwater Design Manual, Volumes I & II (Design Manual) were adopted in May 2009. These changes specify how ESD is to be implemented, the MEP standard is to be met, and the review of erosion and sediment control and stormwater management plans is to be integrated. This document represents the next step toward meeting MDE's obligations under current law and serves as the model for developing, reviewing, and approving county and municipal stormwater management ordinances.

The Act defines ESD as "…using small-scale stormwater management practices, nonstructural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources." ESD also includes conserving natural features, drainage patterns, and vegetation; minimizing impervious surfaces; slowing down runoff; and increasing infiltration. This definition, along with COMAR modifications and the minimum content of county and municipal ordinances specified below, will require major changes to the way runoff is managed in the State. Also, stormwater management for new development and redevelopment will be conceived, designed, reviewed, and built differently from procedures used prior to passage of the Act.

The changes required to implement the Act are significant and will force developers, designers, and plans review agencies to consider runoff control from the start of the land development process. It is understood that transitioning to new methods may take some period of time and will encounter obstacles. In addition to using the minimum components and guidance provided in this model, county and municipal stormwater management ordinances should be customized to account for local conditions. However, implementing ESD to the MEP must be the overriding goal that pervades all typical decisions made.

Local stormwater management ordinances must be reviewed and approved by MDE. The following sections should be used by counties and municipalities to draft ordinance modifications to be submitted for MDE approval. Guidance, in the form of embedded "notes," is provided below for decisions that need to be made for various issues. MDE will use this model to ensure that consistent stormwater management ordinances are implemented statewide.

If there are any questions or comments regarding this model stormwater management ordinance, please contact MDE's Water Management Administration at 410-537-3543.

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MODEL STORMWATER MANAGEMENT ORDINANCE

1.0 PURPOSE AND AUTHORITY

The purpose of this Ordinance is to protect, maintain, and enhance the public health, safety, and general welfare by establishing minimum requirements and procedures that control the adverse impacts associated with increased stormwater runoff. The goal is to manage stormwater by using environmental site design (ESD) to the maximum extent practicable (MEP) to maintain after development as nearly as possible, the predevelopment runoff characteristics, and to reduce stream channel erosion, pollution, siltation and sedimentation, and local flooding, and use appropriate structural best management practices (BMPs) only when necessary. This will restore, enhance, and maintain the chemical, physical, and biological integrity of streams, minimize damage to public and private property, and reduce the impacts of land development.

The provisions of this Ordinance, pursuant to the Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland, 2009 replacement volume, are adopted under the authority of (local unit) Code and shall apply to all development occurring within the unincorporated/incorporated area of (local unit). The application of this Ordinance and provisions expressed herein shall be the minimum stormwater management requirements and shall not be deemed a limitation or repeal of any other powers granted by State statute. (Local governing authority/agency) shall be responsible for the coordination and enforcement of the provisions of this Ordinance. This Ordinance applies to all new and redevelopment projects that have not received final approval for erosion and sediment control and stormwater management plans by May 4, 2010.

1.1 Incorporation by reference

For the purpose of this Ordinance, the following documents are incorporated by reference:

A. The 2000 Maryland Stormwater Design Manual, Volumes I & II (Maryland Department of the Environment, April 2000), and all subsequent revisions, is incorporated by reference by (governing authority/agency) and shall serve as the official guide for stormwater management principles, methods, and practices.

B. USDA Natural Resources Conservation Service Maryland Conservation Practice Standard Pond Code 378 (January 2000).

2.0 DEFINITIONS

A. The following definitions are provided for the terms used in this Ordinance:

(1) "Administration" means the Maryland Department of the Environment (MDE) Water Management Administration (WMA).

(2) "Adverse impact" means any deleterious effect on waters or wetlands, including their quality, quantity, surface area, species composition, aesthetics or usefulness for human or natural uses which are or may potentially be harmful or injurious to

human health, welfare, safety or property, to biological productivity, diversity, or stability or which unreasonably interfere with the enjoyment of life or property, including outdoor recreation.

(3) "Agricultural land management practices" means those methods and procedures used in the cultivation of land in order to further crop and livestock production and conservation of related soil and water resources.

(4) "Applicant" means any person, firm, or governmental agency who executes the necessary forms to procure official approval of a project or a permit to carry out construction of a project.

(5) "Approving Agency" means the entity responsible for the review and approval of stormwater management plans.

(6) "Aquifer" means a porous water bearing geologic formation generally restricted to materials capable of yielding an appreciable supply of water.

(7) "Best management practice (BMP)" means a structural device or nonstructural practice designed to temporarily store or treat stormwater runoff in order to mitigate flooding, reduce pollution, and provide other amenities.

(8) "Channel protection storage volume (Cp_v)" means the volume used to design structural management practices to control stream channel erosion. Methods for calculating the channel protection storage volume are specified in the 2000 Maryland Stormwater Design Manual.

(9) "Clearing" means the removal of trees and brush from the land but shall not include the ordinary mowing of grass.

(10) "Concept plan" means the first of three required plan approvals that includes the information necessary to allow an initial evaluation of a proposed project.

(11) "Design manual" means the 2000 Maryland Stormwater Design Manual, and all subsequent revisions, that serves as the official guide for stormwater management principles, methods, and practices.

(12) "Detention structure" means a permanent structure for the temporary storage of runoff which is designed so as not to create a permanent pool of water.

(13) "Develop land" means to change the runoff characteristics of a parcel of land in conjunction with residential, commercial, industrial, or institutional construction or alteration.

(14) "Direct discharge" means the concentrated release of stormwater to tidal waters or vegetated tidal wetlands from new development or redevelopment projects in the Critical Area.

(15) "Drainage area" means that area contributing runoff to a single point measured in a horizontal plane, which is enclosed by a ridge line.

(16) "Easement" means a grant or reservation by the owner of land for the use of such land by others for a specific purpose or purposes, and which must be included in the conveyance of land affected by such easement.

(17) "Environmental site design (ESD)" means using small-scale stormwater management practices, nonstructural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources. Methods for designing ESD practices are specified in the Design Manual.

(18) "Exemption" means those land development activities that are not subject to the stormwater management requirements contained in this Ordinance.

(19) "Extended detention" means a stormwater design feature that provides gradual release of a volume of water in order to increase settling of pollutants and protect downstream channels from frequent storm events. Methods for designing extended detention BMPs are specified in the Design Manual.

(20) "Extreme flood volume (Q_f)" means the storage volume required to control those infrequent but large storm events in which overbank flows reach or exceed the boundaries of the 100-year floodplain.

(21) "Final stormwater management plan" means the last of three required plan approvals that includes the information necessary to allow all approvals and permits to be issued by the approving agency.

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(22) "Flow attenuation" means prolonging the flow time of runoff to reduce the peak discharge.

(23) "Grading" means any act by which soil is cleared, stripped, stockpiled, excavated, scarified, filled, or any combination thereof.

(24) "Impervious area" means any surface that does not allow stormwater to infiltrate into the ground.

(25) "Infiltration" means the passage or movement of water into the soil surface.

(26) "Maximum extent practicable (MEP)" means designing stormwater management systems so that all reasonable opportunities for using ESD planning techniques and treatment practices are exhausted and only where absolutely necessary, a structural BMP is implemented.

(27) "Off-site stormwater management" means the design and construction of a facility necessary to control stormwater from more than one development.

(28) "On-site stormwater management" means the design and construction of systems necessary to control stormwater within an immediate development.

(29) "Overbank flood protection volume (Q_p)" means the volume controlled by structural practices to prevent an increase in the frequency of out-of-bank flooding generated by development. Methods for calculating the overbank flood protection volume are specified in the Design Manual.

(30) "Person" means the federal government, the State, any county, municipal corporation, or other political subdivision of the State, or any of their units, or an individual receiver, trustee, guardian, executor, administrator, fiduciary, or representative of any kind, or any partnership, firm, association, public or private corporation, or any other entity.

(31) "Planning techniques" means a combination of strategies employed early in project design to reduce the impact from development and to incorporate natural features into a stormwater management plan.

(32) "Recharge volume (Re_v)" means that portion of the water quality volume used to maintain groundwater recharge rates at development sites. Methods for calculating the recharge volume are specified in the Design Manual.

(33) "Redevelopment" means any construction, alteration, or improvement performed on sites where existing land use is commercial, industrial, institutional, or multifamily residential and existing site impervious area exceeds 40 percent.

(34) "Retention structure" means a permanent structure that provides for the storage of runoff by means of a permanent pool of water.

(35) "Retrofitting" means the implementation of ESD practices, the construction of a structural BMP, or the modification of an existing structural BMP in a previously developed area to improve water quality over current conditions.

(36) "Sediment" means soils or other surficial materials transported or deposited by the action of wind, water, ice, or gravity as a product of erosion.

(37) "Site" means any tract, lot, or parcel of land, or combination of tracts, lots, parcels of land that are in one ownership, or are contiguous and in diverse ownership, where development is to be performed as part of a unit, subdivision, or project.

(38) "Site development plan" means the second of three required plan approvals that includes the information necessary to allow a detailed evaluation of a proposed project.

(39) "Stabilization" means the prevention of soil movement by any of various vegetative and/or structural means.

(40) "Stormwater" means water that originates from a precipitation event.

(41) "Stormwater management system" means natural areas, ESD practices, stormwater management measures, and any other structure through which stormwater flows, infiltrates, or discharges from a site.

(42) "Stripping" means any activity that removes the vegetative surface cover including tree removal, clearing, grubbing, and storage or removal of topsoil.

(43) "Variance" means the modification of the minimum stormwater management requirements for specific circumstances such that strict adherence to the requirements would result in unnecessary hardship and not fulfill the intent of this Ordinance.

(44) "Waiver" means the reduction of stormwater management requirements by (__local agency__) for a specific development on a case-by-case review basis.

(45) "Watercourse" means any natural or artificial stream, river, creek, ditch, channel, canal, conduit, culvert, drain, waterway, gully, ravine or wash, in and including any adjacent area that is subject to inundation from overflow or flood water.

(46) "Water quality volume (WQ_v)" means the volume needed to capture and treat 90 percent of the average annual rainfall events at a development site. Methods for calculating the water quality volume are specified in the Design Manual.

(47) "Watershed" means the total drainage area contributing runoff to a single point.

3.0 APPLICABILITY

3.1 Scope

No person shall develop any land for residential, commercial, industrial, or institutional uses without providing stormwater management measures that control or manage runoff from such developments, except as provided within this section. Stormwater management measures must be designed consistent with the Design Manual and constructed according to an approved plan for new development or the policies stated in section 3.4 of this Ordinance for redevelopment.

3.2 Exemptions

The following development activities are exempt from the provisions of this Ordinance and the requirements of providing stormwater management:

A. Agricultural land management practices;

B. Additions or modifications to existing single family detached residential structures if they comply with section 3.2 C. of this Ordinance;

C. Any developments that do not disturb over 5,000 square feet of land area; and

D. Land development activities that the Administration determines will be regulated under specific State laws, which provide for managing stormwater runoff.

3.3 Waivers/Watershed Management Plans

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[Note: Restrictions were placed on stormwater management waivers when the Design Manual was adopted in 2000. Major modifications were also made to COMAR and local ordinances to eliminate the inconsistent application of policies that included pre and post development peak discharge comparisons, existing enclosed storm drain systems accommodating runoff increases, and simple geographic watershed location. The Act further restricts stormwater management waivers because of ESD implementation.

According to current State statute, ESD must be implemented to the MEP. This requirement seemingly prevents all waivers of runoff control. There will however, be development situations that warrant relaxing management obligations due to local, site specific circumstances. Specified below is the minimum content for stormwater management ordinances relative to waivers. The goal is to use the clear mandate found in the Act for implementing ESD to the MEP to change the prevailing mindset of seeking ways to avoid stormwater management in project design to looking for all opportunities to provide it. This will require both designers and plans review and approval agencies to become more proactive than ever before. When in doubt, decisions made must consider the MEP standard and be made in favor of control.

Local hydrology, geology, development patterns, economic conditions, and many other relevant factors may prevent the adoption of waiver policies that apply statewide. For example, karst areas of western Maryland and direct discharges to tidally influenced waters farther east create different scenarios for not only waiver decisions but ESD and BMP design as well. In the former situation, infiltration practices may be limited due to sinkhole problems and groundwater contamination meaning opportunities for smaller filtering practices and clay or poly-lined facilities may need to be sought. In the latter case, there is no reason not to fully implement ESD despite the fact that channel protection may not be an issue. The point to be made again is MEP requires looking for management opportunities.

Plan approval agencies will have some flexibility for tailoring stormwater management waiver polices to accommodate local conditions within the tenets outlined below. Counties and municipalities that have circumstances necessitating alternative waiver policies must explicitly specify in their draft ordinances what categories will be used and how the policy will be administered. MDE will evaluate all proposed local waiver policies on their own merits.**]**

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A. (Local agency) shall grant stormwater management quantitative control waivers only to those projects within areas where watershed management plans have been developed consistent with section 3.3 F. of this Ordinance. Written requests for quantitative stormwater management waivers shall be submitted that contain sufficient descriptions, drawings, and any other information that is necessary to demonstrate that ESD has been implemented to the MEP. A separate written waiver request shall be required in accordance with the provisions of this section if there are subsequent additions, extensions, or modifications to a development receiving a waiver.

B. If watershed management plans consistent with section 3.3 F. of this Ordinance have not been developed, stormwater management quantitative control waivers may be granted to the following projects provided that it has been demonstrated that ESD has been implemented to the MEP:

(1) That have direct discharges to tidally influenced receiving waters; or

(2) When the approving agency determines that circumstances exist that prevent the reasonable implementation of quantity control practices.

C. Stormwater management qualitative control waivers apply only to:

(1) In-fill development projects where ESD has been implemented to the MEP and it has been demonstrated that other BMPs are not feasible;

(2) Redevelopment projects if the requirements of section 3.4 of this Ordinance are satisfied; or

(3) Sites where the approving agency determines that circumstances exist that prevent the reasonable implementation of ESD to the MEP.

D. Waivers shall only be granted when it has been demonstrated that ESD has been implemented to the MEP and must:

(1) Be on a case-by-case basis;

(2) Consider the cumulative effects of (local agency) waiver policy; and

(3) Reasonably ensure the development will not adversely impact stream quality.

E. If (__local agency__) has established an overall watershed management plan for a specific watershed, then (__local agency__) may develop quantitative waiver and redevelopment provisions that differ from sections 3.3 B and 3.4 of this Ordinance.

F. A watershed management plan developed for the purpose of implementing different stormwater management policies for waivers and redevelopment shall:

(1) Include detailed hydrologic and hydraulic analyses to determine hydrograph timing;

(2) Evaluate both quantity and quality management and opportunities for ESD implementation;

(3) Include a cumulative impact assessment of current and proposed watershed development;

(4) Identify existing flooding and receiving stream channel conditions;

(5) Be conducted at a reasonable scale;

(6) Specify where on-site or off-site quantitative and qualitative stormwater management practices are to be implemented;

(7) Be consistent with the General Performance Standards for Stormwater Management in Maryland found in the Design Manual; and

(8) Be approved by the Administration.

3.4 Redevelopment

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[Note: The goal of the current redevelopment regulations is to gain water quality treatment on existing developed lands while supporting local initiatives to improve urban communities. Redevelopment projects offer unique challenges and stormwater management ordinances need to be tailored to consider local goals, available resources, and application of stormwater practices within a specific region. More specific issues pertaining to redevelopment are outlined below and these must be addressed in local stormwater management ordinances.

Redevelopment Planning Process

The design and review processes for any redevelopment project need to consider the many constraints that limit effective implementation of stormwater practices. Factors such as underground infrastructure may restrict available facility options, while existing storm drain elevations may dictate how runoff flows through and off a site. This information and other existing conditions should be evaluated during the concept phase of project planning in order to assess all options for ESD implementation and other possible stormwater solutions.

The three step planning process requires review and approval at the concept, site development, and final plan stages. This meets the intent of the Act to integrate review and approval processes with input from local agencies so that detailed designs move forward as all opportunities for using ESD to the MEP are evaluated. Smaller projects may be able to move quickly through the process by showing that ESD has been used to address management requirements. In these cases, it may be possible to proceed directly to final plan design and approval following the initial concept phase. Local ordinances must establish specific criteria for a streamlined plan review and approval process that ensures implementation of ESD to the MEP.

Alternative Management Strategies

Alternative management strategies may be considered after all opportunities for using ESD have been exhausted during the planning process. Alternative strategies and policies for meeting stormwater requirements may include, on-site and off-site structural BMPs, retrofitting existing structural BMPs, stream restoration, trading policies with other pollution control programs, watershed management plans, and fees-in-lieu. Local ordinances shall explicitly describe the conditions, criteria, and program directives dedicated to implementing stormwater management when each alternative or other policy is used to meet redevelopment requirements.

Redevelopment Projects and Existing BMPs

When existing impervious areas drain to a BMP meeting current standards, these areas are considered treated. Therefore, redevelopment requirements will apply to the remaining unmanaged existing impervious areas. Local ordinances shall include criteria to verify performance of existing BMPs and policies to address any improvements needed in order to meet current standards.

[[Example: A two acre parking lot is undergoing reconstruction and 0.5 acres drain to a BMP that meets current standards. In the proposed conditions, the existing BMP will continue to receive runoff from the treated area (0.5 acres). Redevelopment requirements will then apply to the remaining 1.5 acres of existing impervious area that is not being treated. The 1.5 acres will need to be reduced by 50%, or an equivalent amount of water quality treatment shall be provided.]]

Calculating Redevelopment Requirements

Many redevelopment activities will disturb existing impervious areas and increase imperviousness above current conditions. The current regulations establish criteria for both of these situations. When existing impervious area is disturbed, 50% of that area shall be reduced, or an equivalent amount of water quality treatment shall be provided. This requirement is intended to encourage redevelopment and offer flexibility in terms of how runoff is managed. The requirements when impervious area is increased above current conditions, however, are more stringent. Runoff shall be reduced for the increased impervious area to reflect woods in good condition as outlined in the new development criteria. Achieving new development standards on existing developed lands is challenging. However, this standard will encourage the preservation of pervious areas and allow planning for stormwater controls by using available

landscaping and natural areas on-site. This promotes ESD to the MEP by exhausting every opportunity for implementing these practices.**]**

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A. Stormwater management plans are required by (local agency) for all redevelopment, unless otherwise specified by watershed management plans developed according to section 3.3 F. of this Ordinance. Stormwater management measures must be consistent with the Design Manual.

B. All redevelopment designs shall:

(1) Reduce impervious area within the limit of disturbance (LOD) by at least 50 percent according to the Design Manual;

(2) Implement ESD to the MEP to provide water quality treatment for at least 50 percent of the existing impervious area within the LOD; or

(3) Use a combination of section 3.4 B. (1) and (2) of this Ordinance for at least 50 percent of the existing site impervious area.

C. Alternative stormwater management measures may be used to meet the requirements in section 3.4 B. of this Ordinance if the owner/developer satisfactorily demonstrates to (local agency) that impervious area reduction has been maximized and ESD has been implemented to the MEP. Alternative stormwater management measures include, but are not limited to:

(1) An on-site structural BMP;

(2) An off-site structural BMP to provide water quality treatment for an area equal to or greater than 50 percent of the existing impervious area; or

(3) A combination of impervious area reduction, ESD implementation, and an on-site or off-site structural BMP for an area equal to or greater than 50 percent of the existing site impervious area within the LOD.

D. (local agency) may develop separate policies for providing water quality treatment for redevelopment projects if the requirements of section 3.4 A. and B. of this Ordinance cannot be met. Any separate redevelopment policy shall be reviewed and approved by the Administration and may include, but not be limited to:

(1) Retrofitting;

(2) Stream restoration;

(3) Pollution trading;

(4) Design criteria based on watershed management plans developed according to section 3.3 F. of this Ordinance; or

(5) Fees paid that are dedicated exclusively to provide stormwater management.

E. Stormwater management shall be addressed according to the new development requirements in the Design Manual for any net increase in impervious area.

3.5 Variance

(Local agency) may grant a written variance from any requirement of section 4.0, Stormwater Management Criteria, if there are exceptional circumstances applicable to the site such that strict adherence will result in unnecessary hardship and not fulfill the intent of this Ordinance. A written request for variance shall be provided to (local agency) and shall state the specific variances sought and reasons for their granting. (Local agency) shall not grant a variance unless and until sufficient justification is provided by the person developing land that the implementation of ESD to the MEP has been investigated thoroughly.

4.0 STORMWATER MANAGEMENT CRITERIA

4.1 Minimum Control Requirements

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[Note: The MEP standard considers both available technology and practical constraints in a subjective determination of design limits. In this form, it can be an elusive and unenforceable standard. To resolve this problem, State regulations provide a specific definition of, and a minimum threshold for assessing compliance with, MEP. Likewise, the Design Manual contains sizing criteria and design procedures for implementing ESD.

The regulatory definition for MEP consists of two parts. The first is subjective and requires that all reasonable opportunities for using ESD planning techniques and practices are exhausted. Like the definition, the threshold for meeting the MEP standard consists of two parts. First, MEP is met if channel stability and predevelopment groundwater recharge rates are maintained and nonpoint source pollution is minimized. In both the definition and performance threshold, the second condition is the same; structural stormwater practices may be used only if determined to be absolutely necessary. While some flexibility and best professional judgment will be needed to determine when these first conditions are met, the second condition is straightforward. Local plans review and approval agencies should not approve structural BMPs if ESD options are available.

In addition to the State regulations, section 5.2 of the Design Manual also includes standards for MEP compliance. The primary MEP standard is to use ESD to reduce post development runoff to levels found in natural, forested conditions. This requires capturing and treating from 1 to 2.6 inches of rainfall depending on site and design conditions (e.g., soils, proposed imperviousness). When this goal is met, the Cp_v, WQ_v, and Re_v requirements are addressed. Designers will be responsible for determining specific rainfall targets for their projects using the methods outlined in section 5.2.

There is a secondary standard that must be considered when assessing MEP compliance. ESD must be used to treat runoff from 1 inch of rainfall to address both WQ_v and Re_v requirements. This is a minimum level of compliance, not a contingency standard that is used when specific rainfall targets cannot be met. Designers must capture and treat at least 1 inch of rainfall while using ESD to reduce runoff and achieve specified goals. Additionally, local plans review and approval agencies will need to be firm in ensuring that all reasonable opportunities for ESD are exhausted to meet identified rainfall targets and that structural practices are used to provide supplemental treatment only where necessary.

Many of the more common obstacles to implementing ESD to the MEP will be related either to existing site constraints or local standards, details, and development codes. Whether natural or man-made, existing site constraints may limit effective use of various ESD practices. For example, infiltration practices like dry wells or landscape infiltration may not be appropriate where there is high groundwater or karst terrain. Likewise, existing features like adjacent building foundations or storm drainage may limit the areal extent or depth of micro-scale practices. Local plan review and approval agencies will need to use best professional judgment when assessing the impact of these existing features on ESD implementation.

Existing development standards, details, and restrictions found in local planning and zoning and public works codes often are obstacles to implementing ESD to the MEP. However, current State law and regulations require that all counties and municipalities modify their ordinances and codes to remove impediments to implementing ESD. It is unacceptable to reject opportunities for using ESD simply because of conflicts with local standards. In the interim, local plan review and approval agencies will need to be flexible and allow some variation to development codes where public safety and access are not compromised.

Finally, another commonly cited obstacle is that ESD is more expensive than traditional stormwater design. In a specific application, designers may claim that using alternative surfaces and micro-scale practices will be more expensive to justify using more traditional methods or practices. While it may be argued that ESD costs more to construct, there are numerous studies on the initial and long term benefits of ESD, including cost effectiveness. More importantly, as stated above, State law and regulations require that structural stormwater practices may be used only if determined to be absolutely necessary. Therefore, economic reasons alone cannot be considered as an obstacle to meeting the MEP requirements. Local plan review and approval agencies will need to stand firm and ensure that all reasonable opportunities for implementing ESD to the MEP are exhausted.**]**

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A. The minimum control requirements established in this section and the Design Manual are as follows:

(1) All counties and their incorporated municipalities shall require that the planning techniques, nonstructural practices, and design methods specified in the Design Manual be used to implement ESD to the MEP. The use of ESD planning techniques and treatment practices must be exhausted before any structural BMP is implemented. Stormwater management plans for development projects subject to this Ordinance shall be designed using ESD sizing criteria, recharge volume, water quality volume, and channel protection storage volume criteria according to the Design Manual. The MEP standard is met when channel stability is maintained, predevelopment groundwater recharge is replicated, nonpoint source pollution is minimized, and structural stormwater management practices are used only if determined to be absolutely necessary.

(2) Control of the 2-year and 10-year frequency storm event is required according to the Design Manual and all subsequent revisions if (__local agency__) determines that additional stormwater management is necessary because historical flooding problems exist and downstream floodplain development and conveyance system design cannot be controlled.

(3) (__Local agency__) may require more than the minimum control requirements specified in this Ordinance if hydrologic or topographic conditions warrant or if flooding, stream channel erosion, or water quality problems exist downstream from a proposed project.

B. Alternate minimum control requirements may be adopted subject to Administration approval. The Administration shall require a demonstration that alternative requirements will implement ESD to the MEP and control flood damages, accelerated stream erosion, water quality, and sedimentation. Comprehensive watershed studies may also be required.

C. Stormwater management and development plans where applicable, shall be consistent with adopted and approved watershed management plans or flood management plans as approved by the Maryland Department of the Environment in accordance with the Flood Hazard Management Act of 1976.

4.2 Stormwater Management Measures

The ESD planning techniques and practices and structural stormwater management measures established in this Ordinance and the Design Manual shall be used, either alone or in combination in a stormwater management plan. A developer shall demonstrate that ESD has been implemented to the MEP before the use of a structural BMP is considered in developing the stormwater management plan.

A. ESD Planning Techniques and Practices.

(1) The following planning techniques shall be applied according to the Design Manual to satisfy the applicable minimum control requirements established in section 4.1 of this Ordinance:

(a) Preserving and protecting natural resources;

(b) Conserving natural drainage patterns;

(c) Minimizing impervious area;

(d) Reducing runoff volume;

(e) Using ESD practices to maintain 100 percent of the annual predevelopment groundwater recharge volume;

(f) Using green roofs, permeable pavement, reinforced turf, and other alternative surfaces;

(g) Limiting soil disturbance, mass grading, and compaction;

(h) Clustering development; and

(i) Any practices approved by the Administration.

(2) The following ESD treatment practices shall be designed according to the Design Manual to satisfy the applicable minimum control requirements established in section 4.1 of this Ordinance:

(a) Disconnection of rooftop runoff;

(b) Disconnection of non-rooftop runoff;

(c) Sheetflow to conservation areas;

(d) Rainwater harvesting;

(e) Submerged gravel wetlands;

(f) Landscape infiltration;

(g) Infiltration berms;

(h) Dry wells;

(i) Micro-bioretention;

(j) Rain gardens;

(k) Swales;

(l) Enhanced filters; and

(m) Any practices approved by the Administration.

(3) The use of ESD planning techniques and treatment practices specified in this section shall not conflict with existing State law or local ordinances, regulations, or policies. Counties and municipalities shall modify planning and zoning ordinances and public works codes to eliminate any impediments to implementing ESD to the MEP according to the Design Manual.

B. Structural Stormwater Management Measures.

(1) The following structural stormwater management practices shall be designed according to the Design Manual to satisfy the applicable minimum control requirements established in section 4.1 of this Ordinance:

(a) Stormwater management ponds;

(b) Stormwater management wetlands;

(c) Stormwater management infiltration;

(d) Stormwater management filtering systems; and

(e) Stormwater management open channel systems.

(2) The performance criteria specified in the Design Manual with regard to general feasibility, conveyance, pretreatment, treatment and geometry, environment and landscaping, and maintenance shall be considered when selecting structural stormwater management practices.

(3) Structural stormwater management practices shall be selected to accommodate the unique hydrologic or geologic regions of the State.

C. ESD planning techniques and treatment practices and structural stormwater management measures used to satisfy the minimum requirements in section 4.1 of this Ordinance must be recorded in the land records of (__local agency__) and remain unaltered by subsequent property owners. Prior approval from (__local agency__) shall be obtained before any stormwater management practice is altered.

D. Alternative ESD planning techniques and treatment practices and structural stormwater measures may be used for new development runoff control if they meet the performance criteria established in the Design Manual and all subsequent revisions and are approved

by the Administration. Practices used for redevelopment projects shall be approved by (__local agency__).

E. For the purposes of modifying the minimum control requirements or design criteria, the owner/developer shall submit to (__local agency__) an analysis of the impacts of stormwater flows downstream in the watershed. The analysis shall include hydrologic and hydraulic calculations necessary to determine the impact of hydrograph timing modifications of the proposed development upon a dam, highway, structure, or natural point of restricted streamflow. The point of investigation is to be established with the concurrence of (__local agency__), downstream of the first downstream tributary whose drainage area equals or exceeds the contributing area to the project or stormwater management facility.

4.3 Specific Design Criteria

The basic design criteria, methodologies, and construction specifications, subject to the approval of (__local agency__) and the Administration, shall be those of the Design Manual.

5.0 STORMWATER MANAGEMENT PLANS

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[Note: Prior to the passage of the Act, statewide stormwater management plans review processes were disparate and ranged from single to multi-stage submittals. Erosion and sediment control plans review proceeded on a parallel yet separate path and was often the responsibility of the local soil conservation districts (SCD). The Act changed this by requiring that "a comprehensive process for approving grading and sediment control plans and stormwater management plans" be established that takes into account the cumulative impacts of both. County and municipal stormwater authorities are now required to establish a coordinated approval process among all appropriate local agencies. Review and comments must now be obtained early in the process from agencies that may not have been involved in stormwater approval in the past. This may include SCDs and other county agencies like environmental protection, public works, planning, and recreation and parks. This will foster early feedback for a more effective review and approval of final stormwater management plans but it will take time to adjust to the significant procedural changes that will be needed.

The current goal is to design ESD to the MEP from the beginning of project conception through final approval using a process and planning techniques that protect natural areas, minimize imperviousness, integrate available landscaping, combine stormwater and erosion and sediment control strategies. Listed below is the minimum plan content for the three phases specified in COMAR (concept, site development, and final). The process should be tailored to meet local initiatives and allow jurisdictions to adjust, add, or modify the information required as needed. Local jurisdictions must consider the scope and extent of environmental impacts for individual site developments.

The phased plan submittal process required in COMAR and outlined below should help with evaluating cumulative impacts from land development. However, adjustments in procedures

may be appropriate to accommodate certain types of projects. For example, small or straightforward projects may be able to proceed directly to final plan design and approval following initial concept phase. While MDE will remain flexible regarding special exceptions to the required three step process, specific criteria for a streamlined review must be clearly explained in draft ordinances and submitted for approval.

The review and approval of stormwater management plans for the majority of development projects will begin with basic mapping requirements under the concept plan phase and end with final construction drawings. As the three phase process is navigated, an increased level of specific design will be required and review comments will need to be addressed in order to proceed to the next step. Throughout the length of project review, it may become apparent that certain development codes may impede ESD implementation. COMAR mandates that where these impediments are encountered, the appropriate authorities must work to remove them to allow the MEP standard to be met.**]**

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5.1 Review and Approval of Stormwater Management Plans

A. For any proposed development, the owner/developer shall submit phased stormwater management plans to (__local agency__) for review and approval. At a minimum, plans shall be submitted for the concept, site development, and final stormwater management construction phases of project design. Each plan submittal shall include the minimum content specified in section 5.2 of this Ordinance and meet the requirements of the Design Manual and section 4.0 of this Ordinance.

B. (__Local agency__) shall perform a comprehensive review of the stormwater management plans for each phase of site design. Coordinated comments will be provided for each plan phase that reflect input from all appropriate agencies including, but not limited to the soil conservation district (SCD) and the departments of planning, zoning, and public works (__local approving agencies should be specified__). All comments from the (__local agency__) and other appropriate agencies shall be addressed and approval received at each phase of project design before subsequent submissions.

C. [Note: This and additional sections should be used to specify more details about local procedures that may exist for accepting, reviewing, and approving stormwater management plans.]

5.2 Contents and Submission of Stormwater Management Plans

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[Note: As stated above, the Act requires an integrated approach to stormwater management. To achieve this, local jurisdictions will establish a design review and approval process for the three different phases of project planning namely the concept phase, site development, and final approval. Approving agencies will ensure that all submissions incorporate the design process and planning techniques listed in 5.1 of the Design Manual. Local jurisdictions shall ensure that all important resources have been mapped and protected, and all opportunities to enhance natural areas have been explored early in the design process. Impervious cover should be minimized, nonstructural practices should be used to disconnect impervious surfaces where possible, and the use of alternative surfaces explored. Micro-scale practices should be used to capture and treat runoff and structural practices may be used only when all options for the use of ESD have been exhausted. A narrative that supports the concept, site development, and final plan with all comments received from all approving agencies and addressed by the developer should accompany each submission.

The concept phase of project review and approval requires site mapping to ensure that significant natural resources are protected and preserved. Site fingerprinting, development layout, protection and conservation strategies, preliminary ESD stormwater management locations, and calculations must be submitted.**]**

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A. The owner/developer shall submit a concept plan that provides sufficient information for an initial assessment of the proposed project and whether stormwater management can be provided according to section 4.2 of this Ordinance and the Design Manual. Plans submitted for concept approval shall include, but are not limited to:

(1) A map at a scale specified by (__local agency__) showing site location, existing natural features, water and other sensitive resources, topography, and natural drainage patterns;

(2) The anticipated location of all proposed impervious areas, buildings, roadways, parking, sidewalks, utilities, and other site improvements;

(3) The location of the proposed limit of disturbance, erodible soils, steep slopes, and areas to be protected during construction;

(4) Preliminary estimates of stormwater management requirements, the selection and location of ESD practices to be used, and the location of all points of discharge from the site;

(5) A narrative that supports the concept design and describes how ESD will be implemented to the MEP; and

(6) Any other information required by the approving agency.

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[Note: A site development plan is the second submission and shall include detailed designs for stormwater management and erosion and sediment control. Information on the footprint of the proposed project and the relationship between proposed impervious surfaces and the existing natural conditions identified during the concept plan design phase must be demonstrated. To ensure that all options for implementing ESD have been exhausted, detailed designs, computations, and grading plans must be submitted for comprehensive review and approval. Comments received during the concept plan review should be incorporated into the site development plans.**]**

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B. Following concept plan approval by the (__local agency__), the owner/developer shall submit site development plans that reflect comments received during the previous review phase. Plans submitted for site development approval shall be of sufficient detail to allow site development to be reviewed and include but not be limited to:

(1) All information provided during the concept plan review phase;

(2) Final site layout, exact impervious area locations and acreages, proposed topography, delineated drainage areas at all points of discharge from the site, and stormwater volume computations for ESD practices and quantity control structures;

(3) A proposed erosion and sediment control plan that contains the construction sequence, any phasing necessary to limit earth disturbances and impacts to natural resources and an overlay plan showing the types and locations of ESD and erosion and sediment control practices to be used;

(4) A narrative that supports the site development design, describes how ESD will be used to meet the minimum control requirements, and justifies any proposed structural stormwater management measure; and

(5) Any other information required by the approving agency.

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[Note: A final plan is the last phase and is submitted for review to both stormwater and erosion and sediment control approval agencies. Local jurisdictions are mandated to require the minimum plan content listed below and established in COMAR 26.17.01.05 and 26.17.02.09. The developer must demonstrate that comments received during the site development phase have been addressed and incorporated into the final design. The final design shall demonstrate that

where structural practices are used, all reasonable ESD options were first exhausted. Final plans shall be required for issuing local grading and building permits.**]**

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C. Following site development approval by (__local agency__), the owner/developer shall submit final erosion and sediment control and stormwater management plans that reflect the comments received during the previous review phase. Plans submitted for final approval shall be of sufficient detail to allow all approvals and permits to be issued according to the following:

(1) Final erosion and sediment control plans shall be submitted according to COMAR 26.17.01.05; and

(2) Final stormwater management plans shall be submitted for approval in the form of construction drawings and be accompanied by a report that includes sufficient information to evaluate the effectiveness of the proposed runoff control design.

D. Reports submitted for final stormwater management plan approval shall include, but are not limited to:

(1) Geotechnical investigations including soil maps, borings, site specific recommendations, and any additional information necessary for the final stormwater management design;

(2) Drainage area maps depicting predevelopment and post development runoff flow path segmentation and land use;

(3) Hydrologic computations of the applicable ESD and unified sizing criteria according to the Design Manual for all points of discharge from the site;

(4) Hydraulic and structural computations for all ESD practices and structural stormwater management measures to be used;

(5) A narrative that supports the final stormwater management design; and

(6) Any other information required by (__local agency__).

E. Construction drawings submitted for final stormwater management plan approval shall include, but are not limited to:

(1) A vicinity map;

(2) Existing and proposed topography and proposed drainage areas, including areas necessary to determine downstream analysis for proposed stormwater management facilities;

(3) Any proposed improvements including location of buildings or other structures, impervious surfaces, storm drainage facilities, and all grading;

(4) The location of existing and proposed structures and utilities;

(5) Any easements and rights-of-way;

(6) The delineation, if applicable, of the 100-year floodplain and any on-site wetlands;

(7) Structural and construction details including representative cross sections for all components of the proposed drainage system or systems, and stormwater management facilities;

(8) All necessary construction specifications;

(9) A sequence of construction;

(10) Data for total site area, disturbed area, new impervious area, and total impervious area;

(11) A table showing the ESD and unified sizing criteria volumes required in the Design Manual;

(12) A table of materials to be used for stormwater management facility planting;

(13) All soil boring logs and locations;

(14) An inspection and maintenance schedule;

(15) Certification by the owner/developer that all stormwater management construction will be done according to this plan;

(16) An as-built certification signature block to be executed after project completion; and

(17) Any other information required by (__local agency__).

F. If a stormwater management plan involves direction of some or all runoff off of the site, it is the responsibility of the developer to obtain from adjacent property owners any easements or other necessary property interests concerning flowage of water. Approval of a stormwater management plan does not create or affect any right to direct runoff onto adjacent property without that property owner's permission.

5.3 Preparation of Stormwater Management Plans

A. The design of stormwater management plans shall be prepared by any individual whose qualifications are acceptable to (__local agency__). (__Local agency__) may require that the design be prepared by either a professional engineer, professional land surveyor, or landscape architect licensed in the State, as necessary to protect the public or the environment.

B. If a stormwater BMP requires either a dam safety permit from MDE or small pond approval from the (local SCD), (__local agency__) shall require that the design be prepared by a professional engineer licensed in the State.

6.0 PERMITS

6.1 Permit Requirement

A grading or building permit may not be issued for any parcel or lot unless final erosion and sediment control and stormwater management plans have been approved by (_local agency_) as meeting all the requirements of the Design Manual and this Ordinance. Where appropriate, a building permit may not be issued without:

A. Recorded easements for the stormwater management facility and easements to provide adequate access for inspection and maintenance from a public right-of-way;

B. A recorded stormwater management maintenance agreement as described in section 9.2 of this Ordinance; and

C. A performance bond as described in section 7.0 of this Ordinance.

6.2 Permit Fee

Non-refundable permit fees will be collected at each phase of stormwater management plan submittal. Permit fees will provide for the cost of plan review, administration, and management of the permitting process, and inspection of all projects subject to this Ordinance. A permit fee schedule shall be established by (__local agency__) based upon the relative complexity of the project and may be amended from time to time.

6.3 Permit Suspension and Revocation

Any grading or building permit issued by (__local agency__) may be suspended or revoked after written notice is given to the permittee for any of the following reasons:

A. Any violation(s) of the conditions of the stormwater management plan approval;

B. Changes in site runoff characteristics upon which an approval or waiver was granted;

C. Construction is not in accordance with the approved plan;

D. Noncompliance with correction notice(s) or stop work order(s) issued for the construction of any stormwater management practice; and

E. An immediate danger exists in a downstream area in the opinion of (local agency).

6.4 Permit Conditions

In granting an approval for any phase of site development, (local agency) may impose such conditions that may be deemed necessary to ensure compliance with the provisions of this Ordinance and the preservation of public health and safety.

7.0 PERFORMANCE BOND

(Local agency) shall require from the developer a surety or cash bond, irrevocable letter of credit, or other means of security acceptable to (local agency) prior to the issuance of any building and/or grading permit for the construction of a development requiring stormwater management. The amount of the security shall not be less than the total estimated construction cost of all stormwater management facilities. The bond required in this section shall include provisions relative to forfeiture for failure to complete work specified in the approved stormwater management plan, compliance with all of the provisions of this Ordinance, and other applicable laws and regulations, and any time limitations. The bond shall not be fully released without a final inspection of the completed work by (local agency), submission of "as-built" plans, and certification of completion by (local agency) that all stormwater management facilities comply with the approved plan and the provisions of this Ordinance. A procedure may be used to release parts of the bond held by (local agency) after various stages of construction have been completed and accepted by (local agency). The procedures used for partially releasing performance bonds must be specified by (local agency) in writing prior to stormwater management plan approval.

8.0 INSPECTION

8.1 Inspection Schedule and Reports

A. The developer shall notify (local agency) at least 48 hours before commencing any work in conjunction with site development, the stormwater management plan, and upon completion of the project.

B. Regular inspections shall be made and documented for each ESD planning technique and practice at the stages of construction specified in the Design Manual by (local agency), its authorized representative, or certified by a professional engineer licensed in the State of Maryland. At a minimum, all ESD and other nonstructural practices shall be inspected upon completion of final grading, the establishment of permanent stabilization, and before issuance of use and occupancy approval.

C. Written inspection reports shall include:

(1) The date and location of the inspection;

(2) Whether construction was in compliance with the approved stormwater management plan;

(3) Any variations from the approved construction specifications; and

(4) Any violations that exist.

D. The owner/developer and on-site personnel shall be notified in writing when violations are observed. Written notification shall describe the nature of the violation and the required corrective action.

E. No work shall proceed on the next phase of development until the (local agency) inspects and approves the work previously completed and furnishes the developer with the results of the inspection reports as soon as possible after completion of each required inspection.

8.2 Inspection Requirements During Construction

A. At a minimum, regular inspections shall be made and documented at the following specified stages of construction:

(1) For ponds:

(a) Upon completion of excavation to sub-foundation and when required, installation of structural supports or reinforcement for structures, including but not limited to:

(i) Core trenches for structural embankments;

(ii) Inlet and outlet structures, anti-seep collars or diaphragms, and watertight connectors on pipes; and

(iii) Trenches for enclosed storm drainage facilities;

(b) During placement of structural fill, concrete, and installation of piping and catch basins;

(c) During backfill of foundations and trenches;

(d) During embankment construction; and

(e) Upon completion of final grading and establishment of permanent stabilization.

(2) Wetlands – at the stages specified for pond construction in section 8.2 A (1) of this Ordinance, during and after wetland reservoir area planting, and during the second growing season to verify a vegetation survival rate of at least 50 percent.

(3) For infiltration trenches:

(a) During excavation to subgrade;

(b) During placement and backfill of under drain systems and observation wells;

(c) During placement of geotextiles and all filter media;

(d) During construction of appurtenant conveyance systems such as diversion structures, pre-filters and filters, inlets, outlets, and flow distribution structures; and

(e) Upon completion of final grading and establishment of permanent stabilization.

(4) For infiltration basins – at the stages specified for pond construction in section 8.2 A. (1) of this Ordinance and during placement and backfill of under drain systems.

(5) For filtering systems:

(a) During excavation to subgrade;

(b) During placement and backfill of under drain systems;

(c) During placement of geotextiles and all filter media;

(d) During construction of appurtenant conveyance systems such as flow diversion structures, pre-filters and filters, inlets, outlets, orifices, and flow distribution structures; and

(e) Upon completion of final grading and establishment of permanent stabilization.

(6) For open channel systems:

(a) During excavation to subgrade;

(b) During placement and backfill of under drain systems for dry swales;

(c) During installation of diaphragms, check dams, or weirs; and

(d) Upon completion of final grading and establishment of permanent stabilization.

B. (__Local agency__) may, for enforcement purposes, use any one or a combination of the following actions:

(1) A notice of violation shall be issued specifying the need for corrective action if stormwater management plan noncompliance is identified;

(2) A stop work order shall be issued for the site by (__local agency__) if a violation persists;

(3) Bonds or securities shall be withheld or the case may be referred for legal action if reasonable efforts to correct the violation have not been undertaken; or

(4) In addition to any other sanctions, a civil action or criminal prosecution may be brought against any person in violation of the Stormwater Management Subtitle, the Design Manual, or this Ordinance.

C. Any step in the enforcement process may be taken at any time, depending on the severity of the violation.

D. Once construction is complete, "as-built" plan certification shall be submitted by either a professional engineer or professional land surveyor licensed in the State of Maryland to ensure that ESD planning techniques, treatment practices, and structural stormwater management measures and conveyance systems comply with the specifications contained in the approved plans. At a minimum, "as-built" certification shall include a set of drawings comparing the approved stormwater management plan with what was constructed. (__Local agency__) may require additional information.

E. (__Local agency__) shall submit notice of construction completion to the Administration on a form supplied by the Administration for each structural stormwater management practice within 45 days of construction completion. The type, number, total drainage area, and total impervious area treated by all ESD techniques and practices shall be reported to the Administration on a site by site basis. If BMPs requiring SCD approval are constructed, notice of construction completion shall also be submitted to the appropriate SCD.

9.0 MAINTENANCE

9.1 Maintenance Inspection

A. (Local agency) shall ensure that preventative maintenance is performed by inspecting all ESD treatment practices and structural stormwater management measures. Inspection shall occur during the first year of operation and at least once every 3 years thereafter. In addition, a maintenance agreement between the owner and (local agency) shall be executed for privately-owned ESD treatment practices and structural stormwater management measures as described in section 9.2 of this Ordinance.

B. Inspection reports shall be maintained by (local agency) for all ESD treatment practices and structural stormwater management measures.

C. Inspection reports for ESD treatment practices and structural stormwater management measures shall include the following:

(1) The date of inspection;

(2) Name of inspector;

(3) An assessment of the quality of the stormwater management system related to ESD treatment practice efficiency and the control of runoff to the MEP;

(4) The condition of:

(a) Vegetation or filter media;

(b) Fences or other safety devices;

(c) Spillways, valves, or other control structures;

(d) Embankments, slopes, and safety benches;

(e) Reservoir or treatment areas;

(f) Inlet and outlet channels or structures;

(g) Underground drainage;

(h) Sediment and debris accumulation in storage and forebay areas;

(i) Any nonstructural practices to the extent practicable; and

(j) Any other item that could affect the proper function of the stormwater management system.

(5) Description of needed maintenance.

D. Upon notifying an owner of the inspection results, the owner shall have 30 days, or other time frame mutually agreed to between (__local agency__) and the owner, to correct the deficiencies discovered. (__Local agency__) shall conduct a subsequent inspection to ensure completion of the repairs.

E. If repairs are not properly undertaken and completed, enforcement procedures following section 9.2 C. of this Ordinance shall be followed by (__local agency__).

F. If, after an inspection by (__local agency__), the condition of a stormwater management facility is determined to present an immediate danger to public health or safety because of an unsafe condition, improper construction, or poor maintenance, (__local agency__) shall take such action as may be necessary to protect the public and make the facility safe. Any cost incurred by the County/Municipality shall be assessed against the owner(s), as provided in section 9.2 C. of this Ordinance.

9.2 Maintenance Agreement

A. Prior to the issuance of any building permit for which stormwater management is required, (__local agency__) shall require the applicant or owner to execute an inspection and maintenance agreement binding on all subsequent owners of land served by a private stormwater management facility. Such agreement shall provide for access to the facility at reasonable times for regular inspections by (__local agency__) or its authorized representative to ensure that the facility is maintained in proper working condition to meet design standards.

B. The agreement shall be recorded by the applicant or owner in the land records of the County/Municipality.

C. The agreement shall also provide that, if after notice by (__local agency__) to correct a violation requiring maintenance work, satisfactory corrections are not made by the owner(s) within a reasonable period of time (30 days maximum), (__local agency__) may perform all necessary work to place the facility in proper working condition. The owner(s) of the facility shall be assessed the cost of the work and any penalties. This may be accomplished by placing a lien on the property, which may be placed on the tax bill and collected as ordinary taxes by the County/Municipality.

9.3 Maintenance Responsibility

A. The owner of a property that contains private stormwater management facilities installed pursuant to this Ordinance, or any other person or agent in control of such property, shall maintain in good condition and promptly repair and restore all ESD practices, grade surfaces, walls, drains, dams and structures, vegetation, erosion and sediment control measures, and other protective devices in perpetuity. Such repairs or restoration and maintenance shall be in accordance with previously approved or newly submitted plans.

B. A maintenance schedule shall be developed for the life of any structural stormwater management facility or system of ESD practices and shall state the maintenance to be completed, the time period for completion, and the responsible party what will perform the maintenance. This maintenance schedule shall be printed on the approved stormwater management plan.

10.0 APPEALS

Any person aggrieved by the action of any official charged with the enforcement of this Ordinance, as the result of the disapproval of a properly filed application for a permit, issuance of a written notice of violation, or an alleged failure to properly enforce the Ordinance in regard to a specific application, shall have the right to appeal the action to the (special hearing examiner). The appeal shall be filed in writing within (time frame) of the date of official transmittal of the final decision or determination to the applicant, state clearly the grounds on which the appeal is based, and be processed in the manner prescribed for hearing administrative appeals under (local or state code provision).

11.0 SEVERABILITY

If any portion of this Ordinance is held invalid or unconstitutional by a court of competent jurisdiction, such portion shall not affect the validity of the remaining portions of this Ordinance. It is the intent of the (governing authority) that this Ordinance shall stand, even if a section, subsection, sentence, clause, phrase, or portion may be found invalid.

12.0 PENALTIES

Any person convicted of violating the provisions of this Ordinance shall be guilty of a misdemeanor, and upon conviction thereof, shall be subject to a fine of not more than Five Thousand Dollars ($5,000.00) or imprisonment not exceeding 1 year or both for each violation with costs imposed in the discretion of the court and not to exceed Fifty Thousand Dollars ($50,000.00). Each day that a violation continues shall be a separate offense. In addition, the (governing authority) may institute injunctive, mandamus or other appropriate action or proceedings of law to correct violations of this Ordinance. Any court of competent jurisdiction shall have the right to issue temporary or permanent restraining orders, injunctions or mandamus, or other appropriate forms of relief.

13.0 EFFECTIVE DATE

And be it further enacted, that this Ordinance shall take effect (time frame) from the date it becomes adopted.