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APPENDIX A – EXAMPLES OF EROSION AND SEDIMENT CONTROL PLANS

The following pages contain:

- The Standard Erosion And Sediment Control Plan (Standard Plan),
- The Application for The Standard Erosion And Sediment Control Plan,
- Example of a completed standard plan showing the most basic plan; minimum width Streamside Management Zone and no cutting in the SMZ,
- Example of a completed standard plan showing wider SMZ, a waterway crossing and no cutting in the SMZ,
- Example of a completed standard plan showing harvesting adjacent to waters of the State in Dorchester, Somerset, Wicomico, or Worcester county,
- Example of a SMZ plan that can be used in association with a standard plan,
- Example of a Custom Erosion And Sediment Control Plan (Custom Plan) showing steep slope conditions and no cutting in the SMZ, and
- Example of a custom plan showing grading and Streamside Management Zone.

These examples may serve as guidance in preparing your plans. Other formats are possible. Specific requirements as to content, use of locally produced forms, and number of copies may vary from one approval authority to another. It is suggested that you check with your specific approval authority.

STANDARD EROSION AND SEDIMENT CONTROL PLAN FOR FOREST HARVEST OPERATIONS IN MARYLAND (THE STANDARD PLAN)

I. General Requirements

An erosion and sediment control plan is required for all harvests exceeding 5,000 sq. ft. of disturbed area, or which cross any perennial or intermittent watercourse.

This Standard Erosion and Sediment Control Plan may be used for forest harvest operations when all of the following conditions are met:

- Road cuts/fills are 3 feet or less (5 feet in Garrett, Allegany, Washington, & Frederick counties),
- Grades for haul roads do not exceed 15 percent,
- Landings are located on slopes 10 percent or less, and
- Grades for skid trails do not exceed 20 percent.

If the above conditions or any other criteria of this plan cannot be met, a Custom Erosion And Sediment Control Plan listing controls necessary to prevent erosion and ensure site stabilization will have to be submitted to the appropriate plan approval authority (the SCD) for approval.

NOTE: Use of this Standard Plan by itself is intended only for sites having:

- **No waters of the State, or**
- **An uncut Streamside Management Zone (SMZ) where roads, trails, and harvesting equipment are prohibited**

II. Conditions

- A. Unless one operator assumes full responsibility for implementing this plan, all forest harvest operators working at a site must obtain an erosion and sediment control plan. An operator is defined as any individual or company that has contracted or subcontracted a portion of the harvest operation. This also applies to those operators conducting firewood cutting or separate forest harvest operations in conjunction with or subsequent to the initial harvest. Each operator must implement and maintain the required practices.
- B. The applicant shall notify the appropriate Inspection Agency at least seven days prior to commencing forest harvest operations. The inspection agency also must be notified at least five days prior to the completion of work.
- C. A copy of this plan and any applicable SMZ plan(s) shall be available on site during harvest operations.

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- D. Each site will be inspected periodically by local government and/or State inspectors for compliance with this Plan. State and local inspectors may require field modifications or a plan revision as conditions dictate, to prevent movement of sediment from the site. Plan revisions require approval by the appropriate plan approval authority (the SCD).
- E. Failure to properly implement or maintain the practices required by this plan, or to comply with written requirements for corrective action may result in the operation being stopped (issuance of a stop work order) until the deficiencies have been corrected. Failure to take required corrective action may also result in legal action.
- F. All erosion and sediment controls must be implemented in accordance with specifications contained in the document entitled the 2005 Maryland Erosion And Sediment Control Standards And Specifications For Forest Harvest Operations (the Standards And Specifications) available from the Maryland Department of Environment (MDE) or the Department of Natural Resources - Forest Service.
- G. The issuance of an approval by the MDE, a Soil Conservation District, a municipality not within a soil conservation district, or the Washington Suburban Sanitary Commission does not relieve the applicant of the continuing responsibility to effectively abate sediment pollution, and to comply with all other applicable local and State laws.

III. Standard Plan Requirements

A. Site Maps:

- 1. Site maps or sketches shall be prepared for all harvests and submitted with the plan application to the appropriate plan approval authority (the SCD). The map shall identify the site location and provide directions and distances from the nearest major road intersection.
- 2. All access points, landings, haul roads, water bodies, uncut SMZ, and stream crossings must be identified on the map or sketch.
- 3. A more detailed map of SMZ areas is required when SMZ plans accompany the standard plan. The harvest area should also be delineated on a photocopy of the United States Geological Survey 7.5 Minute Series (Topographic) quadrangle maps (USGS maps.)

B. Site Access

- 1. Access points to the site shall be stabilized with wood chips, corduroy mats, a stone construction entrance or other methods approved in the Standards And Specifications. Any soil or debris that is tracked onto adjoining off-site roads shall be removed and deposited in a controlled area immediately.
- 2. A grading or entrance permit may be required for a new entrance onto a county or

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State road. Details may be obtained from the local permitting agency or the State Highway Administration.

- Existing public road drainage shall not be blocked or damaged by access construction. Pipe culverts or a bridge shall be installed if necessary to maintain existing drainage.

C. Waterway Protection

- SMZ shall be marked and maintained on all sides of waters of the State. For the purpose of establishing the limits of the SMZ, waters of the State shall not include the 100 year floodplain, manmade ditches created and managed under a Public Drainage Association, or natural and man-made systems that convey stormwater runoff only in direct response to precipitation events (SEE THE TWO SPECIFICATIONS FOR STREAMSIDE MANAGEMENT ZONES in the Standards And Specifications and use the specification appropriate to the subject harvest.) These features are identified on USGS maps. The minimum SMZ width shall be 50 feet. This applies to land with no slope. Where sloping land is encountered, the following formula shall be adhered to:

$$50' \text{ feet} + (2 \text{ feet} \times \% \text{ slope}) = \text{SMZ width} \\ (\text{To A Maximum Of 150 Feet})$$

Example for 20% Slope: $50' + (2' \times 20\%) = 50' + 40' = 90'$ SMZ

Average Percent Slope to Watercourse	Width of SMZ (ft) on Each Side of Watercourse
0	50
5	60
10	70
15	80
20	90

- New roads, trails and harvesting equipment shall not be allowed in any SMZ except to provide access to authorized stream crossings.
- Harvesting within the SMZ is not allowed unless a SMZ plan, along with the Standard Plan, is submitted to and approved by the appropriate plan approval authority (the SCD). This SMZ plan shall be prepared by a Maryland Licensed Forester and include the harvest method, the square footage of basal area to be removed and retained, provisions for removing and restocking the cut trees and other criteria established below and in the Standards And Specifications. All trees

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to be removed from the SMZ shall be marked at the base of the stump (so the mark remains after harvesting) by the Maryland Licensed Forester in advance of the harvest operation. Tree marking is not required if site is approved for clearcut.

In order for harvesting within the SMZ to be permitted, the approved SMZ plan must adhere to the following criteria. Basal area shall not be reduced below 60 square feet of evenly distributed trees which are 6 inches or greater in diameter, measured at 4.5 feet above the ground (diameter breast height, dbh). Where there is a sound silvicultural basis, the SMZ may be clearcut. The clearcut must be a part of the SMZ plan and approved by the appropriate plan approval authority (the SCD). Where clearcut is authorized, the SMZ plan shall specify that perimeter controls be implemented as close as practical to the body of water. Acceptable perimeter control includes silt fence, straw bale dike, approved vegetated buffer of specified width, and earth berm. Other practices may be approved by the appropriate plan approval authority. Any slash that inadvertently falls into adjacent water bodies must be pulled back to prevent waterway blockage. Except for stream crossings, no new roads shall be permitted within the SMZ. Timber cut within 50 feet of any waters of the State must be removed by cable, non-vehicular means, extended reach equipment, or by skidder using a limited number of passes. Limited number of passes is defined as ceasing use of the trail before the humus layer is compacted or otherwise disturbed. The use of low ground pressure equipment is strongly recommended. (See SPECIFICATIONS FOR STREAMSIDE MANAGEMENT ZONES in the Standards And Specifications.)

D. Haul Roads and Skid Trails

1. Grading of existing roads and/or trails will be limited to that necessary to make them operable, provided that the requirements of Section D(2), (3), (4), (5), and (6) below are met. If any of the conditions cannot be met, an approved Custom Erosion And Sediment Control Plan will be required in order to utilize the existing roads and/or trails.
2. Haul roads and skid trails shall be laid out along natural land contours to avoid excessive cuts, fills, and grades. No road cut or fill shall exceed 3 feet (5 feet in Garrett, Allegany, Washington, and Frederick Counties). All roads requiring mapping must be flagged in advance of the harvest.
3. Crossing of perennial or intermittent streams should be avoided. Where it becomes necessary to cross either a perennial or an intermittent stream, a bridge, culvert, or ford crossing shall be temporarily installed. A MDE - Water Management Administration Waterway Construction Permit shall be obtained prior to crossing any stream. (SEE APPENDIX D AND G.1.)
4. Grades for haul roads shall not exceed 15 percent. Grades for skid trails shall not exceed 20 percent. If it is not feasible to maintain these grade limits, a custom erosion and sediment control plan that identifies the controls required to prevent

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erosion, must be approved by the appropriate plan approval authority (the SCD) prior to road or trail construction.

5. No haul roads or skid trails other than those providing access to waterway crossings shall be constructed within the SMZ. Drainage from approaches to waterway crossings shall be diverted to undisturbed areas.
6. Drainage structures shall be provided at the time of construction of haul roads and skid trails according to requirements contained in the Standards And Specifications.

E. Landings

Landings shall be located outside of the SMZ. Landings shall be located on reasonably level (between 3 and 10 percent slope) well drained ground. If harvest sites do not have any area with a slope of at least 3 percent, landings shall be located on the maximum slope of the site. Landings located on slopes exceeding 10 percent shall require prior approval of a custom erosion and sediment control plan by the appropriate plan approval authority (the SCD).

F. Stabilization

1. Following completion of installation of all perimeter erosion and sediment controls and all cut and fill slopes steeper than 3:1 (H:V) stabilization must be accomplished within seven calendar days.
2. For all other disturbance, stabilization must be accomplished within fourteen calendar days following completion of the activity.
3. Upon completion of the harvest, all roads, trails and landings located on slopes 10% or greater shall be graded or backdragged, and seeded and mulched according to specifications. The surface of roads and landings of trails less than 10 percent shall be backdragged and left in a condition that permits successful natural regeneration of trees, shrubs, or other annual and perennial plants. Under certain circumstances, stabilization of these roads and landings with seed and mulch shall be required.

G. Maintenance

1. All practices installed shall be maintained at all times to function as intended.
2. Any practice that fails to function properly will be repaired or corrected immediately.

