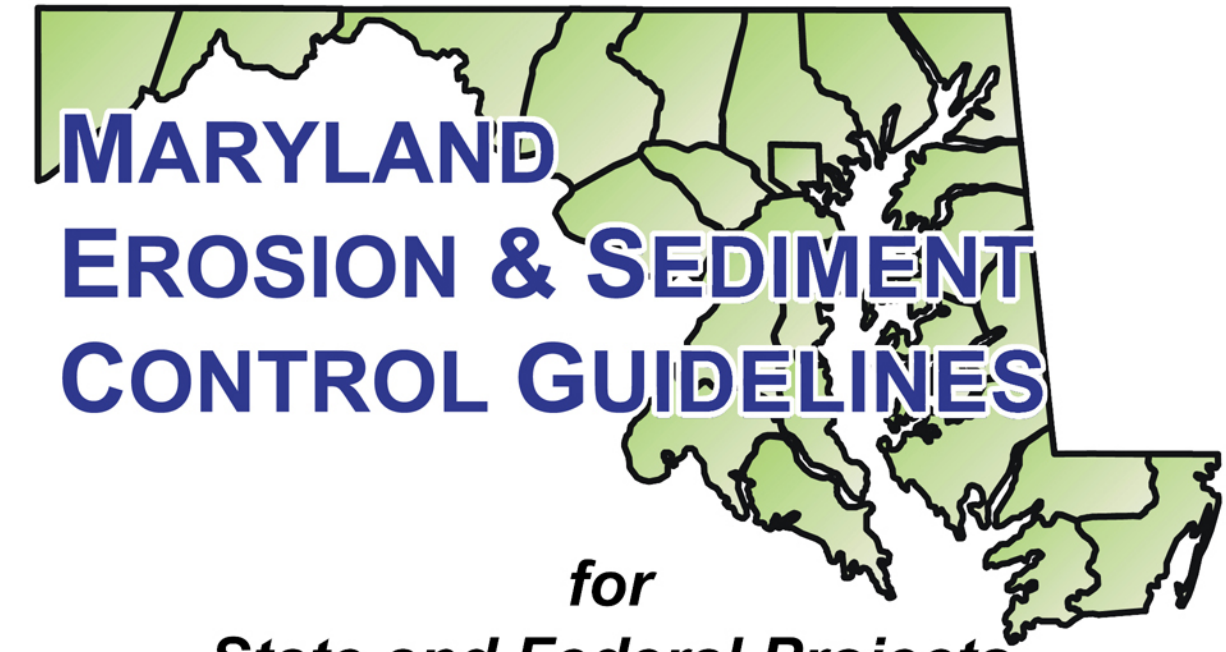

# MARYLAND EROSION & SEDIMENT CONTROL GUIDELINES

*for*

*State and Federal Projects*

**Published January 1990**
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**MARYLAND DEPARTMENT OF THE ENVIRONMENT**
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Robert L. Ehrlich, Jr., Governor
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INTRODUCTION

## Planning

Planning for site development begins with gathering, mapping, and analyzing information about the physical characteristics of the site. Designers are strongly encouraged to visit the proposed development site so that its topographic, vegetative, drainage, and soil characteristics are clearly understood.

The topography and plan of the site must be mapped at suitable contour interval and scale to allow the identification of drainage patterns, slopes, and sensitive environmental features. Mapping the flow of water onto, through, and off the site enables the designer to delineate drainage areas and patterns. Several interim drainage plans and control strategies may be necessary to show changing drainage area boundaries and patterns as the site is graded. Investigating the site soil characteristics by doing geotechnical testing and referring to local soil surveys enables the designer to identify areas suitable for infiltration practices and highly erodible soil areas, which should be left undisturbed, if possible. Areas where vegetation is to be preserved, such as long or steep slopes, highly erodible soils, and buffer strips along water bodies should be mapped and designated to remain undisturbed. Downstream wetlands, lakes, streams, streets, or other areas particularly sensitive to damage from erosion and sedimentation should also be investigated, mapped, and incorporated into the design to afford these areas additional protection. The design should never allow sediment to flow through a sensitive area.

After the site's topographic, drainage, soils, and vegetative characteristics are mapped, a site development plan that minimizes environmental hazards can be developed. Clearly, the most effective way to minimize the likelihood of sediment pollution is to minimize the opportunity for erosion to occur. The most effective way to reduce the amount of erosion that can occur is to reduce both the amount of grading that is required and the length of time the graded area is not stabilized. To reduce grading, plan to utilize the existing terrain by locating buildings and roads so that existing contours are preserved and followed as much as possible. Preserve natural vegetation wherever it is feasible. By reducing the need for grading in this fashion, the amount of erodible area and the corresponding need for sediment control measures is also reduced. Planning the site development so that grading is minimized facilitates the development of an erosion and sediment control plan that is appropriate and cost effective for the site. Proper sequencing of grading operations will minimize site exposure. Sequentially grading and then stabilizing portions of the site, rather than the entire site at one time, will minimize the length of time that the land is in a grading operation. This allows graded areas to be stabilized as soon as possible.

The basic approach to sediment control design should be to think through and plan your grading operation to minimize disturbed area, minimize length of time disturbed areas are exposed, and design sediment control measures that will be the most effective in

preventing erosion from occurring and containing sediment on site. A cooperative team effort between the designer and the reviewer will make these goals achievable.

## Erosion and Sediment Control Plan

Careful phasing and sequencing of grading, stabilization, and construction should be planned to minimize soil exposure. This is the best way to ensure cost effective erosion and sediment control and environmental protection. When planning the clearing and grading schedule, recognize that erosion and sediment control measures must be located so that they are in place and functional when grading operations begin, and that any area not being actively graded must be temporarily or permanently stabilized no more than fourteen days after grading operations cease. Adequate erosion and sediment control devices must be maintained until contributing areas are permanently stabilized and a vegetative cover is established. Therefore, do not plan on clearing and grading more area than can be protected before grading begins and stabilized when grading stops. Retain existing vegetation for as long as possible. Locate stockpiles so that the material will only have to be moved once for final utilization. If possible, plan to re-spread stripped topsoil on previously graded areas in preparation for final stabilization.

When choosing erosion and sediment control measures, recognize where erosion is likely to occur, and take steps to prevent it by utilizing the most appropriate practice. Long or steep slopes are particularly susceptible to erosion. Provide reverse benches or pipe slope drains to minimize erosion from slopes and stabilize the slopes as soon as possible (no longer than seven days after grading stops). Use earth dikes or other diversions at the top of slopes to divert runoff to appropriate outlets. Existing drainage ways and outlets are also subject to erosion due to increased or concentrated run off and appropriate outfall protection must be designed. Provide appropriate stabilization for on and off site drainage ways and outlets to minimize erosion in these areas. Use stone check dams in ditches to reduce runoff velocities to non-erosive rates. Plan your sediment control design with your ultimate stormwater management strategy in mind. Use future stormwater management ponds as sediment basins during construction wherever possible. Again, plan on prompt stabilization of any denuded areas to minimize the amount of sediment that is generated.

Minimizing the opportunity for erosion to occur does not eliminate the need to trap sediment on the development site. Provide perimeter earth dikes, swales, or dike/swales to direct runoff to sediment traps or basins. Choose sediment controls based on drainage area limitations and effectiveness. Locate traps and basins so that they can easily be maintained. Temporarily divert storm drain systems to outfall into a trap or basin if sediment laden runoff is to enter inlets during construction. Locate stabilized construction entrances at all points of ingress and egress on the site to stabilize entrance areas and minimize tracking of sediment. Avoid placing sediment controls in streams, tree-save areas, buffers, and wetlands. Trap sediment laden water before it enters a stream.

A reasonable erosion and sediment control strategy must also recognize the importance of maintenance requirements associated with the sediment control measures employed on site. Traps and basins must be located to provide access for maintenance equipment. A protected location for disposal of sediment removed from traps or basins must also be furnished. Temporary stabilization may need to be reapplied prior to permanent stabilization.

Summary of Planning and Erosion and Sediment Control Plan Concepts

In summary, successful erosion and sediment control strategies strive to limit the amount of and time during which erodible areas are exposed and trap sediment on site. Erosion can be kept to a minimum by limiting grading and promptly stabilizing denuded areas. Protecting slopes, drainage ways, and outlets also reduces the quantity of sediment that is generated and must be trapped. To prevent sediment from leaving the development site, use perimeter controls and storm drain systems to direct runoff to sediment traps or basins. Protect all points of ingress and egress with stabilized construction entrances. Recognize and plan for the routine maintenance needs of all sediment control measures. Above all, the erosion and sediment control plan must be reasonable and thoroughly thought out if implementation is to be successful.

## 1.0 PURPOSE AND AUTHORITY

The purpose of these guidelines is to protect, maintain, and enhance the State's natural assets and resources, public health, safety, and general welfare by establishing minimum plan requirements and procedures to control the adverse impacts associated with soil erosion and sedimentation during construction. Minimizing soil erosion and off-site sedimentation will minimize damage to public and private property, and assist in the attainment and maintenance of water quality standards.

The provisions of these guidelines are pursuant to the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland and COMAR 26.17.01.

These guidelines are intended to provide State and federal agencies with the information necessary for submittal of plans for construction of projects to the Administration for erosion and sediment control plan review and approval.

## 2.0 DEFINITIONS

1. "Administration" means the 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 purposes. Such deleterious effect is or may potentially be harmful or injurious to human health, welfare, safety, property,

biological productivity, diversity, or stability or which unreasonably interfere with the enjoyment of life or property, including outdoor recreation.

3. “Applicant” means any person who executes the necessary forms to procure official approval of a project or a permit to carry out construction of a project.

4. “Clear” means any activity that removes the vegetative ground cover in a manner that does not disturb the root mat of the existing soil surface.

5. “Contractor” means a person who does not have a proprietary interest in a project, but is responsible for implementing and maintaining the approved erosion and sediment control plan.

6. “Department” means the Maryland Department of the Environment (MDE), Water Management Administration (WMA).

7. “Developer” means a person undertaking, or for whose benefit any or all of the activities covered by these Guidelines are commenced or carried on. General contractors or subcontractors, or both, without a proprietary interest in a project are not included within this definition.

8. “Drainage Area” means that area contributing runoff to a single point measured in a horizontal plane, which is enclosed by a ridgeline.

9. “Erosion” means the process by which the land surface is worn away by the action of wind, water, ice, or gravity.

10. “Erosion And Sediment Control” means a system of structural and vegetative measures that minimize soil erosion and off-site sedimentation.

11. “Erosion And Sediment Control Plan”, also identified as “plan”, means an erosion and sediment control strategy and plan to minimize erosion and prevent off-site sedimentation by containing sediment on-site or by passing sediment laden runoff through a sediment control measure, prepared and approved in accordance with the specific requirements of the Administration and these Guidelines, and designed in accordance with the 1994 Maryland Standards and Specification for Soil Erosion and Sediment Control.

12. “Exemption” means those land development activities that are not subject to the erosion and sediment control requirements contained in these Guidelines.

13. “Grading” means to cause disturbance of the earth. This shall include but not be limited to any excavating, filling, stockpiling of earth materials, grubbing, root mat or topsoil disturbance, or any combination of them.

14. “Permittee” means any person to whom a building or grading permit has been issued.

15. “Person” means the federal government, the State, 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 of their affiliates, or any other entity.

16. “Responsible Personnel” means any foreman, superintendent, or project engineer who is in charge of site clearing and grading operations or sediment control associated with earth changes or disturbances.

17. “Sediment” means soils or other materials transported or deposited by the action of wind, water, ice, gravity, or artificial means.

18. “Site” means any tract, lot, or parcel of land, or combination of tracts, lots or 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.

19. “Stabilization” means the prevention of soil movement by any of various vegetative and/or structural means.

20. “Standards and Specifications” means the “1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control” or any subsequent revisions.

21. “Variance” means modification of the minimum criteria set forth in the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control under specific circumstances where strict adherence to the requirements would result in unnecessary hardship and not fulfill the intent of these guidelines.

22. “Watercourse” means any natural or artificial stream, river, creek, ditch, channel, canal, conduit, culvert, drain, waterway, gully, ravine, or wash, in and including any area adjacent thereto which is subject to inundation by reason of overflow of floodwater.

23. “Watershed” means the total drainage area contributing runoff to a single point.

24. “Wetlands” means an area having saturated soils or periodic high groundwater levels and vegetation adapted to wet conditions and periodic flooding as defined in Environment Article, Title 5, Subtitle 9 and Title 16, Annotated Code of Maryland and COMAR 26.23.01. and 26.24.01.

## 3.0 APPLICABILITY

### 3.1 Scope

No State or federal agency shall clear or grade land without first obtaining approval of an erosion and sediment control plan and implementing the soil erosion and sediment control measures, except as provided within this section.

### 3.2 Exemptions

Clearing or grading activities that disturb less than 5,000 square feet of land area and involve less than 100 cubic yards of earth movement are exempt from the provisions of these Guidelines. All other construction activities shall meet the requirements of these Guidelines.

### 3.3 Variances

The Administration may grant a written variance from any requirement of Section 4.2-Contents of Erosion and Sediment Control Plans, if there are exceptional circumstances applicable to the site where strict adherence to the provisions of the Guidelines will result in unnecessary hardship and not fulfill the intent of these Guidelines.

## 4.0 EROSION AND SEDIMENT CONTROL PLANS

### 4.1 Review and Approval of Erosion and Sediment Control Plans

State and federal agencies shall submit erosion and sediment control plans for any proposed clearing or grading to the Administration for review and approval. The erosion and sediment control plan shall contain sufficient information, drawings, computations, and notes to describe how soil erosion and off-site sedimentation will be minimized. The Administration shall review the plan to determine compliance with the requirements of these Guidelines prior to approval. The plan shall serve as the basis for all subsequent grading and stabilization.

### 4.2 Content of the Erosion and Sediment Control Plans

State or federal agencies are responsible for submitting an erosion and sediment control plan that meets the requirements provided by these Guidelines. The plan shall include sufficient information to evaluate the site conditions, environmental characteristics of the affected areas, potential impacts of the proposed grading on water resources, and effectiveness and acceptability of measures proposed to minimize soil erosion and off-site sedimentation.

Applicants shall submit the following information, as required:

1. A letter of transmittal and application form;

2. A vicinity sketch indicating north arrow, scale, site location, and other information necessary to easily locate the property;

3. A plan at an appropriate scale indicating at least:

    a. Name, address, and telephone number of:

        1) The owner of the property where the grading is proposed;

        2) The developer; and

        3) The applicant.

    b. The plan shall show existing and proposed topography on 50 scale photogrammetry with 2 foot contours or other approved scale and contour interval. Also, a 200 scale drainage area map with existing topography, proposed improvements, pertinent drainage information, and schematic initial phase sediment control features shall be included.

    c. The plan shall show the proposed grading and earth disturbance including:

        1) Surface area involved;

        2) Volume of spoil material and waste location;

        3) Volume of borrow material and borrow location;

        4) Limits of grading including limitation of mass clearing and grading whenever possible.

    d. Storm drainage provisions, including:

        1) Existing and proposed bridges, storm drains, culverts, outfalls, etc.;

        2) Velocities ($V_2$ and $V_{10}$) and quantities ($Q_2$ and $Q_{10}$) of flow at outfalls; and

        3) Downstream conditions and provisions to protect downstream areas from erosion and sedimentation.

    e. Erosion and sediment control provisions to minimize on-site erosion and prevent off-site sedimentation including:

1) Provisions to salvage and reuse topsoil and limit (phase) disturbance;

2) Location and type of all proposed sediment control measures;

3) Details of grading including reference to drainage areas to all sediment control practices with existing and proposed contours shown;

4) Design details and design tables for all erosion and sediment control measures; and

5) Details and notes of temporary and permanent stabilization measures including placement of the following statement on the plan:

Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within:

a. Seven calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1); and

b. Fourteen days as to all other disturbed or graded areas on the project site.

The requirements of Sections 3.e.5.a. and 3.e.5.b. do not apply to those areas on which actual construction activities are currently being performed or to interior areas of a surface mine site where the stabilization material would contaminate the recoverable resource. Maintenance of erosion and sediment control practices and devices shall be performed as necessary to ensure that the disturbed areas continuously meet the appropriate requirements of the Standards and Specifications and that runoff from these areas does not adversely impact downstream properties.

f. Phasing and sequence of construction describing the relationship between the implementation and maintenance of controls, including permanent and temporary stabilization, and the various stages or phases of earth disturbance and construction. The sequence of construction shall, as a minimum, include a schedule (and time frame) for the following activities:

1) Clearing and grubbing of those areas necessary for installation of perimeter sediment controls;

2) Construction of perimeter controls for tributary disturbed areas;

3) Remaining clearing and grubbing of controlled area;

4) Grading;

5) Staging the sediment control measures for grading the remainder of the site;

6) Utility installation and whether storm drains will be temporarily diverted, used, or blocked during construction;

7) Final grading, landscaping, and stabilization; and

8) Removal of controls.

A revised sequence of construction may be submitted by the contractor selected to construct the project. The revised sequence of construction must be approved by WMA.

g. That the developer shall request that the inspection agency approve the work completed at the stages of construction specified below in accordance with the approved erosion and sediment control plan, grading or building permit, and this section of the Guidelines:

1) Prior to start of construction and upon completion of installation of perimeter erosion and sediment controls on all sites with disturbed areas in excess of two acres; and

2) Upon establishment of final stabilization and prior to removal of erosion and sediment control measures on all sites with disturbed area in excess of two acres.

h. Certification by the owner or developer that any clearing, grading, construction, or development will be done pursuant to the approved plan and that responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment approved training program for the control of erosion and sediment prior to beginning the project. Additionally, the owner or developer shall certify right of entry for periodic on-site evaluation by State of Maryland, Department of the Environment, Compliance Inspectors.

i. The approval authority (WMA) requires certification by a professional engineer, land surveyor, landscape architect, or architect registered in the State that the plans have been designed in accordance with erosion and sediment control laws, regulations, standards, and guidelines.

j. A general description of the predominant soil types on the site, as described by the appropriate soil survey information available through the soil conservation districts from the U. S. Natural Resource Conservation Service. The soil survey information may be plotted on the drainage area map to help identify environmentally sensitive areas.

4. Any additional information or data deemed appropriate by the Administration.

4.3 Format of the Erosion and Sediment Control Submittals

The format of erosion and sediment control reports and plans submitted to the Administration shall be as follows:

1. Report – A discussion, with supporting technical documentation of the overall strategy of the proposed erosion and sediment control plan that also contains significant construction details, and their means of derivation, that are required to meet current regulations, guidelines, or specifications for the proposed erosion and sediment control measures.

   The erosion and sediment control report shall be on 8 ½ '' by 11'' paper. The report shall be typed; however, certain computational sheets may be handwritten. The report shall be bound in an acceptable cover binder. Any maps, diagrams, or figures (except computer printouts) that are larger than 8 ½'' by 11'' shall be folded to a size of 8 ½'' by 11'' or smaller and shall be placed in a pocket within the report binder. Foldouts or bound maps, diagrams, or figures are not acceptable unless the document is 8 ½'' by 11''. All maps, diagrams, or figures shall be clearly labeled.

   The report shall be submitted in good technical report form. At a minimum each report shall contain the following:

   a. Title on the outside of binder;

   b. Title sheet;

   c. Table of contents;

   d. List of figures or tables; and

   e. Body of the report including:

1) Introduction;

2) Analysis; and

3) Conclusions.

f. Appendices shall include all the background information used in the erosion and sediment control analysis. The background information shall be sufficient to facilitate a straightforward review and at a minimum will include:

1) Drainage area maps;

2) Soil type maps;

3) Design specifics for sediment control devices; and

4) Other computations deemed necessary by the Administration.

The appendices shall be bound as part of the report.

2. Computer printouts, when required, shall include all input data, output data, hydrographs at critical sections where appropriate, and summary output.

3. Plans, special provisions, and other contract documents shall be submitted in the same manner as used for advertisement purposes. The plans shall include all of the details necessary to construct the erosion and sediment control devices. In the event the advertised plans do not contain the minimum information for erosion and sediment control plans as outlined under Section 4.2-Contents of the Erosion and Sediment Control Plans, it is acceptable to submit the additional information as part of the report and in compliance with Section 4.3.

4. File Numbers - All reports, computer printouts, plans, special provisions, and other contract documents shall be accompanied by a transmittal letter. The transmittal letter shall list the contents of the submittal, the purpose of the submittal, and shall include the WMA file number (the “SF” number). Failure of any submittal beyond the initial submittal to include the WMA file number (the “SF” number) may result in the return of the submittal without benefit of review or comment. If it is unclear to the applicant whether a project has been assigned a file number, the Administration may be contacted to obtain the proper file number.

## 5.0 APPROVALS

### 5.1 Approval Requirements

Approval may not be issued for any project unless an erosion and sediment control plan has been approved by the Administration as meeting all the requirements of these Guidelines.

### 5.2 Approval, Suspension or Revocation

Any erosion and sediment control approval issued by the Administration may be suspended or revoked after written notice is given for any of the following reasons:

1. Terms or conditions of the approved erosion and sediment control plans violated;

2. Violation notice(s) or stop work order(s) ignored;

3. Site characteristics upon which plan approval was based changed; or

4. Construction standards as required by the approved plan disregarded.

### 5.3 Approval Conditions

In granting the plan approval, the Administration may impose additional conditions and criteria as may be deemed necessary to ensure compliance with the provisions of these Guidelines and the preservation of the State's natural assets, resources, public health, and safety. Generally, additional controls will be required in environmentally sensitive areas, where there are highly erodible soils, or other facilities that require protection.

### 5.4 Modification of Approved Erosion and Sediment Control Plans

When inspection of the site indicates that the approved erosion and sediment control plan needs modification, the modification shall be made in compliance with the erosion and sediment control criteria contained in the Standards and Specifications and as directed by the WMA inspector.

## 6.0 EROSION AND SEDIMENT CONTROL CRITERIA

Erosion and sediment control measures shall be designed in accordance with the provisions of the Standards and Specifications, or other approved design criteria.

## 7.0 INSPECTION

### 7.1 Inspection Frequency and Reports

The Administration shall:

1. Ensure that the approved erosion and sediment control plans are on the site and are complied with;

2. Ensure that every active site having a designed erosion and sediment control plan is inspected for compliance with the approved plan;

3. Prepare written reports after every inspection that describe:

    a. The date and location of the site inspection;

    b. Whether the approved plan has been properly implemented and maintained;

    c. Practice deficiencies or erosion and sediment control plan deficiencies; and

    d. If a violation exists, the type of enforcement action taken.

4. Notify the on-site personnel and the owner/developer in writing when violations are observed, describing the:

    a. Nature of the violation;

    b. Required corrective action; and

    c. Time period in which to have the violation corrected.

    The State or federal agency shall promptly correct any violations upon written notification from the Administration.

## 8.0 SEVERABILITY

If any section, subsection, sentence, clause, phrase, or portion of these Guidelines is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portion of these Guidelines, it being the intent of the Administration that these Guidelines shall stand, notwithstanding the invalidity of any section, subsection, sentence, clause, phrase, or portion hereof.

MARYLAND
DEPARTMENT OF THE ENVIRONMENT
Water Management Administration
Sediment & Stormwater Plan Review Division
1800 Washington Boulevard
4th Floor, Suite 440
Baltimore, Maryland 21230-1708
Telephone: 410 537 3563

## APPLICATION FOR SEDIMENT CONTROL/STORMWATER MANAGEMENT

CONTRACT NUMBER: _____
PROJECT DESCRIPTION: _____
_____
PROJECT SIZE DISTURBED (ACRES): _____
PROJECT LOCATION/TOWN: _____
PROJECT LOCATION/COUNTY: _____
INFORMATION ENCLOSED: _____
_____
_____

APPLICANT NAME: _____
APPLICANT ADDRESS: _____
_____
_____
APPLICANT CONTACT NAME: _____
APPLICANT PHONE NUMBER: _____
FAX MACHINE NUMBER: _____

If a consultant(s) has/have been retained, please provide the following information for each consultant:

CONSULTANT NAME: _____
PROJECT ENGINEER: _____
CONSULTANT ADDRESS: _____
_____
_____
CONSULTANT CONTACT NAME: _____
CONSULTANT PHONE NUMBER: _____
FAX MACHINE NUMBER: _____

Please include a complete application with the initial project submittal to the Department at the above address. Projects that involve less than 5,000 square feet and less than 100 cubic yards of earth disturbance do not require approval of the Department.

MDE File Number (If Known) ___ ___ - SF - ___ ___ ___ ___

# EROSION AND SEDIMENT CONTROL
## PLAN REVIEW CHECKLIST

MDE No. _____ ___ acceptable X unacceptable
Project: _____ INC incomplete R required
Contract No. _____ N/A not applicable NR not reviewed

**NOTE:** Project is exempt from ero & sed control if disturbed area is < 5000 s.f. & 100 c.y.
Notice of Intent (NOI) is required if disturbed area >= 1 acre.

| 1st | 2nd | 3rd | |
|---|---|---|---|
| | | | **Review Date** |
| | | | Application Form with applicant information |
| | | | **GENERAL PLAN REQUIREMENTS** |
| | | | Location Map (sufficient that inspector can locate facility) |
| | | | Owner's/Developer's Certification with signature |
| | | | Design Certification with signature |
| | | | Standard Stabilization Note |
| | | | Note to Contractor: "Erosion and Sediment Control Shall Be Strictly Enforced." |
| | | | Legend including sediment control items |
| | | | North arrow |
| | | | Scale (1"=50' max.) |
| | | | Topography - existing and proposed contours |
| | | | Property lines |
| | | | Existing and proposed treelines |
| | | | Proposed buffer and conservation areas |
| | | | Limits of wetlands |
| | | | Limits of 100 Year Floodplain |
| | | | Storm drain system shown – existing and proposed |
| | | | Adequate Outfall(s) |
| | | | $Q_{10}$ and $V_{10}$ |
| | | | Outfalls to toe of slope |
| | | | Topo extends 75' downgrade of outfall |
| | | | Proposed slopes 2:1 max and 3:1 max in lawn maintenance areas |
| | | | Standard Erosion and Sediment Control Notes (1 through 27) |
| | | | Completed Note 27 Site Information |
| | | | Vegetative Stabilization Specifications (text) |
| | | | Temporary and Permanent Seeding Summary Tables |
| | | | MDE Standard Details for proposed controls (1994 Standards and Specs) |
| | | | Other details |
| | | | **SITE SPECIFIC REVIEW** |

**Initial Phase Sediment Control**

| | | | |
|---|---|---|---|
| _____ | _____ | _____ | Sequence of Construction |
| _____ | _____ | _____ | Notification to compliance |
| _____ | _____ | _____ | Installation of controls |
| _____ | _____ | _____ | Phasing considerations |
| _____ | _____ | _____ | Construction of improvements |
| _____ | _____ | _____ | Stabilization |
| _____ | _____ | _____ | Removal of controls |
| _____ | _____ | _____ | Conversion of E&SC structures to SWM structures |
| _____ | _____ | _____ | Remaining stabilization |
| _____ | _____ | _____ | Limits of Disturbance (LOD) delineated |
| _____ | _____ | _____ | Stabilized Construction Entrance (SCE) |
| _____ | _____ | _____ | Controls labeled using MDE standard symbol |
| _____ | _____ | _____ | Controls meet design parameters (DA, slopes, etc) |
| _____ | _____ | _____ | All disturbed areas drain to an approved sediment control device |
| _____ | _____ | _____ | Immediate stabilization note in designated areas |
| _____ | _____ | _____ | Dewatering addressed |
| _____ | _____ | _____ | Designated staging/stockpile area with sediment controls |

**Final Phase Sediment Controls**

| | | | |
|---|---|---|---|
| _____ | _____ | _____ | Sequence of Construction |
| _____ | _____ | _____ | Notification to compliance |
| _____ | _____ | _____ | Installation of controls |
| _____ | _____ | _____ | Phasing considerations |
| _____ | _____ | _____ | Construction of improvements |
| _____ | _____ | _____ | Stabilization |
| _____ | _____ | _____ | Removal of controls |
| _____ | _____ | _____ | Conversion of E&SC structures to SWM structures |
| _____ | _____ | _____ | Remaining stabilization |
| _____ | _____ | _____ | Limits of Disturbance (LOD) delineated |
| _____ | _____ | _____ | Stabilized Construction Entrance (SCE) |
| _____ | _____ | _____ | Controls labeled using MDE standard symbol |
| _____ | _____ | _____ | Controls meet design parameters (DA, slopes, etc) |
| _____ | _____ | _____ | All disturbed areas drain to an approved sediment control device |
| _____ | _____ | _____ | Immediate stabilization note in designated areas |
| _____ | _____ | _____ | Dewatering addressed |
| _____ | _____ | _____ | Designated staging/stockpile area with sediment controls |

COMMENTS:_____
_____
_____
_____

## OWNER'S / DEVELOPER'S CERTIFICATION

I / We hereby certify that all clearing, grading, construction, and/or development will be done pursuant to this plan and that any responsible personnel involved in the construction project will have a certificate of attendance at a Maryland Department of the Environment approved training program for the control of erosion and sediment before beginning the project. I hereby authorize the right of entry for periodic on-site evaluation by State of Maryland, Department of the Environment, Compliance Inspectors.

_____ _____

Date Owner / Developer Signature

_____ _____

Card No. Printed Name and Title

## STANDARD STABILIZATION NOTE

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within seven (7) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1); and fourteen (14) days as to all other disturbed or graded areas on the project site.

## DESIGN CERTIFICATION

I hereby certify that this plan has been designed in accordance with the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control, the 2000 Maryland Stormwater Design Manual, Volumes I & II and the Maryland Department of the Environment erosion and sediment control and stormwater management regulations.

_____ _____

Date Designer's Signature

Md. Registration No._____ _____

P.E., R.L.S., RLA, or R.A. (circle one) Printed Name

## Standard Erosion And Sediment Control Notes

The Water Management Administration requires that these notes, in their entirety, be included on the erosion and sediment control plan. It is recognized that every note may not apply to all projects. The requirement of any individual note not applicable to the subject project is not binding upon the applicant or the applicant's contractor.

1. The contractor shall notify the Administration (WMA) at (410) 537-3510 seven (7) days before commencing any land disturbing activity and, unless waived by the Administration, shall be required to hold a pre-construction meeting between project representatives and a representative of WMA.

2. The contractor must notify WMA in writing and by telephone at the following points:
   A. The required pre-construction meeting.
   B. Following installation of sediment control measures.
   C. During the installation of sediment basins (to be converted into permanent stormwater management structures) at the required inspection points (see Inspection Checklist on plan). Notification prior to commencing construction of each step is mandatory.
   D. Prior to removal or modification of any sediment control structure(s).
   E. Prior to removal of all sediment control devices.
   F. Prior to final acceptance.

3. The contractor shall construct all erosion and sediment control measures per the approved plan and construction sequence and shall have them inspected and approved by the agency inspector or WMA Inspector prior to beginning any other land disturbances. Minor sediment control device location adjustments may be made in the field with the approval of the WMA Inspector. The contractor shall ensure that all runoff from disturbed areas is directed to the sediment control devices and shall not remove any erosion or sediment control measure without prior permission from WMA Inspector and agency inspector. The contractor must obtain prior agency and WMA approval for changes to the Sediment Control Plan and / or Sequence of Construction.

4. The contractor shall protect all points of construction ingress and egress to prevent the deposition of materials onto public roads. All materials deposited onto public roads shall be removed immediately.

5. The contractor shall inspect daily and maintain continuously in an effective operating condition all erosion and sediment control measures until such times as they are removed with prior permission from WMA Inspector and agency inspector.

6. All sediment basins, trap embankments and slopes, perimeter dikes, swales and all disturbed slopes steeper or equal to 3:1 shall be stabilized with sod or seed and anchored straw mulch, or other approved stabilization measures, as soon as possible but no later than seven (7) calendar days after establishment. All areas disturbed outside of the perimeter sediment control system must be minimized. Maintenance must be performed as necessary to ensure continued stabilization. (Requirement for stabilization may be reduced to three (3) days for sensitive areas.)

7. The contractor shall apply sod or seed and anchored straw mulch, or other approved stabilization measures to all disturbed areas and stockpiles within fourteen (14) calendar days after stripping and grading activities have ceased in the area. Maintenance shall be performed as necessary to ensure continued stabilization. (Requirement may be reduced to seven (7) days for sensitive areas.)

8. Prior to removal of sediment control measures, the contractor shall stabilize and have established permanent stabilization for all contributory disturbed areas using sod or an approved permanent seed mixture with required soil amendments and an approved anchored mulch. Wood fiber mulch may only be used in seeding season where the slope does not exceed 10% and grading has been done to promote sheet flow drainage. Areas brought to finished grade during the seeding season shall be permanently stabilized as soon as possible, but not later than fourteen (14) calendar days after establishment. When property is brought to finished grade during the months of November through February, and permanent stabilization is found to be impractical, temporary seed and anchored straw mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be applied by March 15 or earlier if ground and weather conditions allow.

9. The site's approval letter, approved Erosion and Sediment Control Plans, daily log books, and test reports shall be available at the site for inspection by duly authorized officials of WMA and the agency responsible for project.

10. Surface drainage flows over unstabilized cut and fill slopes shall be controlled by either preventing drainage flows from traversing the slopes or by installing protective devices to lower the water downslope without causing erosion. Dikes shall be installed and maintained at the top of a cut or fill slope until the slope and drainage area to it are fully stabilized, at which time they must be removed and final grading done to promote sheet flow drainage. Protective methods must be provided at points of concentrated flow where erosion is likely to occur.

11. Permanent swales or other points of concentrated water flow shall be stabilized with sod or seed with an approved erosion control matting, rip-rap, or by other approved stabilization measures.

12. Temporary sediment control devices may be removed, with permission of WMA Inspector and agency inspectors, within thirty (30) calendar days following establishment of permanent stabilization in all contributory drainage areas. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.

13. No permanent cut or fill slope with a gradient steeper than 3:1 will be permitted in lawn maintenance areas. A slope gradient of up to 2:1 will be permitted in non-maintenance areas provided that those areas are indicated on the erosion and sediment control plan with a low-maintenance ground cover specified for permanent stabilization. Slope gradient steeper than 2:1 will not be permitted with vegetative stabilization.

14. For finished grading, the contractor shall provide adequate gradients to prevent water from ponding for more than twenty four (24) hours after the end of a rainfall event. Drainage courses and swale flow areas may take as long as forty-eight (48) hours after the end of a rainfall event to drain. Areas designed to have standing water shall not be required to meet this requirement.

15. Sediment traps or basins are not permitted within 20 feet of a foundation that exists or is under construction. No structure may be constructed within 20 feet of an active sediment trap or basin.

16. The WMA Inspector has the option of requiring additional safety or sediment control measures, if deemed necessary.

17. All trap depth dimensions are relative to the outlet elevation. All traps must have a stable outfall. All traps and basins shall have stable inflow points.

18. Vegetative stabilization shall be performed in accordance with the Standards and Specifications for Soil Erosion and Sediment Control. Refer to appropriate specifications for temporary seeding, permanent seeding, mulching, sodding, and ground covers.

19. Sediment shall be removed and the trap or basin restored to its original dimensions when the sediment has accumulated to one quarter of the total depth of the trap or basin. Total depth shall be measured from the trap or basin bottom to the crest of the outlet.

20. Sediment removed from traps (and basins) shall be placed and stabilized in approved areas, but not within a floodplain, wetland or tree-save area. When pumping sediment laden water, the discharge must be directed to a sediment trapping device prior to release from the site. A sump pit may be used if sediment traps themselves are being pumped out.

21. All water removed from excavated areas (e.g. utility trenches) shall be passed through an approved dewatering practice or pumped to a sediment trap or basin prior to discharge from the site (i.e. via functional storm drain system or to stable ground surface).

22. Sediment control for utility construction for areas outside of designed controls or as directed by engineer or WMA Inspector:
A. Call “Miss Utility” at 1-800-257-7777 48 hours prior to the start of work.
B. Excavated trench material shall be placed on the high side of the trench.
C. Trenches for utility installation shall be backfilled, compacted, and stabilized at the end of each working day. No more trench shall be opened than can be completed the same day, unless;
D. Temporary silt fence shall be placed immediately downstream of any disturbed area intended to remain disturbed for more than one day.

23. Where deemed appropriate by the engineer or inspector, sediment basins and traps may need to be surrounded with an approved safety fence. The fence must conform to local ordinances and regulations. The developer or owner shall check with local building officials on applicable safety requirements. Where safety fence is deemed appropriate and local ordinances do not specify fencing sizes and types, the following shall be used as a minimum standard: The safety fence must be made of welded wire and at least 42 inches high, have posts spaced no farther apart than 8 feet, have mesh openings no greater than 2 inches in width and 4 inches in height with a minimum of 14 gauge wire. Safety fence must be maintained and in good condition at all times.

24. Off-site spoil or borrow areas on State or federal property must have prior approval by WMA and other applicable State, federal, and local agencies; otherwise approval must be granted by the local authorities. All waste and borrow areas off-site must be protected by sediment control measures and stabilized.

25. Sites where infiltration devices are used for the control of stormwater, extreme care must be taken to prevent runoff from unstabilized areas from entering the structure during construction. Sediment control devices placed in infiltration areas must have bottom elevations at least two (2) feet higher than the finish grade bottom elevation of the infiltration practice. When converting a sediment trap to an infiltration device, all accumulated sediment must be removed and disposed of prior to final grading of infiltration device.

26. When a storm drain system outfall is directed to a sediment trap or sediment basin and the system is to be used for temporarily conveying sediment laden water, all storm drain inlets in non-sump areas shall have temporary asphalt

berms constructed at the time of base paving to direct gutter flow into the inlets to avoid surcharging and overflow of inlets in sump areas.

27. Site Information:
    a. Total Area of Facility (base, campus, park, etc.) _____Acres
    b. Total Area of Project Site _____Acres
    c. Area Disturbed _____Acres
    d. Area to be Roofed or Paved _____Acres
    e. Total Cut _____Cubic Yards
    f. Total Fill _____Cubic Yards
    g. Off-Site Waste / Borrow Area Location _____