Introduced _____
Public Hearing _____
Council Action _____
Executive Action _____
Effective Date _____

County Council Of Howard County, Maryland

2010 Legislative Session Legislative Day No. **4**

Bill No. __13__ -2010

Introduced by: The Chairperson at the request of the County Executive

AN ACT, pursuant to the Maryland Stormwater Management Act of 2007, amending certain stormwater management regulations in the Howard County Code; clarifying certain goals; defining certain terms; amending certain definitions; proving that new regulations shall apply to certain projects; requiring certain stormwater management measures and certain design criteria; requiring certain plans including an Environmental Concept Plan; requiring that certain plans be approved before certain permits can be issued; providing a process for certain stormwater management alternative compliance and stormwater management waivers; requiring certain sureties; amending certain inspection authority in accordance with changes to the Howard County Design Manual; making certain technical corrections and reorganizing certain sections; and generally related to stormwater management in Howard County.

Introduced and read first time _____, 2010. Ordered posted and hearing scheduled.

By order_____
Stephen LeGendre, Administrator

Having been posted and notice of time & place of hearing & title of Bill having been published according to Charter, the Bill was read for a second time at a public hearing on _____, 2010.

By order _____
Stephen LeGendre, Administrator

This Bill was read the third time on _____, 2010 and Passed ___, Passed with amendments _____, Failed _____.

By order _____
Stephen LeGendre, Administrator

Sealed with the County Seal and presented to the County Executive for approval this ___day of _____, 2010 at ___ a.m./p.m.

By order _____
Stephen LeGendre, Administrator

Approved/Vetoed by the County Executive _____, 2010

_____
Ken Ulman, County Executive

NOTE: [[text in brackets]] indicates deletions from existing law; TEXT IN SMALL CAPITALS indicates additions to existing law; Strike-out indicates material deleted by amendment; Underlining indicates material added by amendment.

WHEREAS, on April 24, 2007 the Governor signed the "Stormwater Management Act of 2007" which is codified in Section 4-201.1 and 4-203 of the Environment Article of the Annotated Code of Maryland; and

WHEREAS, the Stormwater Management Act of 2007 provides that each county shall adopt revisions to its stormwater management regulations by May 4, 2010; and

WHEREAS, the Maryland Department of the Environment prepared the "Maryland Model Stormwater Management Ordinance, June 2009" and noted that the model ordinance should be used by counties to draft their own ordinance modifications; and

WHEREAS, Howard County has prepared revisions to stormwater management requirements in the County Code in accordance with the State's Stormwater Management Act of 2007.

NOW, THEREFORE,

Section 1. Be It Enacted *by the County Council of Howard County, Maryland, that Subtitle 9, Stormwater Management, of Title 18, Public Works, of the Howard County Code is amended as follows:*

1. Section18.906 "Appeals" is renumbered to be Section 18.915 and Section 18.907 "Penalties" is renumbered to be Section 18.916;

2. Section 18.900 "Purpose and Authority," Section 18.901 "Definitions," Section 18.904 "Inspection," and Section 18.905 "Maintenance" are amended;

3. Section 18.902 "Stormwater management required; exemptions; waivers; permits; fee in lieu of implementing best management practice," Section 18.903 "Design criteria; minimum requirements," and Section 18.909 "Applicability" are repealed; and

4. New Section 18.902 "Applicability," Section 18.902A "Requirement to provide stormwater management measures, Exemptions," Section 18.903 "Design

criteria; Minimum control requirements; Alternatives," Section 18.904 "Stormwater Management Measures," Section 18.905 "Stormwater Management Plans," Section 18.906 "Grading or Building Permits," Section 18.907 "Stormwater Management Alternative compliance," Section 18.908 "Stormwater Management Waivers; Watershed Management Plans," Section 18.909 "Fee in Lieu of Implementing Best Management Practices," Section 18.910 "Redevelopment," Section 18.911 "Performance Bond," Section 18.913 "Howard County Design Manual," and Section 18.912 "Severability," are added.

Title 18. Public Works.

Subtitle 9. Stormwater Management.

Section 18.900. Purpose and authority.

The purpose of this subtitle is to protect, maintain and enhance public health, safety and welfare by establishing minimum requirements and procedures to control the adverse impacts associated with increased stormwater runoff [[as a result of development or redevelopment. Proper management of stormwater runoff will minimize damage to public and private property, reduce the effects of development and redevelopment on land, control stream channel erosion, reduce local flooding, and maintain after development, as nearly as possible, the predevelopment runoff characteristics]].THE GOAL IS TO MANAGE STORMWATER BY USING ENVIRONMENTAL SITE DESIGN (ESD) TO THE MAXIMUM EXTENT PRACTICABLE (MEP) IN ORDER (I) TO MAINTAIN, AFTER DEVELOPMENT AND AS NEARLY AS POSSIBLE, THE PREDEVELOPMENT RUNOFF CHARACTERISTICS; (II) TO REDUCE STREAM CHANNEL EROSION, POLLUTION, SILTATION AND SEDIMENTATION, AND LOCAL FLOODING; AND (III) TO USE APPROPRIATE STRUCTURAL BEST MANAGEMENT PRACTICES (BMPS) ONLY WHEN NECESSARY. THE INTENT IS TO RESTORE, ENHANCE, AND MAINTAIN THE CHEMICAL, PHYSICAL, AND BIOLOGICAL INTEGRITY OF STREAMS; TO MINIMIZE DAMAGE TO PUBLIC AND PRIVATE PROPERTY; AND TO REDUCE THE IMPACTS OF LAND DEVELOPMENT.

The provisions of this subtitle, pursuant to title 4, subtitle 2 of the environmental article, Annotated Code of Maryland, are adopted under the authority of the Howard County Code and shall apply to all development and redevelopment occurring in Howard County. The application of this subtitle 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 law. HOWARD COUNTY IS RESPONSIBLE FOR THE COORDINATION AND ENFORCEMENT OF THE PROVISIONS OF THIS SUBTITLE.

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

(a) The 2000 Maryland Stormwater Design Manual Volumes I & II (Maryland Department of the Environment, [[latest edition]] APRIL 2000), AND ALL SUBSEQUENT REVISIONS, is incorporated by reference by Howard County and shall serve as the official guide for stormwater principles, methods, and practices.

(b) USDA Natural Resources Conservation Service Maryland Conservation Practice Standard Pond Code 378 (latest edition).

Section 18.901. Definitions.

The following terms have the meanings indicated:

(a) *Administration* means the Maryland Department of the Environment (MDE) Water Management Administration (WMA).

(b) *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.

(c) *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.

[[(d) *Alternative compliance* means the modification of the minimum stormwater management requirements for specific circumstances such that strict adherence to the

requirements would result in an unnecessary hardship and not fulfill the intent of this subtitle.]]

([[e]]D) *Applicant* means a person, firm, or governmental agency who executes the necessary documentation to procure official approval of a project to carry out construction activities involving stormwater management systems.

([[F]]E) *APPROVING AGENCY* MEANS THE ENTITY RESPONSIBLE FOR THE REVIEW AND APPROVAL OF STORMWATER MANAGEMENT PLANS. AS SET FORTH IN THE HOWARD COUNTY DESIGN MANUAL AND DEPENDING ON THE NATURE OF THE PROJECT, THE APPROVING AGENCY IS THE DEPARTMENT OF PLANNING AND ZONING OR THE DEPARTMENT OF PUBLIC WORKS.

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

(g) *Channel protection storage volume (cPv)* 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.

(h) *Clearing* means the removal of trees and brush from the land, but shall not include the ordinary moving of grass.

(I) *CONCEPT PLAN* MEANS THE FIRST OF THREE REQUIRED PLAN APPROVALS THAT INCLUDES THE INFORMATION NECESSARY TO ALLOW AN INITIAL EVALUATION OF A PROPOSED PROJECT.

(J) *COUNTY* MEANS HOWARD COUNTY, MARYLAND.

[[(i)]](K) *Design manual* [[*or State design manual* means the Howard County Design Manual, Volume I, Storm Drainage and all incorporated references/the Maryland Stormwater Design Manual, Volumes I and II.]] MEANS THE 2000 MARYLAND STORMWATER DESIGN MANUAL, AND ALL SUBSEQUENT REVISIONS, THAT SERVES AS THE OFFICIAL GUIDE FOR STORMWATER MANAGEMENT PRINCIPLES, METHODS, AND PRACTICES. THE 2000 MARYLAND STORMWATER DESIGN MANUAL MAY BE SUPPLEMENTED BY THE HOWARD COUNTY DESIGN MANUAL.

[[(j)]](L) *Develop land* means to change the runoff characteristics of a parcel of land or lot in conjunction with residential, commercial, industrial, or institutional construction or alteration.

[[(k)]](M) *Drainage area* means an area contributing runoff to a single point measured in a horizontal plane, which is enclosed by a ridge line.

[[(l)]](N) *Easement* means a grant or reservation by the owner of land for the use of such land by others for a specific purpose, and which shall be recorded in the land records of Howard County.

(O) *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.

[[(m)]](P) *Exemption* means those land development activities that are not subject to the stormwater management requirements of this subtitle.

(Q) *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.

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

(S) *FINAL STORMWATER MANAGEMENT PLAN* MEANS THE LAST OF A MULTI-STEP PLAN-APPROVAL PROCESS THAT INCLUDES THE INFORMATION NECESSARY TO ALLOW ALL APPROVALS AND PERMITS TO BE ISSUED BY THE APPROVING AGENCY.

[[(o)]](T) *Flow attenuation* means prolonging the flow time of runoff to reduce the peak discharge.

[[(p)]](U) *Grading* means any act by which soil is cleared, stripped, stockpiled, excavated, scarified, filled, or any combination thereof.

(V) *IMPERVIOUS AREA* MEANS ANY SURFACE THAT DOES NOT ALLOW STORMWATER TO INFILTRATE INTO THE GROUND.

[[(q)]](W) *Infiltration* means the passage or movement of water into the soil surface.

(X) *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, IMPLEMENTING A STRUCTURAL BMP.

[[(r)]](Y) *Off-site stormwater management* means the design and construction of a facility necessary to control stormwater from one or more properties other than the one on which the stormwater management facility lies.

[[(s)]](Z) *On-site stormwater management* means the design and construction of a facility necessary to control stormwater from one property within the boundary of the subject property.

[[(t)]](AA) *Overbank flood protection volume (Q p)* means the volume controlled by structural practices to prevent an increase in the frequency of the out of bank flooding by development. METHODS FOR CALCULATING THE OVERBANK FLOOD PROTECTION VOLUME ARE SPECIFIED IN THE DESIGN MANUAL.

(BB) *PERSON* MEANS THE FEDERAL GOVERNMENT, THE STATE, ANY COUNTY, MUNICIPAL CORPORATION, OR OTHER POLITICAL SUBDIVISION OF THE STATE, OR ANY OF THEIR UNITS; 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.

(CC) *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.

[[(u)]](DD) *Private stormwater management facility* means any best management practice which is not to be owned and maintained by [[Howard]] THE County.

[[(v)]](EE) *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.

[[(w)]](FF) *Redevelopment* means any construction, alteration, or improvement [[exceeding 5,000 square feet of land disturbance performed on sites where existing land use is commercial, industrial, institutional, or multifamily residential.]] PERFORMED ON SITES WHERE EXISTING SITE IMPERVIOUS AREA EXCEEDS 40 PERCENT AND WHERE EXISTING LAND USE IS COMMERCIAL, INDUSTRIAL, INSTITUTIONAL, OR MULTIFAMILY.

[[(x)]](GG) *Retrofitting* means THE IMPLEMENTATION OF ESD PRACTICES, the construction of a structural BMP in a previously developed area, the modification of an existing structural BMP, or the implementation of a nonstructural practice to improve water quality over current conditions.

[[(y)]](HH) *Sediment* means soil or other surficial materials transported or deposited by the action of wind, water, ice, or gravity as a product of erosion.

[[(z)]](II) *Site* means a tract of land, lot or parcel of land or combination of tracts, lots, or parcels of land, which 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.

[(aa)]](JJ) *Stabilization* means the prevention of soil movement by any of various vegetative or structural means.

(KK) *STORMWATER MANAGEMENT ALTERNATIVE COMPLIANCE* MEANS THE MODIFICATION OF THE MINIMUM DESIGN REQUIREMENTS FOR SPECIFIC CIRCUMSTANCES SUCH THAT STRICT ADHERENCE TO THE REQUIREMENTS WOULD RESULT IN AN UNNECESSARY HARDSHIP AND NOT FULFILL THE INTENT OF THIS SUBTITLE.

[[(bb)]](LL) *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.[[:

For quantitative control. A system of best management practices that control the increased volume and rate of surface runoff caused by manmade changes to the land.

For qualitative control. A system of best management practices that reduce or eliminate pollutants that might otherwise be carried by surface runoff.]]

[[(cc)]](MM) *Stormwater management plan* means a set of drawings or other documents [[submitted]] INCLUDED AS PART OF A PROPOSAL SUBMITTED UNDER THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS as a prerequisite to obtaining a stormwater management approval and which contain all of the information and specification[s]

required by the Department of Public Works and the Department of Planning and Zoning. These drawings or documents may be a part of the roads, storm drain and sediment control documents and/or drawings, including final road construction plans and site development plans.

(NN) *STORMWATER MANAGEMENT WAIVER* MEANS THE REDUCTION OF STORMWATER MANAGEMENT REQUIREMENTS FOR A SPECIFIC DEVELOPMENT ON A CASE-BY-CASE BASIS.

[[(dd)]](OO) *Stripping* means any activity which removes the vegetative cover including tree removal, clearing, grubbing, and storage or removal of topsoil.

[[(ee) *Waiver* means the relinquishment from the OF stormwater management requirements for A specific circumstances on a case-by-case basis.

Qualitative stormwater management waiver includes water quality volume and recharge volume parameters.

Quantitative stormwater management waiver includes channel protection storage volume, overbank flood protection volume, and extreme flood volume design parameters.]]

[[(ff)]](PP) *Watershed* means the total drainage area contributing runoff to a single point.

(QQ) *WATERSHED MANAGEMENT PLAN* MEANS A PLAN DEVELOPED BY THE COUNTY FOR THE PURPOSE OF IMPLEMENTING DIFFERENT STORMWATER MANAGEMENT POLICIES FOR WAIVERS AND REDEVELOPMENT. A WATERSHED MANAGEMENT PLAN SHALL CONTAIN THE ITEMS SET FORTH IN SECTION 18.908 OF THIS SUBTITLE.

[[(gg)]](RR) *Water quality volume (WQ_v)* means the storage needed to capture and treat the runoff from 90 percent of the average annual rainfall at a development site. METHODS FOR CALCULATING THE WATER QUALITY VOLUME ARE SPECIFIED IN THE DESIGN MANUAL.

SECTION 18.902. APPLICABILITY.

(A) *DEFINITIONS*. FOR PURPOSES OF THIS SECTION ONLY, THE FOLLOWING TERMS HAVE THE MEANINGS INDICATED:

(1) *APPROVAL* SHALL MEAN A DOCUMENTED ACTION BY THE COUNTY FOLLOWING REVIEW TO DETERMINE AND ACKNOWLEDGE THE SUFFICIENCY

OF SUBMITTED MATERIALS TO MEET THE REQUIREMENTS OF A SPECIFIED STAGE IN THE DEVELOPMENT PROCESS. APPROVAL SHALL NOT MEAN AN ACKNOWLEDGEMENT BY THE COUNTY THAT SUBMITTED MATERIALS HAVE BEEN RECEIVED FOR REVIEW.

(2) *FINAL PROJECT APPROVAL* SHALL MEAN THAT THE COUNTY HAS APPROVED:

(I) THE FINAL STORMWATER MANAGEMENT PLAN;

(II) THE FINAL EROSION AND SEDIMENT CONTROL PLAN FOR THE PROJECT'S STORMWATER FACILITIES; AND

(III) IF APPLICABLE, BOND OR FINANCING, OR BOTH, HAS BEEN SECURED BASED ON THE FINAL PLANS FOR THE DEVELOPMENT.

(3) *PRELIMINARY PROJECT APPROVAL* SHALL MEAN PROJECTS FOR WHICH THE FOLLOWING PLANS THAT HAVE BEEN REVIEWED BY THE SUBDIVISION REVIEW COMMITTEE AND DETERMINED BY THE DEPARTMENT OF PLANNING AND ZONING TO BE TECHNICALLY COMPLETE:

(I) FOR PROJECTS THAT ARE SUBJECT TO THE SUBDIVISION PROCESS:

A. FOR MAJOR SUBDIVISIONS, A SKETCH OR PRELIMINARY EQUIVALENT SKETCH PLAN; OR

B. FOR MINOR SUBDIVISIONS, A FINAL PLAN; OR

(II) FOR PROJECTS THAT ARE NOT SUBJECT TO THE SUBDIVISION PROCESS, A SITE DEVELOPMENT PLAN.

A PLAN THAT HAS RECEIVED PRELIMINARY PROJECT APPROVAL SHALL INCLUDE THE FOLLOWING INFORMATION:

(I) NUMBER OF PLANNED DWELLING UNITS OR LOTS AND PROPOSED DENSITY;

(II) PROPOSED SIZE AND LOCATION OF ALL LAND USES IN THE PROJECT;

(III) A PLAN THAT IDENTIFIES:

A. THE PROPOSED DRAINAGE PATTERNS;

B. LOCATIONS OF ALL POINTS OF DISCHARGE FROM THE SITE; AND

C. THE TYPE, LOCATION, AND SIZE OF ALL STORMWATER MANAGEMENT CONTROLS BASED UPON SITE-SPECIFIC COMPUTATIONS OF STORMWATER MANAGEMENT REQUIREMENTS;.

(IV) THE PROPOSED ALIGNMENT, LOCATION, AND CONSTRUCTION TYPE AND STANDARD FOR ALL PROPOSED ROADS, ACCESS WAYS, AND AREAS OF VEHICULAR TRAVEL;

(V) THE GENERAL LOCATION, SIZE, TYPE, AND ADEQUACY OF ALL INFRASTRUCTURE PROPOSED FOR WATER AND WASTEWATER SYSTEMS; AND

(VI) ANY OTHER INFORMATION DEEMED NECESSARY BY THE COUNTY TO ADEQUATELY REVIEW THE PROPOSAL.

(B) *APPLICABILITY* THIS SUBTITLE SHALL APPLY TO ALL DEVELOPMENT PROJECTS, EXCEPT PROJECTS THAT RECEIVED PRELIMINARY PROJECT APPROVAL PRIOR TO MAY 4, 2010 ARE SUBJECT TO STORMWATER MANAGEMENT REGULATIONS IN EFFECT AT THE TIME OF APPROVAL PROVIDED THAT:

(1) FINAL PROJECT APPROVAL IS RECEIVED PRIOR TO MAY 4, 2013; AND

(2) CONSTRUCTION IS COMPLETE PRIOR TO MAY 4, 2017.

SECTION 18.902A. REQUIREMENT TO PROVIDE STORMWATER MANAGEMENT MEASURES, EXEMPTIONS.

(A) *REQUIREMENT TO PROVIDE.* A PERSON SHALL NOT 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 SUBTITLE. STORMWATER MANAGEMENT MEASURES MUST BE DESIGNED CONSISTENT WITH THE DESIGN MANUAL AND CONSTRUCTED ACCORDING TO AN APPROVED PLAN FOR NEW DEVELOPMENT OR REDEVELOPMENT.

(B) *EXEMPTIONS.* A STORMWATER MANAGEMENT PLAN IS NOT REQUIRED FOR:

(1) ADDITIONS OR MODIFICATIONS TO EXISTING SINGLE-FAMILY DETACHED RESIDENTIAL STRUCTURES THAT DO NOT DISTURB OVER 5,000 SQUARE FEET OF LAND AREA;

(2) DEVELOPMENTS THAT DISTURB LESS THAN 5,000 SQUARE FEET OF LAND AREA;

(3) LAND DEVELOPMENT ACTIVITIES WHICH ARE REGULATED UNDER SPECIFIC STATE LAWS REGARDING THE MANAGEMENT OF STORMWATER; OR

(4) AGRICULTURAL LAND MANAGEMENT ACTIVITIES.

SECTION 18.903. DESIGN CRITERIA; MINIMUM CONTROL REQUIREMENTS; ALTERNATIVES.

(A) THE MINIMUM CONTROL REQUIREMENTS ESTABLISHED IN THIS SECTION AND THE DESIGN MANUAL ARE AS FOLLOWS:

(1) THE COUNTY 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 SUBTITLE 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 THE COUNTY DETERMINES THAT ADDITIONAL STORMWATER MANAGEMENT IS NECESSARY BECAUSE HISTORICAL FLOODING PROBLEMS

EXIST AND DOWNSTREAM FLOODPLAIN DEVELOPMENT AND CONVEYANCE SYSTEM DESIGN CANNOT BE CONTROLLED.

(3) THE COUNTY MAY REQUIRE MORE THAN THE MINIMUM CONTROL REQUIREMENTS IF:

(I) HYDROLOGIC OR TOPOGRAPHIC CONDITIONS WARRANT; OR

(II) FLOODING, STREAM CHANNEL EROSION, OR WATER QUALITY PROBLEMS EXIST DOWNSTREAM FROM A PROPOSED PROJECT.

(B) STORMWATER MANAGEMENT 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.

SECTION 18.904. STORMWATER MANAGEMENT MEASURES.

(A) *REQUIRED.* THE ESD PLANNING TECHNIQUES AND TREATMENT PRACTICES AND STRUCTURAL STORMWATER MANAGEMENT MEASURES ESTABLISHED IN THIS SUBTITLE 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.

(B) *ESD PLANNING TECHNIQUES*. THE FOLLOWING PLANNING TECHNIQUES SHALL BE APPLIED IN ACCORDANCE WITH THE DESIGN MANUAL TO SATISFY THE APPLICABLE MINIMUM CONTROL REQUIREMENTS ESTABLISHED IN THIS SUBTITLE:

(1) PRESERVING AND PROTECTING NATURAL RESOURCES;

(2) CONSERVING NATURAL DRAINAGE PATTERNS;

(3) MINIMIZING IMPERVIOUS AREA;

(4) REDUCING RUNOFF VOLUME;

(5) USING ESD PRACTICES TO MAINTAIN 100 PERCENT OF THE ANNUAL PREDEVELOPMENT GROUNDWATER RECHARGE VOLUME;

(6) USING GREEN ROOFS, PERMEABLE PAVEMENT, REINFORCED TURF, AND OTHER ALTERNATIVE SURFACES;

(7) LIMITING SOIL DISTURBANCE, MASS GRADING, AND COMPACTION;

(8) CLUSTERING DEVELOPMENT; AND

(9) ANY PRACTICES APPROVED BY THE ADMINISTRATION.

(C) *ESD TREATMENT PRACTICES*. THE FOLLOWING ESD TREATMENT PRACTICES SHALL BE DESIGNED IN ACCORDANCE WITH THE DESIGN MANUAL TO SATISFY THE APPLICABLE MINIMUM CONTROL REQUIREMENTS ESTABLISHED IN THIS CODE:

(1) DISCONNECTION OF ROOFTOP RUNOFF;

(2) DISCONNECTION OF NON-ROOFTOP RUNOFF;

(3) SHEETFLOW TO CONSERVATION AREAS;

(4) RAINWATER HARVESTING;

(5) SUBMERGED GRAVEL WETLANDS;

(6) LANDSCAPE INFILTRATION;

(7) INFILTRATION BERMS;

(8) DRY WELLS;

(9) MICRO-BIORETENTION;

(10) RAIN GARDENS;

(11) SWALES;

(12) ENHANCED FILTERS; AND

(13) ANY PRACTICES APPROVED BY THE ADMINISTRATION.

(D) *STRUCTURAL STORMWATER MANAGEMENT PRACTICES*. THE FOLLOWING STRUCTURAL STORMWATER MANAGEMENT PRACTICES SHALL BE DESIGNED IN ACCORDANCE WITH THE DESIGN MANUAL TO SATISFY THE APPLICABLE MINIMUM CONTROL REQUIREMENTS ESTABLISHED IN THIS CODE:

(1) STORMWATER MANAGEMENT PONDS;

(2) STORMWATER MANAGEMENT WETLANDS;

(3) STORMWATER MANAGEMENT INFILTRATION;

(4) STORMWATER MANAGEMENT FILTERING SYSTEMS; AND

(5) STORMWATER MANAGEMENT OPEN CHANNEL SYSTEMS.

(E) *STRUCTURAL STORMWATER MANAGEMENT SELECTION*. THE FOLLOWING REQUIREMENTS SHALL APPLY WHEN SELECTING STRUCTURAL STORMWATER MANAGEMENT:

(1) 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; AND

(2) STRUCTURAL STORMWATER MANAGEMENT PRACTICES SHALL BE SELECTED TO ACCOMMODATE THE UNIQUE HYDROLOGIC OR GEOLOGIC REGIONS OF THE STATE.

(F) *REQUIREMENT TO RECORD; ALTERATIONS PROHIBITED*. A MAINTENANCE AGREEMENT OR EASEMENT SETTING FORTH THE ESD PLANNING TECHNIQUES AND TREATMENT PRACTICES AND STRUCTURAL STORMWATER MANAGEMENT MEASURES USED TO SATISFY THE MINIMUM REQUIREMENTS IN THIS SUBTITLE SHALL BE RECORDED IN THE LAND RECORDS OF HOWARD COUNTY AND REMAIN UNALTERED BY SUBSEQUENT PROPERTY OWNERS. PRIOR APPROVAL FROM THE COUNTY SHALL BE OBTAINED BEFORE ANY STORMWATER MANAGEMENT PRACTICE IS ALTERED.

(G) *ALTERNATIVES*. 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. PRACTICES USED FOR REDEVELOPMENT PROJECTS SHALL BE APPROVED BY THE COUNTY.

(H) *MODIFICATIONS*. FOR THE PURPOSES OF MODIFYING THE MINIMUM CONTROL REQUIREMENTS OR DESIGN CRITERIA, THE OWNER OR DEVELOPER SHALL SUBMIT TO THE COUNTY 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 THE COUNTY, DOWNSTREAM OF THE FIRST DOWNSTREAM TRIBUTARY WHOSE DRAINAGE AREA EQUALS OR EXCEEDS THE CONTRIBUTING AREA TO THE PROJECT OR STORMWATER MANAGEMENT FACILITY.

SECTION 18.905. STORMWATER MANAGEMENT PLANS.

(A) *SUBMISSION OF STORMWATER MANAGEMENT PLANS*. EXCEPT AS PROVIDED IN SUBSECTION (C) OF THIS SECTION, FOR ANY PROPOSED DEVELOPMENT, THE OWNER OR

DEVELOPER SHALL SUBMIT MULTI-STEP STORMWATER MANAGEMENT PLANS TO THE COUNTY FOR REVIEW AND APPROVAL AS FOLLOWS:

(1) EACH PLAN SUBMITTAL SHALL INCLUDE THE MINIMUM CONTENT SPECIFIED IN SUBSECTION (D) OF THIS SECTION; AND

(2) THE FOLLOWING PLANS SHALL BE SUBMITTED FOR:

(I) PROJECTS SUBJECT TO THE SUBDIVISION PROCESS:

A. ENVIRONMENTAL CONCEPT PLAN;

B. SKETCH PLAN (IF APPLICABLE);

C. PRELIMINARY PLAN (IF APPLICABLE);

D. PRELIMINARY EQUIVALENT SKETCH (IF APPLICABLE);

E. FINAL PLAN;

F. SITE DEVELOPMENT PLAN (IF APPLICABLE); AND

G. GRADING PLAN; AND

(II) PROJECTS SUBJECT TO THE SITE DEVELOPMENT PLAN PROCESS WITHOUT THE SUBDIVISION PROCESS:

A. ENVIRONMENTAL CONCEPT PLAN;

B. SITE DEVELOPMENT PLAN; AND

C. GRADING PLAN.

(B) *REVIEW AND APPROVAL OF STORMWATER MANAGEMENT PLANS*. THE COUNTY SHALL PERFORM A COMPREHENSIVE REVIEW OF THE STORMWATER MANAGEMENT PLANS FOR EACH STEP OF PLAN REVIEW. COORDINATED COMMENTS WILL BE PROVIDED BY THE DEPARTMENT OF PLANNING AND ZONING FOR EACH PLAN STEP THAT REFLECTS INPUT FROM ALL APPROPRIATE AGENCIES INCLUDING, BUT NOT LIMITED TO, THE SOIL CONSERVATION DISTRICT (SCD), THE DEPARTMENT OF PUBLIC WORKS, AND SPECIFIC DIVISIONS WITHIN THE DEPARTMENT OF PLANNING AND ZONING. ALL COMMENTS FROM THE COUNTY AND OTHER APPROPRIATE AGENCIES SHALL BE ADDRESSED AND APPROVAL RECEIVED AT EACH STEP OF THE PROJECT DESIGN BEFORE SUBSEQUENT SUBMISSIONS.

(C) *EXCEPTIONS*. THE FOLLOWING PLAN TYPES ARE EXEMPT FROM THE SUBMISSION OF THE ENVIRONMENTAL CONCEPT PLAN:

(1) BUILDING PERMITS WITH STORMWATER MANAGEMENT PLANS PREVIOUSLY REVIEWED AND APPROVED THROUGH ANOTHER REVIEW PROCESS (I.E., SUBDIVISION OR SITE DEVELOPMENT PLANS); AND

(2) REDLINE REVISIONS THAT DO NOT REQUIRE CHANGES TO STORMWATER MANAGEMENT

(D) *CONTENTS AND SUBMISSION OF STORMWATER MANAGEMENT PLANS*. STORMWATER MANAGEMENT PLANS SHALL CONTAIN THE FOLLOWING:

(1) FOR SITES SUBJECT TO THE SUBDIVISION PROCESS OR SITE DEVELOPMENT PLAN PROCESS, THE OWNER OR DEVELOPER SHALL SUBMIT AN ENVIRONMENTAL CONCEPT PLAN THAT PROVIDES SUFFICIENT INFORMATION FOR AN INITIAL ASSESSMENT OF THE PROPOSED PROJECT AND WHETHER STORMWATER MANAGEMENT CAN BE PROVIDED ACCORDING TO THIS SUBTITLE. PLANS SUBMITTED FOR CONCEPT APPROVAL SHALL INCLUDE, BUT ARE NOT LIMITED TO:

(I) A MAP AT A SCALE SPECIFIED BY THE DEPARTMENT OF PLANNING AND ZONING SHOWING SITE LOCATION, EXISTING NATURAL FEATURES, WATER AND OTHER SENSITIVE RESOURCES, TOPOGRAPHY, AND NATURAL DRAINAGE PATTERNS;

(II) THE ANTICIPATED LOCATION OF ALL PROPOSED IMPERVIOUS AREAS, BUILDINGS, ROADWAYS, PARKING, SIDEWALKS, UTILITIES, AND OTHER SITE IMPROVEMENTS;

(III) THE LOCATION OF THE PROPOSED LIMIT OF DISTURBANCE, ERODIBLE SOILS, STEEP SLOPES, AND AREAS TO BE PROTECTED DURING CONSTRUCTION;

(IV) 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;

(V) A NARRATIVE THAT SUPPORTS THE CONCEPT DESIGN AND DESCRIBES HOW ESD WILL BE IMPLEMENTED TO THE MEP; AND

(VI) ANY OTHER INFORMATION REQUIRED BY THE COUNTY.

(2) FOLLOWING ENVIRONMENTAL CONCEPT PLAN APPROVAL BY THE COUNTY, THE OWNER OR DEVELOPER FOR PROJECTS SUBJECT TO THE SUBDIVISION PLAN PROCESS SHALL SUBMIT THE FOLLOWING:

(I) SKETCH, PRELIMINARY, OR PRELIMINARY EQUIVALENT PLANS THAT REFLECTS COMMENTS RECEIVED DURING ANY PREVIOUS REVIEW PHASE INCLUDING REVIEW OF THE ENVIRONMENTAL CONCEPT PLAN. PLANS SUBMITTED FOR APPROVAL SHALL BE OF SUFFICIENT DETAIL TO ALLOW THE PLAN TO BE REVIEWED AND SHALL INCLUDE, WITHOUT LIMITATION, THE FOLLOWING ITEMS:

A. ALL INFORMATION PROVIDED DURING THE ENVIRONMENTAL CONCEPT PLAN REVIEW PHASE;

B. SUBDIVISION 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;

C. 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;

D. A NARRATIVE THAT SUPPORTS THE SUBDIVISION DESIGN, DESCRIBES HOW ESD WILL BE USED TO MEET THE MINIMUM CONTROL REQUIREMENTS, AND JUSTIFIES ANY PROPOSED STRUCTURAL STORMWATER MANAGEMENT MEASURE; AND

E. ANY OTHER INFORMATION REQUIRED BY THE COUNTY.

(II) EXCEPT FOR A MINOR SUBDIVISION WHICH IS SUBJECT TO EITHER THE SITE DEVELOPMENT PLAN PROCESS OR A GRADING PLAN, IF FINAL ROAD CONSTRUCTION PLANS ARE REQUIRED, FINAL ROAD CONSTRUCTION PLANS SHALL INCLUDE FINAL EROSION AND

SEDIMENT CONTROL AND STORMWATER MANAGEMENT PLANS THAT REFLECT THE COMMENTS RECEIVED DURING ANY PREVIOUS REVIEW PHASES, INCLUDING REVIEW OF THE ENVIRONMENTAL CONCEPT PLAN. PLANS SUBMITTED FOR FINAL APPROVAL SHALL BE OF SUFFICIENT DETAIL TO ALLOW ALL APPROVALS AND PERMITS TO BE ISSUED ACCORDING TO THE FOLLOWING:

A. FINAL EROSION AND SEDIMENT CONTROL PLANS SHALL BE SUBMITTED ACCORDING TO COMAR 26.17.01.05; AND

B. FINAL STORMWATER MANAGEMENT PLANS SHALL BE SUBMITTED FOR APPROVAL IN THE FORM OF CONSTRUCTION DRAWINGS AND SHALL BE ACCOMPANIED BY A REPORT THAT INCLUDES SUFFICIENT INFORMATION TO EVALUATE THE EFFECTIVENESS OF THE PROPOSED RUNOFF CONTROL DESIGN.

INSIDE THE PLANNED SERVICE AREA FOR WATER AND SEWER SERVICE, WITH APPROVAL OF THE FINAL ROAD CONSTRUCTION PLANS THE OWNER OR DEVELOPER SHALL SUBMIT THE FINAL SITE DEVELOPMENT PLANS FOR APPROVAL BY THE COUNTY.

(3) FOLLOWING ENVIRONMENTAL CONCEPT PLAN APPROVAL BY THE COUNTY, THE OWNER OR DEVELOPER FOR PROJECTS SUBJECT TO THE SITE DEVELOPMENT PLAN PROCESS SHALL SUBMIT A SITE DEVELOPMENT PLAN THAT REFLECTS COMMENTS RECEIVED DURING ANY PREVIOUS REVIEW PHASE INCLUDING REVIEW OF THE ENVIRONMENTAL CONCEPT PLAN. PLANS SUBMITTED FOR APPROVAL SHALL BE OF SUFFICIENT DETAIL TO ALLOW SITE DEVELOPMENT TO BE REVIEWED AND SHALL INCLUDE, WITHOUT LIMITATION, THE FOLLOWING ITEMS:

(I) ALL INFORMATION PROVIDED DURING THE ENVIRONMENTAL CONCEPT PLAN REVIEW PHASE;

(II) 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;

(III) 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;

(IV) A NARRATIVE THAT SUPPORTS THE SITE DESIGN, DESCRIBES HOW ESD WILL BE USED TO MEET THE MINIMUM CONTROL REQUIREMENTS, AND JUSTIFIES ANY PROPOSED STRUCTURAL STORMWATER MANAGEMENT MEASURE; AND

(V) ANY OTHER INFORMATION REQUIRED BY THE APPROVING AGENCY.

(4) A GRADING PLAN IS REQUIRED FOLLOWING THE APPROVAL OF THE FINAL PLAN OR SITE DEVELOPMENT PLAN. THE GRADING PLAN SHALL INCLUDE FINAL EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT PLANS THAT REFLECT THE COMMENTS RECEIVED DURING ANY PREVIOUS REVIEW PHASE INCLUDING REVIEW OF THE ENVIRONMENTAL CONCEPT PLAN. PLANS SUBMITTED FOR FINAL APPROVAL SHALL BE OF SUFFICIENT DETAIL TO ALLOW ALL APPROVALS AND PERMITS TO BE ISSUED ACCORDING TO THE FOLLOWING:

(I) FINAL EROSION AND SEDIMENT CONTROL PLANS SHALL BE SUBMITTED ACCORDING TO COMAR 26.17.01.05; AND

(II) FINAL STORMWATER MANAGEMENT PLANS SHALL BE SUBMITTED FOR APPROVAL IN THE FORM OF CONSTRUCTION DRAWINGS AND SHALL BE ACCOMPANIED BY A REPORT THAT INCLUDES SUFFICIENT INFORMATION TO EVALUATE THE EFFECTIVENESS OF THE PROPOSED RUNOFF CONTROL DESIGN.

(5) REPORTS SUBMITTED FOR FINAL STORMWATER MANAGEMENT PLAN APPROVAL SHALL INCLUDE, BUT ARE NOT LIMITED TO:

(I) GEOTECHNICAL INVESTIGATIONS INCLUDING SOIL MAPS, BORINGS, SITE SPECIFIC RECOMMENDATIONS, AND ANY ADDITIONAL INFORMATION NECESSARY FOR THE FINAL STORMWATER MANAGEMENT DESIGN;

(II) DRAINAGE AREA MAPS DEPICTING POST DEVELOPMENT RUNOFF FLOW PATH AND LAND USE;

(III) HYDROLOGIC COMPUTATIONS OF THE APPLICABLE ESD AND UNIFIED SIZING CRITERIA ACCORDING TO THE DESIGN MANUAL FOR ALL POINTS OF DISCHARGE FROM THE SITE;

(IV) HYDRAULIC AND STRUCTURAL COMPUTATIONS FOR ALL ESD PRACTICES AND STRUCTURAL STORMWATER MANAGEMENT MEASURES TO BE USED;

(V) A NARRATIVE THAT SUPPORTS THE FINAL STORMWATER MANAGEMENT DESIGN; AND

(VI) ANY OTHER INFORMATION REQUIRED BY THE COUNTY.

(6) CONSTRUCTION DRAWINGS SUBMITTED FOR FINAL STORMWATER MANAGEMENT PLAN APPROVAL SHALL INCLUDE, BUT ARE NOT LIMITED TO:

(I) A VICINITY MAP;

(II) EXISTING AND PROPOSED TOPOGRAPHY AND PROPOSED DRAINAGE AREAS, INCLUDING AREAS NECESSARY TO DETERMINE DOWNSTREAM ANALYSIS FOR PROPOSED STORMWATER MANAGEMENT FACILITIES;

(III) ANY PROPOSED IMPROVEMENTS INCLUDING LOCATION OF BUILDINGS OR OTHER STRUCTURES, IMPERVIOUS SURFACES, STORM DRAINAGE FACILITIES, AND ALL GRADING;

(IV) THE LOCATION OF EXISTING AND PROPOSED STRUCTURES AND UTILITIES;

(V) ANY EASEMENTS AND RIGHTS-OF-WAY;

(VI) THE DELINEATION, IF APPLICABLE, OF THE 100-YEAR FLOODPLAIN AND ANY ON-SITE WETLANDS;

(VII) STRUCTURAL AND CONSTRUCTION DETAILS INCLUDING REPRESENTATIVE CROSS SECTIONS FOR ALL COMPONENTS OF THE

PROPOSED DRAINAGE SYSTEM OR SYSTEMS, AND STORMWATER MANAGEMENT FACILITIES;

(VIII) ALL NECESSARY CONSTRUCTION SPECIFICATIONS;

(IX) A SEQUENCE OF CONSTRUCTION;

(X) DATA FOR TOTAL SITE AREA, DISTURBED AREA, NEW IMPERVIOUS AREA, AND TOTAL IMPERVIOUS AREA;

(XI) A TABLE SHOWING THE ESD AND UNIFIED SIZING CRITERIA VOLUMES REQUIRED IN THE DESIGN MANUAL;

(XII) A TABLE OF MATERIALS TO BE USED FOR STORMWATER MANAGEMENT FACILITY PLANTING;

(XIII) ALL SOIL BORING LOGS AND LOCATIONS;

(XIV) AN INSPECTION AND MAINTENANCE SCHEDULE;

(XV) CERTIFICATION BY THE OWNER/DEVELOPER THAT ALL STORMWATER MANAGEMENT CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN;

(XVI) AN AS-BUILT CERTIFICATION SIGNATURE BLOCK TO BE EXECUTED AFTER PROJECT COMPLETION; AND

(XVII) ANY OTHER INFORMATION REQUIRED BY THE COUNTY.

(7) IF A STORMWATER MANAGEMENT PLAN INVOLVES DIRECTION OF SOME OR ALL RUNOFF OFF OF THE SITE, THE DEVELOPER SHALL OBTAIN FROM ADJACENT PROPERTY OWNERS ANY EASEMENTS OR OTHER NECESSARY PROPERTY INTERESTS CONCERNING FLOWAGE OF WATER.

(E) *PREPARATION OF STORMWATER MANAGEMENT PLANS.* THE DESIGN OF STORMWATER MANAGEMENT PLANS SHALL BE PREPARED BY ANY INDIVIDUAL WHOSE QUALIFICATIONS ARE ACCEPTABLE TO THE COUNTY AS FOLLOWS:

(1) THE COUNTY SHALL 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; AND

(2) IF A STORMWATER BMP REQUIRES EITHER A DAM SAFETY PERMIT FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT OR SMALL POND

APPROVAL FROM THE HOWARD SOIL CONSERVATION DISTRICT, THE COUNTY SHALL REQUIRE THAT THE DESIGN BE PREPARED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE.

SECTION 18.906. GRADING OR BUILDING PERMITS.

(A) *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 THE COUNTY AS MEETING ALL THE REQUIREMENTS OF THE DESIGN MANUAL AND THIS CODE. WHERE APPROPRIATE, A BUILDING PERMIT MAY NOT BE ISSUED WITHOUT:

(1) RECORDED EASEMENTS FOR THE STORMWATER MANAGEMENT FACILITY AND EASEMENTS TO PROVIDE ADEQUATE ACCESS FOR INSPECTION AND MAINTENANCE FROM A PUBLIC RIGHT-OF-WAY;

(2) A RECORDED STORMWATER MANAGEMENT MAINTENANCE AGREEMENT AS DESCRIBED IN THIS SUBTITLE; AND

(3) A PERFORMANCE BOND AS DESCRIBED IN THIS SUBTITLE.

(B) *PERMIT SUSPENSION AND REVOCATION*. ANY GRADING OR BUILDING PERMIT ISSUED BY THE COUNTY MAY BE SUSPENDED OR REVOKED AFTER WRITTEN NOTICE IS GIVEN TO THE PERMITTEE FOR ANY OF THE FOLLOWING REASONS:

(I) ANY VIOLATION OF THE CONDITIONS OF THE STORMWATER MANAGEMENT PLAN APPROVAL;

(II) CHANGES IN SITE RUNOFF CHARACTERISTICS UPON WHICH AN APPROVAL OR WAIVER WAS GRANTED;

(III) CONSTRUCTION IS NOT IN ACCORDANCE WITH THE APPROVED PLAN;

(IV) NONCOMPLIANCE WITH ANY CORRECTION NOTICE OR STOP WORK ORDER ISSUED FOR THE CONSTRUCTION OF ANY STORMWATER MANAGEMENT PRACTICE; AND

(V) IN THE OPINION OF THE COUNTY, AN IMMEDIATE DANGER EXISTS IN A DOWNSTREAM AREA.

(C) *PERMIT CONDITIONS*. IN GRANTING AN APPROVAL FOR ANY PHASE OF SITE DEVELOPMENT, THE COUNTY MAY IMPOSE SUCH CONDITIONS THAT MAY BE DEEMED

NECESSARY TO ENSURE COMPLIANCE WITH THE PROVISIONS OF THIS SUBTITLE AND THE PRESERVATION OF PUBLIC HEALTH, SAFETY, AND WELFARE.

SECTION 18.907. STORMWATER MANAGEMENT ALTERNATIVE COMPLIANCE.

(A) *AUTHORITY TO GRANT*. THE COUNTY MAY GRANT A WRITTEN ALTERNATIVE COMPLIANCE FROM ANY DESIGN REQUIREMENT OF SECTION 18.903 OF THIS SUBTITLE OR THE DESIGN MANUAL, 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 SUBTITLE.

(B) *REQUEST*. A WRITTEN REQUEST FOR ALTERNATIVE COMPLIANCE SHALL BE PROVIDED TO THE COUNTY AND SHALL STATE THE:

(1) SPECIFIC ALTERNATIVES SOUGHT; AND

(2) REASONS FOR THE REQUEST.

(C) *JUSTIFICATION*. THE COUNTY SHALL NOT GRANT AN ALTERNATIVE COMPLIANCE UNLESS AND UNTIL SUFFICIENT JUSTIFICATION IS PROVIDED BY THE PERSON DEVELOPING OR REDEVELOPING LAND THAT THE IMPLEMENTATION OF ESD TO THE MEP HAS BEEN INVESTIGATED THOROUGHLY.

SECTION 18.908. STORMWATER MANAGEMENT WAIVERS; WATERSHED MANAGEMENT PLANS.

(A) *STORMWATER MANAGEMENT WAIVER REQUESTS*. A REQUEST FOR A WAIVER UNDER THIS SECTION SHALL:

(1) BE IN WRITING; AND

(2) CONTAIN SUFFICIENT DESCRIPTIONS, DRAWINGS, AND ANY OTHER INFORMATION THAT IS NECESSARY TO DEMONSTRATE THAT ESD HAS BEEN IMPLEMENTED TO THE MEP.

(B) *CRITERIA TO GRANT WAIVERS*. THE APPROVING AGENCY MAY GRANT A WAIVER WHEN IT HAS BEEN DEMONSTRATED THAT ESD HAS BEEN IMPLEMENTED TO THE MEP AND ANY GRANT SHALL:

(1) BE ON A CASE-BY-CASE BASIS;

(2) CONSIDER THE CUMULATIVE EFFECTS WAIVERS; AND

(3) REASONABLY ENSURE THE DEVELOPMENT WILL NOT ADVERSELY IMPACT STREAM QUALITY.

(C) *QUANTITATIVE CONTROL WAIVERS - REQUIREMENT TO HAVE WATERSHED MANAGEMENT PLAN*. EXCEPT AS PROVIDED IN SUBSECTION (E) OF THIS SECTION, THE COUNTY SHALL GRANT STORMWATER MANAGEMENT QUANTITATIVE CONTROL WAIVERS ONLY TO THOSE PROJECTS WITHIN AREAS WHERE WATERSHED MANAGEMENT PLANS HAVE BEEN DEVELOPED CONSISTENT WITH THIS SECTION.

(D) *WATERSHED MANAGEMENT PLAN*. A WATERSHED MANAGEMENT PLAN 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.

(E) *QUANTITATIVE CONTROL WAIVERS WITHOUT WATERSHED MANAGEMENT PLANS*. IF A WATERSHED MANAGEMENT PLAN CONSISTENT WITH THIS SECTION HAS NOT BEEN DEVELOPED, A STORMWATER MANAGEMENT QUANTITATIVE CONTROL WAIVER MAY BE GRANTED PROVIDED THAT IT HAS BEEN DEMONSTRATED THAT ESD HAS BEEN IMPLEMENTED TO THE MEP WHEN THE APPROVING AGENCY DETERMINES THAT CIRCUMSTANCES EXIST THAT PREVENT THE REASONABLE IMPLEMENTATION OF QUANTITY CONTROL PRACTICES.

(F) *QUANTITATIVE CONTROL WAIVER - ADDITIONS, EXTENSIONS, OR MODIFICATIONS.* IF THERE ARE SUBSEQUENT ADDITIONS, EXTENSIONS, OR MODIFICATIONS TO A DEVELOPMENT THAT HAS RECEIVED A QUANTITATIVE CONTROL WAIVER, A SEPARATE WRITTEN WAIVER REQUEST IS REQUIRED THAT SHALL COMPLY WITH SUBSECTION (B) OF THIS SECTION.

(G) *QUALITATIVE CONTROL WAIVER.* A STORMWATER MANAGEMENT QUALITATIVE CONTROL WAIVER APPLIES 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 APPROVING AGENCY DETERMINES THAT THE REQUIREMENTS OF THIS SUBTITLE ARE SATISFIED; OR

(3) SITES WHERE THE APPROVING AGENCY DETERMINES THAT CIRCUMSTANCES EXIST THAT PREVENT THE REASONABLE IMPLEMENTATION OF ESD TO THE MEP.

(H) *NEW DEVELOPMENT IN PHASED PROJECTS WITH LESS THAN 40% EXISTING IMPERVIOUSNESS.* FOR NEW DEVELOPMENT PROJECTS WITH LESS THAN 40% EXISTING IMPERVIOUSNESS, THE COUNTY MAY GRANT A WAIVER OF THE REQUIREMENTS OF THIS SUBTITLE FOR PHASED PROJECTS THAT HAVE ALREADY CONSTRUCTED STORMWATER MANAGEMENT FACILITIES THAT ARE DESIGNED TO MEET 2000 REGULATORY REQUIREMENTS. REASONABLE EFFORTS TO INCORPORATE ESD SHALL BE DEMONSTRATED.

SECTION 18.909. FEE IN LIEU OF IMPLEMENTING BEST MANAGEMENT PRACTICES.

(A) IF THE DEPARTMENT OF PUBLIC WORKS OR THE DEPARTMENT OF PLANNING AND ZONING DETERMINES THAT IMPLEMENTATION OF ESD TO THE MEP OR STRUCTURAL PRACTICES REQUIRED TO CONTROL THE QUANTITY OF STORMWATER OR RUNOFF IS NOT FEASIBLE OR WILL BE INEFFECTIVE, THEN THE DEPARTMENT OF PUBLIC WORKS OR THE DEPARTMENT OF PLANNING AND ZONING MAY ALLOW THE PERSON OBLIGATED UNDER THIS SUBTITLE TO PAY A FEE TO THE COUNTY INSTEAD OF IMPLEMENTING THE BEST MANAGEMENT PRACTICE.

(B) THE AMOUNT OF THE FEE IN LIEU OF IMPLEMENTING BEST MANAGEMENT PRACTICES SHALL BE CALCULATED BY METHODS ESTABLISHED BY THE COUNTY.

(C) THE COUNTY EXECUTIVE SHALL RECOMMEND AND THE COUNTY COUNCIL SHALL SET BY RESOLUTION THE AMOUNT PER ACRE-FOOT OF STORAGE VOLUME USED TO CALCULATE THE FEE. THIS STORAGE VOLUME SHALL BE DETERMINED USING ASSUMED ESD PRACTICES.

(D) AMOUNTS COLLECTED FROM THIS FEE SHALL BE USED IN THE SAME MAJOR DRAINAGE BASIN IN WHICH THE PROPERTY IS LOCATED TO PAY FOR CONSTRUCTING NEW BEST MANAGEMENT PRACTICES, RETROFITTING EXISTING BEST MANAGEMENT PRACTICES, CONDUCTING WATERSHED STUDIES, RESTORING, OR STABILIZING STREAMS, OR TO REIMBURSE DEVELOPERS WHO PROVIDE BEST MANAGEMENT PRACTICES LARGER THAN REQUIRED BY THEIR OWN DEVELOPMENT.

SECTION 18.910 . REDEVELOPMENT.

(A) STORMWATER MANAGEMENT PLANS FOR REDEVELOPMENT SHALL BE CONSISTENT WITH THE DESIGN MANUAL.

(B) ALL REDEVELOPMENT PROJECTS SHALL REDUCE EXISTING IMPERVIOUS AREA WITHIN THE LIMIT OF DISTURBANCE BY AT LEAST 50 PERCENT. WHERE SITE CONDITIONS PREVENT THE REDUCTION OF IMPERVIOUS AREA, THEN ESD PRACTICES SHALL BE IMPLEMENTED TO PROVIDE QUALITATIVE CONTROL FOR AT LEAST 50 PERCENT OF THE SITE'S IMPERVIOUS AREA. WHEN A COMBINATION OF IMPERVIOUS AREA REDUCTION AND STORMWATER MANAGEMENT PRACTICE IMPLEMENTATION IS USED, THE COMBINED REDUCTION SHALL EQUAL OR EXCEED 50 PERCENT OF THE EXISTING IMPERVIOUS AREA WITHIN THE LIMIT OF DISTURBANCE.

(C) IF THE COUNTY DETERMINES THAT WATER QUALITY TREATMENT REQUIREMENTS OF THIS SECTION FOR REDEVELOPMENT PROJECTS CANNOT BE MET, THE COUNTY MAY APPROVE OTHER OPTIONS INCLUDING, WITHOUT LIMITATION:

(1) ON-SITE STRUCTURAL BMPS;

(2) OFF-SITE BMP IMPLEMENTATION FOR A DRAINAGE AREA COMPARABLE IN SIZE AND PERCENT IMPERVIOUSNESS TO THAT OF THE PROJECT;

(3) WATERSHED OR STREAM RESTORATION;

(4) RETROFITTING;

(5) POLLUTION TRADING WITH ANOTHER ENTITY;

(6) WATERSHED MANAGEMENT PLANS;

(7) PAYMENT OF A FEE-IN-LIEU;

(8) A PARTIAL WAIVER OF THE TREATMENT REQUIREMENT TO THE EXTENT THAT ESD IS NOT PRACTICABLE; OR

(9) OTHER PRACTICES APPROVED BY THE COUNTY.

SECTION 18.911. PERFORMANCE BOND.

(A) *REQUIREMENT TO PROVIDE*. THE DEVELOPER SHALL PROVIDE A SURETY OR CASH BOND, IRREVOCABLE LETTER OF CREDIT, OR OTHER MEANS OF SECURITY ACCEPTABLE TO THE COUNTY PRIOR TO THE ISSUANCE OF ANY BUILDING OR GRADING PERMIT FOR THE CONSTRUCTION OF A DEVELOPMENT REQUIRING STORMWATER MANAGEMENT.

(B) *AMOUNT*. THE AMOUNT OF THE SECURITY SHALL NOT BE LESS THAN THE ESTIMATED CONSTRUCTION COST OF ALL STORMWATER MANAGEMENT FACILITIES.

(C) *REQUIRED PROVISIONS*. 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 SUBTITLE, AND OTHER APPLICABLE LAWS AND REGULATIONS, AND ANY TIME LIMITATIONS.

(D) *RELEASE*. THE BOND SHALL NOT BE FULLY RELEASED WITHOUT A FINAL INSPECTION OF THE COMPLETED WORK BY THE COUNTY, SUBMISSION OF "AS-BUILT" PLANS, AND CERTIFICATION OF COMPLETION BY THE COUNTY THAT ALL STORMWATER MANAGEMENT FACILITIES COMPLY WITH THE APPROVED PLAN AND THE PROVISIONS OF THIS CODE. AT THE COUNTY'S DISCRETION, A PROCEDURE MAY BE USED TO RELEASE PARTS OF THE BOND HELD BY THE COUNTY AFTER VARIOUS STAGES OF CONSTRUCTION HAVE BEEN COMPLETED AND ACCEPTED BY THE COUNTY. THE PROCEDURES USED FOR PARTIALLY RELEASING PERFORMANCE BONDS MUST BE SPECIFIED BY THE COUNTY IN WRITING PRIOR TO STORMWATER MANAGEMENT PLAN APPROVAL.

Section 18.9[[04]]12 Inspection.

(a) *Inspection During Construction.* [[The Department of Public Works shall inspect best management practices during construction, pursuant to the schedule set forth in the design manual and the regulations set forth in the Code of Maryland Regulations.]] THE

COUNTY SHALL MAKE REGULAR INSPECTIONS AT VARIOUS STAGES OF CONSTRUCTION AS PROVIDED IN CHAPTER 5, STORMWATER MANAGEMENT, OF VOLUME I (STORM DRAINAGE) OF THE HOWARD COUNTY DESIGN MANUAL. INSPECTIONS SHALL BE DOCUMENTED IN WRITING BY THE COUNTY.

(b) *Periodic Inspection.* The Department of Public Works shall ensure that preventative maintenance is performed by inspecting all ESD AND best management practices IN ACCORDANCE WITH THE MAINTENANCE AGREEMENT. [[during the first year of operation and at least once every three years thereafter. The Department of Public Works shall notify in writing any property owner of any deficiencies that are found during the inspections pursuant to the criteria set forth in the design manual.]]

(c) *Inspection Access.* The property owner OR DEVELOPER shall construct and maintain all best management practices in a manner such as not to hinder, impede, or restrict the Department of Public Works from making necessary inspections, visual observations, measurements, or from performing tests.

(d) *Enforcement.* When a deficiency is discovered during an inspection, construction, or periodic maintenance inspection, the County may:

(1) Issue a notice of violation specifying the deficiency, the corrective action needed, and the time by which the corrective action must be completed;

(2) Issue a stop work order for all site work;

(3) Withhold bonds or securities;

(4) Impose civil or criminal penalties pursuant to section [[18.907]] 18.916 of this subtitle; or

(5) Take any of the actions set forth in this section at any time.

SECTION 18.913. HOWARD COUNTY DESIGN MANUAL.

(A) THE HOWARD COUNTY DESIGN MANUAL VOLUME I (STORM DRAINAGE) SHALL INCLUDE THE MINIMAL CONTROL REQUIREMENTS AND DESIGN CRITERIA FOR STORMWATER MANAGEMENT; PROCEDURES FOR THE APPROVAL OF PLANS; AND CONSTRUCTION INSPECTION REQUIREMENTS.

(B) THE COUNTY EXECUTIVE SHALL SUBMIT THE HOWARD COUNTY DESIGN MANUAL TO THE COUNTY COUNCIL FOR THE COUNCIL'S APPROVAL BY RESOLUTION. AMENDMENTS TO THE MANUAL SHALL BE PREPARED AND APPROVED IN THE SAME MANNER.

Section 18.9[[05]]14. Maintenance.

(a) *Responsibility for Maintenance.* The owners of property containing [[private]] PRIVATE, PUBLIC, OR BOTH PUBLIC AND PRIVATE stormwater management facilities shall be responsible for maintenance of those facilities. In cases where there is joint maintenance provided by the County and the property owner or home owners association, the County shall be responsible for structural maintenance only as specified on the plans and in the developer agreement for the specific facilities.

(b) *Enforcement of Maintenance Requirement.*

(1) When the County determines that deficiencies exist in a private stormwater management system, the County shall notify the property owner in writing of the deficiencies, describe the required corrective action, and the time period to have the deficiencies corrected.

(2) If the property owner fails to correct the deficiencies within the specified time frame, the County may apply to the appropriate court for an order allowing the County to enter the property and to make, at the property owner's expense, the necessary repairs or corrections to the system.

(3) Following entry of the order and completion of corrective action, the County shall send to the property owner a bill for the costs to correct the deficiencies. If the bill is not paid within 30 days, the County may file with the court a verified statement of costs, for the purpose of entering a civil judgment in the County's favor against the property owner.

(c) *Maintenance Agreement.* Whenever a stormwater management plan is required for property pursuant to this subtitle, no grading or building permit shall be issued until the owner of the private stormwater management system executes a maintenance agreement to be recorded in the land records of Howard County and binding upon all subsequent owners of the property, providing that:

(1) The property owner shall maintain all stormwater management systems in accordance with the operation and maintenance schedule.

(2) The property owner shall permit the County to inspect the stormwater management systems at any time.

(3) The property owner shall correct any deficiencies in the system.

(4) If the property owner fails to correct deficiencies within 30 days of notification or fails to provide proof of intent to make corrections, the property owner will permit the Department of Public Works upon the property to correct the deficiencies and, within 30 days of the billing, will pay the costs of correction and any administrative costs.

SECTION 18.917. SEVERABILITY.

IF ANY PORTION OF THIS CODE IS HELD INVALID OR UNCONSTITUTIONAL BY A COURT OF COMPETENT JURISDICTION, SUCH PORTION SHALL NOT AFFECT THE VALIDITY OF THE REMAINING PORTIONS OF THIS SUBTITLE. IT IS THE INTENT OF THE COUNTY THAT THIS SUBTITLE SHALL STAND, EVEN IF A SECTION, SUBSECTION, SENTENCE, CLAUSE, PHRASE, OR PORTION MAY BE FOUND INVALID.

Section 2. And Be It Further Enacted *by the County Council of Howard County, Maryland, that this Act shall become effective 61 days after its enactment.*