



WQIA Water Quality Impact Assessment

COUNTY OF ACCOMACK

DEPARTMENT OF ENVIRONMENTAL PROGRAMS

P.O. Box 686 · 23282 Courthouse Ave · Accomac, VA 233011

Form submittal required for any Land Disturbance within the Resource Protection Area (RPA)

For more information see Accomack County Code of Ordinance Article XVI, Chesapeake Bay Preservation (CBPA) Overlay District Section 106-376-389, and WQIA Section 106-383 (c) as well as the Riparian Buffers Modification & Mitigation Guidance Manual

Date: _____ Project Contact: _____
E-mail: _____ Phone: _____

OWNER INFORMATION:

Subject Parcel Tax Map#: _____

Owner Name: _____

Address: _____

Telephone: _____ E-mail: _____

*Owners Signature: _____

- 1. Detail Project Description: use additional page with Site Plan if needed.

- 2. Was the subject parcel subdivision recorded:

[] Bayside prior to October 1, 1989? or [] Seaside February 19, 2009

- 3. Area of Land Disturbance: _____square feet

- 4. [] Greater than 10,000. _____ft² → [] Major WQIA Site Plan

Permits or Code Cases Related to this project

- 5. Please provide the permit number state "in process" if appropriate:

[] Wetlands: _____

[] Building: _____

[] Land Disturbance: _____

[] Case Number: _____

[] Variance: _____

[] Re-Development: _____

EXISTING SITE CONDITIONS: check all that apply

- 6. Disturbance will be located...

[] More than 50' from water

[] Outside of RPA

[] Within RPA

[] Within 50' of water

7. Site is currently ...

- Totally Wooded
- Partially Wooded
- Lawn
- No trees
- Brush
- Drainage Ditches
- Ditch High Bank
- Marsh Non Tidal Wetland
- Pine Needles Leaf Litter
- Bare or Eroding Soil

- Eroding Shoreline
- Buildings
- Paved or Impervious surface
- Septic Tank or drainfield
- Well
- Shoreline Protection Structure
Type _____
- Water Dependent Facility
- Other _____

PROJECT INFORMATION: check all that apply

8. Purpose of land disturbance: New Construction Redevelopment**

- Vegetation Removal
- Woodlot Management
- Vista or View

Installation of:

- Walkway, Path, Boardwalk
- Deck, Patio
- Pier
- Residential Structure**
- Well
- Shoreline Protection Structure

9. Is impervious cover included in scope of the project? yes no

10. If **yes** describe **materials** and purpose: _____

- Excavation if yes, _____ ft²
- Fill if yes, _____ yd³
- Grading, _____ ft²

11. Reason disturbance could not be removed from the RPA? _____

12. Methods to minimize impacts: check all that apply

- Track Mats Root Protection
- All hand work no driving in buffer
- Silt fence
- Tree protection fencing
- One controlled access point
- Material Storage outside of buffer
- Limits of construction roped off
- OTHER: _____

MITIGATION MEASURES**PROPOSED VEGETATION TO BE REMOVED:**

All vegetation proposed for removal must be flagged onsite for initial inspection before permit is issued. Or if using area (square footage) method rope off area.

13. Individuals

- Dead Trees, how many _____
- Live Trees, how many _____
- Trees pruned, how many _____ pruning height range _____ to _____
- Forest floor leaf litter removed or disturbed, area = _____ ft²
- Invasive/ Noxious Plants: type _____
- Shoreline grasses _____ square feet

Or

14. Determine the area of Land Disturbance within the RPA: _____ square feet

VEGETATION TO BE PLANTED based on formula below

15. Total Trees: Canopy _____ Understory _____
 16. Total Shrubs: Large _____ Small _____
 17. Total Grasses _____
 18. Other _____

How to calculate the Mitigation units

Determine the number of individuals to be planted by using the following formula:

A) For one fourth ¼ acre or less of buffer (Up to 10,890 square feet or less of buffer area.)

For every 400 square-foot unit (20'x20') or fraction thereof,

Plant:

1. one (1) canopy tree @ 1½" - 2" caliper or large evergreen @ 6' +
2. two (2) understory trees @ ¾" - 1 ½" caliper or evergreen @ 4'

Or one (1) understory tree and two (2) large shrubs @ 3'-4' +

3. three (3) small shrubs or woody groundcover @ 15" - 18"

Example:

A 100-foot wide lot x 100-foot wide buffer is 10,000 square feet. Divide by 400 square feet (20'x20' unit) to get:
25 units

Units x plant/unit Number of plants 25 units x 1 canopy tree 25 canopy trees

2 understory trees 50 understory trees

3 small shrubs 75 small shrubs

150 plants

Continued

B. For Greater than ¼ acre of buffer More than 10,890 square feet

OPTION 1: Plant at the same rate as for ¼ acre or less.

OPTION 2: For The waterside 50 of the buffer (from the waterline inland for the first 50 feet):

Plant for every 400 square-foot unit (20'x20') or fraction thereof:

1. One (1) canopy tree @ 1½" - 2" caliper or large evergreen @ 6'
2. Two (2) understory trees @ ¾" - 1 ½" caliper **or** evergreen @ 4' or one (1) understory tree and two (2) large shrubs @ 3'-4'
3. three (3) small shrubs or woody groundcover @ 15" - 18"

AND

For The landward 50 feet of buffer (from 50 feet inland to 100 feet inland):

1. either plant Bare root seedlings or whips at 1,210 stems per acre 1 , approximately 6'x6' on center (Minimum survival required after two growing seasons: 600 plants)
2. or Container grown seedling tubes at 700 per acre approximately 8'x 8' on center (Minimum survival required after two growing seasons: 490 plants)

OPTION 3:

1. If the applicant is willing to enter into a five year maintenance and performance guarantee: 100% of buffer planted with: Bare root seedlings or whips at 1,210 per acre, approximately 6'x 6' on center (Minimum survival required after two growing seasons: 600 plants) or Container grown seedling tubes at 700 per acre approximately 8'x 8' on center (Minimum survival required after two growing seasons: 490 plants) 1 acre or more of buffer With an evaluation from an arborist or forester or other professional, natural regeneration may be an acceptable method of buffer establishment, however, a forestry management plan must be in place prior to any vegetation being removed. A minimum of 35 feet next to the water must be left in forest and protected prior to any vegetation being removed.

****If over 20 percent of the vegetation must be removed for the health of the woodlot, within the 35 feet closest to the shoreline, vegetation must be reestablished by seedling plantings at the rates above.**

Information in this section taken from the:

RIPARIAN BUFFERS MODIFICATION & MITIGATION GUIDANCE MANUAL VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION CHESAPEAKE BAY LOCAL ASSISTANCE September 2003 - Reprinted 2006

LANDSCAPE PLAN

Provide a scaled drawing of the proposed alterations and site layout on the paper provided or submit your own which includes: Location and ownership information,

- a. Location of the components of the resource protection area such as RPA and property boundaries, water features, creeks with perennial flow, existing vegetation, areas to preserve and proposed clearing or grading as well as location and nature of the proposed encroachment.
- b. Location of any structures such as driveways, or other impervious cover, location of sewage disposal systems or reserve drain fields or wells.
- c. Type and location of proposed best management practices to mitigate the proposed encroachment, including sediment control and stormwater runoff management.
- d. Location of proposed mitigation and re-vegetation including numbers and species.

Approval signature is required before any work shall be performed. After completion contact the Environmental Programs Office for a final inspection in order to close the complete this permit.

Fee Payment Received _____
Approval _____ Date _____
<input type="checkbox"/> As submitted _____
<input type="checkbox"/> With revisions listed _____
Final Inspection _____ One Year Mortality Inspection _____

Minor WQIA
Landscape Plan

Tax Map # _____

Owner Name _____

WQIA Landscape Plan

Tax Map # _____ Owner Name _____

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- b. Location of any structures such as driveways, or other impervious cover, location of sewage disposal systems or reserve drain fields or wells.
- c. Type and location of proposed best management practices to mitigate the proposed encroachment, including sediment control and stormwater runoff management.
- d. Location of proposed mitigation and re-vegetation including numbers and species.

References for completion of the WQIA Form

Accomack County Code of Ordinance

Chapter 106 Zoning

ARTICLE XVI. CHESAPEAKE BAY PRESERVATION OVERLAY DISTRICT

Sec. 106-377. - Definitions.

Best management practices or BMP's means a practice, or a combination of practices, that is determined by a state or designated area-wide planning agency to be the most effective, practical means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals.

Buffer area means an area of natural or established vegetation managed to protect other components of a resource protection area and state waters from significant degradation due to land disturbances.

Chesapeake/Atlantic Preservation Area or CAPA means any land designated by the board of supervisors pursuant to Part III of the Chesapeake Bay Preservation Area Designation and Management Regulations, VAC 10-20 et seq. and Code of Virginia, § 10.1-2107. A Chesapeake/Atlantic Preservation Area shall consist of a resource protection area and a resource management area.

Construction footprint means the area of all impervious surface including but not limited to, buildings, roads and drives, parking areas and sidewalks, and includes the area of land disturbance necessary for construction and installation of such improvements.

Development means the construction, or substantial alteration, or expansion, of residential, commercial, industrial, recreation, transportation, or utility facilities or structures.

Diameter at breast height or DBH means the diameter of a tree measured outside the bark at a point of four and one-half feet above ground.

Drip line means a vertical projection to the ground surface from the furthest lateral extent of a tree's leaf canopy.

Impervious cover means a surface composed of any material that significantly impedes or prevents natural infiltration of water into the soil. Impervious surfaces include, but are not limited to: roofs, buildings, streets, parking areas, and any concrete, asphalt, or compacted gravel surface.

Land disturbance means any activity causing a land change which may result in soil erosion from water or wind and the movement of sediments into state waters or onto other lands, including but not limited to: clearing, grading, excavating, transporting and filling of land; except that this term shall not apply to minor activities such as home gardening, individual home landscaping, and repairs and home maintenance.

Nonpoint source pollution means pollution consisting of constituents such as sediment, nutrients, and organic and toxic substances from diffuse sources, such as runoff from agriculture and urban land development and use.

Nontidal wetlands means those wetlands other than tidal wetlands that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adopted for life in saturated soil conditions, as defined by the U.S. Environmental Protection Agency pursuant to Section 404 of the Federal Clean Water Act, in [33](#) CFR 328-.3b.

Noxious weeds means weeds that are difficult to control effectively such as Johnson grass, Kudzu, and multi flora rose.

Redevelopment means the process of developing land that is or has been previously developed.

Resource management area or RMA means the component of the Chesapeake/Atlantic Preservation Area that is not classified as the resource protection area. Resource management areas include land types that, if improperly used or developed, have the potential for causing significant water quality degradation or for diminishing the functional value of the resource protection area.

Resource protection area or RPA means that component of the Chesapeake/Atlantic Preservation Area comprised of lands adjacent to water bodies with perennial flow that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation to the quality of state waters.

Silvicultural activities means forest management activities, including but not limited to the harvesting of timber, the construction of roads and trails for best management purposes, and the preparation of property for reforestation that are conducted in accordance with the Silvicultural best management practices developed and enforced by the state forester pursuant to § 10.1-115 of the Code of Virginia and are located on property defined as real estate devoted to forest use under § 58.103-230 of the Code of Virginia.

Substantial alteration means expansion or modification of a building or development that would result in a disturbance of land exceeding an area of 2,500 square feet in the resource management area only.

Tidal shore or shore means land contiguous to a tidal body of water between the mean low water level and the mean high water level.

Tidal wetlands means vegetated and nonvegetated wetlands as defined in Code of Virginia, § 28.2-1300.

Water-dependent facility means a development of land that cannot exist outside of the resource protection area and must be located on the shoreline by reason of the intrinsic nature of its operation. These facilities include, but are not limited to:

- (1) Ports;
- (2) The intake and outfall structures of power plants, water treatment plants, sewage treatment plants, and storm sewers;
- (3) Marinas and other boat docking structures;
- (4) Beaches and other public water-oriented recreation areas;
- (5) Fisheries or other marine resources facilities; and
- (6) Aquacultural activities and facilities, including storage that requires immediate access from the site to the water.

Wetlands means tidal and nontidal wetlands.

Resource Protection Area RPA

Accomack County Code of Ordinance
Chapter 106 Zoning

ARTICLE XVI. CHESAPEAKE BAY PRESERVATION OVERLAY DISTRICT

Sec. 106-384. - Performance standards.

(c) Buffer area requirements

To minimize the adverse effects of human activities on the other components of resource protection areas, state waters, and aquatic life, a 100-foot buffer area of vegetation that is effective in retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff shall be retained if present and established where it does not exist. Such vegetation includes a mixture of groundcovers, grasses, shrubs, and trees.

In order to maintain the functional value of the buffer area, indigenous vegetation may be removed, subject to approval by the zoning administrator, only to provide for reasonable sight lines, access paths, general woodlot management, and best management practices including those that prevent upland erosion and concentrated flows of stormwater, as follows:

1. Trees may be pruned or removed as necessary to provide for sight lines and vistas, provided that were removed, they shall be replaced with other vegetation that is equally effective in retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff by preventing the channeling of water through the buffer. (If desired, lists of suggested replacement vegetation may be obtained from the administrator).
2. Any path shall be constructed and surfaced so as to effectively control erosion, and prevent channeling through the buffer.
3. Dead, diseased, or dying trees or shrubbery and noxious weeds (such as Johnson grass, kudzu, and multiflora rose) may be removed and thinning of trees may be allowed pursuant to sound horticultural practice.
4. For shoreline erosion control projects, trees and woody vegetation may be removed, necessary control techniques employed, and appropriate vegetation established to protect or stabilize the shoreline in accordance with the best available technical advice and applicable permit conditions or requirements.

Lots or parcels recorded prior to October 1, 1989.

The administrator may permit encroachments into the buffer area in accordance with [section 106-385](#) and the following criteria:

1. Encroachments into the buffer areas shall be the minimum necessary to achieve a reasonable buildable area for a principal structures and necessary utilities;
2. Where practical, a vegetated area that will maximize water quality protection, mitigate the effects of the buffer encroachment, and is equal to the area of encroachment into the buffer area shall be established elsewhere on the lot or parcel. And
3. In no case shall the encroachment extend into the waterward 50 feet of the buffer area.

Sec. 106-386. - Water quality impact assessment.

(a) Purpose and intent. The purpose of the water quality impact assessment is to:

- (1) Identify the impacts of proposed development or land disturbance on water quality and lands within resource protection areas and other environmentally-sensitive lands;
- (2) Ensure that, where development does take place within resource protection areas and other sensitive lands, it will be located on those portions of a site and in a manner that will be least disruptive to the natural functions of resource protection areas and other sensitive lands;
- (3) To protect individuals from investing funds for improvements proposed for location on lands unsuited for such development because of high groundwater, erosion, or vulnerability to flood and storm damage; and
- (4) Specify mitigation which will address water quality protection. (b) Water quality impact assessment (WQIA) required.

A water quality impact assessment is required for any:

- (1) Proposed development within a RPA, including any buffer modification or encroachment as provided for in section 106-384 "Performance Standards".
- (2) Development in a RMA as deemed necessary by the administrator due to the unique characteristics of the site or intensity of the proposed development.

There shall be two levels of water quality impact assessments: A minor assessment and a major assessment.

The applicable water quality impact assessment, if required, will be submitted as part of a complete proposed development plan, and reviewed in accordance with the criteria cited in the following appropriate subsections.

Minor water quality impact assessment.

(1) A minor water quality impact assessment pertains to land disturbances and development within RPAs which causes no more than 10,000 square feet of land disturbance and requires any encroachment into the landward 50 feet of the 100-foot buffer area. A minor assessment must demonstrate that the remaining buffer area and required best management practices will achieve sediment and pollutant reduction and erosion prevention equivalent to the full undisturbed buffer area. A minor assessment shall include a site drawing which shows the following:

- a. Location of the components of the resource protection area, including the 100-foot buffer area and any water body with perennial flow.
- b. Location and nature of the proposed encroachment into the buffer area, including: areas of clearing or grading; location of any structures, drives, or other impervious cover; type of surfacing or paving to be used, and location of sewage disposal systems or reserve drainfield.
- c. Type and location of proposed best management practices to mitigate the proposed encroachment, including soil erosion and sediment control and stormwater runoff management.

- d. Location of existing vegetation onsite and the location of trees and other vegetation to be removed from the buffer to accommodate the buffer encroachment or modification;
- e. Re-vegetation plan that supplements the existing buffer vegetation in a manner that provides for pollutant removal, erosion and runoff control.

(2) Upon the completed review of a minor water quality impact assessment, the administrator will determine if the proposed encroachment into the buffer area is consistent with the provisions of this article and make a finding based upon the following criteria in conjunction with subsection 106-386(1), "Required information—Minor Development:"

- a. The necessity of the proposed encroachment and the ability to place improvements elsewhere on the site to avoid disturbance to the buffer area;
- b. Impervious surface is minimized;
- c. Proposed best management practices, where required, achieve the requisite reductions in pollutant loadings;
- d. The development, as proposed, meets the purpose and intent of this article;
- e. The cumulative impact of the proposed development, when considered in relation to other development in the vicinity, both existing and proposed, will not result in a significant degradation of water quality.

Major Water Quality Impact Assessment.

A **major WQIA** shall be required for any **development which exceeds 10,000 square feet of land disturbance within RPAs** and requires any encroachment into the 100-foot buffer area; causes less than 10,000 square feet of land disturbance and requires any encroachment into the waterward 50 feet of the 100-foot buffer area; disturbs any portion of any other component of RPA; or is located in a RPA and is deemed necessary by the administrator. Such assessment shall be prepared and submitted for review in conjunction with subsection 106-386(2), or with any request for rezoning or special use, as deemed necessary by the administrator. The information required in this section shall be considered a minimum, unless the administrator determines that some of the elements are unnecessary due to the scope and nature of the proposed use and development of land. All information **required in this section should be certified as complete and accurate by a professional engineer or a certified land surveyor**, or other person qualified to do such work.

The following elements shall be included in the preparation and submission of a **Major WQIA**:

- a. All of the information required in a minor water quality impact assessment as specified in subsection (c) of this section.
- b. A hydrogeological element that:
 - a. Describes the existing topography, soils, hydrology and geology of the site and adjacent lands.
 - b. Describes the impacts of the proposed development on topography, soils, and hydrology on the site and adjacent lands.
- c. Indicates the following:
 - 1) Disturbance or destruction of wetlands and justification for such action;
 - 2) Disruptions or reductions in the supply of water to wetlands, or connect streams, creeks, ponds, or other waterways;
 - 3) Disruptions to existing hydrology including wetland and stream circulation patterns;
 - 4) Source location and description of proposed fill material;

- 5) Location of dredge material and location of dumping area for such material;
 - 6) Estimation of pre- and post-development pollutant loads in runoff;
 - 7) Estimation of percent increase in impervious surface on-site and type of surfacing materials used;
 - 8) Percent of site to be cleared for project;
 - 9) Anticipated duration and phasing schedule of construction project;
 - 10) Listing of all requisite permits from all applicable agencies necessary to develop project.
- d. Describes the proposed mitigation measures for the potential hydrogeological impacts. Potential mitigation measures include:
- a. A soil erosion and sediment control plan or agreement explaining proposed erosion and sediment control concepts; concepts may include minimizing the extent of the cleared area, perimeter controls, reduction of runoff velocities, measures to stabilize disturbed areas, schedule and personnel for site inspection;
 - b. Proposed stormwater management system.
 - c. The landscape element/plan required by subsection 106-385(2)d.(4) In reviewing a major water quality impact assessment, the administrator will determine if the proposed development is consistent with the purpose and intent of the article. The administrator may request the Virginia Department of Conservation and Recreation (DCR) to review such assessment and respond with written comments, which will be incorporated into the administrator's final review provided that such comments are provided by DCR within 90 days of the request. The administrator's findings shall be based upon the following criteria:
- e. Within the RPA, the proposed development is water-dependent, redevelopment, or a road or drive permitted under section 106-383(b);
- a. The disturbance of wetlands will be minimized;
 - b. The development will not result in significant disruption of the hydrology of the site;
 - c. The development will not result in unnecessary destruction of plant materials on-site;
 - d. Proposed erosion and sediment control concepts are adequate to achieve the reductions in runoff and prevent off-site sedimentation;
- f. Proposed stormwater management concepts are adequate to control the stormwater runoff to achieve the required objectives and standards for pollutant control;
- g. Proposed revegetation of disturbed areas will provide runoff control and pollutant removal equivalent to the full 100-foot undisturbed buffer area;
- h. The design and location of any proposed drainfield will be in accordance with the requirements of section 106-384;
- i. The development, as proposed, is consistent with the purpose and intent of the overlay district.
- j. A completed water quality impact assessment shall include evidence that all wetlands permits required by law have been obtained.**