

*The Virginia Beach Response to  
Implementing the Chesapeake Bay  
Preservation Area Ordinance*

by

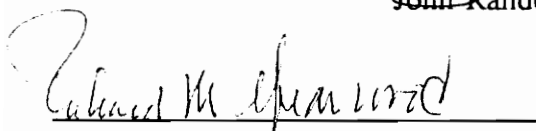
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APPROVED:



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Jeffery Hornor Butts  
John Randolph, Chairman  
Urban Affairs and Planning  
(ABSTRACT)

The City of Virginia Beach adopted the Chesapeake Bay Preservation Area Ordinance in November 1990, effective January 1, 1991. This ordinance incorporated the mandated development performance standards written in the Chesapeake Bay Act. The Act required the implementation of these regulations by localities. The Virginia Beach response to implementing these regulations has been satisfactory to meet the requirements of these regulations, and the City is in compliance with these regulations. The ordinance is written in accordance with the guidelines of the Chesapeake Bay Local Assistance Department model ordinance. The administrative system is in place to cover predevelopment review and variance requests. Enforcement of the regulations is soon to be handled through a two-year grant funded staff member.

The absence of an adequate monitoring system thus far may have plagued the effectiveness of full implementation of this ordinance. Continued education of the public for individual residential pollution control, intensification of the pre-development review meetings between developers and the "environmental experts" in the Environmental Management Center, and a committed City policy toward sensitive development are necessary for the City to do its part in restoring the Bay waters to their once productive character.

## **Dedication**

I dedicate this piece of work to my grandfather, Dr. Howard U. Butts who had enough foresight in 1935 to buy two shares in a hunt club in Bath County, the most beautiful piece of land in Virginia.

## **Acknowledgements**

The guidance of my committee members, Dr. Randolph, Dr. Yearwood, and Dr. Dillaha are greatly appreciated.

Special thanks go to Mr. Clay Bernick, Mr. Rajat Sarkar, and Mrs. Carolyn Couch of the Environmental Management Center in Virginia Beach for their informative briefings and loaned materials concerning the Chesapeake Bay Preservation Area Ordinance.

And there's a tear in my beer, as I recline and recall  
the relaxation and musical dreamland,  
that I danced into  
at the KIND concerts in the South Main Cafe.

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D. Recommendation

Maps

Homeowner

Part A

A. Description

B. Description of Request and Site Conditions

C. Water Quality Impact Assessment

D. Recommendation

Maps

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# Chapter One: A Law Needed to Protect the Water

## Introduction:

In 1983 the Environmental Protection Agency released a comprehensive report confirming that the health of the Chesapeake Bay was in serious jeopardy. The EPA found that one of the biggest culprits is rainwater runoff that picks up pollutants from farms, construction sites, logging areas, city streets and suburban lawns-and washes them into the Bay. According to this study, such "nonpoint" source pollution had contributed to the widespread decline of the Bay's underwater grasses and marine life. This 1983 report has been confirmed and refined in later years. A 1989 Virginia Department of Conservation and Recreation study noted that nonpoint sources cause 60 percent of Virginia's stream pollution and 53 percent of our Bay pollution.<sup>1</sup>

The initial alarm created by the EPA study spawned an agreement between Virginia, Maryland, the District of Columbia and the EPA to protect the Bay, an agreement that included efforts to prevent nonpoint pollution. In 1987, this "tri-state" group signed a second, stronger regional pact.<sup>2</sup>

In that same year, the Chesapeake Bay Land Use Roundtable, a diverse, 17-member group of citizens, called for "an expanded framework for land use decision-making in Tidewater Virginia" to protect the Bay's water quality from nonpoint sources of pollution.<sup>3</sup> It was from this Roundtable, and from the impetus of the Tri-State agreement that the Chesapeake Bay Preservation Act idea developed. And in 1988, the General Assembly overwhelmingly approved the Chesapeake Bay

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<sup>1</sup> Haskell, Elizabeth. 1991. "The Preservation Act Preserves Economic and Environmental Values" Virginia Natural Resources Newsletter. Volume 4, No. 3.

<sup>2</sup> Haskell, 1991.

<sup>3</sup> Haskell, 1991.

Preservation Act.<sup>4</sup>

The Chesapeake Bay Preservation Act established the Chesapeake Bay Local Assistance Board. This Board is charged with the development of regulations which establish criteria that will provide for the protection of water quality, and that also will accommodate economic development. All counties, cities, and towns in Tidewater Virginia, roughly east of Interstate 95 (see Appendix C for map of Tidewater) shall comply with these regulations. Other local governments not in Tidewater Virginia may use the criteria and conform their ordinances as provided in these regulations to protect the quality of state waters in accordance with § 10.1-2110 of the Code of Virginia.<sup>5</sup>

The purpose of the Bay Act regulations is to protect and improve water quality of the Chesapeake Bay and its tributaries by minimizing the impacts of human activity on these waters and to implement the Act, which provides for the definition and protection of certain lands called Chesapeake Bay Preservation Areas, which if improperly used or developed may result in substantial damage to the water quality of the Chesapeake Bay. In addition, the regulations identify the requirements for changes which local governments shall incorporate into their comprehensive plans, zoning ordinances, and subdivision ordinances to protect the quality of state waters pursuant to §§ 10.1-2109 and 10.1-2111 of the Act. The regulations establish criteria for use by local governments in granting, denying, or modifying requests to rezone, subdivide, or to use and develop land in Chesapeake Bay Preservation Areas.<sup>6</sup>

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<sup>4</sup> State of Va. Code § 10.1 - 2100 et seq.

<sup>5</sup> Chesapeake Bay Local Assistance Board. 1990. "Introduction: Application" Final Regulation: VR 173-02-01. Chesapeake Bay Preservation Area Designation and Management Regulations.

<sup>6</sup> Chesapeake Bay Local Assistance Board, 1990.

Since every county, city and town in Tidewater Virginia was to comply with these regulations set forth in the Chesapeake Bay Preservation Act, the City of Virginia Beach had no option but to comply. The regulations of the Chesapeake Bay Act would offer Virginia Beach a formidable task for implementation. The purpose of this study is to document the Virginia Beach effort to: adopt the regulations; incorporate these regulations into their administrative system; implement these regulations in adherence to the goals of the Chesapeake Bay Act; and the success thereof.

## **Scope of the Paper:**

Using Virginia Beach as an example of local government implementation of the Chesapeake Bay Act regulations, this paper illustrates the process by which localities respond to State's mandates, incorporate these new regulations into the existing fabric of the local government organizational structure, and continually mold these new regulations until an efficient and convenient system is achieved. Chapter One has thus far introduced the Chesapeake Bay Act and the purpose of state regulations in which Virginia Beach must be in compliance. The remainder of this chapter focuses first on the history of population growth and development in Virginia Beach, and subsequently on specific reasons of water quality concern for which a regional effort was needed. Chapter Two first offers an overview of the State regulations and development criteria. Following is an examination of the initial stages of administrative structural reorganization, ordinance (Chesapeake Bay Preservation Area Ordinance, CBPAO) drafting and amendments. Chapter Three focuses on the effects of the ordinance on city staff, businesspersons, and the average homeowner, and how the city planner has had to continually work to find the balance between economic opportunity and maintenance of water quality. Chapter

Four examines three case studies of the ordinance in action, and the procedures that guide the planner to make crucial decisions in the variance request process. An analysis of the implementation, in regard to its' adherence to the intent of the CBPA ordinance, is included in the case study review as it applies to these individual cases. Chapter Five examines the success of the overall Virginia Beach implementational response through its administrative efficiency and the adherence to the goal of water quality protection while at the same time allowing for economic development to continue. Following are recommendations for the furtherance of effective implementation. Chapter Six attempts to foretell the future of the CBPAO, and summarizes the findings of the paper. Finally, a number of appendices contain definitions, case study reports, and administrative tools that may be helpful for reference.

## **The Growth of Virginia Beach Population and the Birth of a Problem**

Years before the conception of the Chesapeake Bay Preservation Act, the forces of water quality destruction were at work in Virginia Beach. This portion of the chapter takes a look at the background of Virginia Beach population growth, and the development procedures in use before the creation of the Chesapeake Bay Act. This section of Chapter One provides the necessary description of the prevailing development attitude in Virginia Beach before the Act, and the steps taken by Virginia Beach, like other growing Tidewater cities, to exceed the carrying capacity of the Chesapeake Bay watershed.

Carrying capacity can be defined as the maximum level of use an area can sustain as set by natural factors of environmental resistance such as food, shelter, or water. Beyond this natural limit, no major increases in the dependent population can

occur.<sup>7</sup> The carrying capacity issue can be applied to Virginia Beach in the excessive development use that has occurred there and the subsequent decrease in the natural organismal growth in the city lands and tributaries thereof. It is the carrying capacity of the tributaries that concerns us most in this study. The following illustrates the historic movement in Virginia Beach toward the limit of the carrying capacity and the breaking of that threshold.

### **Overwhelmed By the Hordes**

Virginia Beach became a city only thirty years ago. Previously it was a part of Princess Anne County. Virginia Beach has grown incredibly in the past few decades- beginning in the late sixties and early seventies - toward the current population of 400,000+ people. During the period between 1960 and 1990 the City population increased by 367 percent.<sup>8</sup> From a community largely known for its agricultural lifestyles and beach resort area, Virginia Beach exploded in commercial and residential development. Positioned in close proximity to the Norfolk Naval Shipyard, Virginia Beach became the bedroom community for many of these workers. With growth in the naval arena, the service market opened up. Business boomed, and the cycle of population growth and service sector growth, to meet the demand, spiraled upward.

Large developments sprang up in the Aragona area, Thoroughgood, and the Bayside Borough in general. This growth in the Bayside Borough is located in the Northernmost part of the city within the drainage of the Lynnhaven River. It is

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<sup>7</sup> Stankey, George H. 1990. "Managing for Appropriate Wilderness Conditions: The Carrying Capacity Issue" Wilderness Management. North American Press: Colorado.

<sup>8</sup> Anderson, Van Cleve. 1993. "Open Space Planning: A Comparative Study of Three Urbanizing Virginia Localities" Master's Thesis. Virginia Polytechnic Institute and State University.

this Borough, and other northern Virginia Beach boroughs, that are of primary concern for the effects of urbanization on the water quality of the Chesapeake Bay (See Appendix C for map of Virginia Beach-Lynnhaven River in the north draining to the Chesapeake Bay).

### **Development Attitude**

Of course this concern for the quality of Bay waters has only developed in the past few years with the development of the Chesapeake Bay Act. Prior to the Act little concern was shown for the water quality in the Chesapeake Bay. Virginia Beach was overwhelmingly in favor of any development. Competition between Virginia Beach and other growing cities provided little incentive for the city to implement environmental regulations or growth management strategies, which may deter future development. Environmental regulations would significantly add to the cost of development, which would provoke developers to avoid such regulated areas and to search for those areas still unregulated. Virginia Beach offered just such a place for the developer with the short term gain in mind, the get-rich-quick mentality.

This mentality is part of what the Act has been designed to combat. It very quickly became a concern to developers that the Act might put an end to their prosperity and drive them away from Tidewater Virginia to areas inland not regulated by the Act. However, this concern was addressed in the very purpose of the Act: "to protect water quality, and also accommodate economic development".<sup>9</sup> Developers still had questions about the accommodation of economic development, when there are added costs to development. This frequent question is resolved by the Chesapeake Bay Local Assistance Department statement, "Early experiences in Virginia localities indicate that additional costs under the Bay Act Regulations are about one quarter of one percent to two percent. Costs will vary somewhat, depending on the size of the

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<sup>9</sup> Chesapeake Bay Local Assistance Board, 1990.



lot, whether or not encroachment into the buffer area is necessary, and where septic systems are needed. Costs can be reduced by preserving existing vegetation and minimizing the area of impervious cover on a site. Environmentally sensitive project design, like clustering, may eliminate additional pollution-abating costs altogether."<sup>10</sup>

Governor Douglas Wilder in 1990 reinforced this point at the Local Government Official's Working Conference on the Chesapeake Bay Preservation Act. He stated, "By protecting the quality of the water, we are in effect, protecting the quantity of our income". He also addressed the carrying capacity issue. Again he stated, "Through the Preservation Act, our localities will be able to better match the use of land to the capacity of land...thereby enhancing its value, the quality of water in the Bay, and the quality of life throughout the Commonwealth for years to come."<sup>11</sup>

These words of encouragement to developers from the Bay Act study and Governor Wilder came just a couple of decades too late. This form of responsive government action and responsive planning, however, was a necessary action in this Bay crisis. A change in attitude, through education of developers became the solution to halting the continued movement past the threshold of the carrying capacity of the Chesapeake Bay watershed.

### **No End in Sight for the Bay's Bountifulness**

But at the time, during the sixties, seventies, and early eighties, there seemed to be little need for environmental regulations on developers. The Chesapeake Bay waters still offered one of the most productive estuaries in the world. Oysters were shipped across the country and were regarded as some of the best oysters in the world. The soft shell crab and the blue crab, flounder fishing and other sport fishing

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<sup>10</sup> Haskell, 1991.

<sup>11</sup> Haskell, 1991.

in the Bay were heralded as some of the most incredible in the world. Back Bay, another body of water in Virginia Beach, offered Large Mouthed Bass fishing tournaments and duck and goose hunting that was unsurpassed in nearby states. Fishermen and hunters flocked from across the country to participate in these outdoor activities on Back Bay. With waters producing such record yields of fish and wildlife to industry and sportsman alike, there were no incentives to introduce regulations on development and/or land use practices. It was not realized, however, that to maintain these precious commodities some regulation would be needed (i.e. the carrying capacity concept had not quite reached the planners and politicians).

### **Farm Conversion**

With the realization that these waters offered so much, and that the Beach was available at the same time in Virginia Beach, the development continued to grow. Demographers began noticing that, at this same time, more and more people began to move from the interior of the continent to the shores. With the breakup of many of the small farms, and a deterioration of much of the small town economies, Virginia Beach offered a place to move to in order to grow financially. At the same time, farms were breaking up in Virginia Beach itself. Many of the farmers noticed the financial opportunities of selling to development. The first farms to sell to development were those in the Northern half of the city, that portion of the City which drains to the Chesapeake Bay (the southern half of the City drains to Back Bay). The Northern half of the city was closely located to the major road networks and it contained the all-so-precious commodity, developable waterfront property.

The pressure to sell for development was intense and still is today on the remaining farmlands in Virginia Beach. But at the same time that more and more people were moving to Virginia Beach to enjoy the water, the waters were deteriorating. The farmlands that once surrounded the Beach creeks had acted as buffers to runoff. Their steep slopes were wooded, thus acting as buffers. With

residential developments now occupying the creek banks to obtain the view of the water, the shoreline has been destroyed and the assimilative capacity of the land has been reduced so that stormwater runoff carrying the urban pollutants is often times unbuffered before entry into the Bay's tributaries. The effects of this relationship between man and water are borne out in the following section.

## **Nonpoint Source Pollution: Its' Effects on Water Quality**

The explosion in population and in the housing market in Virginia Beach not only affected the transportation systems and the other infrastructure in Virginia Beach (that's a story in and of itself), but it greatly accelerated the natural runoff from the land due to a great increase in impervious surfaces and unstabilized shoreline banks. Along with this accelerated erosion, the following changes in natural systems occurred as a result of the constituents within the urban runoff. Not all of the following six examples of reported nonpoint source pollution problems can be directly attributed to Virginia Beach since the Bay watershed contains many land uses, and land users, however, Virginia Beach is a contributor to the Bay's sickness. Some of the reports are Virginia Beach specific and others are more regional in scope.

### **Virginia Nonpoint Source Pollution Assessment Report, 1988<sup>12</sup>**

According to this report, the Lynnhaven River system (a Virginia Beach tributary to the Bay) is impacted by elevated bacteria levels, low dissolved oxygen levels and elevated nutrient levels, all at least partially attributable to nonpoint sources. The Hampton Roads Water Quality Management Plan indicated that

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<sup>12</sup> Department of Conservation and Recreation. 1988. "Small Coastal Rivers and Eastern Shore Nonpoint Source Watershed Assessment" Nonpoint Source Pollution Assessment Report

phytoplankton growth may be somewhat excessive and that the system is impacted by stormwater runoff causing increased siltation particularly in the upper reaches, and high levels of coliform. The SVPDC report cited nitrogen levels, low dissolved oxygen and organic enrichment and bacteria levels as problems needing immediate improvement. The SWCB reported in the 305(b) report that elevated levels of metals in the sediments and water column exceeded EPA criteria in the main stem and all branches. Sources for the metals are urban run-off and point source discharges some of which have recently been discontinued.<sup>13</sup>

Broad Bay (a portion of the Lynnhaven River system) is impacted by urban nonpoint source pollution generated by extensive residential development formerly served by septic systems. Monitoring stations in Linkhorn Bay (of the Lynnhaven River), and Little Neck Creek (a federal military installation creek and watershed unregulated by the Virginia Beach Ordinance) all exhibit elevated bacteria levels primarily from urban nonpoint sources, and also elevated levels of copper and zinc in the water column and elevated levels of arsenic, chromium, copper, lead, nickel, and zinc in the sediment. Urban nonpoint sources are probable primary contributors.<sup>14</sup>

### **Declining Waterfowl Populations**

The story that these technical factors (elevated sediment, elevated bacteria, and elevated metals) describe is one of economic losses, ecological destruction, recreational loss and aesthetic deprivation. All of these losses are tied to the ecological destruction, the upsetting of this delicate ecological balance. For example,

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<sup>13</sup> Department of Conservation and Recreation. 1988. "Small Coastal Rivers and Eastern Shore Nonpoint Source Watershed Assessment" Nonpoint Source Pollution Assessment Report

<sup>14</sup> Department of Conservation and Recreation. 1988. "Small Coastal Rivers and Eastern Shore Nonpoint Source Watershed Assessment" Nonpoint Source Pollution Assessment Report

according to the March 1984 National Wetlands Inventory, the Chesapeake Bay once represented the primary overwintering area for canvasback ducks, which fed on submerged aquatic vegetation. Fifty percent of the Atlantic Flyway population of Canvasbacks were found in the bay region.<sup>15</sup>

When the Bay experienced a loss of 65% of aquatic grass between the years 1971 and 1978, this became the primary factor in the decline of the Canvasback population. Sedimentation, nutrient overload, and chemical pollution emanating from nonpoint source pollution have been blamed for the decline in the this magnificent bird's population.<sup>16</sup>

With the decline of the canvasback came the loss of recreational opportunity associated with the bird. Hunting was restricted and bird watching of Canvasbacks has become hard to come by. Hunting guides have been hit economically with the loss of their clientele. And the Chesapeake Bay can never be as beautiful without this bird's presence.

#### **U.S. Department of Agriculture: Soil Conservation Service Maps 1991, 1989**

This map identified the Northern portion of Virginia Beach surface waters among the "Identified Surface Water Resource Problem Areas in Virginia". This designation is based on nutrient enrichment as identified through the State Water

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<sup>15</sup> U.S. Dept. of the Interior, Fish and Wildlife Service. 1984. National Wetlands Inventory: Wetlands of the United States: Current Status and Recent Trends. "Chesapeake Bay's Submerged Aquatic Beds" U.S. Government Printing Office: Washington, D.C.

<sup>16</sup> U.S. Dept. of the Interior, Fish and Wildlife Service. 1984. National Wetlands Inventory: Wetlands of the United States: Current Status and Recent Trends. "Chesapeake Bay's Submerged Aquatic Beds" U.S. Government Printing Office: Washington, D.C.

Control Board.<sup>17</sup> The "Ground Water Pollution Potential Map of Virginia" produced in 1989 indicated a classification of "high potential" for Virginia Beach.<sup>18</sup> Chesapeake Bay water quality problems are partially a result of the combined surface and groundwater flows which may contain pollutants.

### **Possible Oyster Harvest Cancellation**

The loss of a waterfowl is just one example of how our lives are affected by the ecological disruption accompanying nonpoint source pollution. Probably more widely known is the decline in the Bay oyster population. A newspaper article from August 25, 1993 indicated that Virginia is considering cancelling the oyster harvest. Less than a decade ago oystermen brought in 2 million bushels of oysters every year. Last year the harvest was down to 175,000 bushels. This current harvest is one percent (1%) of historical harvests. It is a sign that the Bay is in poor health.<sup>19</sup>

### **Virginia Nonpoint Source Pollution Watershed Assessment Report, 1993**

Referring to a more scientific source, the Virginia Nonpoint Source Pollution Watershed Assessment Report, dated March 1993 and produced by the Department of Conservation and Recreation, ranked the C09 watershed in the top five percent (5%) statewide for urban nonpoint source pollution potential. This C09 watershed is none other than that of Hampton Roads, which includes Virginia Beach (See Appendix C for the Va Beach - Lynnhaven River location of that portion of the watershed). This

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<sup>17</sup> U.S. Department of Agriculture: Soil Conservation Service. June 1991. "Identified Surface Water Resource Problem Areas Virginia-Map" SCS Technical Guide.

<sup>18</sup> U.S. Department of Agriculture, Soil Conservation Service. April 1989. "Ground Water Pollution Potential: Virginia" SCS Technical Guide.

<sup>19</sup> Cohn, D'Vera, and Harris, John F. 1993. "Va. to Consider Canceling Oyster Harvest" Washington Post. August 25.

watershed area exhibited elevated levels of bacteria and phosphorus which are partially attributable to stormwater runoff from urban areas. This report also mentioned the eutrophication of Mount Trashmore Lake and shellfish condemnations in the Lynnhaven River as primarily the result of urban nonpoint source pollution.<sup>20</sup>

### **Findings of Fact in the Chesapeake Bay Preservation Area Ordinance (CBPAO)**

According to the Chesapeake Bay Preservation Area Ordinance (CBPAO) of the City of Virginia Beach Sec. 101, the following are findings of fact:

"The Chesapeake Bay waters have been degraded significantly by many sources of pollution, including nonpoint source pollution from land development. Existing waters are worthy of protection from further degradation. Certain lands that are proximate to shorelines have an intrinsic water quality value due to the ecological and biological processes they perform. With proper management, they offer significant ecological benefits by providing water quality maintenance and pollution control, as well as flood and shoreline erosion control. These lands, designated by the city council as Chesapeake Bay Preservation Areas, shall be developed in such manner as to protect the quality of water in the Bay."<sup>21</sup>

The need for a more restrictive law to protect the water quality of the Chesapeake Bay had become urgent. Virginia Beach recognized the problems stemming from nonpoint source pollution that have accompanied the city's explosive untamed growth. Most certainly the environmental planners are aware of the

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<sup>20</sup> Department of Conservation and Recreation. March 1993. "Small Coastal Rivers and the Eastern Shore Nonpoint Source Watershed Assessment" Virginia Nonpoint Source Pollution Watershed Assessment Report. DSWC: Richmond.

<sup>21</sup> City of Virginia Beach. 1993. "Chesapeake Bay Preservation Area Ordinance" Code of the City of Virginia Beach, VA. Municipal Code Corporation: Tallahassee, Fla.

conditions revealed in the Department of Conservation and Recreation Reports. And without a doubt, the City planners are aware of the regulations spelled out in the Bay Act and in the newly adopted Chesapeake Bay Preservation Area Ordinance. The question remains as to whether the city is now implementing those regulations, and if so, how is the process administered, how is it accepted by the public, and how is it monitored? Is the implementation successfully meeting the regulations of the Bay Act? These questions will be addressed in the following chapters.



## **Chapter Two: It's Here! : As if Dealing With an Unwanted Child**

Chapter One explained the foundations of the Bay Act, the history of development in Virginia Beach, the subsequent decline in water quality as a result of this development, and therefore the need for a law to manage development in accordance with the goal of water quality protection. As mentioned before, the Bay Act mandated the Tidewater Virginia localities to amend their comprehensive plans and ordinances in compliance with the regulations set forth by the Chesapeake Bay Local Assistance Board. "By mid-December 1990, 31" of the 89 Tidewater Counties, cities and towns "had adopted local preservation programs to protect the water quality of the Chesapeake Bay and its tributaries."<sup>22</sup> Virginia Beach adopted the Chesapeake Bay Preservation Area Ordinance in November 1990.

This chapter will focus on the Chesapeake Bay Act regulations in overview and the steps taken on the local level to incorporate these mandated regulations into local law. The steps taken by Virginia Beach include the administrative restructuring, ordinance drafting, and initial amendments for compliance with the Bay Act.

### **Chesapeake Bay Preservation Act Regulations "In Overview"**

The following section provides an overview of the Bay Act regulations which Virginia Beach is mandated to be in compliance. The full regulations can be found in Appendix B.

The "Parts" listed below correspond to the "Sections" in the Act regulations. Part II lists the elements that localities must incorporate into their programs. Part III lists the criteria that must be included in the Chesapeake Bay Preservation Areas. Part IV

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<sup>22</sup> Haskell, 1991.

lists the general development performance criteria which must be met by local governments. Part IV.iii. lists specific performance criteria for Resource Protection Areas. And Part IV. v. lists the exemptions to regulation.

**Part II: Local Program Development Must Contain the Following Elements**

- A) A map delineating Chesapeake Bay Preservation Areas
- B) Performance Criteria applying in Chesapeake Bay Preservation Areas that employ the requirements in Part IV.
- C) A comprehensive plan, zoning ordinance, subdivision ordinance, erosion and sediment control ordinance or revision, and a plan of development review that (i) incorporates the protection of Chesapeake Bay Preservation Areas and of the quality of state waters and (ii) requires compliance with all criteria set forth in Part IV.

**Part III: Chesapeake Bay Preservation Areas Must Designate the Following Criteria**

(See Appendix A for definitions of the following terms)

- A) Resource Protection Areas including a 100 foot buffer
- B) Resource Management Areas
- C) Intensely Developed Areas (optional, if any exist)

**Part IV: The Following General Land Use and Development Performance Criteria Must Be Met by Local Governments**

- A) Minimum land disturbance
- B) Maximum preservation of indigenous vegetation
- C) Maintenance of BMPs, if used
- D) Use of the plan of development process for developments exceeding 2,500 sq. ft.
- E) Minimize impervious cover

- F) Land disturbance greater than 2,500 sq. ft must comply with erosion and sediment control ordinance
- G) Septic system pump-out required a minimum of every five years, and for new construction a reserve sewage disposal site at least equal in size to the primary site
- H) Stormwater runoff post-development cannot exceed that of pre-development
- I) Agricultural lands must produce a soil and water quality conservation plan, and implement that plan.
- J) Silvicultural activities are exempt but must comply with water quality protection procedures prescribed by the Dept of Forestry
- K) Must submit evidence of wetlands permits prior to development activities

**Part IV.iii: The Following Performance Criteria Apply Specifically to Resource Protection Areas**

- A) Allowable Development 1) New or expanded water dependent facilities provided they meet the necessary conditions; 2) Redevelopment meeting the standards of Stormwater Management and Erosion and Sediment Control; 3) Roads or driveways when meeting certain design criteria.
- B) Buffer Area Requirements 1) Minimum disturbance of native vegetation, retard runoff, vegetation removal allowed if replaced with other soil stabilizing plants; 2) Buffer modifications must be minimal, reestablish disturbed vegetation, no disturbance greater than 50 feet in width; 3) Consideration of buffer establishment in intensely developed areas; 4) Agricultural buffers can be reduced to 50 feet if BMPs are enrolled in , to 25 feet if a soil and water quality conservation plan is implemented, and there are no buffer requirements for ditches if a conservation plan is in place.

#### **Part IV.v: The Following Are the Administrative Waivers and Exemptions**

- A) Nonconforming uses established before the Act adoption, and rebuilding of such structures if lost in casualty provided that there is no net nonpoint source pollution load in redevelopment
- B) 1) Public utilities, railroads, and facilities provided that they minimized disturbance; 2) Construction, installation, and maintenance of water, sewer, and local gas lines provided a minimum disturbance and meets the other state and federal permits.
- C) Water wells, passive recreation facilities, and archaeological activities are exempt from RPA regulations provided that these activities are reviewed administratively and any land disturbance >2,500 sq. ft complies with an erosion and sediment control plan.

The effective date of these final "regulations in overview" was October 1, 1991.<sup>23</sup> These final regulations were adopted on November 15, 1990 and at their effective date they superseded the Emergency Chesapeake Bay Preservation Area Designation and Management Regulations. The Emergency Regulations were signed by Governor Wilder replacing the nearly identical regulations adopted in 1989. "The main difference is that the compliance schedule for localities had been compressed to prevent delay of implementing the Preservation Act" The new schedule (by the Emergency regulations) gave local governments until Nov 15, 1991 to adopt the local water quality protection measures required by the Preservation Act.<sup>24</sup>

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<sup>23</sup> Chesapeake Bay Local Assistance Board, 1990.

<sup>24</sup> Haskell, 1991.

## **Establishing the Framework for Implementation**

Before the Chesapeake Bay Act regulations could be implemented at the local level, Virginia Beach planners required a restructuring of their administration in order that the process of ordinance drafting would be allocated to the proper personnel. Then the task at hand for Virginia Beach was to incorporate the Bay Act regulations into the Code of the City of Virginia Beach, and most importantly to draft the Chesapeake Bay Preservation Area Ordinance.

### **Reorganization**

The state developed a group called the Chesapeake Bay Local Assistance Department, which distributed a Local Assistance Manual to the Tidewater localities. This manual was to be a guide for local governments to follow in producing their ordinances and to suggest ways of best reducing their nonpoint source pollution.

This useful manual contains an outline for program development and a work plan to achieve the objects set forth in the regulations. Chapter IV explains the wording of the regulations and the development performance criteria. Chapter V offers a model ordinance.<sup>25</sup>

Soon after the Bay Act adoption, Virginia Beach began the process of producing an ordinance. Mr. Jack Whitney headed the Environmental Management Center at the time, while Mr. Clay Bernick was in the Planning Department. The Council-Manager System of Virginia Beach did a little remodeling at this time and Clay Bernick took the position as Administrator of the Environmental Management Center as the Planning Department was combined with it. With this reorganization, Mr. Bernick and his allies in the Environmental Management Center opened their Local Assistance Manuals and began the arduous task of reading, not for pleasure, but

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<sup>25</sup> Chesapeake Bay Local Assistance Department. Nov 1989. "Local Assistance Manual".

for their vocation.<sup>26</sup>

### **Drafting the Ordinance**

Meanwhile, Mary Morris, Mary Heinrich, and Donna Johnston of the Planning Department worked with the state to obtain CBLAD's model ordinance as early as possible. This model ordinance was a general guideline for the city to work with, but it would not be fit for all the localities uniformly. Some localities were largely agrarian, while Virginia Beach was substantially urban.

Many questions developed within the planning department, including:

"How big should the RMA be?"

"Should the ordinance cover the entire city or just the watershed?"

"Would impoundments and lakes be included?"

"How are nontidal wetlands defined?"

"Should other features unique to Virginia Beach be added under the regulations of the RPA?"<sup>27</sup>

Struggling over these complex questions, Mr. Bernick and the other planners produced 15 drafts of the ordinance based on the model ordinance. A public hearing was held with the planning department for public comments, suggestions, and input on the ordinance. In the summer of 1990 there was a public hearing with the city council. Next, in November of 1990 the ordinance was adopted, effective January 1991.<sup>28</sup>

To reflect this new ordinance, the comprehensive plan, the zoning ordinance,

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<sup>26</sup> Bernick, Clayton H. Personal Communication, 1993.

<sup>27</sup> Bernick. Personal Communication, 1993.

<sup>28</sup> Bernick. Personal Communication, 1993.

the subdivision ordinance, the site plan ordinance, the erosion and sediment control ordinance, and the stormwater ordinance were revised as mandated by the Bay Act. It was made clear that each of these ordinances did not stand alone. When an overlap occurs in regulation of a particular type of development, it is the more restrictive of the two ordinances that is required for adherence. In many cases the more restrictive ordinance was the CBPAO. For example, before the ordinance, an applicant need not produce an erosion and sediment control plan for review if the project were less than 10,000 square feet. Now, under the CBPAO, the applicant is regulated if the project is greater than 2,500 square feet.

In addition to creating an ordinance, the Act also required the development of a map indicating the RPAs and RMAs (See Appendix F for examples of maps of RPAs and RMAs in the case studies). This work was completed by technicians after field checks of the wetlands. An official map was adopted in December of 1990. This map reflected the RPA including the 100 foot buffer, and a 100 foot RMA extending beyond the RPA. This RMA was only used if the lot were three acres or more. If the lot were less than three acres then the entire lot was included in the RMA.

So, to answer some of the questions initially posed, the ordinance drafting procedure attempted to resolve these enigmas. As mentioned, the RMA was to be 100 feet wide in those specified areas. In addition, it was determined that only the watershed would be included under the ordinance, not the entire city. Furthermore, to realize the uniqueness of Virginia Beach, highly erodible soils were included under the ordinance. This gave Virginia Beach something many other localities did not incorporate into their ordinance. It was achieved by a split vote under the persuasion of its promoter, Clay Bernick.<sup>29</sup>

These elements were just a few of the many facets of the Virginia Beach

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<sup>29</sup> Bernick, 1993. Personal Communication.

Ordinance. They just happened to be a few of the more difficult issues to resolve while the ordinance was in its drafting stage. The current ordinance can be viewed in the Appendix D. However, a brief overview of the ordinance as it differs from the Bay Act regulations model ordinance follows.

## **Overview of the Chesapeake Bay Preservation Area Ordinance**

The final ordinance adopted in November of 1990 by the City of Virginia Beach looked very similar to the Bay Act regulations. This similarity had its roots in the model ordinance prepared by the Chesapeake Bay Local Assistance Department. Because of the similarity, this section will not attempt to repeat the Bay Act regulations overview, but will focus on the differences between the ordinance and the Bay Act regulations, in special regard to the performance standards.

What the Bay Act Regulations Model Ordinance Contains that the Va Beach Ordinance doesn't contain:<sup>30</sup>

- 1) Intensely developed area designation
- 2) Separation of Water Quality Impact Assessment into minor and major assessments

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<sup>30</sup> Chesapeake Bay Local Assistance Department, 1990.



What the Va Beach Ordinance Contains that the Bay Act Regulations Model Ordinance doesn't contain:<sup>31</sup>

- 1) The optional inclusion of highly erodible soils in the RPA
- 2) The optional designation of RMA width of 100 feet
- 3) Consideration of reducing impervious surfaces by under building parking, constructing the minimum number of parking spaces as defined in the Zoning ordinance, and clustering development in lieu of conventional development
- 4) Once construction is complete, the vacant area within the construction footprint shall be restored with vegetation.
- 5) Fences that do not inhibit surface flow are exempt from regulations in the Resource Protection Area provided that they meet the other exemption requirements

As seen above, the differences between the CBPAO and the Bay Act regulations are minor. The larger percentage of differences falls on the Virginia Beach end, which could mean trouble for compliance with the regulations, if the differences weren't above and beyond those general guidelines of the model ordinance. Fortunately, in Virginia Beach's case the differences are more restrictive than the general guidelines, with the exception of the one exemption (fences).

The two items that the regulations contain that the CBPAO doesn't contain are either not necessary ( optional intensely developed areas - there are none designated in Virginia Beach) or Virginia Beach covers them in a more stringent, or streamlined manner (water quality impact assessment). The CBPAO requires a water quality impact assessment (i) for any development or redevelopment within a resource protection area; (ii) for any buffer area encroachment or reduction; (iii) for any

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<sup>31</sup> Chesapeake Bay Preservation Area Ordinance, 1992.

variance provided for in the ordinance; (iv) for minor projects authorized in section 113 of the ordinance; and (v) where a water quality impact statement is deemed necessary by the city manager.<sup>32</sup> This differs from the model ordinance in that the model ordinance breaks the Water Quality Impact Assessment into major and minor assessments. The end is the same however and the CBPAO meets the requirements in the Bay Act regulations (See Appendices D and E for comparison of Water Quality Impact Assessments in CBPAO and the model ordinance).

The differences mentioned above are indicative of the current status of the Virginia Beach Ordinance. The path was not always so clear however. Stumbling blocks in the name of amendments presented a rough and tumble trip for the ordinance to reach its current status. The following is a presentation of the history of amendments for the attainment of Bay Act compliance as well as administrative efficiency within the compliance.

## **A History of Amendments**

As a result of the pressure from developers, the initial ordinance was made moderately loose in its regulatory strength. This leniency proved costly however, when it forced a state review. The state review found Virginia Beach only provisionally consistent and required an addition of amendments to be incorporated. These amendments must make Virginia Beach consistent with the state review standards by February 1993.

A very controversial issue was that of swimming pools in the Chesapeake Bay Preservation Area. The swimming pool lobby (the Swimming Pool Institute) pushed for the exemptions of swimming pools from regulation under the CBPAO. The initial ordinance incorporated this exemption. However, after review, the state mandated

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<sup>32</sup> Chesapeake Bay Preservation Area Ordinance, Nov 1992.

that Virginia Beach make a change to this exemption of swimming pools. The new amendment removed the exempt status for swimming pools in December 1992.<sup>33</sup>

In July of 1991, an amendment made construction over impervious cover allowable without need for Chesapeake Bay Preservation Area Board ("Board") approval. This made sense if the construction did not add any further impervious cover to an existing impervious cover.<sup>34</sup>

Another amendment in April of 1992, effective July 1, 1992, dissolved a committee of 11 department deputies. This committee was responsible for decisions on requests for variances, while the Board (The Virginia Beach- Chesapeake Bay Preservation Area Board) heard the appeals of those decisions. The amendment dissolved the committee and placed the Board in charge of hearing the requests for variances, and a preapplication procedure was developed in the planning department as mandated by the Bay Act. The preapplication procedure would allow the applicant to meet with a team of environmental planners and discuss the proposed development plan in relation to the requirements of the act. This procedure decreased the number of variance requests and made the committee unnecessary and lifted the burden off the Board.<sup>35</sup>

One of the many amendments was to the Chesapeake Preservation Area Map. The map was amended and became effective on January 1, 1993 to reflect another amendment to the RMA. The RMA was amended to include all other areas of the watershed inland of the RPA. This amendment would place additional lands under regulation, but it would avoid the confusion of having to deal with whether the lot was three acres or not, and it made the map much simpler to read.

Having attained its current status in compliance with the Bay Act through a

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<sup>33</sup> Sarkar, 1993. Personal Communication.

<sup>34</sup> Bernick, 1993. Personal Communication.

<sup>35</sup> Bernick. Personal Communication, 1993.

tiresome procedure of drafting, amendments, and unending aid from the Chesapeake Bay Local Assistance Department, the CBPAO now needed the Environmental Management Center's advisory assistance in disseminating information and in "down-to-earth" implementation of the new ordinance. Chapter Three will focus on the educational procedures administered through the Environmental Management Center and on the public receptivity to the new ordinance.

## **Chapter Three: Who Does the New Law Affect?**

With the ordinance in hand, the leaders of the Environmental Management Center's educational movement set forth to convey the message of the ordinance to the most highly affected public groups with the purpose and intent of the Virginia Beach Ordinance as the basis for their lectures. It is hoped that the environmental planners in Virginia Beach earnestly believe in, for accomplishment (implementation), the following:

### **Purpose and Intent of the Virginia Beach Ordinance**

According to Sec. 102 of the CBPAO the following are the purpose and intent of the ordinance:

(A) This ordinance is adopted in order to implement the requirements and stated purposes of The Chesapeake Bay Preservation Act (sections 10.1-2100 through 10.1-2115 of the Code of Virginia) and the Chesapeake Bay Preservation Area Designation and Management Regulations promulgated thereunder.

The intent of city council and the purpose of this ordinance are to: (1) protect existing high quality state waters; (2) prevent any increase in pollution; and (3) restore state waters to a condition or quality that will permit all reasonable public uses and will support the propagation and growth of all aquatic life, including game fish, which might reasonably be expected to inhabit them.

The performance standards established by this ordinance provide the means to minimize erosion and sedimentation potential to reduce land application of nutrients and toxins, and to maximize rainwater infiltration. Indigenous ground cover, especially woody vegetation, is effective in holding soil in place and preventing site erosion. Existing vegetation filters stormwater runoff. By minimizing impervious cover, rainwater infiltration is enhanced and stormwater runoff is reduced.

(B) The designation of any area as a Chesapeake Bay Preservation Area shall be in addition to, and not in lieu of, the zoning district classification of such area, such that any parcel of land situated within a Chesapeake Bay Preservation Area shall also lie in one or more of the zoning districts established pursuant to section 102 of the city zoning ordinance and shall be subject to all applicable provisions of this ordinance and the city zoning ordinance.<sup>36</sup>

From Section A of the purpose and intent of the CBPAO, the environmental planners were given the order to implement the Chesapeake Bay Act regulations with the intent to not only protect state waters, and prevent increases in nonpoint source pollution, but to actually help to restore the state waters to their prior, more ecologically productive conditions. The regulations themselves call for a no net increase in runoff. These conditions can be met through the performance standards also mentioned in Section A above. Engineering calculations must be used to validate this no-net-increase for projects greater than 2,500 sq. ft in the RMA and any redevelopment or new development in the RPA landward 50 foot buffer. "These engineering calculations shall be performed in accordance with current City of Virginia Beach Public Works Standards and Specifications and the current edition of the Local Assistance Manual."<sup>37</sup>

But, also in Section A of "The Intent and Purpose" is that notion of restoring the state waters. The regulations do require redevelopment to calculate for an actual decrease in nonpoint source pollution load by 10 percent. This mandated effort will help to achieve that goal of water quality restoration. But the questions still remain as to 1) What proportion of all development is redevelopment? 2) How much reduction in nonpoint source pollution is required to restore the water quality of the Bay? 3) If the amount of reduction required is high, is the redevelopment reduction mandate

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<sup>36</sup> Chesapeake Bay Preservation Area Ordinance, 1992.

<sup>37</sup> Chesapeake Bay Preservation Area Ordinance, 1992.

sufficient to attain the goal? 4) And if it isn't sufficient then what other means may be required to move beyond the no net increase toward a regional reduction in nonpoint source pollution? 5) Furthermore, how can Virginia Beach aid in this regional effort?

The first goal for planners then was to educate the public about the regulations of the act and the ordinance. Once this goal is accomplished the intent of the ordinance for water quality restoration can be addressed with the aid of political and administrative policy for such effect. This policy can be encouraged for voluntary implementation, or it may soon be required if such voluntary efforts are inadequately supported.

The following section will focus on the first step in this implementation process, and the public groups' reaction to the mandated regulations for no net increase in nonpoint pollution in Bay waters.

## **Meeting With City Organizational Leaders**

### **Meeting Preparation**

With a new law in effect, Virginia Beach planners were placed at the helm to ensure that the new law would function efficiently. That is, the ordinance must not be misunderstood, and must not cause unnecessary hardship on any particular group. Every special interest group in Virginia Beach would be affected in a different way, so planners had to anticipate the reaction that a particular group would make and had to configure a response to that reaction in defense of the ordinance. Above all, the planners had to ensure that the words of the ordinance were upheld in the minds of the City operating personnel.

To accomplish the job as CBPAO advisory consultants for the planning department, the administrator of the Environmental Management Center, Mr. Bernick along with the newly acquired environmental planner Carolyn Couch, organized a series of meetings and informational handouts. The informational handouts consisted of the following: 1) An application for plan review, 2) Chesapeake Bay Preservation Area Checklists A-D, and the 'Request for Amendment to CBPA Map' (Checklist E), 3) a table of checklist submittal points and the step by step process for those commonly requested variances and associated fees, 4) the Chesapeake Bay Preservation Area Board Meeting Sign fee sheet, 5) and a 'Question and Answers Sheet' relating to commonly asked questions concerning the ordinance (See Appendix F for informational handouts). All of these sheets were a necessary part in helping to ease the flow of changes stemming from the new ordinance. These handouts, available at the counter in the planning department, answer many questions that applicants have and leave the staff free to relegate their time to other tasks.

As mentioned, the consulting team, consisting of the administrator and the planner, also conducted a series of meetings with the multitude of groups most likely to feel a real change in the way they operate post-effective date. These meetings began in December of 1992 at about the same time that the environmental advisors were preparing the informational sheets. Again, these meetings were held so that commonly asked questions and typical variance related questions could be handled. This preparation in the form of meetings was done so that future questions about the ordinance could be pre-answered in a group setting thereby reducing the number of office visits and phone calls that the planning department would have to handle in the future. In addition, these meetings offered a chance for the groups to discuss conflicting opinions and or wordings in the ordinance in the pursuit of possible amendments to the ordinance to clarify its exact meaning. Finally, questions brought forward during the course of the meeting were incorporated into the Question and



Answers Sheet that the advisory team was simultaneously producing.

### **Testing the Planners Preparation**

The series of meetings between the CBPAO advisors and the various groups offered more than just an opportunity for questions, answers, and resolution of conflicts. It provided an opportunity for the planning department to coordinate and maintain communication with the various groups. Staying in touch in this manner ensures that the planning department acknowledges the opinions and variations held by the diverse groups in the city.

So, what groups did the planning team meet with? They met with Home Remodelers, The Tidewater Builders Association, Civic leagues, the council of civic organizations, SAVE, Audubon, Sierra Club, and other environmental groups. The author had a chance to sit in on a informational meeting between the advisory team and the city landscape maintenance division. This was an opportunity for the environmental planner and the administrator to share their own personal opinions on how the landscape maintenance should be administered to ensure that the health of the Chesapeake Bay was taken into consideration.

The city workers were required to trim all grasses to a maximum height of ten inches on public lands. The environmental planners however suggested that mowing be discontinued or that the blade height be raised on the steep slopes where erosion potential was the greatest. The city landscapers maintained that the grasses had to be cut or complaints would be filed. But the planners held firm, and used diagrams to explain that the areas on steep slopes (> 6%) were highly erodible and that the ordinance protected these areas. The city landscapers wanted proof and they wanted a height to be written into the ordinance. It was agreed that a height of grass would be considered for addition to the ordinance.<sup>38</sup>

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<sup>38</sup> Bernick, and Couch. Personal Communication, 1992.

The ordinance includes an exemption for disturbance of resource protection areas for purposes of passive recreation provided it does not inhibit surface flow.<sup>39</sup> This exemption would be applicable to those public lands which the landscape crew would maintain, such as near-water city and neighborhood parks and rights of way. However, the environmental planners intended for this meeting to be informative about the functions of the land-water interface, specifically the erosion control of a vegetated buffer in the resource protection area. Although, the landscape crews had orders from the city, those orders should be superseded by the regulations of the CBPAO. This meeting then served to educate the City landscapers about the regulations of the CBPAO and their superposition over their landscaping guidelines.

Out of the other series of meetings came two general opinions. On one hand, the environmentalists were pleased with the tightening up of the regulations, and hopeful that the changes in place would aid in upgrading the quality of the Bay's waters. On the other hand, many developers, builders, some homeowners, and the Swimming Pool Institute saw the regulations as a damper on the economy, and would rather have actually loosened the regulations even more. Specifically, the Swimming Pool Institute didn't like the amendment that removed the exempt status of swimming pools (Currently, the swimming pool water surface area is not considered impervious in the impervious surface calculations, only surrounding impervious surfaces). But it is understandable why swimming pools should not be exempt for reasons of installation land disturbance, some impervious surfaces, and diversion or concentration of surface flows.<sup>40</sup>

The developers thought that the ordinance was too time consuming to adhere to along with the already long list of regulations and codes that they had to abide by. These concerns were addressed by the environmental advisory team. The advisors

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<sup>39</sup> Chesapeake Bay Preservation Area Ordinance, 1992.

<sup>40</sup> Sarkar, Rajat. Personal Communication, 1993.

made the developers aware that development was not being outlawed by the ordinance, only that certain care should be taken in preparing the site plans so that the regulations could be met for preservation of the Bay water quality. These conditions are spelled out in the ordinance and for projects larger than 2,500 sq. ft. it is recommended that the applicant develop a "plan of development" with the free consultation of the city staff. It was made clear to the developers that the City was there to help them help themselves.

The opinions of those pro and con were to be expected by the environmental planners. The question and answer sheet and the diagrams at the meetings were well prepared, "clear and consistent" in anticipation of the many questions. In addition to questions and answers, the planners had prepared the checklists A-E (which directs the applicant to the appropriate department depending on the particular project specifications; it facilitates the translation of the legalese in the ordinance), and the flow chart for the variances or construction parameters thus facilitating the administration of the ordinance's implementation.

Through the combination of meetings and informational handouts, the environmental planners in Virginia Beach tailored the implementation briefings to the most concerned special interest groups. This first step in implementation captured an important segment of the public, the developers, who were highly affected by the ordinance. The developers are now quite aware of the Chesapeake Bay Preservation Area Ordinance.

But, not only are professional developers affected, the average homeowner is affected as well. If a homeowner intends to build an addition to an existing structure (minor project), or redevelop (no net increase in impervious surface) in the RPA, then he too must conform to the regulations in the CBPAO.

## **Natures Gets Some Say, Now and Again**

As spokespersons for the Bay's revival, the environmental planners in Virginia Beach relayed the regulations to the larger interest groups. Meanwhile, news coverage of the Bay Act and the City Ordinance reached out to the more literate public. With the growing understanding of the regulations and their intent, finally nature was getting some say. Finally, people were beginning to understand that plants served more of a function than simply to be looked at, or mowed. Shoreline plants could now be viewed as vital for shoreline stabilization, pollutant removal, sediment trapping, habitat, and flood control.

So, as the previous section focused on who was affected by the Chesapeake Bay Preservation Area Ordinance (almost everyone that wishes to construct, the exception being the minor projects in the RMA), here nature is affected by the ordinance, and positively so.

The environmental movement is gaining popularity, and Virginia Beach has the chance to balance nature and the economy. When previously Virginia Beach generally held no worries about the state of the environment, it now, although forced to do so, makes concessions to the environment and strides toward greater water quality protection. With a team of qualified environmental advisors and planners with a strong background in the CBPAO, the planning department offers solid advice to applicants. The environmental planners understand the importance of the economy in Virginia Beach, but they also understand that it is their job and moral responsibility to uphold the regulations of the ordinance in the name of a cleaner Bay.

This concern for water quality shines through in the planner's meetings with applicants. With a basis in the ordinance, and with an understanding of the functions of the land water interface, they are able to work with their clients and instill an understanding within them that they must also realize their impacts on water quality. In this sense, the environmental planners are doing all they can do to encourage water quality protection. Taking case by case, the planners work to implement the

regulations. In the cases when the development in the in RMA, the ordinance is implemented fully intact. However, instances arise when development pressures extend into the RPA. Rajat Sarkar of the planning department calls this development encroachment, "a violation of the sacred line" (refer to the Appendix D for the special performance standards in the RPA).<sup>41</sup> In these incidents, a variance is necessary. The following section examines the variance procedure and the lawful right to request a violation of this "sacred line".

## **The Variance Procedure**

A variance request is primarily a last resort action (See Appendix D for section 113 of the ordinance on variances). Although written into the ordinance as a possible alternative it is not intended to be widely used. The system of preapplication review (predevelopment review process) by the planning department is intended to avoid variance requests. The planning department will suggest alternatives to the site plan to the developer so that the development does not violate the ordinance requirements. Such departmental requests may include: moving the structure away from the RPA, reducing the size of impervious parking areas, proper tree removal and tree replacement, proper sediment control devices, and appropriate Best Management Practices (BMPs).

These suggestions are usually accepted without much contention because the preapplication development review is done in the early stages of the site plan development. This allows the developer or consultant to adapt to the suggestions of the planners. In this way nature and the economy can achieve a compromise.

However, if the developer or consultant finds that his project simply cannot accommodate the changes needed to satisfy the ordinance and the planner's

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<sup>41</sup> Sarkar. Personal Communication, 1993.

suggestions, then he may request a variance from the Chesapeake Bay Preservation Area Board (the Board). As this next step proceeds the planner must prepare a report to be handed to the Board members, and must take pictures and maps to the Board hearing and defend the planners' position. At this same time the applicant will plead his case. Most often the planners will recommend that the project be approved under conditions. Sometimes, however, the planner will recommend the denial of the applicant's project. Following the presentation of the facts and the pleading of cases, the Board will make the final decision.<sup>42</sup> (See Appendix I: Chesapeake Bay Board Process for the step by step process used in Virginia Beach for variances).<sup>43</sup>

The Board is bound in their decision *not* to grant a variance *unless* the Board finds that:

1) Granting the variance will not confer upon the applicant any special privileges not accorded to other owners of property in Chesapeake Bay Preservation Areas;

2) The application is not based upon conditions or circumstances that are or have been created or imposed by the applicant or his predecessor in title;

3) The variance is the minimum necessary to afford relief;

4) The variance will be in harmony with the purpose and intent of this ordinance, and not injurious to the neighborhood or otherwise detrimental to the public welfare; and

5) There will be no net increase in nonpoint source pollution load.<sup>44</sup>

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<sup>42</sup> Sarkar, Personal Communication. 1993.

<sup>43</sup> Couch, Carolyn. 1993. Chesapeake Bay Board Process. Department of Planning: Environmental Management Center, Virginia Beach, VA.

<sup>44</sup> Chesapeake Bay Preservation Area Ordinance, 1992.

If the Board denies a variance request, the applicant can appeal to the district court. However, no such appeals have taken place in Virginia Beach to date.<sup>45</sup> Variance requests on the other hand are quite numerous ( 82 between January and September of 1993). Appendix G contains an example of the Chesapeake Bay Preservation Area: Plan Review/Enforcement Tracking Form. This form contains the number of building permits issued within the Chesapeake Bay Preservation Area (RMA & RPA), the Number of Wetland Delineations (the number of variances reviewed by the Board), and the number of formal exceptions (variances granted). A look at the example tracking form, which is a representative sample of all tracking forms, indicates that roughly 90-95 percent of the variance requests are granted.<sup>46</sup> This could be bad or it could be fine, depending on a number of factors. If the variance stipulations governing the Board are upheld, then the variance is legally legitimate, and appropriate implementational action. Furthermore, granted variances contain conditions which ensure that the Board-granted variances meet the above requirements for variance issue. However, the high number of variance requests and granted variances augment the pressure on RPAs and the adopted Best Management Practices. The encroachment beyond this "sacred line" draws in the factors of BMP maintenance for the future, vegetation establishment in lieu of buffer loss, and general BMP or buffer width pollution reduction capabilities into question.

These issues of variance requests and the associated consequences of those requests are discussed in Chapter Four in an interpretation of three case studies. This Chapter has focused on the effects of the Ordinance on developers and the average building homeowner, and the efforts that the planning department have made to educate them and avoid the variance request. The implementational process proceeds now with the challenges to the ordinance in the form of variance requests, and the

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<sup>45</sup> Sarkar. Personal Communication, 1993.

<sup>46</sup> Couch, Carolyn. Personal Communication, October 1993.

Virginia Beach planning department's role in upholding the contract with the Bay Act regulations.



## **Chapter Four: Case Studies of The Ordinance in Action**

The following three case studies are interpretations of the paperwork presented to the Chesapeake Bay Board when the case came up for Board review of the variance request. These interpretations shall provide an analysis of the implementational process in Virginia Beach as it applies to these examples. Chapter Five will analyze the implementation process on a broader scale. The paperwork is the product of the planning department of Virginia Beach and is found in Appendix F. The actual reports in the Appendix contain the background for the case as individualized for these particular appellants. Following the background is a presentation of the ordinance sections in question for the variance request. Thirdly, a water quality impact assessment is presented in relation to the ordinance requirements and the potential construction site practices. Finally, the planning department offers their recommendations for the Board's consideration. The three case studies are: The Princess Anne Country Club, Stihl, Inc., and a Homeowner.

### **Case Study I: Bayville Farms**

In August 1992, Princess Anne Country Club requested a variance to Sections 105 and 108 of the CBPAO to encroach into the RPA feature and the 100 foot buffer for flight lines in a golf course.<sup>47</sup> Section 105 (RPA regulations) requires that there shall be no development within the Resource Protection Area except for construction, installation or maintenance of water dependent facilities. Section 108 (Performance Standards: Buffer Area Requirements) requires that a 100 foot wide buffer area of vegetation that is effective in retarding runoff, preventing erosion, and filtering

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<sup>47</sup> Virginia Beach Planning Department. 1992. "Variance Request for Bayville Farms Associates and George E. Langely". Planning Department Report.

nonpoint source pollution from runoff shall be retained if present and established where it does not exist (NOTE: the report in Appendix F is based on a previous ordinance, this interpretation will use the current ordinance section numbering).<sup>48</sup>

Mary Heinrich, no longer with the Virginia Beach planning department, acted as the owners' agent in this variance request, and sought the approval of the concept plan for the previous farm consisting of 254.65 acres. Of this large parcel, 44 acres are within the RPA. The golf course plan calls for disturbance of 5.7 acres in the RPA including the activities of "clearcutting" above the top of bank, "encroachment" in the seaward fifty foot buffer, and "tree clearing" below the top of bank. The applicant proposes 8.65 acres of buffer mitigation, although the tree replacement ratio information has not been given. Erosion and sediment control devices have been mentioned in the concept plan report but have not been identified on the plan itself.

In response to the proposed activities, the planning department evaluated the mandatory water quality impact assessment. This evaluation indicated that the land disturbance would be extensive, and much indigenous vegetation would be removed. The activities below the top of bank (which is the top of the RPA features, and the beginning of the 100 foot buffer) would cause bank destabilization and excessive erosion.

In order that the concept plan be approved and the variance granted, the planning department offered a number of conditions to be met for approval. Erosion and sediment control devices used during the construction phase must be delineated in the detailed site plan. To minimize bank destabilization at and below the top of bank, hand cutting of trees would be required. The 3:1 ratio of tree mitigation would be required, and designated to the buffer mitigation areas in the concept plan. Also the tee area on the most disturbed hole, #4, would be reduced to provide the minimum

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<sup>48</sup> Chesapeake Bay Preservation Area Ordinance, 1992.

necessary to afford relief.<sup>49</sup>

The concept plan was approved by the Board with these conditions. This approval is consistent with the normal operating procedures in Virginia Beach. There are, however, questions that may cause this variance to abridge the intent and purpose of the CBPAO.

There may be no net increase in nonpoint source pollution, if the calculations made in the future site plan indicate that the buffer mitigation scheme compensates for the RPA encroachment. However, the buffer mitigation scheme would have to be well placed and well maintained for the future removal of the high quantities of fertilizers that accompany golf course operation. To accompany this issue, using the intended mitigation sites in exchange for RPA encroachment, the golf course architect and engineers must take into consideration the watershed area that the vegetated buffer strip, or filter strip will serve. Infiltration and vegetated BMPs are generally only applicable on sites less than ten acres, due to space, economic or flow velocity constraints. On the other hand, pond BMPs require a significant contributing watershed area to ensure proper operation. By creatively using local topography and drainage, site area can be increased or decreased to better accommodate a particular BMP.<sup>50</sup> This BMP appropriateness can be applied to this site in relation to the proposed lakes and vegetated buffer mitigation sites. For example, the lakes should be properly located to ensure that the vast extent of the site drains to these features, so that the remaining land can drain to less-area-serving vegetated buffers.

This careful planning should consider the size suitability of the existing buffers of Pleasure House Creek and the proposed mitigation areas for nutrient removal on this proposed golf course. Nutrient export from golf courses, cemeteries and other

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<sup>49</sup> Planning Department, Va Beach, 1992. Board Agenda.

<sup>50</sup> Schueler, Thomas R. 1987. "Choosing the Best BMP for a Site" Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Department of Environmental Programs.

intensively landscaped areas are great. The export of high levels of nutrients can lead to further exacerbating the eutrophic conditions of the Chesapeake Bay if not held in check with the proper BMPs and their proper siting.<sup>51</sup>

Furthermore this variance may not have been the minimum necessary to afford relief if other golf course layouts are feasible within the engineering parameters and golf course regulations. Perhaps the golf course architect could have manipulated the 18 hole arrangement for a configuration that offered less encroachment in the RPA. In addition, the presence of four man-made lakes in the plan may offer room to manipulate the size of these features. In general, the concept plan may offer more flexibility than that which was approved.

In further analysis of Virginia Beach implementational methodology, the variance with conditions does impose the ordinance-satisfying regulations upon the concept development plan, assuming that the golf course design is unalterable. The required erosion and sediment control devices installed during the construction phase, if properly maintained will aid in abating construction phase nonpoint source pollution. The tree and buffer mitigation scheme, if properly located and maintained, can achieve no net increase in nonpoint source pollution during the construction phase. But what happens after the final development inspection and the bond is returned? Is there no net increase in nonpoint source pollution? Are golf balls filling up Pleasure House Creek? Are the buffer zones trampled by golfers searching for that sliced shot, or crushed by the wheels of a golf cart? If this concept plan is to truly be within the intent of the Bay Act, the golf course should be reconfigured to provide the least impact on the RPA buffer. Only golf course management can ensure that the post development design is upheld (maintained) to protect the water quality.

The planning department in Virginia Beach will hash out these issues when the

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<sup>51</sup> Schueler, 1987.

detailed site plan is submitted. A predevelopment review should be held and consideration should be given to future impacts as well as construction phase impacts on water quality. Special emphasis can be given to the golf course layout so that minimal disturbance is given to the RPA. In addition, the planning department can recommend that the variance be granted with a proffer by the owners that buffers will be maintained into the future to ensure that post development nonpoint source pollution is equal to or less than the pre-development loadings through periodic scheduled monitoring.

## **Case Study II: Stihl, Inc.**

In November 1992, Mr. Ronnie Rouse for Stihl, Inc. requested a variance to Sections 106 and 108 of the CBPAO, as well as a waiver of the Landscape Plan (See Appendix F for the Board meeting report).<sup>52</sup> Section 106 requires no development in the RPA. Section 108 requires that a 100 foot vegetated buffer be retained if existing and established if not existing. Stihl proposes to develop a parking area adjacent to Canal #2 on the East side of the property within the RPA, and portions of an assembly plant within the RPA along side a ditch that bisects the property in a west to east direction.

The water quality impact assessment indicates considerable disturbance of the RPA. The parking lot on the east side is proposed to involve making the RPA impervious within the 100 foot buffer and portions below the top of bank. The future assembly plant buildings will require tree clearing, and no mitigation has been submitted. Erosion and sediment control devices have not been identified on the site plan. The landscape plan has been proposed for a waiver thereof. For stormwater management, Stihl has proposed the use of two wet detention ponds, one of which is

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<sup>52</sup> Planning Department, City of Virginia Beach. 1992. Ronnie W. Rouse: Stihl, Inc Variance Request.

located within the drainage outfall ditch easement that bisects the property and is included in the RPA.

Considering these disturbances, the planning department recommended that the variance to be granted subject to the conditions: parking lot shall not encroach below the top of bank, a buffer shall be established on the slopes adjacent to canal #2, a Landscape Plan is required with indication of tree mitigation, the 100 foot buffer adjacent to the Future Assembly plant not be encroached upon, the Stormwater Management Plan is deferred to further review by the City Engineer, erosion and sediment control devices shall be identified on the plan itself, a revised site plan shall be submitted.

The Board granted the variance for the parking lot on the east side with Best Management Practices and deferred the remaining requests for 60 days. Sixty days later Stihl had not submitted a revised site plan, however the Board granted the remaining variance with the conditions provided in the first meeting.

In both the first and second Board meetings, a portion of the planner's report read, "The submitted plan is completely against the intent of the Chesapeake Bay Preservation Area Ordinance".<sup>53</sup> This judgement is based upon the analysis of the water quality impact assessment. Yet, the planning department recommends the approval of the variance request with conditions. The conditions mentioned above then must compensate for the opinion that the "plan is completely against the intent of the CBPAO" if the Board is to approve the variance. This is a requirement of the Board for the granting of a variance. Otherwise this proposed development represents an affordance of relief beyond the minimum necessary, and the conferring of special privileges to the applicant and a possible increase in the loadings of nonpoint source pollution to the Chesapeake Bay.

As a condition, the planners recommend placing a vegetated buffer on the

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<sup>53</sup> Planning Dept., VA Beach. 1992. Board Agenda.

steep slopes. This would provide a slope stabilizing force, however it cannot be considered a buffer when it is part of the RPA features, which include tidal wetlands, tidal shores, non- tidal wetlands, and highly erodible soils (the steep slopes). The one hundred foot buffer is in addition to these features, that is, it begins where these features end. There is no buffer at all in this plan at the proposed parking area near canal #2.

Part B of the variance request contains a proposed parking area as well, with the same conditions as the parking lot in Part A of the variance request. The Board approved the parking area in Part A, like they did in Part B with a Best Management Practice required. The Best Management Practice then must achieve the effect of reducing nonpoint source pollution as the 100 foot buffer would have done. This BMP would then have an enormous task. During major storm events, when nonpoint source pollution is most active, this BMP would have to serve the pollution control of the parking area runoff, and incoming runoff from other sources.

Parking areas may contain hydrocarbons through the leakage of crankcase oil and other lubricating agents from the automobiles, trace metals, or other toxic chemicals.<sup>54</sup> Some rain splash runoff from these parking areas may flow to the vegetated steep slope, and some may flow to the proposed wet detention ponds (the BMP referred to in the variance grants). The capability of the vegetated steep slopes and the wet detention ponds to handle such water quality damaging pollutants becomes a concern when it is realized that, "the proposed parking areas and buildings will increase the impervious cover on the site to 54%, more than doubling the impervious cover from the previous site conditions."<sup>55</sup>

The judgement of the planning department is that the conditions imposed on

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<sup>54</sup> Schueler, 1987.

<sup>55</sup> Virginia Beach Planning Department. 1992. Board Agenda for Stihl, Inc. Variance Request.

this variance request, and the compromise of full buffer removal on one portion of the property, and absolutely no buffer encroachment on another portion, will ensure that the nonpoint source pollution load is not increased from that of predevelopment. The Board approves with the understanding that these conditions will serve that end.

### **Case Study III: Homeowner**

On August 23, 1993 Mrs. "Homeowner" applied for a variance to Section 105 of the Chesapeake Bay Preservation Area Ordinance to construct a two story single family residence, a deck, and a swimming pool within the RPA (See Appendix F for the planning department report).<sup>56</sup> This case involved a land parcel which is situated almost entirely within the RPA. The submitted site plan indicates the placement of the house, deck, and swimming pool on the highly erodible soils, a feature within the RPA and in front of the 100 foot buffer.

This site plan and the associated water quality impact assessment indicate considerable land disturbance including: tree removal (36) on this heavily wooded lot, and slope destabilization. It was also noted that approximately half of the parcel was flat land consisting of the 100 foot buffer above the proposed development site.

In light of the fact that such level land was available and the assessment indicated unnecessary slope destabilization, the planning department recommended the denial of the variance request. If accepted, the plan would necessitate development above the top of bank on the level ground. The Board subsequently denied the variance.

After denial, Mrs. "Homeowner" sought predevelopment review counseling

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<sup>56</sup> City of Virginia Beach, VA. 1993. Board Agenda for the Jane M. Grant Variance Request.



with the planning staff, which she had not done before. Following a site visit-joint meeting with her consultant, environmental experts from the planning department, a lawyer, and an engineer, it was decided that the site plan would be revised to accommodate more of the RPA feature than the previous plan offered.<sup>57</sup> In addition, the revised site plan would reorient the pool, and downsize overall improvements by 825 sq. feet. However, the revised site plan did not relocate the development above the top of bank.

The revised site plan was submitted and again Mrs. "Homeowner" sought a variance to Section 105 of the CBPAO. The water quality impact assessment was lessened in this round by the decrease in impervious surface, and the decrease in tree removal. It was noted that there were 70 feet of RPA features, tidal and nontidal wetlands, beyond the development site.<sup>58</sup> With these lessened impacts, the Board granted the variance with the conditions that a tree mitigation plan be identified, stormwater calculations are subject to further review, and a proffer to leave the remaining RPA features in place for the future.

Like the previous two case studies the granting of this variance is to be in agreement with the intent of the CBPAO. Concern in this case relates to the availability of space on level ground above the proposed development site. The report itself pointed to the trade off between development on steep slopes and the removal of trees on the heavily wooded uplands. It was the opinion of the planning department that the removal of trees and the placement of the development on the high grounds would be less detrimental than the disturbance of the highly erodible soils.

The impervious surfaces associated with this development are among areas

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<sup>57</sup> Grant, Jane. Personal Communication, 1993.

<sup>58</sup> Sarkar. 1993. Personal Communication.

considered the most hydrologically active, that is, areas that will generate the most surface runoff.<sup>59</sup> The proximity of these hydrologically active areas to receiving waters affects the potential impact of the pollutants that these impervious surfaces may hold on the water quality. The magnitude of pollution generated from impervious urban areas is of the same magnitude as the raw sewage contribution. Litter deposits in urban areas can include, animal and bird fecal droppings, fallen tree leaves, grass clippings and other deposits, with the dust and dirt component having the greatest pollution potential.<sup>60</sup>

Even with the location of the proposed development slightly further away from the shoreline, concern must be given to the hydrologic activity that this development imposes on the nearby waters. The location of the development above the top of bank, with a greater distance between the hydrologically active surfaces and the Bay waters, and thus with a greater extent of the natural buffer intact would provide for a development more in agreement with the intent of the CBPAO. In the findings of fact in Section 101 of the CBPAO it was noted that the lands located proximate to the shoreline perform ecological benefits such as water quality maintenance and pollution control.<sup>61</sup> Encroachment into the area that these features occupy may inhibit their ability to perform these necessary benefits.

In lieu of the natural buffer, a landscape plan with a mulch bed is proposed as a BMP. It should be remembered however that "BMP structures require diligent maintenance, and the lack of this has proven the downfall of many projects. Therefore periodic dredging of detention ponds is required, as well as 'site inspections, grass mowing, litter and debris removal, insect control, stabilization of

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<sup>59</sup> Novotny, Vladimir. 1981. Handbook of Nonpoint Pollution: Sources and Management. Van Nostrand Reinhold Company: New York.

<sup>60</sup> Novotny, 1981.

<sup>61</sup> Chesapeake Bay Preservation Area Ordinance, 1992.

inlets, outlets and banks, and the maintenance of vegetation for erosion control.’<sup>62</sup>

The Board approval of this variance at the request of the planning department, with imposed conditions, is based on the grounds that 1) the conditions will afford the necessary ecological remedy to compensate for the encroachment into the RPA features and for the destruction of the functions that these features had previously served, and 2) the maintenance of these BMPs will carry on into the future.

Otherwise, this variance approval would constitute the affordance of relief beyond the minimum necessary, and would violate the intent of the CBPAO.

## **Case Study Overview**

The preceding case studies represented variance requests by commercial, industrial, and residential interests. All of the variances were granted with conditions, used to justify the variance and remain within the intent of the CBPAO. Each case offered compromises between the development intentions and the natural features. The compromises, all with mitigation schemes, assume that the mitigation will achieve the end result of no-net-increase in nonpoint source pollution of the Bay waters. Given the land disturbances and natural system alterations in these examples within the RPA, the mitigation schemes offered as conditions entail considerable water quality maintenance responsibilities in order to achieve the intent of the ordinance. If the capabilities of these mitigation schemes are such that they do not meet with the intent of the ordinance, then the implementation of the ordinance by Virginia Beach has fallen short of compliance with the Bay Act.

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<sup>62</sup> Hirshman, David, and Roth, Richard. 1991. "Urban BMPs in Action: The Occoquan Watershed" Sourcebook for Local Water Resources Management: D. Case Studies of Local Water Resources Management in Virginia Virginia Polytechnic Institute and State University.

Chapter Five will present an overall analysis of the implementational response through an examination of the stellar efforts by Virginia Beach, and the deficiencies in the implementational process.

## **Chapter Five: Analysis of The Virginia Beach Response**

Chapter Four offered an interpretation of three case studies of that part of implementation involved in variance requests. These case studies leave room for skepticism as to the adherence (to the CBPAO intent) in compromises made during the variance procedure, and provide uncertainty about the future management practices on these sites for continued commitment to this intent. This chapter will analyze the implementational response on a broader scale. The analysis will encompass the strong points and the deficiencies in the implementation process and will conclude with recommendations to move Virginia Beach toward compliance with the Bay Act regulations and the intent of the Chesapeake Bay Preservation Area Ordinance.

This chapter is divided into three major sections. The first two sections encompass the steps of implementation: initial steps and trailing steps. The final section is an offering of recommendations to bring the trailing steps up to pace.

### **Initial Step: Establishment of the Letter of the Law**

As discussed in Chapter Two, the model of the Bay Act for local adoption is incorporated into the Virginia Beach ordinance in a near replicated fashion. In addition, however, the Virginia Beach ordinance takes it a step beyond. The Virginia Beach ordinance incorporates the factor of steep slopes into the defining categorization of Resource Protection Area features. In incorporating the steep slopes, Virginia Beach adds another turn of the ratchet in tightening the development regulations. Basing the RPA 100 foot buffer on an additional criterion increases the RPA area coverage, further adds to the water quality maintenance function, and

pollutant removal capacity of this feature, and serves to protect the instability of these highly erodible soils.

The CBPA also mandates at least a 50 foot buffer, which is exceeded by the Virginia Beach ordinance by an additional 50 feet, extending it to a 100 foot buffer. A recent amendment (January 1, 1993) extended the RMA to the entire Virginia Beach land area of the Chesapeake Bay Watershed. The RMAs serve to protect the function of the RPA.<sup>63</sup>

In incorporating and surpassing the minimum Bay Act regulations, the Virginia Beach ordinance has all of the makings of a successful written ordinance. In this first stage of implementation, Virginia Beach is in compliance.

## **Initial Step: Efficiency and Effectiveness of the Administrative System**

As discussed in Chapter Three, the planning department, and the Environmental Management Center have developed numerous informational handouts to carry out the implementation of the CBPAO efficiently. These handouts include the required checklist, which depends on the site conditions, i.e. size of project, and the location of project in relation to RPA and RMA. The appropriate checklist can be obtained either through a Development Services Center grid analysis by the applicant or by asking a staff member. The grid is easy to follow once the site factors have been considered (See Appendix G: Informational Handouts for example of grid and other handouts). This simple grid can save planning staff time by allowing the applicant or consultant to figure the appropriate checklist. Accompanying the checklist, the applicant must submit an application for plan review.

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<sup>63</sup> Chesapeake Bay Preservation Area Ordinance, 1992.

If all of the questions are answered in full, the project review can proceed in a timely manner.

In cases of proposed development in the RPA, with the exception of (1) minor projects in the landward 50 foot buffer and (2) redevelopment subject to the conditions of the ordinance, a Board variance is required. The Board process has been documented in a 13 step process by the planning staff (See Appendix I: Chesapeake Bay Board Process). The process is facilitated and accelerated when the applicant seeks a pre-submittal meeting with the planning staff.<sup>64</sup> The pre-submittal meeting is encouraged in the Application for Plan Review.

The efficiency of this portion of the implementation process is greatly facilitated by the informational handouts available at "the counter" in the planning department. The checklist ensures that all requirements are met by the applicant. The Question and Answer Sheet provide laymen's answers to the complexities of the ordinance. However, efficiency slows in the thirteen step process for Board review.<sup>65</sup> A recommendation for improvement of this small glitch is found in the recommendations section at the end of this chapter.

This section has provided an analysis of the good qualities of the Virginia Beach implementational response. The following section will analyze the lags in implementation.

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<sup>64</sup> Couch, 1993. Chesapeake Bay Board Process. Virginia Beach Planning Department: Environmental Management Center.

<sup>65</sup> Couch, 1993. Personal Communication.

## **Trailing Steps:**

*The Variance Procedure,  
Enforcement,  
and Education*

### **Variance Procedure**

The examples in the three case studies illustrated the complexities of reaching a compromise between developers interests and the intent of the CBPA ordinance. The objective in all variances was to remain within the intent of the CBPA ordinance while allowing for the encroachment into the RPA. In the Stihl case the 100 foot buffer was completely removed in one location. In the Homeowner case, the development was to take place partly within the features of the RPA on highly erodible soils. In all cases, the land disturbance was mitigated through the use of Best Management Practices.

Compromises based on BMPs require reliance on engineering calculations to justify that the chosen BMP will serve to mitigate appropriately. In addition, compromises based on BMPs require the responsibility of the landowner to maintain the BMP into the future. The combination of these two conditions brings an amount of uncertainty into the discussion of the appropriateness of the variance approval.

First, the most appropriate BMP for the site must be chosen with consideration given to the following:

- BMP options suitable for the site, given its physical condition and development status.
- Stormwater control benefits provided by each BMP option.
- The expected pollutant removal capability for each BMP option, under several different design scenarios.



- Environmental and human amenity values associated with the BMP option selected.<sup>66</sup>

These many considerations require a deal of time and effort on the part of the engineer. If insufficient time is spent on these calculations, or insufficiently qualified personnel are responsible for such a series of complex decisions and mathematical procedures, then there may be error in the calculations. Past efforts in urban BMP implementation have been a mixed bag. An important factor has been the lack of practical detailed guidance on how to plan, design and maintain BMPs at the scale of the development site.<sup>67</sup> And only recently has such guidance been made available through continued research in the field of nonpoint source pollution. For solid engineering calculations to be made in BMP selection, this recent guidance and continued updating of this guidance should be incorporated into the engineering measurements required for the insurance that the BMP chosen will justify the variance approved.

Secondly, and directly related to this previous issue, is the issue of future maintenance. Part of the engineering/planning decision for appropriate BMP selection is the requirements for BMP maintenance. BMPs require regular inspection and maintenance in order to function effectively in meeting the goal of no-net-increase in nonpoint source pollution. Maintenance tasks for most BMPs include both low cost routine tasks and more expensive non-routine tasks, such as rehabilitation or sediment removal. Maintenance costs for BMPs are significant. However, the cost and responsibility for maintenance is normally passed on to future residents or the public sector, and not the original developer.<sup>68</sup>

Board approval of a variance without the precise BMP measurements and

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<sup>66</sup> Schueler, 1987.

<sup>67</sup> Schueler, 1987.

<sup>68</sup> Schueler, 1987.

appropriate BMP selection by an engineer, and without regard to the future maintenance responsibilities for that BMP is in complete disagreement with the intent of the Chesapeake Bay Preservation Area Ordinance. The reports presented at the Board hearings do not indicate the work of engineers in formulating the appropriateness of the BMPs in question. The Board needs to be clear of the facts in order to base a judgement on the effectiveness of such a BMP to handle the increase in nonpoint source pollution imposed by the development encroachment of the buffer.

The issue of variance approval without an understanding of, or plan of, BMP maintenance is yet another large concern. This concern comes to new light in the "Trailing Step" of enforcement presented in the next section.

## **Enforcement**

As mentioned in an earlier section, the CBPA ordinance contains all of the required regulations of the Bay Act, including that of enforcement procedures, but having the written outline for behavior is simply not enough. All of the pre-application development review can be in vain if the suggestions are not followed up at the development site. Once this phase is finished the developers are out on their own to see those suggestions through. There is a bond fee that developers must pay to encourage compliance through economic incentive, but it seems as though this fee is not taken seriously enough by the city.

The lack of monitoring can be a problem. It has been estimated that perhaps only one in three projects actually follows the plan that had been approved. If this is the case, then with a solid enforcement scheme, the penalty fund should be loaded by now. But it isn't. Presently, there is no one designated as the Bay Ordinance compliance inspector, although Virginia Beach is currently at work waiting the approval of a grant-funded enforcement position (this position should be available in January 1994). At present, the building inspector has been handed the ball for inspection of ordinance compliance, in addition to his other duties. The building

inspector often does not have the time or the training to oversee these regulations.<sup>69</sup> Here lies the problem . Developers can gamble, pay their bond, violate the rules, and still get their bond back.

Now, monitoring is accomplished through the neighbors.<sup>70</sup> The monitoring "by complaints" requires that the neighbors understand the intent of the CBPA ordinance, and the requirements of the performance standards. This system of enforcement is against the intent of the CBPAO. It is understandable then that without an adequate system of enforcement built into the implementational process, the issue of BMP maintenance becomes a concern, as does the approval of such BMPs in a variance, without the promise of enforcement to ensure their continued effectiveness in achieving no-net-increase in nonpoint source pollution.

The neighborhood watch approach to monitoring can, however, achieve some assistance to the implementational process. But this approach is unlikely to afford favorable results if the neighbors lack sufficient education. Also to make it work, neighbors need to know they are the watch dog. The following section will address this "Trailing Step" in the implementational process.

## **Education**

As part of the "Initial Steps" the planners developed useful informational handouts and gave lectures to special interest groups. This initial educational effort was very important to get the ordinance implemented at the start. But since education is an ongoing process, more lectures are needed for these special interest groups, and educational efforts need to be broadened in scope to catch the general public.

The education deficiency hits Virginia Beach at five levels: children,

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<sup>69</sup> Bernick, 1993. Personal Communication.

<sup>70</sup> Bernick, 1993. Personal Communication.

homeowners, developers, planners, and the Bay Board. This is to say that these five groups stand to benefit from an increased understanding of CBPAO related educational issues. The attitude in Virginia Beach which has its roots in decades of rapid growth (without a thorough environmental predevelopment review), has continued to persist, though to a slightly lesser degree in recent years. The successful implementation of the Bay Act regulations requires a change in attitude toward sensitive development. "An attitude change can only come with an increase in education".<sup>71</sup>

For example, children can learn about the functions of buffers and the RPA features, the impact of pollution on aquatic life, and household solutions to nonpoint source pollution generation.

Secondly, homeowners can benefit from the understanding of the CBPAO intent, the appropriate buffers or indigenous plants that can be used to establish a buffer, the importance of recycling, and composting lawn litter, the need for carpooling to reduce vehicle emissions, the importance of maintaining BMPs and a clean landscape, and the importance of safe lawn fertilizer application.

Third, developers can benefit from a better understanding of the intent of the CBPAO, way to design developments to minimize impacts (such as clustering), the importance of sediment control devices during the construction phase and their proper installation, the importance of choosing the appropriate BMP for the site, and the importance of preserving the outstanding natural features with their functional roles intact for the economic benefits of retaining an aesthetically pleasing environment.<sup>72</sup>

Fourth, planners can benefit from the educational experience of sharing ideas with one another through meetings, from continuing to follow the up to date information in the Chesapeake Bay Local Assistance Department information

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<sup>71</sup> Sarkar, 1993. Personal Communication.

<sup>72</sup> Bernick, 1993. Personal Communication.

bulletins, from increasing involvement by the public in the Board public hearings, and from continuing to be involved in the pre-application review process and the decisions of BMP appropriateness and maintenance.

Finally, the Board can benefit from staying up to date on engineering techniques used in nonpoint source pollution calculations, and from staying up to date on innovative BMPs and well planned development procedures.

The following section offers recommendations to the City of Virginia Beach for the achievement of full implementation of the Bay Act regulations. These recommendations will address the deficiencies mentioned in this section.

## **Recommendations**

As noted above, Virginia Beach needs to take the initiative and address a number of issues in order to successfully implement this ordinance. The recommended target areas should include modifications to *at least* the following: education, enforcement, preapplication review, the variance procedure, the governmental image, open-space planning/ecotourism, established development, septic tank inventory, BMP usage, and planning methodology.

### **1. Education**

Develop and institute educational programs which reach out to all groups. Brochures indicating homeowner buffer establishment goals and indicating contacts for suggested landscaping vegetation or fertilizer use should be mailed out in power bills or other city related mailings. Free seminars should be offered at the libraries. Television or newspaper advertising should be utilized to increase environmental awareness at the local level.<sup>73</sup> School lectures on land use practice effects on the

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<sup>73</sup> Bernick, 1993. Personal Communication.

Chesapeake Bay, and field trips should be incorporated into the school curriculum. Begin a Virginia Beach incentive program based on neighborhood competition, as well as corporate competition, for natural vegetation shoreline establishment and or BMP creation and maintenance. This competition can spawn efforts to regionally emphasize buffer areas, as well as spawn new and inventive ideas for BMPs.

## **2. Monitoring/ Enforcement Establishment**

City funds or grant monies should be obtained to continuously employ an enforcement/monitoring staff member (this position should begin in January 1994) whose responsibilities should focus on development compliance, and also on homeowner compliance. This recommendation should be high priority, since enforcement is potentially the weak link in the Virginia Beach implementation of this ordinance. Included in the enforcement efforts should be on-site educational efforts for the rectification of a violation. Violation fees should be accrued for the allocation to the Chesapeake Bay public education initiatives. Inspections should be thorough, with special attention paid to any conditions imposed during the variance process.

## **3. Preapplication Process Required<sup>74</sup>**

This process should be required for all applicants, whether developing in the RMA or seeking to develop in the RPA. This process should entail an in-depth inventory of all site conditions, impacts of development, and precise engineering calculations. Records have shown that those applicants having received predevelopment counseling have often not had to seek a variance.

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<sup>74</sup> Couch, 1993. Personal Communication.

#### **4. Variance Process Streamlining**

The variance process should be made more efficient as the result of a thorough required preapplication review meeting so that all plans seeking variances could be sent to the Board for approval with conditions. With a streamlined variance process developers could save some of the time and money costs of the variance process, and be more inclined to spend more time in predevelopment counseling.

#### **5. Public Example**

The City of Virginia Beach should set a positive example for the public in city projects with the use of sediment control measures, sensitivity in RPAs, and proper landscaping practices within the intent of the CBPAO.<sup>75</sup> This sensitivity can be shown in roadway beautification initiatives, and open-space planning.

#### **6. Open Space Plan-Ecotourism**

Implement the developing open space plan with an emphasis on ecotourism, environmental educational, and protection of the natural heritage sites listed in the Natural Areas Inventory.<sup>76</sup> Special efforts to protect and restore the remaining large natural communities such as Sea Shore State Park, and the Lynnhaven River wetlands, connected with educational guides and routing can increase tourism, and perhaps spark local interest in enhancing residential and commercial land areas with the indigenous vegetation that makes Virginia Beach such a unique and diverse ecological setting.

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<sup>75</sup> Sarkar, 1993. Personal Communication.

<sup>76</sup> Bernick, 1993. Personal Communication.

## **7. Retrofit Existing Problems**

Existing nonpoint source pollution contributing areas such as Pembroke Mall should be retrofitted with BMPs to control the nonpoint source pollution. Encourage the home use of BMPs or buffer establishments, limited fertilizer application, and lawn and street cleanliness.

For compliance with Section 6217 (g) of the CZARA of 1990, the EPA suggests four (4) Existing Development Management Measures for controlling nonpoint source pollution from existing sources. They include: 1) Identify priority local and/or regional watershed pollutant reduction opportunities, e.g., improvements to existing urban runoff control structures; 2) Contain a schedule for implementing appropriate controls; 3) Limit destruction of natural conveyance systems; and 4) Where appropriate, preserve, enhance, or establish buffers along surface waterbodies and their tributaries.<sup>77</sup> Buffer establishment will also help to implement the CBPAO.

## **8. Septic System Inventory**

A septic tank inventory should be conducted identifying all septic tank locations, and the time of last pump-out. This information should be placed on a computer system to monitor the five year pump-out deadline for each tank. Notices sent out to septic tank owners for pump-out reminders can also be used for additional educational efforts relating to the restoration of the Chesapeake Bay (Clean the Bay Day, buffer establishment, BMP establishment and maintenance, recycling, composting, etc.).

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<sup>77</sup> E. P. A. January 1993. "Urban Runoff: Existing Development Management Measure" Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. Office of Water: Washington, DC.



## 9. Continued BMP Research

The effectiveness, maintenance, and suitability of BMPs should be well understood before utilization of these practices in lieu of the natural buffer. Planners and engineers should work together in evaluating the maintenance implications of BMPs to anticipate future maintenance problems at the site and develop designs that can alleviate them. If maintenance requirements are addressed during the design and construction phases, both the scope and the cost of future maintenance activities can be sharply reduced.<sup>78</sup>

## 10. Practice Preventive Planning

This should be the number one focus for the planning department. The use of BMPs should only be an absolute last resort, while predevelopment planning should be stressed. Predevelopment planning should focus on the nutrient management in agricultural areas, golf courses, and appropriate construction footprint location given an intensive study of the site conditions so that minimal mitigation measures are needed at present or required in reaction to a potential threat to water quality.

Pollution Prevention Management Measures at the homeowner level, such as lawn care, proper disposal of hazardous chemicals and pet management, are among EPA suggestions for CZARA but are also applicable to the CBPAO.<sup>79</sup>

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<sup>78</sup> Schueler, 1987.

<sup>79</sup> E.P.A. January 1993. "Management Measures for Urban Areas: Pollution Prevention" EPA: Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. Office of Water: Washington, DC.

## Chapter Six: Foreseeable Evolution of the CBPAO

### Amendments and Additions

With so many changes having taken place thus far throughout the evolution of the CBPAO, the Virginia Beach planners speculate on the future changes that may take place. This speculation is a positive form of thinking because it prepares the planners mentally for the changes. Some changes may be more radical than others, and some may be more distant.

A promising addition to the implementational process is the recent acquisition of a two year grant for monitoring. This grant was approved in October 1993, however, the hiring has not been completed to date. This staff member would work in the field and would be cross trained for the enforcement of many environmental ordinances. This enforcement officer would serve as a reminder to the City as to how enforcement for environmental legislation can be made better.<sup>80</sup>

One amendment that may come soon and is not too radical, is a change in the wording of the ordinance to make the definitions consistent throughout all ordinances. This change is considered a "housecleaning" exercise.<sup>81</sup> This exercise may accompany Mr. Bernick's proposed umbrella of water quality ordinances, discussed later in this section.

An amendment that warrants some caution is the proposal to grant the planning staff the variance granting authority, while the Board would only hear the appeals. This change may warrant caution since it would allow the applicant to "shop around" for an easy variance (Different planners may have different leanings, and may become

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<sup>80</sup> Bernick, 1993. Personal Communication.

<sup>81</sup> Bernick, 1993.

known by applicants for there flexibility).<sup>82</sup> This proposed amendment was initially set to be presented before the council in October 1993, however, the Board was not consulted about its occurrence and it is expected to be delayed at least until April of 1994.<sup>83</sup>

Another amendment that would seem fairly radical, and which is currently being worked on by Mr. Clay Bernick, is a possible combination of ordinances into one large ordinance. Such an ordinance may be called the Virginia Beach Water Quality Ordinance. This ordinance would combine such ordinances as the Chesapeake Bay Preservation Area Ordinance, the Stormwater Management Ordinance, the Wetlands Ordinance, and the Erosion and Sediment Control Ordinance. This combination of ordinances would accomplish a streamlining of administration. It would bring together the various pathways of the different ordinances so that there would be uniformity in the definitions, the appeals process, the review procedure, and enforcement.<sup>84</sup>

Clay Bernick stated it in Perotesque, "We have all the pieces that make up an umbrella of the National Pollution Discharge Elimination System and section 6217 of the Coastal Zone Act Reauthorization Amendments, but why not just have the umbrella?" This approach, he said, would eliminate the need for so much bureaucracy, and it would then free up personnel for enforcement positions.<sup>85</sup>

Developers complain about each new added interference in the form of ordinances, forms, and plans; and they see it as so many little things that they have to comply with that they miss the big picture. If Mr. Bernick's compilation proves

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<sup>82</sup> Sarkar, 1993. Personal Communication.

<sup>83</sup> Sarkar, 1993. Personal Communication.

<sup>84</sup> Bernick, 1993. Personal Communication.

<sup>85</sup> Bernick, 1993. Personal Communication.

fruitful, then it will be a move in the right direction toward both streamlining administration and promoting the big picture in the eyes of developers and the like.<sup>86</sup>

Finally, Mr. Bernick mentioned that in the foreseeable future, as technology and the environmental movement proceed, there will be finer and finer detail in monitoring operations. This will lead to small geographic scale regulations. For example, currently, the Chesapeake Bay Preservation Area Ordinance is geared to diminish the urban nonpoint source pollution stemming from the Virginia Beach drainage to the Chesapeake Bay as a whole. Mr. Bernick predicts that as technology and monitoring become increasingly more refined that Virginia Beach will be broken up into subwatersheds. One watershed ( The Elizabeth River) may require certain regulations, while another watershed (Lynnhaven River) may require other regulations depending on the severity of the problem. Further scrutiny could lead to a separation of the Lynnhaven river into the Western Branch and the Eastern Branch, with separate regulations for each branch.<sup>87</sup>

## **Final Statements**

Generations of rapid development in Virginia Beach (along with other Virginia urban centers) and in agricultural activities elsewhere in the Bay watershed have contributed to rendering the Bay waterways ecologically retarded in activity, and have left only the more tolerant species of aquatic life to squeeze an existence amidst the pollution loadings stemming from the urban and agricultural nonpoint source pollution. The Chesapeake Bay Preservation Area Ordinance development performance standards have been adopted by the City, as mandated by the Chesapeake Bay Act, in reaction to the loss of the economic viability of these water resources,

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<sup>86</sup> Bernick, 1992. Personal Communication.

<sup>87</sup> Bernick, 1993. Personal Communication.

with the intent to prevent any increase in nonpoint source pollution and restore the Bay waters. The Virginia Beach response to implementing this ordinance has been handled with strong efforts by the Planning Department and Environmental Management Center. Efforts such as a strong ordinance and efficiency in administration have eased the management of development practices. However, lags largely in public education and City enforcement have crippled the successful implementation of this ordinance.

For Virginia Beach to implement successfully this ordinance a change in attitude toward sensitive development is mandatory. Requiring pre-development review, the financing of an environmental law enforcement officer, and educating the public on such things as proper lawn fertilizer use and BMPs can work toward this effective implementation.

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# **Appendix A: Definitions<sup>88</sup>**

## **A Few Important Definitions**

The CBPAO has introduced several new terms into the vocabulary of the Virginia Beach planner. It became the planners job to understand these new terms, incorporate them into the ordinance, and make these terms understandable to the future developers affected by this ordinance. The following are a list of definitions used in the Chesapeake Bay Preservation Area Ordinance as well as throughout this document. It will be useful for the reader to become familiar with these terms so as to gain a better understanding of the meaning of this written work.

### **Chesapeake Bay Preservation Area Ordinance Definitions**

**Best Management Practice.** A practice, or a combination of practices, determined 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

**Board.** The Chesapeake Bay Preservation Area Board

**Buffer Area.** An area of existing or established vegetation managed to protect other components of a resource protection area and state waters from significant degradation due to land disturbances.

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<sup>88</sup> Chesapeake Bay Preservation Area Ordinance, 1992.

Chesapeake Bay Preservation Area. Any land designated as such on the Chesapeake Bay Preservation Area Map adopted by the city council, subject to the determination of the city manager on a site-specific basis. A Chesapeake Bay Preservation Area shall consist of a resource Protection area and a resource Management area

Construction Footprint. The area of all impervious surface created by development or redevelopment of land, including, but not limited to, buildings, roads, drives, parking areas and sidewalks, and any other land disturbed for the construction of such improvements. This definition shall not include construction accessways and staging areas for minor projects where such accessways and areas do not result in land disturbance.

Development. The construction or installation of any improvement upon a parcel of land, or any land disturbance associated therewith.

Diameter at Breast Height. The diameter of a tree measured at a point four and one-half feet above the existing grade.

Highly erodible soils. Those soils on slopes seaward of the point at which the slope of the ground changes from less than six percent to greater than six percent and the toe of the slope is located within one hundred feet of any component of the resource protection area.

Impervious Cover. A surface composed of any material which significantly impedes or prevents natural infiltration of water into the soil, including, but not limited to, buildings and other structures and the components thereof, concrete, asphalt, or compacted gravel surface.

Intensely Developed Area. Any land designated as such on the Chesapeake Bay Preservation Areas Map by the City Council.

Land Disturbance. Any activity upon land which causes, contributes to, or results in the destruction, removal or covering of the vegetation upon such land, including, but not limited to, clearing, dredging, filling, grading or excavating. The term shall not include minor activities such as home gardening, individual home landscaping and home maintenance.

Minor Projects. All changes or alterations to existing uses having a construction footprint of less than or equal to two thousand five hundred (2,500) square feet. For the purposes of this ordinance, this definition shall also include accessory structure as defined in the City Zoning Ordinance having a construction footprint of less than two thousand five hundred (2,500) square feet.

Nonpoint source pollution. 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. Those wetlands other than tidal wetlands that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Resource Management Area (RMA). That component of a Chesapeake Bay Preservation Area not classified as a resource protection area. Resource management areas include land types which, if improperly used or developed, have the potential for causing significant water quality degradation or for diminishing the functional

value of a resource protection area.

Resource Protection Area (RPA). That component of a Chesapeake Bay Preservation Area comprised of lands at or near the shoreline which 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.

Tidal shore. The area between the ;;mean low water and mean high water levels of tidal waters.

Tidal wetlands. Vegetated and nonvegetated wetlands as defined in section 1401 of the city zoning ordinance

Tributary stream. Any perennial stream depicted as such on the most recent U.S. Geological Survey 7 1/2 minute topographic quadrangle map (scale 1:24,000).

Water dependent Facility. A development of land which cannot exist outside of a resource protection area and which must be located on the shoreline by reason of the intrinsic nature of its operation . These facilities include, but are not limited to, ports, intake and outfall structures of power plants, water treatment plants, sewage treatment plants, storm sewers, marinas and other boat docking structures, beaches and other public water oriented recreation areas, fisheries or other marine resources facilities and shoreline protection measures as authorized under the provision of the wetlands zoning ordinance.

Wetlands. Tidal wetlands and nontidal wetlands as defined herein.

## Wetland Zoning Ordinance Definition of Wetlands<sup>89</sup>

According to the Wetlands Zoning Ordinance, which is referred to in the Chesapeake Bay Preservation Area Ordinance for the definition of wetlands, wetlands are defined as:

**Wetlands:** means both vegetated and nonvegetated wetlands

Nonvegetated Wetlands means unvegetated lands lying contiguous to mean low water and between mean low water and mean high water including those unvegetated areas of Back Bay and its tributaries and the North Landing River and its tributaries subject to flooding by normal and wind tides but not hurricane or tropical storm tides.

Vegetated Wetlands means lands lying between and contiguous to mean low water and an elevation above mean low water equal to the factor one-half (1/2) times the mean tide range at the site of the proposed project in the City of Virginia Beach; and upon which is growing any one (1) or more of the following species; saltmarsh cordgrass (*Spartina alterniflora*), saltmeadow hay (*Spartina patens*), saltgrass (*Distichlis spicata*), black neelerush (*Juncus roemerianus*), saltwort (*Salicornia spp.*), sea lavender (*Limonium spp.*), marsh elder (*Iva frutescens*), groundsel bush (*Baccharis halimifolia*), wax myrtle (*Myrica sp.*), sea oweye (*Borrichia frutescens*), arrow arum (*Peltandra virginica*), pickerelweed (*Pontederia cordata*), big cordgrass (*Spartina cynosuroides*), rice cutgrass (*Leersia oryzaoides*), wildrice (*Zizania aquatica*), bulrush (*Scirpus validus*), spikerrush (*Eleocharis sp.*) sea rocket (*Cakile edentula*), southern wildrice (*Zizaniopsis miliacea*), cattails (*Typha spp.*), three-squares (*Scirpus spp.*),

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<sup>89</sup> Wetlands Zoning Ordinance, City of Virginia Beach, VA, 1972.

buttonbush (*Cephalanthus occidentalis*), bald cypress (*Taxodium distichum*), black gum (*Nyssa sylvatica*), tupelo (*Nyssa aquatica*), dock (*Rumex spp.*), yellow pond lily (*Nuphar sp.*) marsh fleabane (*Pluchea purpurascens*), royal fern (*Osmunda regalis*), marsh hibiscus (*Hibiscus mosheutos*), beggar's tick (*Bidens sp.*), smartweeds (*Polygonum sp.*), arrowhead (*Sagittaria spp.*), sweet flag (*Acorus calamus*), water hemp (*Amaranthus cannabinus*), reed grass (*Phragmites communis*), and switch grass (*Panicum virgatum*)

## **Appendix B: Chesapeake Bay Act Final Regulation**



November 15, 1990

CHESAPEAKE BAY LOCAL ASSISTANCE BOARD

**FINAL REGULATION: VR 173-02-01. Chesapeake Bay Preservation Area Designation and Management Regulations.**

PART I.  
INTRODUCTION.

§ 1.1. Application.

The board is charged with the development of regulations which establish criteria that will provide for the protection of water quality, and that also will accommodate economic development. All counties, cities, and towns in Tidewater Virginia shall comply with these regulations. Other local governments not in Tidewater Virginia may use the criteria and conform their ordinances as provided in these regulations to protect the quality of state waters in accordance with § 10.1-2110 of the Code of Virginia.

§ 1.2. Authority for regulations.

These regulations are issued under the authority of §§ 10.1-2103 and 10.1-2107 of Chapter 21 of Title 10.1 of the Code of Virginia (the Chesapeake Bay Preservation Act, hereinafter "the Act").

§ 1.3. Purpose of regulations.

The purpose of these regulations is to protect and improve the water quality of the Chesapeake Bay, its tributaries, and other state waters by minimizing the effects of human activity upon these waters and implementing the Act, which provides for the definition and protection of certain lands called Chesapeake Bay Preservation Areas, which if improperly used or developed may result in substantial damage to the water quality of the Chesapeake Bay and its tributaries.

These regulations establish the criteria that counties, cities, and towns (hereinafter "local governments") shall use to determine the extent of the Chesapeake Bay Preservation Areas within their jurisdictions. These regulations establish criteria for use by local governments in granting, denying, or modifying requests to rezone, subdivide, or to use and develop land in Chesapeake Bay Preservation Areas. These regulations identify the requirements for changes which local governments shall incorporate into their comprehensive plans, zoning ordinances, and subdivision ordinances to protect the quality of state waters pursuant to §§ 10.1-2109 and 10.1-2111 of the Act.

§ 1.4. Definitions.

The following words and terms used in these regulations have the following meanings, unless the context clearly indicates otherwise. In addition, some terms not defined herein are defined in § 10.1-2101 of the Act.

"Act" means the Chesapeake Bay Preservation Act found in Chapter 21 (§ 10.1-2100 et seq.) of Title 10.1 of the Code of Virginia.

1 "Best management practice" means a practice, or combination of practices, that is  
2 determined by a state or designated area wide planning agency to be the most effective,  
3 practicable means of preventing or reducing the amount of pollution generated by nonpoint  
4 sources to a level compatible with water quality goals.

5  
6 "Board" means the Chesapeake Bay Local Assistance Board.

7  
8 "Buffer area" means an area of natural or established vegetation managed to protect  
9 other components of a Resource Protection Area and state waters from significant  
10 degradation due to land disturbances.

11  
12 "Chesapeake Bay Preservation Area" means any land designated by a local  
13 government pursuant to Part III of these regulations and § 10.1-2107 of the Act. A  
14 Chesapeake Bay Preservation Area shall consist of a Resource Protection Area and a  
15 Resource Management Area.

16  
17 "Department" means the Chesapeake Bay Local Assistance Department.

18  
19 "Development" means the construction or substantial alteration of residential,  
20 commercial, industrial, institutional, recreation, transportation, or utility facilities or  
21 structures.

22  
23 "Director" means the Executive Director of the Chesapeake Bay Local Assistance  
24 Department.

25  
26 "Floodplain" means all lands that would be inundated by flood water as a result of a  
27 storm event of a 100-year return interval.

28  
29 "Highly erodible soils" means soils (excluding vegetation) with an erodibility index  
30 (EI) from sheet and rill erosion equal to or greater than eight. The erodibility index for any  
31 soil is defined as the product of the formula  $RKLS/T$ , as defined by the "Food Security Act  
32 (F.S.A.) Manual" of August, 1988 in the "Field Office Technical Guide" of the U.S.  
33 Department of Agriculture Soil Conservation Service, where K is the soil susceptibility to  
34 water erosion in the surface layer; R is the rainfall and runoff; LS is the combined effects of  
35 slope length and steepness; and T is the soil loss tolerance.

36  
37 "Highly permeable soils" means soils with a given potential to transmit water through  
38 the soil profile. Highly permeable soils are identified as any soil having a permeability  
39 equal to or greater than six inches of water movement per hour in any part of the soil  
40 profile to a depth of 72 inches (permeability groups "rapid" and "very rapid") as found in  
41 the "National Soils Handbook" of July, 1983 in the "Field Office Technical Guide" of the  
42 U.S. Department of Agriculture Soil Conservation Service.

43  
44 "Impervious cover" means a surface composed of any material that significantly  
45 impedes or prevents natural infiltration of water into the soil. Impervious surfaces include,  
46 but are not limited to, roofs, buildings, streets, parking areas, and any concrete, asphalt, or  
47 compacted gravel surface.

48  
49 "Infill" means utilization of vacant land in previously developed areas.

50  
51 "Intensely Developed Areas" means those areas designated by the local government  
52 pursuant to § 3.4 of these regulations.

1 "Local governments" means counties, cities, and towns. These regulations apply to  
2 local governments in Tidewater Virginia, as defined in § 10.1-2101 of the Act, but the  
3 provisions of these regulations may be used by other local governments.  
4

5 "Local program" means the measures by which a local government complies with the  
6 Act and regulations.  
7

8 "Local program adoption date" means the date a local government meets the  
9 requirements of subsections A and B of § 2.2 of Part II.  
10

11 "Nontidal wetlands" means those wetlands other than tidal wetlands that are  
12 inundated or saturated by surface or ground water at a frequency and duration sufficient to  
13 support, and that under normal circumstances do support, a prevalence of vegetation  
14 typically adapted for life in saturated soil conditions, as defined by the U.S. Environmental  
15 Protection Agency pursuant to § 404 of the federal Clean Water Act, in 33 C.F.R. 328.3b,  
16 dated November 13, 1986.  
17

18 "Plan of development" means any process for site plan review in local zoning and  
19 land development regulations designed to ensure compliance with § 10.1-2109 of the Act  
20 and these regulations, prior to issuance of a building permit.  
21

22 "Public Road" means a publicly-owned road designed and constructed in accordance  
23 with water quality protection criteria at least as stringent as requirements applicable to the  
24 Virginia Department of Transportation, including regulations promulgated pursuant to (i) the  
25 Erosion and Sediment Control Law (§ 10.1-560 et seq. of the Code of Virginia) and (ii) the  
26 Virginia Stormwater Management Act (§ 10.1-603 et seq. of the Code of Virginia). This  
27 definition includes those roads where the Virginia Department of Transportation exercises  
28 direct supervision over the design or construction activities, or both, and cases where  
29 secondary roads are constructed or maintained, or both, by a local government in  
30 accordance with the standards of that local government.  
31

32 "Redevelopment" means the process of developing land that is or has been previously  
33 developed.  
34

35 "Resource Management Area" means that component of the Chesapeake Bay  
36 Preservation Area that is not classified as the Resource Protection Area.  
37

38 "Resource Protection Area" means that component of the Chesapeake Bay  
39 Preservation Area comprised of lands at or near the shoreline that have an intrinsic water  
40 quality value due to the ecological and biological processes they perform or are sensitive to  
41 impacts which may result in significant degradation to the quality of state waters.  
42

43 "Substantial alteration" means expansion or modification of a building or  
44 development which would result in a disturbance of land exceeding an area of 2,500 square  
45 feet in the Resource Management Area only.  
46

47 "Tidal shore" or "shore" means land contiguous to a tidal body of water between the  
48 mean low water level and the mean high water level.  
49

50 "Tidal wetlands" means vegetated and nonvegetated wetlands as defined in § 62.1-  
51 13.2 of the Code of Virginia.  
52

1 "Tidewater Virginia" means those jurisdictions named in § 10.1-2101 of the Act.  
 2  
 3 "Tributary stream" means any perennial stream that is so depicted on the most recent  
 4 U.S. Geological Survey 7-1/2 minute topographic quadrangle map (scale 1:24,000).  
 5  
 6 "Use" means an activity on the land other than development including, but not  
 7 limited to, agriculture, horticulture, and silviculture.  
 8  
 9 "Water-dependent facility" means a development of land that cannot exist outside of  
 10 the Resource Protection Area and must be located on the shoreline by reason of the intrinsic  
 11 nature of its operation. These facilities include, but are not limited to (i) ports; (ii) the  
 12 intake and outfall structures of power plants, water treatment plants, sewage treatment  
 13 plants, and storm sewers; (iii) marinas and other boat docking structures; (iv) beaches and  
 14 other public water-oriented recreation areas; and (v) fisheries or other marine resources  
 15 facilities.

16  
 17 **PART II.**  
 18 **LOCAL GOVERNMENT PROGRAMS.**

19  
 20 § 2.1. Local program development.

21  
 22 Local governments shall develop measures (hereinafter called "local programs")  
 23 necessary to comply with the Act and regulations. Counties and towns are encouraged to  
 24 cooperate in the development of their local programs. In conjunction with other state water  
 25 quality programs, local programs shall encourage and promote: (i) protection of existing  
 26 high quality state waters and restoration of all other state waters to a condition or quality  
 27 that will permit all reasonable public uses and will support the propagation and growth of all  
 28 aquatic life, including game fish, which might reasonably be expected to inhabit them; (ii)  
 29 safeguarding the clean waters of the Commonwealth from pollution; (iii) prevention of any  
 30 increase in pollution; (iv) reduction of existing pollution; and (v) promotion of water  
 31 resource conservation in order to provide for the health, safety and welfare of the present  
 32 and future citizens of the Commonwealth.

33  
 34 § 2.2. Elements of program.

35  
 36 Local programs shall contain the elements listed below. Local governments shall  
 37 adopt elements A and B concurrently and no later than 12 months after the adoption date of  
 38 these regulations. Elements C through G shall also be in place within 12 months after the  
 39 adoption date.

- 40
- 41 A. A map delineating Chesapeake Bay Preservation Areas.
- 42
- 43 B. Performance criteria applying in Chesapeake Bay Preservation Areas that employ  
 44 the requirements in Part IV.
- 45
- 46 C. A comprehensive plan or revision that incorporates the protection of Chesapeake  
 47 Bay Preservation Areas and of the quality of state waters.
- 48
- 49 D. A zoning ordinance or revision that (i) incorporates measures to protect the  
 50 quality of state waters in Chesapeake Bay Preservation Areas, and (ii) requires compliance  
 51 with all criteria set forth in Part IV.

1 E. A subdivision ordinance or revision that (i) incorporates measures to protect the  
2 quality of state waters in Chesapeake Bay Preservation Areas, and (ii) assures that all  
3 subdivisions in Chesapeake Bay Preservation Areas comply with the criteria set forth in Part  
4 IV.  
5

6 F. An erosion and sediment control ordinance or revision that requires compliance  
7 with the criteria in Part IV.  
8

9 G. A plan of development process prior to the issuance of a building permit to  
10 assure that use and development of land in Chesapeake Bay Preservation Areas is  
11 accomplished in a manner that protects the quality of state waters.  
12

13 **PART III.**  
14 **CHESAPEAKE BAY PRESERVATION AREA DESIGNATION CRITERIA.**  
15

16 § 3.1. Purpose.  
17

18 The criteria in this part provide direction for local government designation of the  
19 ecological and geographic extent of Chesapeake Bay Preservation Areas. Chesapeake Bay  
20 Preservation Areas are divided into Resource Protection Areas and Resource Management  
21 Areas that are subject to the criteria in Part IV and the requirements in Part V. In addition,  
22 the criteria in this part provide guidance for local government identification of areas suitable  
23 for redevelopment that are subject to the redevelopment criteria in Part IV.  
24

25 § 3.2. Resource Protection Areas.  
26

27 A. Resource Protection Areas shall consist of sensitive lands at or near the  
28 shoreline that have an intrinsic water quality value due to the ecological and biological  
29 processes they perform or are sensitive to impacts which may cause significant degradation  
30 to the quality of state waters. In their natural condition, these lands provide for the  
31 removal, reduction, or assimilation of sediments, nutrients, and potentially harmful or toxic  
32 substances in runoff entering the Bay and its tributaries, and minimize the adverse effects of  
33 human activities on state waters and aquatic resources.  
34

35 B. The Resource Protection Area shall include:  
36

37 1. Tidal wetlands;  
38

39 2. Nontidal wetlands connected by surface flow and contiguous to tidal wetlands  
40 or tributary streams;  
41

42 3. Tidal shores;  
43

44 4. Such other lands under the provisions of subsection A of § 3.2 of this part  
45 necessary to protect the quality of state waters;  
46

47 5. A buffer area not less than 100 feet in width located adjacent to and landward  
48 of the components listed in subdivisions 1 through 4 above, and along both sides of  
49 any tributary stream. The full buffer area shall be designated as the landward  
50 component of the Resource Protection Area notwithstanding the presence of permitted  
51 uses or equivalent measures in compliance with Part IV of these regulations.  
52 Designation of this area shall not be subject to reduction unless based on reliable site-

1 specific information as provided in subsection B of § 4.1, and subsections C and E of  
2 § 5.6 of these regulations.

3  
4 § 3.3. Resource Management Areas.

5  
6 A. Resource Management Areas shall include land types that, if improperly used  
7 or developed, have a potential for causing significant water quality degradation or for  
8 diminishing the functional value of the Resource Protection Area.

9  
10 B. A Resource Management Area shall be provided contiguous to the entire  
11 inland boundary of the Resource Protection Area. The following land categories shall be  
12 considered for inclusion in the Resource Management Area:

- 13  
14 1. Floodplains;  
15  
16 2. Highly erodible soils, including steep slopes;  
17  
18 3. Highly permeable soils;  
19  
20 4. Nontidal wetlands not included in the Resource Protection Area;  
21  
22 5. Such other lands under the provisions of subsection A of § 3.3 of this part  
23 necessary to protect the quality of state waters.

24  
25 C. Resource Management Areas shall encompass a land area large enough to  
26 provide significant water quality protection through the employment of the criteria in Part IV  
27 and the requirements in Parts II and V.

28  
29 § 3.4. Intensely Developed Areas.

30  
31 At their option, local governments may designate Intensely Developed Areas as an  
32 overlay of Chesapeake Bay Preservation Areas within their jurisdictions. For the purposes  
33 of these regulations, Intensely Developed Areas shall serve as redevelopment areas in which  
34 development is concentrated as of the local program adoption date. Areas so designated  
35 shall comply with the performance criteria for redevelopment in Part IV.

36  
37 Local governments exercising this option shall examine the pattern of residential,  
38 commercial, industrial, and institutional development within Chesapeake Bay Preservation  
39 Areas. Areas of existing development and infill sites where little of the natural environment  
40 remains may be designated as Intensely Developed Areas provided at least one of the  
41 following conditions exists:

42  
43 A. Development has severely altered the natural state of the area such that it has  
44 more than 50% impervious surface;

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46 B. Public sewer and water is constructed and currently serves the area by the  
47 effective date. This condition does not include areas planned for public sewer and water;

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49 C. Housing density is equal to or greater than four dwelling units per acre.

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**PART IV.**  
**LAND USE AND DEVELOPMENT PERFORMANCE CRITERIA.**

§ 4.1. Purpose.

The purpose of this part is to achieve the goals of the Act and § 2.1 of these regulations by establishing criteria to implement the following objectives: prevent a net increase in nonpoint source pollution from new development, achieve a 10% reduction in nonpoint source pollution from redevelopment, and achieve a 40% reduction in nonpoint source pollution from agricultural and silvicultural uses.

In order to achieve these goals and objectives, these criteria establish performance standards to minimize erosion and sedimentation potential, reduce land application of nutrients and toxics, maximize rainwater infiltration, and ensure the long-term performance of the measures employed.

A. These criteria become mandatory upon the local program adoption date. They are supplemental to the various planning and zoning concepts employed by local governments in granting, denying, or modifying requests to rezone, subdivide, or to use and develop land in Chesapeake Bay Preservation Areas.

B. Local governments may exercise judgment in determining site-specific boundaries of Chesapeake Bay Preservation Area components and in making determinations of the application of these regulations, based on more reliable or specific information gathered from actual field evaluations of the parcel, in accordance with plan of development requirements in Part V.

§ 4.2. General performance criteria.

It must be demonstrated to the satisfaction of local governments that any use, development, or redevelopment of land in Chesapeake Bay Preservation Areas meets the following performance criteria:

1. No more land shall be disturbed than is necessary to provide for the desired use or development.
2. Indigenous vegetation shall be preserved to the maximum extent possible consistent with the use and development allowed.
3. Where the best management practices utilized require regular or periodic maintenance in order to continue their functions, such maintenance shall be ensured by the local government through a maintenance agreement with the owner or developer or some other mechanism that achieves an equivalent objective.
4. All development exceeding 2,500 square feet of land disturbance shall be accomplished through a plan of development review process consistent with § 15.1-491(h) of the Code of Virginia.
5. Land development shall minimize impervious cover consistent with the use or development allowed.

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6. Any land disturbing activity that exceeds an area of 2,500 square feet (including construction of all single family houses, septic tanks and drainfields, but otherwise as defined in § 10.1-560 of the Code of Virginia) shall comply with the requirements of the local erosion and sediment control ordinance.

7. On-site sewage treatment systems not requiring a Virginia Pollutant Discharge Elimination System (VPDES) permit shall:

- a. Have pump-out accomplished for all such systems at least once every five years;
- b. For new construction, provide a reserve sewage disposal site with a capacity at least equal to that of the primary sewage disposal site. This reserve sewage disposal site requirement shall not apply to any lot or parcel recorded prior to October 1, 1989, if the lot or parcel is not sufficient in capacity to accommodate a reserve sewage disposal site, as determined by the local health department. Building shall be prohibited on the area of all sewage disposal sites until the structure is served by public sewer or an on-site sewage treatment system which operates under a permit issued by the State Water Control Board. All sewage disposal site records shall be administered to provide adequate notice and enforcement.

8. Stormwater management criteria which accomplish the goals and objectives of these regulations shall apply. For development, the post-development nonpoint source pollution runoff load shall not exceed the pre-development load based upon average land cover conditions. Redevelopment of any site not currently served by water quality best management practices shall achieve at least a 10% reduction of nonpoint source pollution in runoff compared to the existing runoff load from the site. Post-development runoff from any site to be redeveloped that is currently served by water quality best management practices shall not exceed the existing load of nonpoint source pollution in surface runoff.

- a. The following stormwater management options shall be considered to comply with this subsection of these regulations:
  - (1) Incorporation on the site of best management practices that achieve the required control;
  - (2) Compliance with a locally adopted regional stormwater management program incorporating pro-rata share payments pursuant to the authority provided in § 15.1-466(j) of the Code of Virginia that results in achievement of equivalent water quality protection;
  - (3) Compliance with a state or locally implemented program of stormwater discharge permits pursuant to § 402(p) of the federal Clean Water Act, as set forth in 40 C.F.R. Parts 122, 123, 124, and 504, dated December 7, 1988;
  - (4) For a redevelopment site that is completely impervious as currently developed, restoring a minimum 20% of the site to vegetated open space.



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b. Any maintenance, alteration, use, or improvement to an existing structure which does not degrade the quality of surface water discharge, as determined by the local government, may be exempted from the requirements of this subsection.

c. Stormwater management criteria for redevelopment shall apply to any redevelopment, whether or not it is located within an Intensely Developed Area designated by a local government.

9. Land upon which agricultural activities are being conducted, including but not limited to crop production, pasture, and dairy and feedlot operations, shall have a soil and water quality conservation plan. Such a plan shall be based upon the Field Office Technical Guide of the U.S. Department of Agriculture Soil Conservation Service and accomplish water quality protection consistent with the Act and these regulations. Such a plan will be approved by the local Soil and Water Conservation District by January 1, 1995.

The board will request the Department of Conservation and Recreation to evaluate the existing state and federal agricultural conservation programs for effectiveness in providing water quality protection. In the event that, by July 1, 1991, the Department of Conservation and Recreation finds that the implementation of the existing agricultural conservation programs is inadequate to protect water quality consistent with the Act and these regulations, the board will consider the promulgation of regulations to provide more effective protection of water quality from agricultural activities and may require implementation of best management practices on agricultural lands within Chesapeake Bay Preservation Areas.

10. Silvicultural activities in Chesapeake Bay Preservation Areas are exempt from these regulations provided that silvicultural operations adhere to water quality protection procedures prescribed by the Department of Forestry in its "Best Management Practices Handbook for Forestry Operations." The Department of Forestry will oversee and document installation of best management practices and will monitor instream impacts of forestry operations in Chesapeake Bay Preservation Areas. In the event that, by July 1, 1991, the Department of Forestry programs are unable to demonstrate equivalent protection of water quality consistent with the Act and these regulations, the Department of Forestry will revise its programs to assure consistency of results and may require implementation of best management practices.

11. Local governments shall require evidence of all wetlands permits required by law prior to authorizing grading or other on-site activities to begin.

§ 4.3. Performance criteria for Resource Protection Areas.

The following criteria shall apply specifically within Resource Protection Areas and supplement the general performance criteria in § 4.2 of this part.

A. Allowable development.

A water quality impact assessment shall be required for any proposed development in accordance with Part V. Land development may be allowed only if it (i) is water dependent or (ii) constitutes redevelopment.

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1. A new or expanded water-dependent facility may be allowed provided that:
    - a. It does not conflict with the comprehensive plan;
    - b. It complies with the performance criteria set forth in this part;
    - c. Any non-water-dependent component is located outside of Resource Protection Areas;
    - d. Access will be provided with the minimum disturbance necessary. Where possible, a single point of access will be provided.
  2. Redevelopment shall conform to applicable stormwater management and erosion and sediment control criteria in this part.
  3. Roads and driveways not exempt under subdivision 1 of subsection B of § 4.5 of these regulations may be constructed in or across Resource Protection Areas if each of the following conditions is met:
    - a. The local government makes a finding that there are no reasonable alternatives to aligning the road or driveway in or across the Resource Protection Area;
    - b. The alignment and design of the road or driveway are optimized, consistent with other applicable requirements, to minimize (1) encroachment in the Resource Protection Area and (2) adverse effects on water quality;
    - c. The design and construction of the road or driveway satisfy all applicable criteria of these regulations, including submission of a water quality impact assessment;
    - d. The local government reviews the plan for the road or driveway proposed in or across the Resource Protection Area in coordination with local government site plan, subdivision, and plan of development approvals.
- B. Buffer area requirements.

To minimize the adverse effects of human activities on the other components of the Resource Protection Area, 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. The 100-foot buffer area shall be deemed to achieve a 75% reduction of sediments and a 40% reduction of nutrients. Except as noted in this subsection, a combination of a buffer area not less than 50 feet in width and appropriate best management practices located landward of the buffer area which collectively achieve water quality protection, pollutant removal, and water resource conservation at least the equivalent of the 100-foot buffer area may be employed in lieu of the 100-foot buffer. The following additional performance criteria shall apply:

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1. In order to maintain the functional value of the buffer area, indigenous vegetation may be removed only to provide for reasonable sight lines, access paths, general woodlot management, and best management practices, as follows:

- a. Trees may be pruned or removed as necessary to provide for sight lines and vistas, provided that where removed they shall be replaced with other vegetation that is equally effective in retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff.
- b. Any path shall be constructed and surfaced so as to effectively control erosion.
- c. Dead, diseased, or dying trees or shrubbery may be removed at the discretion of the landowner, and silvicultural thinning may be conducted based upon the recommendation of a professional forester or arborist.
- d. 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.

2. When the application of the buffer area would result in the loss of a buildable area on a lot or parcel recorded prior to October 1, 1989, modifications to the width of the buffer area may be allowed in accordance with the following criteria:

- a. Modifications to the buffer area shall be the minimum necessary to achieve a reasonable buildable area for a principal structure and necessary utilities.
- b. Where possible, an area equal to the area encroaching the buffer area shall be established elsewhere on the lot or parcel in a way to maximize water quality protection.
- c. In no case shall the reduced portion of the buffer area be less than 50 feet in width.

3. Redevelopment within Intensely Developed Areas may be exempt from the requirements of this subsection. However, while the immediate establishment of the buffer area may be impractical, local governments shall give consideration to implementing measures that would establish the buffer in these areas over time in order to maximize water quality protection, pollutant removal, and water resource conservation.

4. On agricultural lands the agricultural buffer area shall be managed to prevent concentrated flows of surface water from breaching the buffer area and noxious weeds (such as Johnson grass, kudzu, and multiflora rose) from invading the buffer area. The agricultural buffer area may be reduced as follows:

- a. To a minimum width of 50 feet when the adjacent land is enrolled in a federal, state, or locally funded agricultural best management practices program, and the program is being implemented, provided that the

1 combination of the reduced buffer area and the best management practices  
2 achieves water quality protection, pollutant removal, and water resource  
3 conservation at least the equivalent of the 100-foot buffer area;  
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5 b. To a minimum width of 25 feet when a soil and water quality  
6 conservation plan, as approved by the local Soil and Water Conservation  
7 District, has been implemented on the adjacent land, provided that the portion  
8 of the plan being implemented for the Chesapeake Bay Preservation Area  
9 achieves water quality protection at least the equivalent of that provided by the  
10 100-foot buffer area in the opinion of the local Soil and Water Conservation  
11 District Board. Such plan shall be based upon the Field Office Technical  
12 Guide of the U.S. Department of Agriculture Soil Conservation Service and  
13 accomplish water quality protection consistent with the Act and these  
14 regulations;  
15

16 c. The buffer area is not required for agricultural drainage ditches if the  
17 adjacent agricultural land has in place best management practices in  
18 accordance with a conservation plan approved by the local Soil and Water  
19 Conservation District.  
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21 § 4.4. Local program development.  
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23 Local governments shall incorporate the criteria in this part into their comprehensive  
24 plans, zoning ordinances, subdivision ordinances, and such other police and zoning powers  
25 as may be appropriate, in accordance with §§ 10.1-2111 and 10.1-2108 of the Act and Part  
26 V of these regulations. The criteria may be employed in conjunction with other planning  
27 and zoning concepts to protect the quality of state waters.  
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29 § 4.5. Administrative waivers and exemptions.  
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31 A. Nonconforming use and development waivers.  
32

33 1. Local governments may permit the continued use, but not necessarily the  
34 expansion, of any structure in existence on the date of local program adoption.  
35 Local governments may establish an administrative review procedure to waive or  
36 modify the criteria of this part for structures on legal nonconforming lots or parcels  
37 provided that:  
38

39 a. There will be no net increase in nonpoint source  
40 pollutant load;  
41

42 b. Any development or land disturbance exceeding an area  
43 of 2,500 square feet complies with all erosion and sediment  
44 control requirements of this part.  
45

46 2. It is not the intent of these regulations to prevent the reconstruction of  
47 pre-existing structures within Chesapeake Bay Preservation Areas from  
48 occurring as a result of casualty loss unless otherwise restricted by local  
49 government ordinances.

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B. Public utilities, railroads, and facilities exemptions.

1. Construction, installation, operation, and maintenance of electric, gas, and telephone transmission lines, railroads, and public roads and their appurtenant structures in accordance with (i) regulations promulgated pursuant to the Erosion and Sediment Control Law (§ 10.1-560 et seq. of the Code of Virginia) and the Stormwater Management Act (§ 10.1-603.1 et seq. of the Code of Virginia), (ii) an erosion and sediment control plan and a stormwater management plan approved by the Virginia Department of Conservation and Recreation, or (iii) local water quality protection criteria at least as stringent as the above state requirements will be deemed to constitute compliance with these regulations. The exemption of public roads is further conditioned on the following:

a. Optimization of the road alignment and design, consistent with other applicable requirements, to prevent or otherwise minimize (i) encroachment in the Resource Protection Area and (ii) adverse effects on water quality;

b. Local governments may choose to exempt (i) all public roads as defined in § 1.4 of these regulations, or (ii) only those public roads constructed by the Virginia Department of Transportation.

2. Construction, installation, and maintenance of water, sewer, and local gas lines shall be exempt from the criteria in this part provided that:

a. To the degree possible, the location of such utilities and facilities should be outside Resource Protection Areas;

b. No more land shall be disturbed than is necessary to provide for the desired utility installation;

c. All such construction, installation, and maintenance of such utilities and facilities shall be in compliance with all applicable state and federal permits and designed and conducted in a manner that protects water quality;

d. Any land disturbance exceeding an area of 2,500 square feet complies with all erosion and sediment control requirements of this part.

C. Exemptions in Resource Protection Areas.

The following land disturbances in Resource Protection Areas may be exempt from the criteria of this part provided that they comply with subdivisions 1 and 2 below of this subsection: (i) water wells; (ii) passive recreation facilities such as boardwalks, trails, and pathways; and (iii) historic preservation and archaeological activities.

1. Local governments shall establish administrative procedures to review such exemptions.

2. Any land disturbance exceeding an area of 2,500 square feet shall comply with the erosion and sediment control requirements of this part.

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§ 4.6. Exceptions to the criteria.

Exceptions to the requirements of these regulations may be granted, provided that: (i) exceptions to the criteria shall be the minimum necessary to afford relief, and (ii) reasonable and appropriate conditions upon any exception granted shall be imposed as necessary so that the purpose and intent of the Act are preserved. Local governments shall design an appropriate process or processes for the administration of exceptions, in accordance with Part V.

**PART V.  
IMPLEMENTATION, ASSISTANCE, AND DETERMINATION OF CONSISTENCY.**

§ 5.1. Purpose.

The purpose of this part is to assist local governments in the timely preparation of local programs to implement the Act, and to establish guidelines for determining local program consistency with the Act.

§ 5.2. Local assistance manual.

A. The Department will prepare a manual to provide guidance to assist local governments in the preparation of local programs in order to implement the Act and these regulations. The manual will be updated periodically to reflect the most current planning and zoning techniques and effective best management practices. The manual will be made available to the public.

B. The manual will recommend a schedule for the completion of local program elements and their submission to the board for its information, to ensure timely achievement of the requirements of the Act and timely receipt of assistance. The board will consider compliance with the schedule in allocating financial and technical assistance. Those elements of the manual necessary to assist local governments in meeting the requirements of subsections A and B of § 2.2 will be completed by the effective date of these regulations.

C. The manual is for the purpose of guidance only and is not mandatory.

§ 5.3. Board to establish liaison.

The board will establish liaison with each local government to assist that local government in developing and implementing its local program, in obtaining technical and financial assistance, and in complying with the Act and regulations.

§ 5.4. Planning district comments.

Local governments are encouraged to enlist the assistance and comments of regional planning district agencies early in the development of their local programs.

§ 5.5. Designation of Chesapeake Bay Preservation Areas.

A. The designation of Chesapeake Bay Preservation Areas as an element of the local program should:

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1. Utilizing existing data and mapping resources, identify and describe tidal wetlands, nontidal wetlands, tidal shores, tributary streams, floodplains, highly erodible soils including steep slopes, highly permeable areas, and other sensitive environmental resources as necessary to comply with Part III;
  2. Determine, based upon the identification and description, the extent of Chesapeake Bay Preservation Areas within the local jurisdiction;
  3. Prepare an appropriate map or maps delineating Chesapeake Bay Preservation Areas;
  4. Prepare amendments to local ordinances which incorporate the performance criteria of Part IV or the model ordinance prepared by the board.
- B. Review by the board.

The board will review a proposed program within 60 days. If it is consistent with the Act, the board will schedule a conference with the local government to determine what additional technical and financial assistance may be needed and available to accomplish the proposed program. If not consistent, the board will notify the local government and recommend specific changes.

C. Adoption of designation and performance criteria.

After being advised of program consistency, local governments shall hold a public hearing, delineate Chesapeake Bay Preservation Areas on an appropriate map or maps, and adopt the performance criteria. Copies of the adopted program documents and subsequent changes thereto shall be provided to the board.

§ 5.6. Preparation and submission of management program.

Local governments must adopt the full management program, including any revisions to comprehensive plans, zoning ordinances, subdivision ordinances, and other local authorities necessary to implement the Act, within 12 months of the adoption date of these regulations. Prior to adoption, local governments may submit any proposed revisions to the board for comments. Guidelines are provided below for local government use in preparing local programs and the board's use in determining local program consistency.

A. Comprehensive plans.

Local governments shall review and revise their comprehensive plans, as necessary, for compliance with § 10.1-2109 of the Act. As a minimum, the comprehensive plan or plan component should consist of the following basic elements: (i) a summary of data collection and analysis; (ii) a policy discussion; (iii) a land use plan map; (iv) implementing measures, including specific objectives and a time frame for accomplishment.

1. Local governments should establish an information base from which to make policy choices about future land use and development that will protect the quality of state waters. This element of the plan should be based upon the following:
  - a. Information used to designate Chesapeake Bay Preservation Areas:

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- b. Other marine resources;
  - c. Shoreline erosion problems and location of erosion control structures;
  - d. Conflicts between existing and proposed land uses and water quality protection;
  - e. A map or map series accurately representing the above information.
2. As part of the comprehensive plan, local governments should clearly indicate local policy on land use issues relative to water quality protection. Local governments should ensure consistency among the policies developed.
- a. Local governments should discuss each component of Chesapeake Bay Preservation Areas in relation to the types of land uses considered appropriate and consistent with the goals and objectives of the Act, these regulations, and their local programs.
  - b. As a minimum, local governments should prepare policy statements for inclusion in the plan on the following issues:
    - (1) Physical constraints to development, including soil limitations, with an explicit discussion of soil suitability for septic tank use;
    - (2) Protection of potable water supply, including groundwater resources;
    - (3) Relationship of land use to commercial and recreational fisheries;
    - (4) Appropriate density for docks and piers;
    - (5) Public and private access to waterfront areas and effect on water quality;
    - (6) Existing pollution sources;
    - (7) Potential water quality improvement through the redevelopment of Intensely Developed Areas.
  - c. For each of the policy issues listed above, the plan should contain a discussion of the scope and importance of the issue, alternative policies considered, the policy adopted by the local government for that issue, and a description of how the local policy will be implemented.
  - d. Within the policy discussion, local governments should address consistency between the plan and all adopted land use, public services, land use value taxation ordinances and policies, and capital improvement plans and budgets.



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B. Zoning ordinances.

Local governments shall review and revise their zoning ordinances, as necessary, to comply with § 10.1-2109 of the Act. The ordinances should:

1. Make provisions for the protection of the quality of state waters;
2. Incorporate either explicitly or by direct reference the performance criteria in Part IV;
3. Be consistent with the comprehensive plan within Chesapeake Bay Preservation Areas.

C. Plan of development review.

Local governments shall make provisions as necessary to ensure that any development of land within Chesapeake Bay Preservation Areas must be accomplished through a plan of development procedure pursuant to § 15.1-491(h) of the Code of Virginia to ensure compliance with the Act and regulations. Any exemptions from those review requirements shall be established and administered in a manner that ensures compliance with these regulations.

D. Subdivision ordinances.

Local governments shall review and revise their subdivision ordinances, as necessary, to comply with § 10.1-2109 of the Act. The ordinances should:

1. Include language to ensure the integrity of Chesapeake Bay Preservation Areas;
2. Incorporate, either explicitly or by direct reference, the performance criteria of Part IV.

E. Water quality impact assessment.

A water quality impact assessment shall be required for any proposed development within the Resource Protection Area consistent with Part IV and for any other development in Chesapeake Bay Preservation Areas that may warrant such assessment because of the unique characteristics of the site or intensity of the proposed use or development.

1. The purpose of the water quality impact assessment is to identify the impacts of proposed development on water quality and lands in Resource Protection Areas consistent with the goals and objectives of the Act, these regulations, and local programs, and to determine specific measures for mitigation of those impacts. The specific content and procedures for the water quality impact assessment shall be established by local governments. Local governments should notify the board of all development requiring such assessment. Upon request, the board will provide review and comment on any water quality impact assessment within 90 days, in accordance with advisory state review requirements of § 10.1-2112 of the Act.
2. The assessment shall be of sufficient specificity to demonstrate compliance with the criteria of the local program.

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F. Review by the board.

The board will review any proposed management program within 90 days. If it is consistent with the Act, the board will schedule a conference with the local government to determine what additional technical and financial assistance may be needed and available to accomplish the long-term aspects of the local program. If the program or any part thereof is not consistent, the board will notify the local government in writing stating the reasons for a determination of inconsistency and recommending specific changes. Copies of the adopted program documents and subsequent changes thereto shall be provided to the board.

§ 5.7. Certification of local program.

Upon request, the board will certify that a local program complies with the Act and regulations.

**PART VI.  
ENFORCEMENT.**

§ 6.1. Applicability.

The Act requires that the board ensure that local governments comply with the Act and regulations and that their comprehensive plans, zoning ordinances, and subdivision ordinances are in accordance with the Act. To satisfy these requirements, the board has adopted these regulations and will monitor each local government's compliance with the Act and regulations.

§ 6.2. Administrative proceedings.

Section 10.1-2103.8 of the Act provides that the board shall ensure that local government comprehensive plans, subdivision ordinances, and zoning ordinances are in accordance with the provisions of the Act, and that it shall determine such compliance in accordance with the provisions of the Administrative Process Act. When the board determines to decide such compliance, it will give the subject local government at least 15 days notice of its right to appear before the board at a time and place specified for the presentation of factual data, argument, and proof as provided by § 9-6.14:11. The board will provide a copy of its decision to the local government. If any deficiencies are found, the board will establish a schedule for the local government to come into compliance.

§ 6.3. Legal proceedings.

Section 10.1-2103.10 of the Act provides that the board shall take administrative and legal actions to ensure compliance by local governments with the provisions of the Act. Before taking legal action against a local government to ensure compliance, the board shall, unless it finds extraordinary circumstances, give the local government at least 15 days notice of the time and place at which it will decide whether or not to take legal action. If it finds extraordinary circumstances, the board may proceed directly to request the Attorney General to enforce compliance with the Act and regulations. Administrative actions will be taken pursuant to § 6.2.

1 § 6.4. Adoption date.

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3       The adoption date of these regulations shall be November 15, 1990.

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5 § 6.5. Effective date.

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7       The effective date of these regulations shall be October 1, 1991, at which date they  
8 shall supersede the Emergency Chesapeake Bay Preservation Area Designation and  
9 Management Regulations (VR 173-02-01.1).

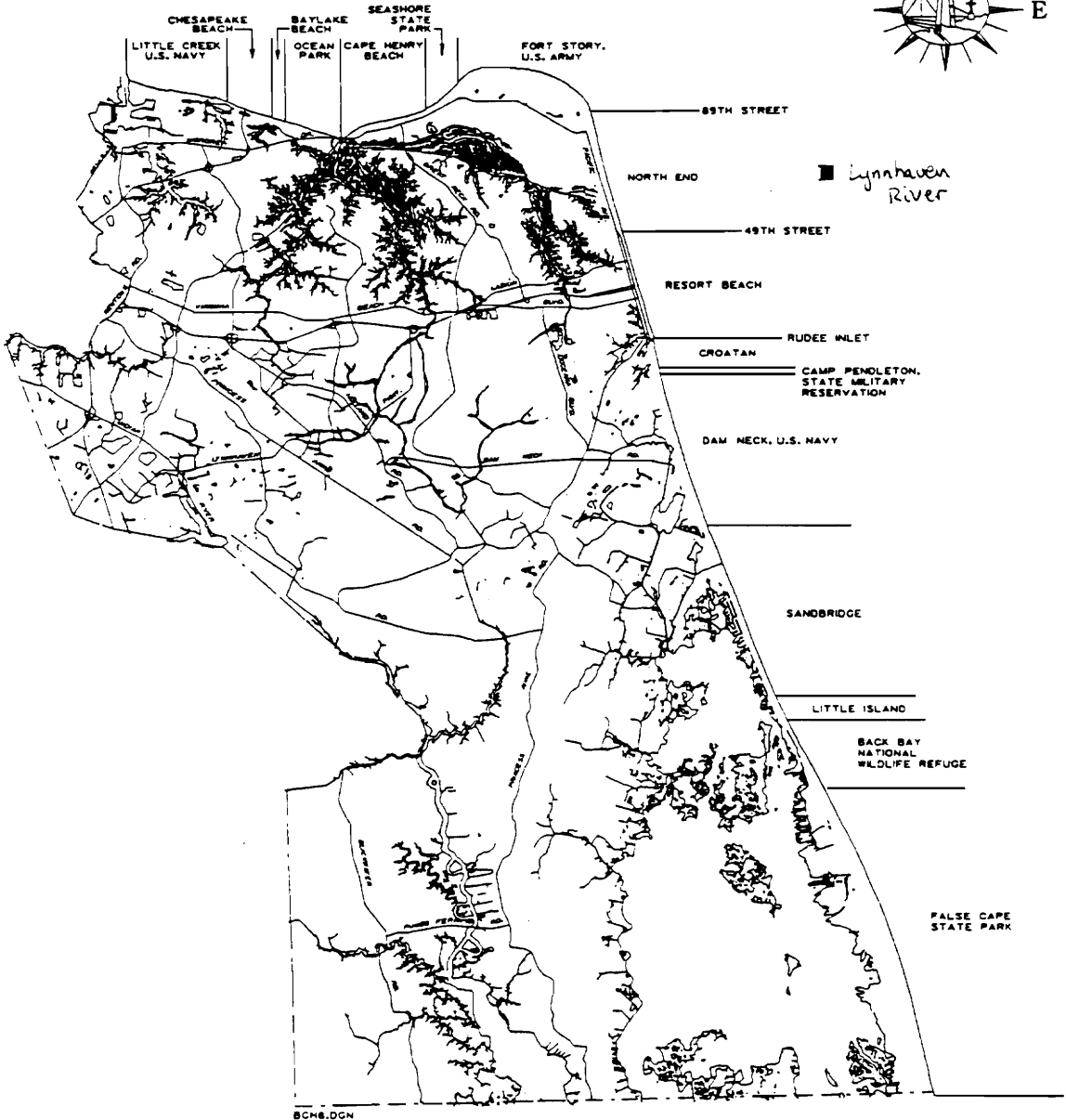
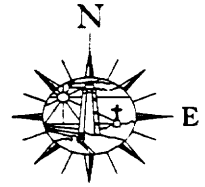
**Appendix C: Tidewater Virginia and Virginia Beach-  
Lynnhaven River**

# TIDEWATER VIRGINIA

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CITY OF VIRGINIA BEACH  
SHORELINE SEGMENTS



**Appendix D: Chesapeake Bay Preservation Area  
Ordinance**

**Sec. 100. Title.**

This ordinance shall be known as the Chesapeake Bay Preservation Area Ordinance of the City of Virginia Beach. (Ord. No. 2006, 11-6-90)

**Sec. 101. Findings of fact.**

The Chesapeake Bay and its tributaries constitute one of the most important and productive estuarine systems in the world, providing economic and social benefits to the citizens of the City of Virginia Beach and the Commonwealth of Virginia. The health of the bay and its tributaries is vital to maintaining the City of Virginia Beach's economy and the welfare of its citizens.

The Chesapeake Bay waters have been degraded significantly by many sources of pollution, including nonpoint source pollution from land development. Existing waters are worthy of protection from further degradation. Certain lands that are proximate to shorelines have an intrinsic water quality value due to the ecological and biological processes they perform. With proper management, they offer significant ecological benefits by providing water quality maintenance and pollution control, as well as flood and shoreline erosion control. These lands, designated by the city council as Chesapeake Bay Preservation Areas, shall be developed in such manner as to protect the quality of water in the bay. (Ord. No. 2006, 11-6-90)

**Sec. 102. Purpose and intent.**

(A) This ordinance is adopted in order to implement the requirements and stated purposes of The Chesapeake Bay Preservation Act (sections 10.1-2100 through 10.1-2115 of the Code of Virginia) and the Chesapeake Bay Preservation Area Designation and Management Regulations promulgated thereunder.

The intent of city council and the purpose of this ordinance are to: (1) protect existing high quality state waters; (2) prevent any increase in pollution; and (3) restore state waters to a condition or quality that will permit all reasonable public uses and will support the propagation and growth of all aquatic life, including game fish, which might reasonably be expected to inhabit them.

The performance standards established by this ordinance provide the means to minimize erosion and sedimentation potential, reduce land application of nutrients and toxins, and maximize rainwater infiltration. Indigenous ground cover, especially woody vegetation, is effective in holding soil in place and preventing site erosion. Existing vegetation filters stormwater runoff. By minimizing impervious cover, rainwater infiltration is enhanced and stormwater runoff is reduced.

(B) The designation of any area as a Chesapeake Bay Preservation Area shall be in addition to, and not in lieu of, the zoning district classification of such area, such that any parcel of land situated within a Chesapeake Bay Preservation Area shall also lie in one or more of the zoning districts established pursuant to section 102 of the city zoning ordinance [Appendix A] and shall be subject to all applicable provisions of this ordinance and the city zoning ordinance. (Ord. No. 2006, 11-6-90)

**Sec. 103. Definitions.**

The following words and terms used in this ordinance shall have the following meanings, unless the context clearly indicates otherwise.

*Agricultural lands.* Those lands used for the planting and harvesting of crops or plant growth of any kind in the open, pasture, horticulture, dairy farming, floriculture, or the raising of poultry or livestock.

*Applicant.* Any person submitting any application required or permitted pursuant to any of the provisions of this ordinance, and any person on whose behalf such an application is submitted.

*Best management practice.* A practice, or a combination of practices, determined 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.

*Board.* The Chesapeake Bay Preservation Area Board.

*Buffer area.* An area of existing or established vegetation managed to protect other components



of a resource protection area and state waters from significant degradation due to land disturbances.

*Caliper.* The diameter of a tree measured six (6) inches above existing grade.

*Chesapeake Bay Preservation Area.* Any land designated as such on the Chesapeake Bay Preservation Area Map adopted by the city council, subject to the determination of the city manager a site-specific basis. A Chesapeake Bay Preservation Area shall consist of a resource protection area and a resource management area.

*City manager.* The city manager or such other person or persons as he may designate to perform the duties, or to exercise the authority, of the city manager pursuant to the provisions of this ordinance.

*Construction footprint.* The area of all impervious surface created by development or redevelopment of land, including, but not limited to, buildings, roads, drives, parking areas and sidewalks, and any other land disturbed for the construction of such improvements. This definition shall not include construction accessways and staging areas for minor projects where such accessways and areas do not result in land disturbance.

*Development.* The construction or installation of any improvement upon a parcel of land, or any land disturbance associated therewith.

*Diameter at breast height.* The diameter of a tree measured at a point four and one-half (4½) feet above the existing grade.

*Dripline.* An imaginary perpendicular line extending downward from the outermost tips of the branches of a tree to the ground.

*Highly erodible soils.* Those soils on slopes seaward of the point at which the slope of the ground changes from less than six (6) percent to greater than six (6) percent and the toe of the slope is located within one hundred (100) feet of any component of the resource protection area.

*Impervious cover.* A surface composed of any material which significantly impedes or prevents natural infiltration of water into the soil, including, but not limited to, buildings and other structures

and the components thereof, concrete, asphalt, or compacted gravel surface.

*Land disturbance.* Any activity upon land which causes, contributes to, or results in the destruction, removal or covering of the vegetation upon such land, including, but not limited to, clearing, dredging, filling, grading or excavating. The term shall not include minor activities such as home gardening, individual home landscaping and home maintenance.

*Minor projects.* All changes or alterations to existing uses having a construction footprint of less than or equal to two thousand five hundred (2,500) square feet. For the purposes of this ordinance, this definition shall also include accessory structures as defined in the City Zoning Ordinance (Appendix A) having a construction footprint of less than two thousand five hundred (2,500) square feet.

*Nonpoint source pollution.* 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.* Those wetlands other than tidal wetlands that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

*Person.* An individual, fiduciary, corporation, firm, partnership, association, organization, or any other entity or combination thereof.

*Redevelopment.* The construction, substantial alteration or installation of any improvement upon a lot or parcel of land, that is or has been previously developed, where there is no net increase in impervious surface by the proposed construction within a resource protection area. For purposes of applying this definition, any lot in existence prior to October 1, 1989, shall be deemed to remain a separate lot irrespective of the subsequent vacation of one or more of its lot lines.

*Resource management area.* That component of a Chesapeake Bay Preservation Area not classi-

fied as a resource protection area. Resource management areas include land types which, if improperly used or developed, have the potential for causing significant water quality degradation or for diminishing the functional value of a resource protection area.

*Resource protection area.* That component of a Chesapeake Bay Preservation Area comprised of lands at or near the shoreline which 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.

*Subdivision.* The division of any parcel of land into two (2) or more lots or parcels. The term shall include all changes in lot lines, the creation of new lots involving any division of an existing lot or lots and, if a new street is involved in such division, any division of a parcel of land. When appropriate to the context, the term shall also include the process of subdividing and the territory subdivided.

*Tidal shore.* The area between the mean low water and mean high water levels of tidal waters.

*Tidal wetlands.* Vegetated and nonvegetated wetlands as defined in section 1401 of the city zoning ordinance [Appendix A].

*Tributary stream.* Any perennial stream depicted as such on the most recent U.S. Geological Survey 7½ minute topographic quadrangle map (scale 1:24,000).

*Water-dependent facility.* A development of land which cannot exist outside of a resource protection area and which must be located on the shoreline by reason of the intrinsic nature of its operation. These facilities include, but are not limited to, ports, intake and outfall structures of power plants, water treatment plants, sewage treatment plants, storm sewers, marinas and other boat docking structures, beaches and other public water-oriented recreation areas, fisheries or other marine resources facilities and shoreline protection measures as authorized under the provisions of the wetlands zoning ordinance.

*Wetlands.* Tidal wetlands and nontidal wetlands as defined herein. (Ord. No. 2006, 11-6-90; Ord.

No. 2086, 7-9-91; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)

#### Sec. 104. Areas of applicability.

(A) The Chesapeake Bay Preservation Area Ordinance shall apply to all lands which are included in the Chesapeake Bay watershed within the City of Virginia Beach. Such lands are designated as Chesapeake Bay Preservation Area on the Chesapeake Bay Preservation Area Map.

(B) Resource protection areas shall include the following components:

- (1) Tidal wetlands;
- (2) Nontidal wetlands consisting of soil types Backbay Mucky Peat; Corolla-Duckston Fine Sands; Dorovan Mucky Peat; Duckston Fine Sand; Nawney Silt Loam; Pamlico Mucky Peat, Ponded; Pamlico-Lakehurst Variant Complex; Pocaty Peat; or Rappahannock Mucky Peat, Strongly Saline; and any other lands which under normal conditions are saturated to the ground surface and connected by surface flow and contiguous to tidal wetlands or tributary streams;
- (3) Tidal shores;
- (4) Highly erodible soils; and
- (5) A one-hundred-foot vegetated buffer area located adjacent to and landward of the components listed in (1) through (4) above, and along both sides of any tributary stream.

(C) Resource management areas shall consist of all lands within Chesapeake Bay Preservation Areas which are not designated as resource protection areas.

(D) The Chesapeake Bay Preservation Area Map shall delineate the general locations of resource protection areas and resource management areas. The city manager shall have the final authority in cases of uncertainty to determine the extent of Chesapeake Bay Preservation Areas by application of the criteria set forth in this section.

(E) If the area encompassed by a Chesapeake Bay Preservation Area includes a portion of a lot less than or equal to three (3) acres in size, the

entire lot shall be subject to the requirements of this ordinance. Any lot subdivided after October 1, 1989, out of a lot less than three (3) acres in size and within a Chesapeake Bay Preservation Area shall also be subject to the requirements of this ordinance. (Ord. No. 2006, 11-6-90; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)

**Sec. 105. Resource protection area regulations.**

There shall be no development in resource protection areas except for the construction, installation or maintenance of water-dependent facilities, redevelopment subject to the requirements of this ordinance, and minor projects located in the landward fifty (50) feet of the buffer area allowed by the city manager as an exception pursuant to section 106 of this ordinance. (Ord. No. 2006, 11-6-90; Ord. No. 2190, 11-10-92)

*Editor's note*—This section was formerly § 106 and was renumbered § 105 by Ord. No. 2190. Former § 105 regulated intensely developed areas. Ord. No. 2190 also added a new § 106.

**Sec. 106. Minor projects.**

(a) The city manager shall allow, as an exception, minor projects located in the landward fifty (50) feet of the buffer area which comply with the following requirements:

- (1) The request shall be the minimum necessary to afford relief;
- (2) Best management practices shall be provided where necessary to prevent a net increase in nonpoint source pollution;
- (3) Erosion and sediment controls shall be provided where necessary to prevent erosion;
- (4) Excavation material from construction shall be disposed of in a lawful manner;
- (5) All existing trees on the site which are six (6) inches or greater in diameter at breast height and are located within twenty-five (25) feet of the construction footprint shall be identified and protected; mitigation for trees removed shall be in accordance with section 110(E) of this ordinance; and
- (6) Reasonable and appropriate conditions shall be imposed by the city manager if neces-

sary to preserve the purpose and intent of this ordinance.

(B) A water quality impact assessment shall be submitted prior to commencement of any land-disturbing activity associated with a minor project, unless waived by the city manager as unnecessary in light of the location or characteristics of the proposed project.

(C) A site plan sufficient to show compliance with the requirements of subdivisions (1) through (6) [of subsection (A)] shall be submitted and approved prior to commencement of any land-disturbing activity associated with a minor project.

(D) Minor projects located in their entirety within the resource management area shall not be subject to the requirements of this ordinance. (Ord. No. 2190, 11-10-92)

*Note*—See the editor's note to § 105.

**Sec. 107. Interpretation of Chesapeake Bay Preservation Area boundaries.**

The Chesapeake Bay Preservation Area Map adopted by the city council shall be used as a guide to the general location of Chesapeake Bay Preservation Areas. The site-specific boundaries of a Chesapeake Bay Preservation Area shall initially be delineated by the applicant, and shall be subject to approval and modification by the city manager on the basis of the criteria set forth in section 104(B) of this ordinance. In making such a determination, the city manager may consider any relevant information and may perform site inspections. When a delineation of a Chesapeake Bay Preservation Area, or any component thereof, has been approved or established by the city manager, the Chesapeake Bay Preservation Area Map shall be amended to reflect such delineation. (Ord. No. 2006, 11-6-90; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)

**Sec. 108. Performance standards.**

The performance standards set forth in this section are intended to prevent a net increase in nonpoint source pollution from new development, achieve a ten (10) percent reduction in nonpoint source pollution from redevelopment, and achieve a forty (40) percent reduction in nonpoint source pollution from agricultural uses. The following

standards shall apply to all development and redevelopment within Chesapeake Bay Preservation Areas, except for minor projects authorized by section 105 of this ordinance or minor projects located entirely within resource management areas.

(A) *General performance standards for development and redevelopment.*

- (1) Land disturbance shall be limited to the area necessary to provide for the desired use or development. The limits of land disturbance, including clearing or grading, shall be strictly defined by the construction footprint as shown on the approved plan of development. Clearing shall be allowed only to provide necessary access, site drainage, water quality best management practices, installation of utilities and primary and reserve drainfield sites as detailed on a Virginia Department of Health sewage disposal construction permit. These limits shall be clearly shown on all plans submitted by an applicant and physically marked on the site.
- (2) Indigenous vegetation shall be preserved to the maximum extent possible consistent with the use and development permitted and in accordance with the most recent edition of the Virginia Erosion and Sediment Control Handbook.
  - (a) Where areas to be preserved are considered to be part of the storm-water management plan for that site, existing trees of greater than six (6) inches diameter at breast height shall be preserved outside the construction footprint. Diseased trees or trees weakened by age, storm, fire, or other injury may be removed.
  - (b) Prior to clearing or grading, suitable protective barriers, such as safety fencing, shall be erected outside of the dripline of any tree or stand of trees to be preserved.

These protective barriers shall remain so erected throughout all phases of construction. The storage of equipment, materials, debris, or fill shall not be allowed within the area protected by the barrier.

- (3) Land development shall minimize impervious cover to promote infiltration of stormwater into the ground consistent with the use or development permitted through the incorporation of structural or nonstructural urban best management practices:
  - (a) As described in the most recent edition of the Urban Best Management Practice Handbook of the Virginia Water Control Board; or
  - (b) As described in the City of Virginia Beach Stormwater Management Ordinance.
- (3a) During the design phase of development, consideration should be given to the following means of minimizing impervious cover:
  - (a) Placement of parking areas under multiple-family, office or commercial buildings;
  - (b) Construction of no more than the minimum number of parking spaces required by the City Zoning Ordinance [Appendix A];
  - (c) Utilization of modular grid pavers on private property and in low-traffic zones; and
  - (d) Cluster development in lieu of conventional development by use of conditional zoning or the open space promotion option.
- (4) Notwithstanding any other provision of this ordinance, any land disturbance exceeding two thousand five hundred (2,500) square feet, including construction of all single-family houses, septic tanks, and drainfields, shall comply with the requirements of article III of chapter 30 of the Code of the City of Virginia Beach (City Code sections 30-56 through 30-78).

- (5) All on-site sewage disposal systems not requiring a Virginia Pollutant Discharge Elimination System (VPDES) permit shall be pumped out at least once every five (5) years.
- (6) For new construction not served by public sewer or other system requiring a VPDES permit, a reserve sewage disposal drainfield site with a capacity at least equal to that of the primary sewage disposal drainfield site shall be provided. This requirement shall not apply to any lot or parcel recorded prior to October 1, 1989, if such lot or parcel is not sufficient in capacity to accommodate a reserve sewage disposal drainfield site, as determined by the Virginia Beach Health District of the Virginia Health Department. Building or construction of any impervious surface shall be prohibited on the area of all sewage disposal drainfield sites, including reserve drainfield sites, until the property is served by public sewer or an on-site sewage treatment system operating under a VPDES permit.
- (7) For any development or redevelopment, stormwater runoff shall be controlled by the use of best management practices that achieve the following results:
  - (a) For development, the postdevelopment nonpoint source pollution runoff load shall not exceed the predevelopment load based on an average total phosphorus loading (FVA) of 2.72 pounds/acre/year and an equivalent impervious cover (IVA) of twenty-five (25) percent.
  - (b) For redevelopment, the nonpoint source pollution load shall be reduced by at least ten (10) percent of the existing load. The city manager may waive or modify this requirement for redevelopment sites that originally incorporated best management practices for stormwater runoff quality control, provided that:
    - 1. In no case may the postdevelopment nonpoint source pollution runoff load exceed the predevelopment load; and
    - 2. Best management practice facilities shall be in good working order and performing at the design levels of service. The city manager shall conduct a review of the original structural design and the maintenance plans of such facilities. The execution of a new maintenance agreement may be required to ensure compliance with these requirements.
- (c) Predevelopment and postdevelopment loadings shall be calculated by the same procedures as outlined by the Chesapeake Bay Local Assistance Department in its local assistance manual.
- (d) For a redevelopment site more than ninety (90) percent of which is covered by impervious surfaces, restoration of a minimum of an additional twenty (20) percent of the site to vegetated open space shall be deemed the equivalent of a ten (10) percent reduction in nonpoint source pollution load.
- (e) Calculations involving the percentage of site area under impervious cover shall be based upon the lot area landward of mean low water and wetlands. Impervious cover shall not include the water surface area of a swimming pool.
- (f) Low maintenance and nonstructural best management practices shall be employed to the maximum extent practicable.
- (8) Prior to the authorization of grading or other on-site activities on any portion of a lot or parcel, all permits required by the wetlands zoning ordinance and Sections 401 and 404 of the Clean Water Act (33 U.S.C. Sections 1341, 1344) shall be obtained and evidence of such submitted by the applicant.

- (9) Land upon which agricultural activities are conducted shall have a soil and water quality conservation plan. Such plan shall be based upon the Field Office Technical Guide of the U.S. Department of Agriculture Soil Conservation Service and accomplish water quality protection consistent with this ordinance. Such a plan shall be approved by the Virginia Dare Soil and Water Conservation District by January 1, 1995.
- (10) Proposed revegetation of disturbed areas shall provide maximum erosion and sediment control benefits.
- (11) Access for development requiring permits under section 6-136 of the City Code or section 1403 of the wetlands zoning ordinance, and for development authorized by section 1402 of the wetlands zoning ordinance, shall be limited to a single accessway so as to maintain the integrity of the buffer.
- (12) Fill for development referred to in subdivision (A)(11) hereof shall be limited to minimize disturbance of existing vegetation and contours so as to effectively maintain the integrity of the buffer.
- (13) Disposal sites for dredged material shall be located and stabilized landward of the buffer.
- (14) Excavation material from construction, including dredged material, shall be disposed of in a lawful manner.

- (B) *Buffer area requirements.* To minimize the adverse effects of development activities on the other components of resource protection areas, state waters, and aquatic life, a one-hundred-foot-wide 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.

The buffer area shall be located adjacent to and landward of other components of a resource protection area. The full buffer area shall be designated as the landward component of the resource protection area.

The one-hundred-foot buffer area shall be deemed to achieve a seventy-five (75) percent reduction of sediments and a forty (40) percent reduction of nutrients. A combination of a buffer area not less than fifty (50) feet in width and appropriate best management practices located landward of the buffer area which collectively achieve water quality protection, pollutant removal, and water resource conservation at least the equivalent of the full one-hundred-foot buffer area may be employed in lieu of the one-hundred-foot buffer.

- (C) *Buffer area performance standards.*

The buffer area shall be maintained to meet the following additional performance standards:

- (1) In order to maintain the functional value of the buffer area, no indigenous vegetation shall be removed except to provide for reasonable sight lines, access paths, general woodlot management, and best management practices, as follows:
  - (a) Trees may be pruned or removed as necessary to provide for sight lines and vistas, provided that where removed, they shall be replaced with other vegetation that is equally effective in retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff.
  - (b) Any path shall be constructed and surfaced so as to effectively control erosion.
  - (c) Dead, diseased, or dying trees or shrubbery may be removed at the discretion of the landowner.
  - (d) For projects requiring permits under section 6-136 of the City Code or section 1403 of the wetlands zoning ordinance, and for projects authorized by section 1402 of the wetlands zoning ordinance, 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.

(2) When the application of the buffer areas would result in the loss of a buildable area on a lot or parcel recorded prior to October 1, 1989, the city manager may allow reductions of the width of the buffer area in accordance with the following criteria:

- (a) Encroachments upon, or reductions in the width of, the buffer area shall be the minimum necessary to accommodate a reasonable construction footprint solely for a principal structure. Once construction is complete, the vacant area within the construction footprint shall be restored with vegetation;
- (b) Where possible, an area of vegetation equal in size to the area of the buffer reduced or encroached upon shall be established elsewhere on the lot in such manner as to maximize water quality protection; and
- (c) In no case shall the reduced portion of the buffer area be less than fifty (50) feet in width.

(3) On agricultural lands, the agricultural buffer area shall be managed to prevent concentrated flows of surface water from breaching, and noxious weeds from invading, the buffer area. The agricultural buffer area may be reduced as follows:

- (a) To a minimum width of fifty (50) feet when the subject land is implementing a federal, state, or locally funded agricultural best management practices program, provided that the combination of the reduced buffer area and the best management practices achieve water quality protection, pollutant removal, and water resource conservation at least the

equivalent of the one-hundred-foot buffer area, as determined by the Virginia Dare Soil and Water Conservation District;

- (b) To a minimum width of twenty-five (25) feet when a soil and water quality conservation plan, as approved by the Virginia Dare Soil and Water Conservation District, has been implemented on the subject land. Such plan shall be based upon the Field Office Technical Guide of the U.S. Department of Agricultural Soil Conservation Service and accomplish water quality protection consistent with this ordinance;
- (c) The buffer area shall not be required for agricultural drainage ditches if the subject agricultural land has in place best management practices in accordance with a conservation plan approved by the Virginia Dare Soil and Water Conservation District.

(D) A new or expanded water-dependent facility shall be allowed, provided that:

- (1) It does not conflict with the comprehensive plan;
- (2) It complies with all of the applicable performance standards set forth in section 108 of this ordinance;

(3) Any non-water-dependent component is located landward of resource protection areas; and

(4) Access will be provided with the minimum disturbance necessary. Where possible, a single point of access will be provided.

(E) *Redevelopment performance standards.*

- (1) Redevelopment shall conform to the applicable stormwater management and erosion and sediment control performance standards set forth in section 108 of this ordinance.
- (2) Where possible, the applicant shall establish or maintain a vegetated buffer of sufficient width to help achieve the

ten (10) percent reduction in the existing nonpoint source pollution load for redevelopment. (Ord. No. 2006, 11-6-90; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)

#### Sec. 109. Reserved.

**Editor's note**—Section 109 was repealed by Ord. No. 2190, adopted Nov. 10, 1992. The section was formerly derived from Ord. Nos. 2006, 2080 and 2154 and dealt with a water quality impact assessment.

#### Sec. 110. Plan of development process.

(A) A lot which is to be developed as one (1) single-family dwelling, semidetached dwelling or attached dwelling/townhouse located in its entirety within the resource management area having a construction footprint greater than two thousand five hundred (2,500) square feet shall submit a site plan in lieu of the provisions outlined pursuant to subsection (B) hereof to comply with the provisions of section 108 of this ordinance. Said site plan shall be prepared according to the provisions of the Site Plan Ordinance [Appendix C] and shall contain the following information, unless deemed unnecessary by the city manager:

- (1) Limits of land disturbance and all areas of clearing, grading, accessways and staging areas.
- (2) Location of all approved existing and proposed septic tanks and drainfield areas, including reserve areas and the location of all existing and proposed wells and utilities.
- (3) Location of all erosion and sediment control devices.
- (4) A statement that excavation material from construction shall be disposed of in a lawful manner.
- (5) The total amount of impervious surface proposed for the site.
- (6) Specifications for the protection of existing trees and vegetation during clearing, grading and all phases of construction.

- (7) Revegetation schedule, if required by the city manager.
- (8) Best management practices, if required by the city manager.
- (9) Evidence that all applicable wetlands permits required by law have been obtained prior to authorization of grading or other on-site activities shall be provided.

The site plan shall be deemed to constitute a plan of development review process consistent with Section 15.1-491(h) of the Code of Virginia.

(B) Any development or redevelopment having a construction footprint exceeding two thousand five hundred (2,500) square feet, except as outlined pursuant to subsection (A) hereof, shall be accomplished through a plan of development process prior to any clearing or grading of the site or the issuance of any building permit.

(C) *Required information, submission and review requirements.*

- (1) There shall be submitted to the city manager for review such number of copies of all site drawings and other required information as the city manager may require.
- (2) All information required in this section shall be drawn to the same scale as the preliminary site plan or final subdivision plat, and certified as complete and accurate by a professional engineer or a certified land surveyor. The environmental features survey may also be certified as complete and accurate by a professional landscape architect. The landscape plan of the water quality impact assessment may also be submitted as complete and accurate by a qualified professional, as defined by the city's parking lot and foundation landscaping specifications and standards; provided, however, that landscape plans for single-family residential development or redevelopment not subject to the Subdivision Ordinance [Appendix B] shall not be required to be submitted by a qualified professional.



- (3) The following plans shall be submitted, unless otherwise provided for or deemed unnecessary by the city manager:
- (a) A site plan or a subdivision plat meeting the requirements of the Site Plan Ordinance or Subdivision Ordinance [Appendix B], as the case may be;
  - (b) An environmental features survey;
  - (c) A landscape plan;
  - (d) A stormwater management plan meeting the requirements of the Stormwater Management Ordinance [Appendix D];
  - (e) An erosion and sediment control plan meeting the requirements of the city's erosion and sediment control and tree protection ordinance; and
  - (f) A water quality impact assessment.

(D) *Environmental features survey.* An environmental features survey shall be submitted in conjunction with final subdivision plat or site plan review.

- (1) Such plan shall be drawn to scale and clearly delineate the following environmental features:
- (a) Tidal wetlands;
  - (b) Tidal shores;
  - (c) Nontidal wetlands as set forth in section 104(B)(2) of this ordinance;
  - (d) Highly erodible soils; and
  - (e) A buffer area one hundred (100) feet in width, located adjacent to and landward of components (a) through (d) and along both sides of any tributary stream.
- (2) The location and extent of nontidal wetlands referred to in (1)(c) hereinabove shall be determined in accordance with the procedures specified in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, as restricted by section 104(B)(2) of this ordinance.

(E) *Landscape plan.*

- (1) A landscape plan shall contain the following:
- (a) A delineation of the location, size, and description of existing and proposed

- plant material. All existing trees on the site of six (6) inches or greater diameter at breast height shall be shown on the landscaping plan. Where there are groups of trees, stands may be outlined instead. The specific number of such trees to be preserved outside or within the construction footprint shall be indicated on the plan. Trees and plants to be disturbed or removed to create a desired construction footprint shall be clearly delineated on the landscape plan. A description of the proposed measures for mitigation shall include (i) a replanting schedule for trees and other vegetation removed for construction, including a list of plants and trees to be used; (ii) a demonstration that the design of the plan will preserve to the greatest extent possible any trees and vegetation on the site and will provide maximum erosion control and overland flow benefits from such vegetation; and (iii) a demonstration that indigenous plants are to be used to the greatest extent possible. If no mitigation or planting is required, existing trees may be delineated on the environmental features survey;
- (b) A delineation of any required buffer area and any plant material to be added to establish or supplement the buffer area;
  - (c) Within the buffer area, a designation of the trees to be removed for sight lines, vistas, access paths and best management practices, and any vegetation replacing trees removed from the buffer area;
  - (d) A designation of the trees to be removed for shoreline stabilization projects and any replacement vegetation;
  - (e) A depiction of grade changes or other work adjacent to trees which would adversely affect them. Specifications shall be provided as to how grade, drainage, and aeration would be maintained around trees to be preserved;

- (f) A description of the limits of clearing of existing vegetation, based on all anticipated improvements, including buildings, drives, and utilities; and
  - (g) Specifications for the protection of existing trees during clearing, grading, and all phases of construction.
- (2) *Plant specifications.* Plant specifications shall be as follows:
- (a) All plant materials necessary to supplement the buffer area or vegetated areas outside the construction footprint shall be installed according to standard planting practices and procedures.
  - (b) All supplementary or replacement plant materials shall be in a healthy condition. Plant materials shall conform to the standards of the most recent edition of the American Standard for Nursery Stock, published by the American Association of Nurserymen.
  - (c) Where areas to be preserved are encroached upon, replacement of existing trees and other vegetation shall be achieved at a ratio of three (3) trees planted to one tree greater than six (6) inches diameter at breast height removed, or by such other measures as in the judgment of the city manager will adequately compensate for the removal of such trees and other vegetation. Replacement trees shall be a minimum two (2) to two and one-half (2½) inches' caliper at the time of planting.
- (3) *Maintenance.* Maintenance of vegetation shall be as follows:
- (a) The applicant shall be responsible for the maintenance and replacement of all vegetation required by the provisions of this ordinance.
  - (b) In buffer areas and areas outside of the construction footprint, plant material shall be tended and maintained in a healthy growing condition and free from refuse and debris. Unhealthy, dying, or dead plant materials shall be replaced during the next planting season, as required by the provisions of this ordinance.
- (F) *Stormwater management plan.* A stormwater management plan shall be submitted as part of the plan of development process required by this ordinance and in conjunction with preliminary site plan or final subdivision plat approval.
- (1) The stormwater management plan shall contain maps, charts, graphs, tables, photographs, narrative descriptions, explanations, and supporting references. At a minimum, the stormwater management plan shall contain the following:
    - (a) Location and design of all planned stormwater control devices;
    - (b) Procedures for implementing nonstructural stormwater control practices and techniques;
    - (c) Predevelopment and postdevelopment nonpoint source pollutant loadings with supporting documentation of all utilized coefficients and calculations as outlined in section 108(A)(7)(c) of this ordinance;
    - (d) For stormwater management facilities, verification of structural soundness, which shall be certified by a professional engineer or a certified landscape architect.
  - (2) All engineering calculations shall be performed in accordance with current City of Virginia Beach Public Works Standards and Specifications and the current edition of the Local Assistance Manual.
  - (3) The plan shall establish a long-term schedule for inspection and maintenance of stormwater management consistent with the Stormwater Management Ordinance [Appendix D].
- (G) *Erosion and sediment control plan.* An erosion and sediment control plan meeting the requirements of the provisions of article III of chapter 30 of the Code of the City of Virginia Beach (City Code sections 30-56 through 30-78) shall be submitted with the preliminary site plan or final subdivision plat.
- (H) *Water quality impact assessment.* The purpose of a water quality impact assessment is to: (i) identify the potentially adverse impacts of pro-

posed development on water quality and lands within Chesapeake Bay Preservation Areas; (ii) ensure that, where development or redevelopment takes place within Chesapeake Bay Preservation Areas, 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; and (iii) specify means to avoid, minimize or mitigate the impacts of development for water quality protection.

- (1) A water quality impact assessment shall be required (i) for any development or redevelopment within a resource protection area; (ii) for any buffer area encroachment or reduction; (iii) for any variance provided for in section 113 of this ordinance; (iv) for minor projects authorized by section 106 of this ordinance, unless waived by the city manager pursuant to such section; or (v) where a water quality impact statement is deemed necessary by the city manager to evaluate the potential impacts of the development or redevelopment upon water quality or a resource protection area by reason of the unique characteristics of the site or the intensity of the proposed use or development.
- (2) The following elements shall be included in a water quality assessment unless one (1) or more such elements shall, in the judgment of the city manager, not be reasonably necessary in determining the impact of the proposed development or redevelopment:
  - (a) An environmental features survey as set forth in section 110(D) of this ordinance;
  - (b) A landscape plan as set forth in section 110(E) of this ordinance;
  - (c) A stormwater management plan as set forth in section 110(F) of this ordinance; and
  - (d) A narrative that:
    - 1. Describes the existing topography, soil information, including depth to groundwater and infiltration rate where appropriate, surface and groundwater hydrology, wet-

lands on the site and, if necessary, drainage patterns from adjacent lands;

- 2. Describes the impacts of the proposed development on topography, soils, surface and groundwater hydrology on the site and adjacent lands;
- 3. Describes potential adverse impacts on wetlands;
- 4. Indicates the source location and description of proposed excavation and fill material;
- 5. Indicates, for any water-dependent activity, the location of, and potential adverse impacts upon, shellfish beds, submerged aquatic vegetation, and fish spawning and nursery areas;
- 6. Lists all federal, state and local permits required for the development of the site; and
- 7. Describes the proposed mitigation measures for the potential adverse hydrogeological impacts of the project.

(I) *Performance and bonding requirements.*

- (1) No approved plans required by this section shall be released until the applicant provides performance bonds or other form of surety acceptable to the city attorney, provided, however, that when the occupancy of a structure is desired prior to the completion of the required landscaping, stormwater management facilities, or other specifications of an approved plan, a building permit and certificate of occupancy may be issued if the applicant provides to the City of Virginia Beach a form of surety satisfactory to the city attorney in an amount equal to the estimated cost of construction, related materials, and installation costs of the required landscaping or other specifications and maintenance costs for any required stormwater management facilities.
- (2) All required landscaping shall be installed as approved by the end of the first planting season following issuance of a certificate of

occupancy or the surety shall be forfeited to the city.

- (3) All required stormwater management facilities or other specifications shall be installed and approved within eighteen (18) months of project commencement. Should the applicant fail, after proper notice, to initiate, complete or maintain appropriate actions required by the approved plan, the surety may be forfeited to the city, which may also collect from the applicant the amount by which the reasonable cost of required actions exceeds the amount of the surety held.
- (4) After all required actions of the approved plan have been completed, the applicant shall submit to the city manager a written request for a final inspection. If the requirements of the approved plan have been completed, such unexpended or unobligated portion of the surety held shall be refunded to the applicant or terminated within sixty (60) days following the receipt of the applicant's request for final inspection.
- (5) Prior to the issuance of any grading, building or other permit for activities involving site development activities, the applicant shall furnish to the city a reasonable performance bond, cash escrow, letter of credit or other legal surety, or any combination thereof acceptable to the city attorney, to ensure that measures may be taken by the city, at the applicant's expense, should he fail, after proper notice, within the time specified, to initiate or maintain appropriate conservation action which may be required of him as a result of his site development.
- (6) Any applicant, or potential applicant, may confer with such departments and other agencies of the city as may be appropriate concerning a general development or redevelopment proposal before submission of an application. Such conference shall not require formal application, the payment of fees, or submission of a plan of development, and shall not be construed as an application for approval of such proposal. (Ord.

No. 2006, 11-6-90; Ord. No. 2080, 7-9-91; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)

#### **Sec. 111. Nonconforming buildings and structures.**

(A) Any use, building or structure which lawfully existed on the date of adoption of this ordinance and which is not in conformity with any one or more of the provisions of this ordinance, and any use, building or structure which lawfully exists on the date of adoption of any amendment to this ordinance and which is not in conformity with such amendment, shall be deemed nonconforming.

(B) No change of use or extension, enlargement, relocation or substantial alteration of a nonconforming use, building or structure which would increase the nonpoint source pollution runoff load from the lot shall be allowed unless authorized by the board in accordance with the procedures and standards specified in section 113 of this ordinance or by the city manager pursuant to subsection (E).

(C) Any action of the board permitting a change of use, or the extension, enlargement, relocation or alteration of a use, building or structure subject to the provisions of this section shall be null and void twelve (12) months from the date of its adoption unless substantial work has commenced and is diligently pursued.

(D) Nothing in this section shall be construed to prohibit the reconstruction or restoration of any nonconforming building or structure which is destroyed or damaged by reason of casualty loss, provided that the area encompassed by such building or structure, as reconstructed or restored, is not extended or enlarged. Relocation of a building or structure shall be allowed only as provided in subsection (B) hereof.

(E) Any application for a change of use or extension, enlargement, relocation or substantial alteration of a nonconforming use, building or structure shall be reviewed by the city manager. If the city manager determines that the proposed action would not increase the nonpoint source pollution

runoff load from the lot, the city manager shall approve the application. If the city manager determines that any increase in nonpoint source pollution runoff load may be prevented by the use of best management practices or other mitigation techniques, he shall approve the application upon the condition that such practices or techniques, or a combination thereof, be employed. The city manager may establish such review policies as deemed expedient in effectuating the intent of this section.

(F) Any development or land disturbance exceeding an area of two thousand five hundred (2,500) square feet shall comply with the erosion and sediment control performance standards set forth in section 108 of this ordinance.

(G) Notwithstanding any other provision of this section, where the requirements for buffer area reductions pursuant to section 108(B) of this ordinance are met, the city manager shall approve any change of use or extension, enlargement, relocation or substantial alteration of a nonconforming use, building or structure in the landward fifty (50) feet of the buffer area. (Ord. No. 2006, 11-6-90; Ord. No. 2079, 7-9-91; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)

**Sec. 112. Exemptions.**

(A) *Exemptions for public facilities.*

(1) Construction, installation, operation and maintenance of electric and telephone lines, railroads, public roads and their appurtenant structures in accordance with (i) regulations promulgated pursuant to the Erosion and Sediment Control Law (Section 10.1-560 et seq. of the Code of Virginia) and the Stormwater Management Act (Section 10.1-603.1 et seq. of the Code of Virginia), (ii) an erosion and sediment control plan and a stormwater management plan approved by the Virginia Department of Conservation and Recreation, or (iii) local water quality protection criteria at least as stringent as the state requirements will be deemed to constitute compliance with these regulations, provided that:

(a) The road alignment and design are optimized and consistent with other ap-

plicable requirements to prevent or otherwise minimize (i) encroachment in the resource protection area and (ii) adverse effects on water quality.

(b) Such appurtenant structures shall include, but are not limited to, bridges, culverts, guard rails, drainage facilities, lighting and traffic-control devices, fences and berms.

(2) Roads or driveways not exempt from the provisions of section 112(A)(1) of this ordinance may be constructed in or across resource protection areas if each of the following conditions is met:

(a) The city manager makes a finding that there are no reasonable alternatives to aligning the road or driveway in or across the resource protection area;

(b) The alignment and design of the road or driveway are optimized, consistent with other requirements, to minimize (i) encroachment into the resource protection area and (ii) adverse effects on water quality;

(c) The design and construction of the road or driveway satisfy all applicable criteria of this ordinance, including submission of a water quality impact assessment; and

(d) The city manager reviews the plan for the road or driveway proposed in or across the resource protection area in coordination with local site plan, subdivision and plan of development approvals.

(3) Construction, installation and maintenance of water, sewer, cable and gas lines and storm drains, and their appurtenant facilities, and of pumping stations, fire hydrants, manholes, communication devices and power facilities that are an essential but incidental component of public water and sewer projects, shall be exempt from this ordinance provided that:

(a) To the degree practicable, the location of such utilities and facilities shall be outside resource protection areas;

- (b) No more land shall be disturbed than is necessary to provide for the desired installation;
- (c) All construction, installation, and maintenance of such utilities and facilities shall comply with all applicable state and federal requirements and permits and shall be designed and constructed in a manner that protects water quality; and
- (d) Any land disturbance exceeding an area of two thousand five hundred (2,500) square feet complies with all requirements of article III of chapter 30 of the Code of the City of Virginia Beach (City Code sections 30-56 through 30-78).
- (4) Construction, installation and maintenance of stormwater quality control structures such as pipes, ditches, swales, culverts, detention and retention ponds, energy dissipating devices and ditch bank protection which are required or regulated by city ordinance and which comply with the requirements of article III of chapter 30 of the Code of the City of Virginia Beach (City Code sections 30-56 through 30-78) shall be deemed to be in compliance with this ordinance.
- (B) *Exemptions for silvicultural activities.* Silvicultural activities shall be exempt from the requirements of this ordinance provided that such activities comply with water quality protection procedures prescribed by the department of forestry in its "Best Management Practices Handbook for Forestry Operations."
- (C) *Exemptions in resource protection areas.* The following uses of land in Resource Protection Areas shall be exempt from the provisions of this ordinance: (i) water wells; (ii) passive recreation facilities, including, but not limited to, boardwalks, trails and pathways; (iii) historic preservation and archaeological activities; and (iv) fences which do not inhibit surface flow; provided that it is demonstrated to the satisfaction of the city manager that:
- (1) Any required permits, except those to which this exemption specifically applies, shall have been issued; and
- (2) Any land disturbance exceeding an area of two thousand five hundred (2,500) square feet shall comply with all requirements of article III of chapter 30 of the Code of the City of Virginia Beach (City Code sections 30-56 through 30-78) (Ord. No. 2006, 11-6-90; Ord. No. 2081, 7-9-91; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92).

### Sec. 113. Variances.

(A) Applications for variances from any of the provisions of this ordinance shall be in writing and filed with the city manager. Such applications shall identify the potential impacts of the proposed variance on water quality and on lands within the resource protection area through the performance of a water quality impact assessment which complies with the provisions of this ordinance. No such applications shall be accepted by the city manager unless accompanied by a non-refundable fee in the amount of one hundred five dollars (\$105.00).

(B) The city manager shall review the request for a variance and the water quality impact assessment and provide the board with an evaluation of the potential impacts of the proposed variance and such other information as may aid the board in considering the application. The city manager shall transmit the application and supporting information and evaluation to the members of the board and the applicant no less than five (5) days prior to the scheduled hearing on such application.

(C) Not later than sixty (60) days after the receipt of an application, the board shall hold a public hearing on such application. Notice of the time and place of the hearing shall be published no less than once per week for two (2) consecutive weeks prior to such hearing in a newspaper having a general circulation in the city. The second such notice shall appear not less than five (5) days nor more than twenty-one (21) days prior to the hearing.

(D) In addition to the foregoing requirements, the applicant shall cause to be posted on the property which is the subject of the hearing a sign, of a size and type approved by the board, clearly visible and legible from the nearest public street.

Such sign shall be posted not less than fifteen (15) days from the public hearing and shall state the nature of the application and date and time of the hearing. In the event such sign is removed, obscured or otherwise rendered illegible prior to the hearing, the board may deny or defer the application. Any application deferred by the board by reason of noncompliance with the posting requirements of this section shall not thereafter be heard unless and until an additional fee in the amount of one hundred dollars (\$100.00) is paid.

(E) The board may make, alter and rescind rules for its procedures not inconsistent with the provisions of this section; provided, however, that a quorum shall be not less than a majority of all of the members of the board, and provided further, that the concurring vote of a majority of the full membership of the board shall be required to grant any variance.

(F) No variance shall be granted unless the board finds that:

- (1) Granting the variance will not confer upon the applicant any special privileges not accorded to other owners of property in Chesapeake Bay Preservation Areas;
- (2) The application is not based upon conditions or circumstances that are or have been created or imposed by the applicant or his predecessor in title;
- (3) The variance is the minimum necessary to afford relief;
- (4) The variance will be in harmony with the purpose and intent of this ordinance, and not injurious to the neighborhood or otherwise detrimental to the public welfare; and
- (5) There will be no net increase in nonpoint source pollution load.

No variance shall be granted unless reasonable and appropriate conditions are imposed which will prevent the variance from causing or contributing to a degradation of water quality.

(G) Any party aggrieved of a decision of the board may, within thirty (30) days of the date of such decision, petition the circuit court to review such decision. The procedure in such cases shall

be as provided in section 15.1-497 of the Code of Virginia, as amended. No party having failed to appear at the hearing before the board and object to the application at that time shall be deemed to be an aggrieved party; provided, however, that the city shall have standing to appeal any decision of the board irrespective of not having appeared before the board as otherwise required by this section.

(H) The circuit court may affirm, reverse or modify any decision of the board, and may impose any reasonable conditions in its judgment; provided, however, that no decision of the board shall be disturbed unless the court shall find that:

- (1) The decision appealed from was based upon the erroneous application of the criteria set forth in subsection (F) hereof or was based upon grounds other than those set forth therein;
- (2) There was no substantial evidence upon which the board could have made all findings required by subsection (F);
- (3) The decision of the board was plainly wrong; or
- (4) The board failed to impose reasonable and appropriate conditions intended to prevent the variance from causing or contributing to a degradation of water quality. (Ord. No. 2006, 11-6-90; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)

#### Sec. 114. Appeals.

(A) Any order, determination or decision made by the city manager or any administrative officer in the administration or enforcement of this ordinance may be appealed to the board by application filed with the city manager within fifteen (15) days from the date of such order, determination or decision. Such application shall state with particularity the grounds of such appeal. Any application failing to do so shall be rejected by the city manager. The filing of an appeal shall not stay any proceedings in furtherance of the action appealed from.

(B) The fees, notice requirements and procedures pertaining to appeals shall be as set forth in

section 113; provided, however, that the provisions of subsection (B) thereof shall not apply.

(C) Any party aggrieved of any determination of the board shall have the right to petition the circuit court to review a decision of the board made pursuant to this section. The provisions of subsection (G) of section 113 of this ordinance shall apply in such cases. (Ord. No. 2006, 11-6-90; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)

#### **Sec. 115. Violations.**

(A) A violation of any of the provisions of this ordinance shall be a misdemeanor punishable by a fine in an amount not exceeding one thousand dollars (\$1,000.00) or confinement in jail for a period not exceeding twelve (12) months, either or both.

(B) In addition to, and not in lieu of, the penalties prescribed in subsection (A) hereof, the city may apply to the circuit court for an injunction against the continuing violation of any of the provisions of this ordinance and may seek any other remedy authorized by law.

(C) Upon notice from the city manager that any activity is being conducted in violation of any of the provisions of this ordinance, such activity shall immediately be stopped. An order to stop work shall be in writing and shall state the nature of the violation and the conditions under which the activity may be resumed. No such order shall be effective until it shall have been tendered to the owner of the property upon which the activity is conducted or his agent or to any person conducting such activity. Any person who shall continue an activity ordered to be stopped, except as directed in the stop-work order, shall be guilty of a violation of this ordinance. (Ord. No. 2006, 11-6-90; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)

#### **Sec. 116. Severability.**

The provisions of this ordinance shall be deemed to be severable, and if any of the provisions hereof are adjudged to be invalid or unenforceable, the remaining portions of this ordinance shall remain in full force and effect and their validity shall remain unimpaired. (Ord. No. 2006, 11-6-90; Ord. No. 2154, 6-23-92)

#### **Sec. 117. Vested rights.**

The provisions of this ordinance shall not affect the vested rights of any person under existing law. (Ord. No. 2006, 11-6-90; Ord. No. 2154, 6-23-92)

#### **Sec. 118. Enforcement.**

This ordinance shall be enforced by the city manager, who shall exercise all authority of police officers in the performance of his duties. Such authority shall include, without limitation, the authority to issue summonses directing the appearance before a court of competent jurisdiction of any person alleged to have violated any of the provisions of this ordinance. (Ord. No. 2006, 11-6-90; Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)

#### **Sec. 119. Effective date.**

This ordinance shall become effective on the first day of January, 1991; provided, however, that the amendments to this ordinance made on the tenth day of November, 1992 shall become effective on the first day of January, 1993. (Ord. No. 2154, 6-23-92; Ord. No. 2190, 11-10-92)



**Appendix E: Chesapeake Bay Local Assistance  
Department Model Ordinance**

**Article I.  
Chesapeake Bay Preservation Area Overlay District**

**Section 100. Title.**

This ordinance shall be known and referenced as the "Chesapeake Bay Preservation Area Overlay District" of the [jurisdiction name].

**Section 101. Findings of Fact.**

The Chesapeake Bay and its tributaries is one of the most important and productive estuarine systems in the world, providing economic and social benefits to the citizens of [jurisdiction name] and the Commonwealth of Virginia. The health of the Bay is vital to maintaining [jurisdiction name's] economy and the welfare of its citizens.

The Chesapeake Bay waters have been degraded significantly by many sources of pollution, including nonpoint source pollution from land uses and development. Existing high quality waters are worthy of protection from degradation to guard against further pollution. Certain lands that are proximate to shorelines have intrinsic water quality value due to the ecological and biological processes they perform. Other lands have severe development constraints from flooding, erosion, and soil limitations. With proper management, they offer significant ecological benefits by providing water quality maintenance and pollution control, as well as flood and shoreline erosion control. These lands together, designated by the [governing body] as Chesapeake Bay Preservation Areas (hereinafter "CBPAs"), need to be protected from destruction and damage in order to protect the quality of water in the Bay and consequently the quality of life in [jurisdiction name] and the Commonwealth of Virginia.

**Section 102. Purpose and Intent.**

A. This ordinance is enacted to implement the requirements of Section 10.1-2100 *et seq.* of the Code of Virginia, the Chesapeake Bay Preservation Act, and amends the [title of zoning code]. The intent of [governing body] and the purpose of the Overlay District is to: (1) protect existing high quality state waters; (2) restore all other state waters to a condition or quality that will permit all reasonable public uses and will support the propagation and growth of all aquatic life, which might reasonably be expected to inhabit them; (3) safeguard the clean waters of the Commonwealth from pollution; (4) prevent any increase in pollution; (5) reduce existing pollution; and (6) promote water resource conservation in order to provide for the health, safety, and welfare of the present and future citizens of [jurisdiction name].

B. This district shall be in addition to and shall overlay all other zoning districts where they are applied so that any parcel of land lying in the Chesapeake Bay Preservation Area Overlay District shall also lie in one or more of the other zoning districts provided for by the Zoning Ordinance. Unless otherwise stated in the Overlay District, the review and approval procedures provided for in Sections [reference local site plan, erosion and sediment control, grading permits, & building permits ordinances, etc.] shall be followed in reviewing and approving development, redevelopment, and uses governed by this Article.

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C. This Article is enacted under the authority of Section 10.1-2100 et seq. (The Chesapeake Bay Preservation Act) and Section 15.1-489, of the Code of Virginia. Section 15.1-489 states that zoning ordinances may “also include reasonable provisions, not inconsistent with applicable state water quality standards, to protect surface water and groundwater as defined in Section 62.1-44.85 (8).”

### Section 103. Definitions.

The following words and terms used in the Overlay District have the following meanings, unless the context clearly indicates otherwise. Words and terms not defined in this Article but defined in the Zoning Ordinance shall be given the meanings set forth therein.

“Agricultural lands” mean those lands used for the planting and harvesting of crops or plant growth of any kind in the open; pasture; horticulture; dairying; floriculture; or raising of poultry and/or livestock.

“Best Management Practices” (BMPs) mean 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 Bay Preservation Area” means any land designated by the [governing body] pursuant to Part III of the Chesapeake Bay Preservation Area Designation and Management Regulations, VR 173-02-01, and Section 10.1-2107 of the Code of Virginia. A Chesapeake Bay 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 the area necessary for construction of such improvements.

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

“Diameter at breast height” means the diameter of a tree measured outside the bark at a point 4.5 feet above ground.

“Dripline” 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.

“Intensely Developed Areas” means a portion of a Resource Protection Area or a Resource Management Area designated by the [governing body] where development is concentrated and little of the natural environment remains.

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"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" mean those wetlands other than tidal wetlands that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted 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 C.F.R. 328.3b, dated November 13, 1986.

"Noxious Weeds" means weeds that are difficult to control effectively, such as Johnson Grass, Kudzu, and multiflora rose.

"Plan of Development" means the process for site plan or subdivision plat review to ensure compliance with Section 10.1-2109 of the Code of Virginia and this Article, prior to any clearing or grading of a site or the issuance of a building permit.

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

"Resource Management Area (RMA)" means that component of the Chesapeake Bay Preservation Area that is not classified as the Resource Protection Area. RMAs 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 (RPA)" means that component of the Chesapeake Bay Preservation Area comprised of lands at or near the shoreline 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.

"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 Section 62.1-13.2 of the Code of Virginia.

"Tributary stream" means any perennial stream that is so depicted on the most recent U.S. Geological Survey 7-1/2 minute topographic quadrangle map (scale 1:24,000).

"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 (i) ports; (ii) the intake and outfall structures of power plants, water treatment plants, sewage treatment plants, and storm sewers; (iii) marinas and other boat docking structures; (iv) beaches and other public water-oriented recreation areas; and (v) fisheries or other marine resources facilities.

"Wetlands" means tidal and nontidal wetlands.

**Section 104. Areas of Applicability.**

A. The Chesapeake Bay Preservation Area Overlay District shall apply to all lands identified as CBPAs as designated by the [governing body] and as shown on the [local adopted map]. The [adopted map], together with all explanatory matter thereon, is hereby adopted by reference and declared to be a part of this Article.

- (1) The Resource Protection Area includes:
  - a. Tidal wetlands;
  - b. Nontidal wetlands connected by surface flow and contiguous to tidal wetlands or tributary streams;
  - c. Tidal shores;
  - d. [Other lands] (specified as an RPA feature at local discretion);
  - e. A 100-foot vegetated buffer area located adjacent to and landward of the components listed in subsections a. through d. above, and along both sides of any tributary stream.
- (2) The Resource Management Area is composed of concentrations of the following land categories: floodplains; highly erodible soils, including steep slopes; highly permeable soils; nontidal wetlands not included in the Resource Protection Area; other lands including [those local features] necessary to protect the quality of state waters.

B. The [adopted map] shows the general location of CBPAs and should be consulted by persons contemplating activities within [jurisdiction name] prior to engaging in a regulated activity.

C. Portions of Resource Protection Areas and Resource Management Areas designated by the [governing body] as Intensely Developed Areas shall serve as redevelopment areas. Areas so designated shall comply with all erosion and sediment control requirements and the performance standards for redevelopment in Section 110 (Performance Standards.)

D. If the boundaries of a Chesapeake Bay Preservation Area include a portion of a lot, parcel, or development project, the entire lot, parcel, or development project shall comply with the requirements of the Overlay District. The division of property shall not constitute an exemption from this requirement.

**Section 105. Use Regulations.**

Permitted uses, special permit uses, accessory uses, and special requirements shall be as established by the underlying zoning district, unless specifically modified by the requirements set forth herein.

**Section 106. Lot Size.**

Lot size shall be subject to the requirements of the underlying zoning district(s), provided that any lot shall have sufficient area outside the Resource Protection Area to accommodate an intended development, in accordance with the performance standards in Section 110, when such development is not otherwise allowed in the Resource Protection Area.

**Section 107. Required Conditions.**

A. All development and redevelopment exceeding 2500 square feet of land disturbance shall be subject to a plan of development process, including the approval of a site plan in accordance with the provisions of the Zoning Ordinance or a subdivision plat in accordance with the Subdivision Ordinance.

B. Development in Resource Protection Areas may be allowed only if it: (i) is water-dependent; or (ii) constitutes redevelopment.

C. A water quality impact assessment shall be required for any proposed development or redevelopment within Resource Protection Areas and for any development within Resource Management Areas when required by the [Administrative Authority] because of the unique characteristics of the site or intensity of development, in accordance with the provisions of Section 111, of this Article.

**Section 108. Conflict with other Regulations.**

In any case where the requirements of this Article conflict with any other provision of the [jurisdiction name] Code or existing state or federal regulations, whichever imposes the more stringent restrictions shall apply.

**Section 109. Interpretation of Resource Protection Area Boundaries.**

A. Delineation by the Applicant.

The site-specific boundaries of the Resource Protection Area shall ordinarily be determined by the applicant through the performance of an environmental site assessment, subject to approval by the [Administrative Authority] and in accordance with Section 112, (Plan of Development) of this Article. The [adopted map] shall be used as a guide to the general location of Resource Protection Areas.

B. Delineation by the [Administrative Authority].

The [Administrative Authority], when requested by an applicant wishing to construct a single family residence, may waive the requirement for an environmental site assessment and perform the delineation. The [Administrative Authority] may use remote sensing, hydrology,

soils, plant species, and other data, and consult other appropriate resources as needed to perform the delineation.

C. Where Conflict Arises Over Delineation.

Where the applicant has provided a site-specific delineation of the Resource Protection Area, the [Administrative Authority] will verify the accuracy of the boundary delineation. In determining the site-specific RPA boundary, the [Administrative Authority] may render adjustments to the applicant's boundary delineation, in accordance with Section 112, (Plan of Development) of this Article. In the event the adjusted boundary delineation is contested by the applicant, the applicant may seek relief, in accordance with the provisions of Section 112.H. (Denial / Appeal of Plan)

**Section 110. Performance Standards.**

A. Purpose and Intent.

The performance standards establish the means to minimize erosion and sedimentation potential, reduce land application of nutrients and toxics, and maximize rainwater infiltration. Natural ground cover, especially woody vegetation, is most effective in holding soil in place and preventing site erosion. Indigenous vegetation, with its adaptability to local conditions without the use of harmful fertilizers or pesticides, filters stormwater runoff. Keeping impervious cover to a minimum enhances rainwater infiltration and effectively reduces stormwater runoff potential.

The purpose and intent of these requirements is also to implement the following objectives: prevent a net increase in nonpoint source pollution from new development; achieve a 10% reduction in nonpoint source pollution from redevelopment; and achieve a 40% reduction in nonpoint source pollution from agricultural uses.

B. General Performance Standards for Development and Redevelopment.

- (1) Land disturbance shall be limited to the area necessary to provide for the desired use or development.
  - a. In accordance with an approved site plan, the limits of land disturbance, including clearing or grading shall be strictly defined by the construction footprint. These limits shall be clearly shown on submitted plans and physically marked on the development site.
  - b. The construction footprint shall not exceed 60% of the site.
  - c. Ingress and egress during construction shall be limited to one access point, unless otherwise approved by the [Administrative Authority].
- (2) Indigenous vegetation shall be preserved to the maximum extent possible consistent with the use and development permitted and in accordance with the Virginia Erosion and Sediment Control Handbook.

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- a. Existing trees over 6 inches diameter at breast height (DBH) shall be preserved outside the construction footprint. Diseased trees or trees weakened by age, storm, fire, or other injury may be removed.
  - b. Clearing shall be allowed only to provide necessary access, positive site drainage, water-quality BMPs, and the installation of utilities, as approved by the [Administrative Authority].
  - c. Prior to clearing or grading, suitable protective barriers, such as safety fencing, shall be erected 5 feet outside of the dripline of any tree or stand of trees to be preserved. Protective barriers shall remain so erected throughout all phases of construction. The storage of equipment, materials, debris, or fill shall not be allowed within the area protected by the barrier.
- (3) Land development shall minimize impervious cover to promote infiltration of stormwater into the ground consistent with the use or development permitted.
- a. Grid and modular pavements shall be used for any required parking area, alley, or other low traffic driveway, unless otherwise approved by the [Administrative Authority].
  - b. Parking space size shall be 162 square feet. Parking space width shall be 9 feet; parking space length shall be 18 feet. Two-way drives shall be a minimum of 22 feet.
- (4) Notwithstanding any other provisions of this Article or exceptions or exemptions thereto, any land disturbing activity exceeding 2,500 square feet, including construction of all single-family houses, shall comply with the requirements of [local jurisdiction Erosion and Sediment Ordinance].
- (5) All on-site sewage disposal systems not requiring an NPDES permit shall be pumped out at least once every five years, in accordance with the provisions of the [jurisdiction name] Health Code.
- (6) A reserve sewage disposal site with a capacity at least equal to that of the primary sewage disposal site shall be provided, in accordance with the [jurisdiction name] Health Code. This requirement shall not apply to any lot or parcel recorded prior to October 1, 1989 if such lot or parcel is not sufficient in capacity to accommodate a reserve sewage disposal site, as determined by the local Health Department. Building or construction of any impervious surface shall be prohibited on the area of all sewage disposal sites or on an on-site sewage treatment system which operates under a permit issued by the State Water Control Board, until the structure is served by public sewer.
- (7) For any development or redevelopment, stormwater runoff shall be controlled by the use of best management practices that achieve the following:
- a. For development, the post-development nonpoint source pollution runoff load shall not exceed the pre-development load, based on the calculated average land cover condition of the [local jurisdiction];



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- b. For sites within Intensely Developed Areas or other isolated redevelopment sites, the nonpoint source pollution load shall be reduced by at least 10 percent. The [Administrative Authority] may waive or modify this requirement for redevelopment sites that originally incorporated best management practices for stormwater runoff quality control, provided the following provisions are satisfied:
    - 1. In no case may the post-development non-point source pollution runoff load exceed the pre-development load;
    - 2. Runoff pollution loads must have been calculated and the BMPs selected for the expressed purpose of controlling nonpoint source pollution;
    - 3. If best management practices are structural, evidence shall be provided that facilities are currently in good working order and performing at the design levels of service. The [Administrative Authority] may require a review of both the original structural design and maintenance plans to verify this provision. A new maintenance agreement may be required to ensure compliance with this ordinance.
  - c. For redevelopment, both the pre- and post-development loadings shall be calculated by the same procedures. However, where the design data is available, the original post-development nonpoint source pollution loadings can be substituted for the existing development loadings.
- (8) Prior to initiating grading or other on-site activities on any portion of a lot or parcel, all wetlands permits required by federal, state, and local laws and regulations shall be obtained and evidence of such submitted to the [Administrative Authority], in accordance with Section 112, of this Article.
- (9) Land upon which agricultural activities are being conducted shall have a soil and water quality conservation plan. Such plan shall be based upon the Field Office Technical Guide of the U.S. Department of Agriculture Soil Conservation Service and accomplish water quality protection consistent with this ordinance. Such a plan shall be approved by the local Soil and Water Conservation District by January 1, 1995.

### 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.

The buffer area shall be located adjacent to and landward of other RPA components and along both sides of any tributary stream. The full buffer area shall be designated as the landward component of the Resource Protection Area, in accordance with Sections 104 (Areas of Applicability) and 112 (Plan of Development) of this Article.

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The 100-foot buffer area shall be deemed to achieve a 75 percent reduction of sediments and a 40 percent reduction of nutrients. A combination of a buffer area not less than 50 feet in width and appropriate best management practices located landward of the buffer area which collectively achieve water quality protection, pollutant removal, and water resource conservation at least the equivalent of the full 100-foot buffer area may be employed in lieu of the 100-foot buffer if approved by the [Administrative Authority] after consideration of the Water Quality Impact Assessment, in accordance with Section 111 of this Article.

The buffer area shall be maintained to meet the following additional performance standards:

- (1) In order to maintain the functional value of the buffer area, indigenous vegetation may be removed only to provide for reasonable sight lines, access paths, general woodlot management, and best management practices, as follows:
  - a. Trees may be pruned or removed as necessary to provide for sight lines and vistas, provided that where removed, they shall be replaced with other vegetation that is equally effective in retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff.
  - b. Any path shall be constructed and surfaced so as to effectively control erosion.
  - c. Dead, diseased, or dying trees or shrubbery may be removed at the discretion of the landowner, and silvicultural thinning may be conducted based upon the best available technical information.
  - d. 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.
- (2) When the application of the buffer areas would result in the loss of a buildable area on a lot or parcel recorded prior to October 1, 1989, the [Administrative Authority] may modify the width of the buffer area in accordance with Section 112 (Plan of Development) and the following criteria:
  - a. Modifications to the buffer areas shall be the minimum necessary to achieve a reasonable buildable area for a principal structure and necessary utilities;
  - b. Where possible, an area equal to the area encroaching the buffer area shall be established elsewhere on the lot or parcel in a way to maximize water quality protection; and
  - c. In no case shall the reduced portion of the buffer area be less than 50 feet in width.
- (3) Redevelopment within Intensely Developed Areas may be exempt from the buffer area, in accordance with Section 112 (Plan of Development) of this Article.

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- (4) On agricultural lands the agricultural buffer area shall be managed to prevent concentrated flows of surface water from breaching the buffer area and noxious weeds from invading the buffer area. The agricultural buffer area may be reduced as follows:
- a. To a minimum width of 50 feet when the adjacent land is implementing a federal, state, or locally-funded agricultural best management practices program, provided that the combination of the reduced buffer area and the best management practices achieve water quality protection, pollutant removal, and water resource conservation at least the equivalent of the 100 foot buffer area;
  - b. To a minimum width of 25 feet when a soil and water quality conservation plan, as approved by the local Soil and Water Conservation District, has been implemented on the adjacent land. Such plan shall be based upon the Field Office Technical Guide of the U.S. Department of Agriculture Soil Conservation Service and accomplish water quality protection consistent with this ordinance.
  - c. The buffer area is not required for agricultural drainage ditches if the adjacent agricultural land has in place best management practices in accordance with a conservation plan approved by the local Soil and Water Conservation District.

### Section 111. Water Quality Impact Assessment

#### A. Purpose and Intent.

The purpose of the water quality impact assessment is to: (i) identify the impacts of proposed development on water quality and lands within RPAs and other environmentally-sensitive lands; (ii) ensure that, where development does take place within RPAs 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 RPAs and other sensitive lands; (iii) to protect individuals from investing funds for improvements proposed for location on lands unsuited for such development because of high ground water, erosion, or vulnerability to flood and storm damage; (iv) provide for administrative relief from the terms of this Article when warranted and in accordance with the requirements contained herein; and (v) specify mitigation which will address water quality protection.

#### B. Water Quality Impact Assessment Required.

A water quality impact assessment is required for (i) any proposed development within a Resource Protection Area, including any buffer area modification or reduction as provided for in Section 110, of this Article; (ii) any development in a Resource Management Area as deemed necessary by the Administrative Authority 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.

#### C. Minor Water Quality Impact Assessment.

A minor water quality impact assessment pertains only to development within a CBPA which causes no more than 5,000 square feet of land disturbance and requires any modification or reduction

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of the landward 50 feet of the 100 foot buffer area. A minor assessment must demonstrate through acceptable calculations that the remaining buffer area and necessary best management practices will result in removal of no less than 75 percent of sediments and 40 percent of nutrients from post-development stormwater runoff. A minor assessment shall include a site drawing to scale which shows the following:

- (1) Location of the components of the Resource Protection Area, including the 100 foot buffer area;
- (2) Location and nature of the proposed encroachment into the buffer area, including: type of paving material; areas of clearing or grading; location of any structures, drives, or other impervious cover; and sewage disposal systems or reserve drainfield sites;
- (3) Type and location of proposed best management practices to mitigate the proposed encroachment.

### D. Major Water Quality Impact Assessment.

A major water quality impact assessment shall be required for any development which (i) exceeds 5,000 square feet of land disturbance within CBPAs and requires any modification or reduction of the landward 50 feet of the 100 foot buffer area; (ii) disturbs any portion of the seaward 50 feet of the 100 foot buffer area or any other component of an RPA; or (iii) is located in a RMA when deemed necessary by the [Administrative Authority]. The information required in this section shall be considered a minimum, unless the [Administrative Authority] determines that some of the elements are unnecessary due to the scope and nature of the proposed use and development of land.

The following elements shall be included in the preparation and submission of a major water quality assessment:

- (1) All of the information required in a minor water quality impact assessment, as specified in Section 111.C.;
- (2) 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, hydrology and geology 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 wetland, streams, lakes, rivers or other water bodies;

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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. Location of and impacts on shellfish beds, submerged aquatic vegetation, and fish spawning areas;
  7. Estimation of pre- and post development pollutant loads in runoff;
  8. Estimation of percent increase in impervious surface on site and type(s) of surfacing materials used;
  9. Percent of site to be cleared for project;
  10. Anticipated duration and phasing schedule of construction project;
  11. 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:
1. 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;
  2. Proposed stormwater management system;
  3. Creation of wetlands to replace those lost;
  4. Minimizing cut and fill.
- (3) A vegetative element that:
- a. Identifies and delineates the location of all significant plant material on site, including all trees on site six inches or greater diameter at breast height or, where there are groups of trees, said stands may be outlined.
  - b. Describes the impacts the development or use will have on the existing vegetation. Information should include:

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1. General limits of clearing, based on all anticipated improvements, including buildings, drives, and utilities;
  2. Clear delineation of all trees which will be removed;
  3. Description of plant species to be disturbed or removed.
- c. Describes the potential measures for mitigation. Possible mitigation measures include:
1. Replanting schedule for trees and other significant vegetation removed for construction, including a list of possible plants and trees to be used;
  2. Demonstration that the design of the plan will preserve to the greatest extent possible any significant trees and vegetation on the site and will provide maximum erosion control and overland flow benefits from such vegetation.
  3. Demonstration that indigenous plants are to be used to the greatest extent possible.
- (4) A wastewater element, where applicable, that:
- a. Includes calculations and locations of anticipated drainfield or wastewater irrigation areas;
  - b. Provides justification for sewer line locations in environmentally-sensitive areas, where applicable, and describes construction techniques and standards;
  - c. Discusses any proposed on-site collection and treatment systems, their treatment levels, and impacts on receiving watercourses.
  - d. Describes the potential impacts of the proposed wastewater systems, including the proposed mitigative measures for these impacts.
- (5) Identification of the existing characteristics and conditions of sensitive lands included as components of Chesapeake Bay Preservation Areas, as defined in this Article.
- (6) Identification of the natural processes and ecological relationships inherent to the site and an assessment of the impact of the proposed use and development of land on these processes and relationships.
- E. Submission and Review Requirements.
- (1) (Five) copies of all site drawings and other applicable information as required by Subsections C and D above shall be submitted to the [Administrative Authority] for review.

- (2) All information required in this section shall be certified as complete and accurate by a professional engineer or a certified land surveyor.
- (3) A minor water quality impact assessment shall be prepared and submitted to and reviewed by the [Administrative Authority] in conjunction with Section 112, (Plan of Development) of this Article.
- (4) A major water quality impact assessment shall be prepared and submitted to and reviewed by the [Administrative Authority] in conjunction with a request for rezoning, special use permit, or in conjunction with Section 112 of this Article, as deemed necessary by the [Administrative Authority].
- (5) As part of any major water quality impact assessment submittal, the [Administrative Authority] may require review by the Chesapeake Bay Local Assistance Department (CBLAD). Upon receipt of a major water quality impact assessment, the [Administrative Authority] will determine if such review is warranted and may request CBLAD to review the assessment and respond with written comments. Any comments by CBLAD will be incorporated into the final review by the [Administrative Authority], provided that such comments are provided by CBLAD within 90 days of the request.

F. Evaluation Procedure.

- (1) Upon the completed review of a minor water quality impact assessment, the [Administrative Authority] will determine that any proposed modification or reduction to the buffer area is consistent with the provisions of this Article and make a finding based upon the following criteria:
  - a. The necessity of the proposed encroachment and the ability to place improvements elsewhere on the site to avoid disturbance of 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 spirit 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.
- (2) Upon the completed review of a major water quality impact assessment, the [Administrative Authority] will determine whether or not the proposed development is consistent with the spirit and intent of this Article and make a finding based upon the following criteria:
  - a. Within any RPA, the proposed development is water-dependent;

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- b. The percentage of existing wetlands disturbed by the development. The number of square feet or acres to be disturbed;
  - c. The development will not result in significant disruption of the hydrology of the site;
  - d. The development will not result in severe degradation to aquatic vegetation or life;
  - e. The development will not result in unnecessary destruction of plant materials on site;
  - f. Proposed erosion and sediment control concepts are adequate to achieve the reductions in runoff and prevent off-site sedimentation;
  - g. Proposed stormwater management concepts are adequate to control the stormwater runoff to achieve "no net increase" in pollutant loadings;
  - h. Proposed revegetation of disturbed areas will provide optimum erosion and sediment control benefits;
  - j. The design and location of any proposed drainfield will be in accordance with the requirements of Section 110.
  - k. The development is consistent with the spirit and intent of the Overlay District;
  - l. The relationship and cumulative effect of the proposed development on water quality and Chesapeake Bay Preservation Areas has been considered.
- (3) The [Administrative Authority] shall require additional mitigation where potential impacts have not been adequately addressed. Evaluation of mitigation measures will be made by the [Administrative Authority] based on the criteria listed above in subsections (1) and (2).
- (4) The [Administrative Authority] shall find the proposal to be inconsistent with the purpose and intent of this Article when the impacts created by the proposal cannot be mitigated. Evaluation of the impacts will be made by the [Administrative Authority] based on the criteria listed in subsections (1) and (2).

### Section 112. Plan of Development Process.

Any development or redevelopment exceeding 2500 square feet of land disturbance shall be accomplished through a plan of development process prior to any clearing or grading of the site or the issuance of any building permit, to assure compliance with all applicable requirements of this Article.

#### A. Required Information.

In addition to the requirements of [reference site plan ordinance] of this [Code Chapter],



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Appendix, etc.] or the requirements of Section [subdivision plats] of the [jurisdiction name] Subdivision Ordinance, the plan of development process shall consist of the plans and studies identified below. These required plans and studies may be coordinated or combined, as deemed appropriate by the [Administrative Authority]. The [Administrative Authority] may determine that some of the following information is unnecessary due to the scope and nature of the proposed development.

The following plans or studies shall be submitted, unless otherwise provided for:

- (1) A site plan in accordance with the provisions of [reference site plan ordinance] of this [Code, Chapter, Appendix, etc.]; or a subdivision plat in accordance with the provisions of Section [subdivision plats] of the [jurisdiction name] Subdivision Ordinance;
- (2) An environmental site assessment;
- (3) A landscaping plan;
- (4) A stormwater management plan;
- (5) An erosion and sediment control plan in accordance with the provisions of Section [local erosion & sediment control ordinance] of this [Chapter, Appendix, etc.].

### B. Environmental Site Assessment.

An environmental site assessment shall be submitted in conjunction with preliminary site plan or preliminary subdivision plan approval.

- (1) The environmental site assessment shall be drawn to scale and clearly delineate the following environmental features:
  - a. Tidal wetlands;
  - b. Tidal shores;
  - c. Nontidal wetlands connected by surface flow and contiguous to tidal wetlands or tributary streams;
  - d. [Other lands] (specified as an RPA feature at local discretion);
  - e. A 100 foot buffer area located adjacent to and landward of the components listed in subsections a. through d. above, and along both sides of any tributary stream;
  - f. Other sensitive environmental features as determined by the [Administrative Authority].
- (2) Wetlands delineations shall be performed consistent with the procedures specified in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, 1989.

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- (3) The environmental site assessment shall delineate the site-specific geographic extent of the Resource Protection Area.
- (4) The environmental site assessment shall be drawn at the same scale as the preliminary site plan or subdivision plat, and shall be certified as complete and accurate by a professional engineer or a certified land surveyor. This requirement may be waived by the [Administrative Authority] when the proposed use or development would result in less than 5,000 square feet of disturbed area.

### C. Landscaping Plan.

A landscaping plan shall be submitted in conjunction with site plan approval or as part of subdivision plat approval. No clearing or grading of any lot or parcel shall be permitted without an approved landscaping plan.

Landscaping plans shall be prepared and/or certified by design professionals practicing within their areas of competence as prescribed by the Code of Virginia.

- (1) Contents of the Plan.
  - a. The landscaping plan shall be drawn to scale and clearly delineate the location, size, and description of existing and proposed plant material. All existing trees on the site 6 inches or greater diameter at breast height (DBH) shall be shown on the landscaping plan, or where there are groups of trees, said stands may be outlined instead. The specific number of trees 6 inches or greater DBH to be preserved outside of the construction footprint shall be indicated on the plan. Trees to be removed to create a desired construction footprint shall be clearly delineated on the landscaping plan.
  - b. Any required buffer area shall be clearly delineated and any plant material to be added to establish or supplement the buffer area, as required by this Article, shall be shown on the landscaping plan.
  - c. Within the buffer area, trees to be removed for sight lines, vistas, access paths, and best management practices, as provided for in this Article, shall be shown on the plan. Vegetation required by this Article to replace any existing trees within the buffer area shall be also be shown on the landscaping plan.
  - d. Trees to be removed for shoreline stabilization projects and any replacement vegetation required by this Article shall be shown on the landscaping plan.
  - e. The plan shall depict grade changes or other work adjacent to trees which would affect them adversely. Specifications shall be provided as to how grade, drainage, and aeration would be maintained around trees to be preserved.
  - f. The landscaping plan will include specifications for the protection of existing trees during clearing, grading, and all phases of construction.

(2) Plant Specifications.

- a. All plant materials necessary to supplement the buffer area or vegetated areas outside the construction footprint shall be installed according to standard planting practices and procedures.
- b. All supplementary or replacement plant materials shall be living and in a healthy condition. Plant materials shall conform to the standards of the most recent edition of the American Standard for Nursery Stock, published by the American Association of Nurserymen.
- c. Where areas to be preserved, as designated on an approved landscaping plan, are encroached, replacement of existing trees and other vegetation will be achieved at a ratio of 3 planted trees to 1 removed. Replacement trees shall be a minimum 3 1/2 inches DBH at the time of planting.

(3) Maintenance.

- a. The applicant shall be responsible for the maintenance and replacement of all vegetation as may be required by the provisions of this Article.
- b. In buffer areas and areas outside the construction footprint, plant material shall be tended and maintained in a healthy growing condition and free from refuse and debris. Unhealthy, dying, or dead plant materials shall be replaced during the next planting season, as required by the provisions of this Article.

D. Stormwater Management Plan.

A stormwater management plan shall be submitted as part of the plan of development process required by this Article and in conjunction with site plan or subdivision plan approval.

(1) Contents of the Plan.

The stormwater management plan shall contain maps, charts, graphs, tables, photographs, narrative descriptions, explanations, and citations to supporting references as appropriate to communicate the information required by this Article. At a minimum, the stormwater management plan must contain the following:

- a. Location and design of all planned stormwater control devices;
- b. Procedures for implementing non-structural stormwater control practices and techniques;
- c. Pre- and post-development nonpoint source pollutant loadings with supporting documentation of all utilized coefficients and calculations;
- d. For facilities, verification of structural soundness, including a Professional Engineer or Class IIIIB Surveyor Certification;

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- (2) Site specific facilities shall be designed for the ultimate development of the contributing watershed based on zoning, comprehensive plans, local public facility master plans, or other similar planning documents.
- (3) All engineering calculations must be performed in accordance with procedures outlined in the current edition of the Local Assistance Manual, Virginia Erosion and Sediment Control Handbook, Virginia Department of Transportation Drainage Manual, or any other good engineering methods deemed appropriate by the Administrative Authority.
- (4) The plan shall establish a long-term schedule for inspection and maintenance of stormwater management facilities that includes all maintenance requirements and persons responsible for performing maintenance. If the designated maintenance responsibility is with a party other than the [local jurisdiction] then a maintenance agreement shall be executed between the responsible party and the [local jurisdiction].

### E. Erosion and Sediment Control Plan.

An erosion and sediment control plan shall be submitted that satisfies the requirements of this Article and in accordance with Section [local jurisdiction erosion & sediment control requirements], in conjunction with site plan or subdivision plan approval.

### F. Final Plan.

Final plans for property within CBPAs shall be final plats for land to be subdivided or site plans for land not to be subdivided as required in [reference site plan ordinance] of this [Code, Chapter, Appendix, etc.]

- (1) Final plans for all lands within CBPAs shall include the following additional information:
  - a. The delineation of the Resource Protection Area boundary;
  - b. The delineation of required buffer areas;
  - c. All wetlands permits required by law;
  - d. A maintenance agreement as deemed necessary and appropriate by the Administrative Authority to ensure proper maintenance of best management practices in order to continue their functions.
- (2) Installation and Bonding Requirements.
  - a. Where buffer areas, landscaping, stormwater management facilities or other specifications of an approved plan are required, no certificate of occupancy shall be issued until the installation of required plant materials or facilities is completed, in accordance with the approved site plan.

- b. When the occupancy of a structure is desired prior to the completion of the required landscaping, stormwater management facilities, or other specifications of an approved plan, a certificate of occupancy may be issued only if the applicant provides to [local jurisdiction] a form of surety satisfactory to the [Administrative Authority] in amount equal to the remaining plant materials, related materials; and installation costs of the required landscaping or facilities and/or maintenance costs for any required stormwater management facilities.
- c. All required landscaping shall be installed and approved by the first planting season following issuance of a certificate of occupancy or the surety may be forfeited to the [local jurisdiction.]
- d. All required stormwater management facilities or other specifications shall be installed and approved within 18 months of project commencement. Should the applicant fail, after proper notice, to initiate, complete or maintain appropriate actions required by the approved plan, the surety may be forfeited to [local jurisdiction]. The [local jurisdiction] may collect from the applicant the amount by which the reasonable cost of required actions exceeds the amount of the surety held.
- e. After all required actions of the approved site plan have been completed, the applicant must submit a written request for a final inspection. If the requirements of the approved plan have been completed to the satisfaction of the [Administrative Authority], such unexpended or unobligated portion of the surety held shall be refunded to the applicant or terminated within 60 days following the receipt of the applicant's request for final inspection. The [Administrative Authority] may require a certificate of substantial completion from a Professional Engineer or Class III B Surveyor before making a final inspection.

**G. Administrative Responsibility.**

Administration of the plan of development process shall be in accordance with [reference site plan ordinance] of this [Code, Chapter, Appendix, etc.] or Section [subdivision plats] of the [local jurisdiction] Subdivision Ordinance.

**H. Denial of Plan, Appeal of Conditions or Modifications.**

In the event the final plan or any component of the plan of development process is disapproved and recommended conditions or modifications are unacceptable to the applicant, the applicant may appeal such administrative decision to the Planning Commission. In granting or denying an appeal, the Planning Commission must find such plan to be in accordance with all applicable ordinances and include necessary elements to mitigate any detrimental impact on water quality and upon adjacent property and the surrounding area, or such plan meets the purpose and intent of the performance standards in this Article. If the Planning Commission finds that the applicant's plan does not meet the above stated criteria, they shall deny approval of the plan.

**Section 113. Nonconforming Use and Development Waivers.**

The lawful use of a building or structure which existed on [date of adoption] or which exists at the time of any amendment to this Article, and which is not in conformity with the provisions of the Overlay District may be continued in accordance with Section [reference nonconformities] of this [Chapter, Appendix, etc.].

No change or expansion of use shall be allowed with the exception that:

- (1) The [Administrative Authority] may grant a nonconforming use and development waiver for structures on legal nonconforming lots or parcels to provide for remodeling and alterations or additions to such nonconforming structures provided that:
  - a. There will be no increase in nonpoint source pollution load;
  - b. Any development or land disturbance exceeding an area of 2500 square feet complies with all erosion and sediment control requirement of this Article.
- (2) An application for a nonconforming use and development waiver shall be made to and upon forms furnished by the [Administrative Authority] and shall include for the purpose of proper enforcement of this Article, the following information:
  - a. Name and address of applicant and property owner;
  - b. Legal description of the property and type of proposed use and development;
  - c. A sketch of the dimensions of the lot or parcel, location of buildings and proposed additions relative to the lot lines, and boundary of the Resource Protection Area;
  - d. Location and description of any existing private water supply or sewage system.
- (3) A nonconforming use and development waiver shall become null and void twelve months from the date issued if no substantial work has commenced.

**Section 114. Exemptions.**

**A. Exemptions for Utilities.**

Construction, installation, and maintenance of water, sewer, and local gas lines shall be exempt from the Overlay District provided that:

- a. To the degree possible, the location of such utilities and facilities should be outside Resource Protection Areas;
- b. No more land shall be disturbed than is necessary to provide for the desired utility installation;

## MODEL ORDINANCE

- c. All such construction, installation, and maintenance of such utilities and facilities shall be in compliance with all applicable state and federal requirements and permits and designed and conducted in a manner that protects water quality; and
- d. —Any land disturbance exceeding an area of 2,500 square feet complies with all [jurisdiction name] erosion and sediment control requirements.

### B. Exemptions for Silvicultural Activities.

Silvicultural activities are exempt from the requirements of this Article provided that silvicultural operations adhere to water quality protection procedures prescribed by the Department of Forestry in its "Best Management Practices Handbook for Forestry Operations."

### C. Exemptions in Resource Protection Areas.

The following land disturbances in Resource Protection Areas may be exempted from the Overlay District: (i) water wells; (ii) passive recreation facilities such as boardwalks, trails, and pathways; and (iii) historic preservation and archaeological activities, provided that it is demonstrated to the satisfaction of the [Administrative Authority] that:

- (1) Any required permits, except those to which this exemption specifically applies, shall have been issued;
- (2) Sufficient and reasonable proof is submitted that the intended use will not deteriorate water quality;
- (3) The intended use does not conflict with nearby planned or approved uses; and
- (4) Any land disturbance exceeding an area of 2500 square feet shall comply with all [jurisdiction name] erosion and sediment control requirements.

## Section 115. Exceptions.

A. A request for an exception to the requirements of this Overlay District shall be made in writing to the [Administrative Authority]. It shall identify the impacts of the proposed exception on water quality and on lands within the Resource Protection Area through the performance of a water quality impact assessment which complies with the provisions of Section 111.

B. The [Administrative Authority] shall review the request for an exception and the water quality impact assessment and may grant the exception with such conditions and safeguards as deemed necessary to further the purpose and intent of this Article if the [Administrative Authority] finds:

## MODEL ORDINANCE

- (1) Granting the exception will not confer upon the applicant any special privileges that are denied by this Article to other property owners in the Overlay District;
- (2) The exception request is not based upon conditions or circumstances that are self-created or self-imposed, nor does the request arise from conditions or circumstances either permitted or non-conforming that are related to adjacent parcels;
- (3) The exception request is the minimum necessary to afford relief;
- (4) The exception request will be in harmony with the purpose and intent of the Overlay District, and not injurious to the neighborhood or otherwise detrimental to the public welfare; and
- (5) Reasonable and appropriate conditions are imposed which will prevent the exception request from causing a degradation of water quality.

C. If the [Administrative Authority] cannot make the required findings or refuses to grant the exception, the [Administrative Authority] shall return the request for an exception together with the water quality impact assessment and the written findings and rationale for the decision to the applicant, with a copy to the Board of Zoning Appeals. The applicant may then apply to the Board of Zoning Appeals for a variance as provided in Section [reference variances] of the Zoning Ordinance.

D. The Board of Zoning Appeals shall consider the water quality impact assessment and the findings and rationale of the [Administrative Authority] in determining harmony with the intended spirit and purpose of this Article.



## **Appendix F: Case Studies**

### **Bayville Farms**

#### **Stihl Company (Parts A and B)**

#### **Homeowner: Jane Grant (Parts A and B)**

### **Bayville Farms**

Property owner: Bayville Farms Associates and George E. Langley

Property Address: 4137 First Court Road, Bayside Borough

Owner's Agent: Mary M. Heinrich for Princess Anne Country Club

#### **A. Description**

Application of Princess Anne Country Club for a variance to Section 106 and 108 of the Chesapeake Bay Preservation Area Ordinance at 4137 First Court Road.

#### **B. Administrative Comments**

##### Description of Request

The applicant is requesting a variance to Section 106 and 108 of the Chesapeake Bay Preservation Area Ordinance to encroach into the Resource Protection Area feature and the 100 foot buffer for flight lines in a golf course. The applicant is seeking approval of the concept plan. Since the exact location of the golf course fairways will be more or less determined on the site, the encroachment areas may vary to some extent.

The applicant has concurrently applied to the City Council for a conditional use permit for a golf course. The total area involved in the conditional use permit is 254.65 acres. Of this, almost 56 acres is within the Chesapeake Bay Preservation Areas, which includes Resource Management Area and the Resource Protection Area. Almost 44 acres are within the Resource Protection Area. The City Council will hear the request for a conditional use permit on September 8, 1992.

The total encroachment or disturbance within the Resource Protection Area is almost 5.70 acres. The encroachment and disturbance is for the location of fairways, flight lines and tees.

The submitted plan includes a triangular piece of land on the northeastern part of the golf course, just south of Shore Drive and east of First Court Road, where the tee area for fairway #4 is located. This piece of land is completely within the Resource Protection Area. However, the plan submitted initially for the conditional use permit did not include this area as part of the 18 hole golf course.

#### Ordinance Requirements

Section 106 (Resource Protection Area Regulations) requires that there shall be no development within the Resource Protection Area except for construction, installation or maintenance of water dependent facilities.

Section 108 (Performance Standards) requires that a 100 foot wide buffer area of vegetation to retard runoff, prevent erosion and filter nonpoint source pollution from runoff be maintained, if present, or established if it does not exist.

Section 114 (Variances) requires that the applicant submit a Water Quality Impact Assessment. The Water Quality Impact Assessment has been submitted and a staff

evaluation is provided in section (C) below.

#### Description of Site Conditions

The subject property is located adjacent to Pleasure House Creek, a tributary to the Lynnhaven River. The Resource Protection Area on the site is characterized by tidal shores, tidal wetlands, nontidal wetlands, highly erodible soils and a 100 foot buffer. Almost the entire landward 50 foot buffer consists of pastures and corn fields. However, there is extensive tree cover within the channelward 50 foot buffer and the steep banks. The predominant species of trees within this area were Live Oak, Red Maple, Common Hackberry, American holly, Southern Red Oak and Loblolly Pine. Though ground cover in some areas is almost nonexistent because of the heavy shade, specimens of Privet, Trumpet creeper, Poison Ivy, Virginia Creeper and Greenbriar grow extensively.

#### **C. Water Quality Impact Assessment**

This evaluation of the submitted Water Quality Impact Assessment is based on Section 108 (Performance Standards for Development) and Section 109 (Water Quality Impact Assessment) of the Chesapeake Bay Preservation Area Ordinance.

Section 108 requires the following:

- 1) "Land disturbance shall be limited to the area necessary to provide for the desired use or development."

Extensive land disturbance will occur on the property. Areas disturbed within the RPA will total to approximately 5.7 acres. Much of this disturbance is related to the three holes which cross the tidal areas from tees to greens (Hole #4, 8 and 17). Erosion and sedimentation control will be achieved on site through stone check dams, diversion dikes, sediment basins, straw bales, silt fences, etc. However the submitted

site plan does not identify these controls on the plan. This is because, the submitted plan is a concept plan. Erosion and Sedimentation control devices shall be required to be identified during site plan review.

2) "Indigenous vegetation shall be preserved to the maximum extent possible consistent with the use and development permitted."

The applicant has identified three types of encroachment. The first type has been defined as "Clearcutting" in which clearcutting of woody vegetation shall be carried out above the top of bank along with grading for tees, greens and fairways. Almost 1.38 acres will be "clearcut". The second type of clearing, defined as "Encroachment" involves grading of pastures and corn fields that are within 50 feet of the top of bank. Almost 2.23 acres of pastures will be "encroached" upon. The third type of clearing defined as "Tree clearing" shall take place below the top of bank, where trees shall be removed mechanically. Almost 2.09 acres of trees will be "tree cleared".

The staff feels that pulling out trees from steep banks will cause major erosion problems because of the steep slopes involved. Trees to be cleared below the top of bank must be hand cut and stumped.

The applicant has proposed buffer mitigation measures. About 8.65 acres of buffer shall be established in seven different areas. However, no information pertaining to tree replacement ratio has been given. The applicant will be required to replace trees removed within the buffer and RPA feature at 3:1 ratio. The tree replacement may be accommodated within the buffer mitigation areas. Relevant information must be provided during site plan review.

3) "For any development, stormwater runoff shall be controlled by the use of Best Management Practices (BMP)."

The submitted plan doesn't show any introduction of impervious cover within the CBPA Areas. Therefore a stormwater management plan is not required.

Section 109 requires the following:

Identification of potential impacts of the proposed expansion on water quality and lands within the Resource Protection Area and all measures used to minimize these impacts.

The applicant has identified the potential impacts of the proposed use and has identified measures to minimize the impacts. Since, the proposed plan is a conceptual plan, more details will be required when a detailed site plan review is carried out.

The tees for hole #4 in the northeast portion of the golf course is located on steep slopes. The staff feels that, the tee ares can be reduced to two tees.. This will minimize the destruction too the natural area. After discussion with the golf course architect, it was determined that a minimum of 6,500 area for the tee boxes will be required.

#### **D. Recommendation**

The applicant is requesting a variance to Section 106 and 108 of the Chesapeake Bay Preservation Area Ordinance to encroach into the Resource Protection Area feature and the 100 foot buffer for flight lines in a golf course. The applicant is seeking approval of the concept plan. Since the exact location of the golf course fairways will be more or less determined on the site, the encroachment ares may vary to some extent.

The applicant has concurrently applied to the City Council for a conditional use permit for a golf course. The total area involved in the conditional use permit is 254.65 acres. Of this almost 56 acres is within the Chesapeake Bay Preservation Areas, which includes Resource Management Area and the Resource Protection Area. Almost 44 acres are within the Resource Protection Area. The City Council will hear the request for a conditional use permit on September 8, 1992.

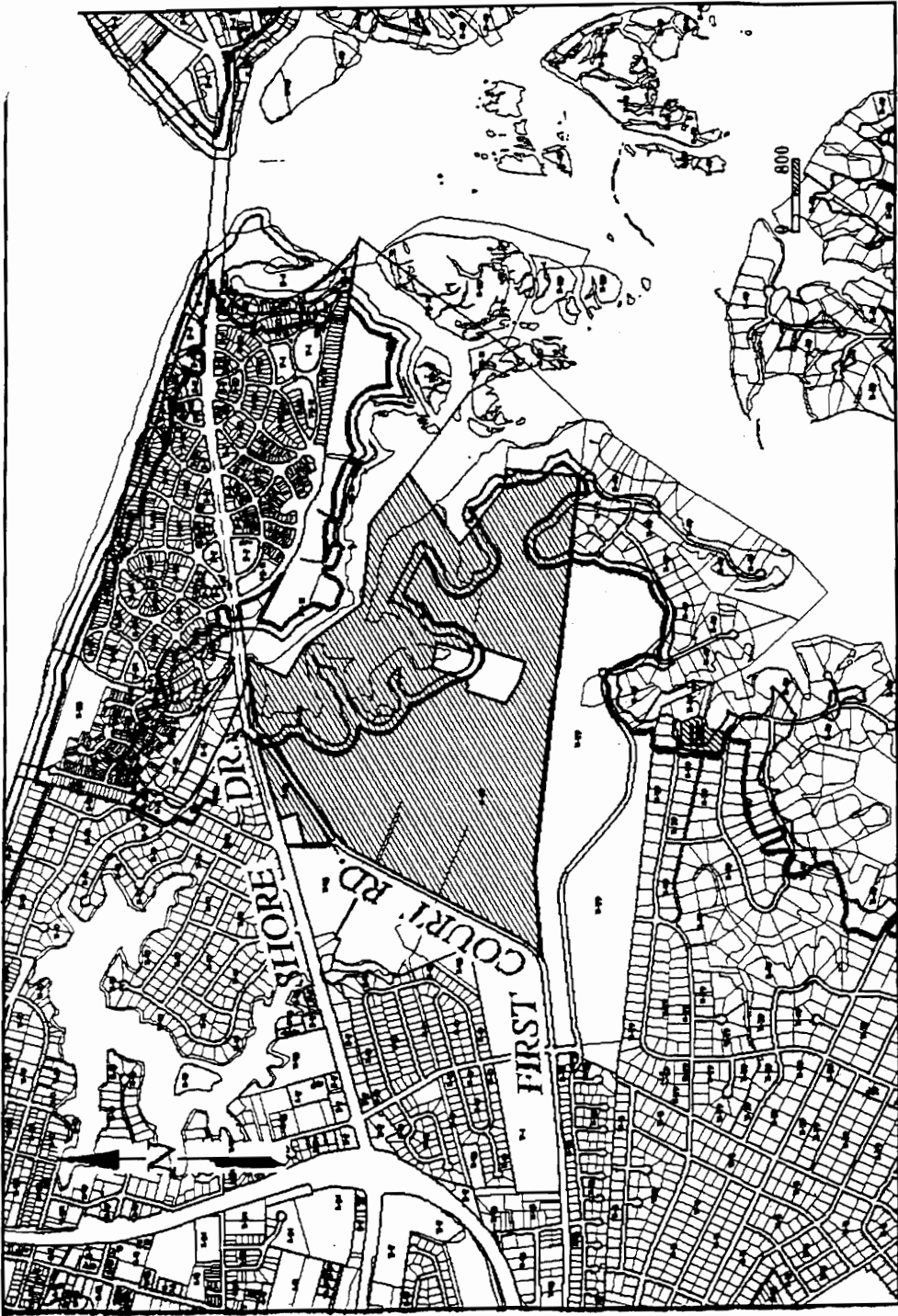
The total encroachment or disturbance within the Resource Protection Area is almost 5.70 acres. The encroachment and disturbance is for the location of fairways, flight lines and tees.

The submitted plan includes a triangular piece of land on the northeastern part of the golf course, just south of Shore Drive and east of First Court Road, where the tee area for fairway #4 is located. This piece of land is completely within the Resource Protection Area. However, the plan submitted initially for the conditional use permit did not include this area as part of the 18 hole golf course.

It is recommended that this request for a variance to Section 106 and 108 to the Chesapeake Bay Preservation Area Ordinance be approved subject to the following conditions:

- 1) Erosion and Sedimentation Control devices must be identified on the site plan during detailed site plan review.
- 2) No trees shall be uprooted at and below the top of bank along Pleasure House Creek. Trees which must be removed for flight lines shall be hand cut and stumped. No heavy equipment may be used for cutting or removal of trees within the slope area.

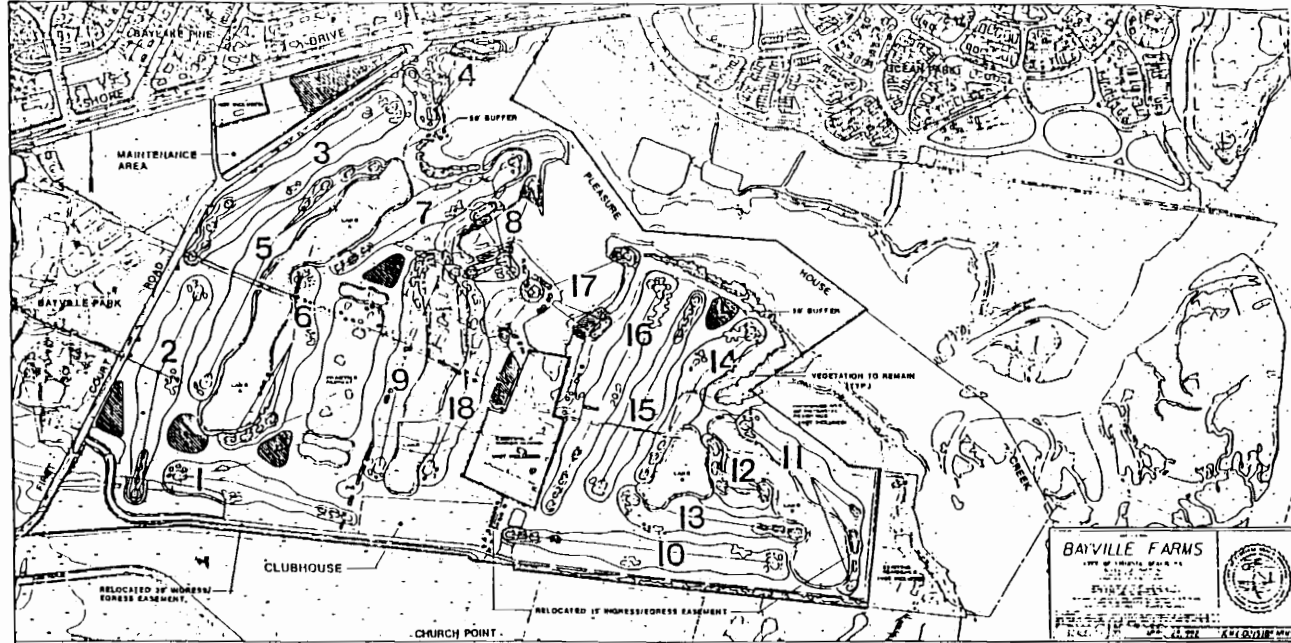
- 3) Tree replacement for trees removed within the CBPA Areas will be at the ratio of 3:1. The trees may be accommodated within the seven buffer mitigation areas proposed in the concept plan. The proposed mitigation areas shall be planted with native vegetation in a manner which will provide a forested canopy cover upon maturity. A planting schedule is also required.
  
- 4) The tee box area associated with hole #4 (on the northeast of the golf course) shall not exceed 6,500 square feet. Three clearing required for flight lines on hole #4 shall be the minimum necessary required for attaining the objective.
  
- 5) A revised site plan meeting the conditions shall be submitted to the Planning Department for Plan of Development review and approval and appropriated bonds posted prior to the issuance of a building permit.





PRINCESS ANNE COUNTRY CLUB

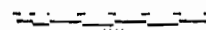
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LANDSCAPE PLAN  
OF  
**BAYVILLE FARMS**  
FOR  
PRINCESS ANNE COUNTRY CLUB  
VIRGINIA BEACH, VIRGINIA

- LEGEND:
- NON RPA CLEARING
  - RPA ENHANCEMENT
  - RPA CLEARCUT CLEARING
  - RPA TREE CLEARING
  - PROPOSED VEGETATIVE MITIGATION AREAS

DATE: JULY 22, 1992



MARY M. HEINRICH  
ENVIRONMENTAL CONSULTANT  
GOLF COURSE DESIGN BY  
**FRED JONES, INC.**  
MONTCLAIR, NEW JERSEY

**BAYVILLE FARMS**

18 HOLES OF CHAMPIONSHIP QUALITY  
DESIGNED BY FRED JONES, INC.  
MONTCLAIR, NEW JERSEY

**TALBOT GROUP LTD.**

# **Stihl Inc.**

## **Stihl Inc. Part A**

Applicant: Ronnie W. Rouse

Property Owner: Stihl, Inc.

Property Address: 2692 International Parkway

### **A. Description**

Application of Ronnie W. Rouse for Stihl, Inc for variance to section 106 and 108 of the Chesapeake Bay Preservation Area Ordinance at 2692 International parkway. Princess Anne Borough.

### **B. Description of Request and Site Conditions**

The applicant is requesting a variance to Section 106 and 108 of the Chesapeake bay Preservation Area Ordinance to locate a parking lot and portions of an assembly plant in the resource Protection area. There is an existing building and a parking lot. The parking lot addition shall be located on the eastern side of the property and adjacent to Canal #2. The building additions will be located on the western sides of the existing buildings. The parking lot addition shall be entirely within the Resource Protection Area and shall be approximately 50,102 square feet of impervious cover. The existing impervious cover on this commercial site of 50 acres is almost 13 acres. The proposed improvements will increase the impervious cover on the site to 27.15 acres and will cover almost 54% of the site area.

The subject property is a group of two parcels of land contiguous to each other and is located in the Oceana West Industrial Park and is bounded by Canal #2 on east and

Lynnhaven Parkway on the west. The site is bisected by a drainage ditch running from west to east and serves as an outfall for a 100 year storm for the two wet ponds located across Lynnhaven Parkway and next to Lynnhaven Mall. The areas adjacent to the ditch and the canal are included in the Resource Protection area. The Resource Protection Area on the site is characterized by tidal shores, wetlands highly erodible soils and the 100 foot buffer. The proposed parking lot is located in the 100 foot buffer and partially below the top of bank. The western portion of the site is heavily wooded. However, there are no trees on the southeastern portion of the site where the parking lot addition is to be located.

The applicant has also requested a waiver of the Landscape Plan.

### **C. Performance Standards and Water Quality Impact Assessment**

#### **Land Disturbance**

The proposed development shall entail a considerable amount of land disturbance within the Resource Protection area. The applicant has noted on the submitted plan that erosion and sediment control devices shall be installed. However, the erosion and sediment control devices have not been identified on the plan. THE erosion and sediment control devices must be identified on the plan itself.

The submitted plan shows that part of the parking lot shall be located below the top of bank. This is not acceptable and a reconfiguration of the parking lot shall be required so that no land disturbance occurs below the top of bank.

It also appears that the 100 foot buffer located south of the "future assemble and parts addition" building shall be disturbed. The subject area has an extensive stand of trees. There is ample area outside the Resource Protection Area where part of that

building can be located. The staff is of the opinion that a slight reconfiguration of the building will keep the 100 foot buffer intact.

#### Indigenous Vegetation

The proposed development shall remove a minimum of 7 acres of forested area. no mitigation has been proposed for the trees to be removed within the Chesapeake Bay Preservation Areas. the applicant has requested a waiver of the Landscape Plan.

The Chesapeake Bay Preservation Area Ordinance requires that buffer mitigation is required for vegetation including trees is required. When a buffer does not exist, such a buffer shall be established. The slopes adjacent to Canal #2, though well stabilized, do not have trees. It is understood that part of the slope is within a VEPCO easement. However, a buffer can be established on the slope with a variety of small and tall trees with understory vegetation. A waiver of the Landscape Plan is not acceptable in this particular case because the proposed development shall required a profusion of landscaping including an establishment of a buffer.

#### Stormwater Management

The applicant has proposed two wet detention ponds as part of the stormwater management plan. The stormwater runoff from the parking lot addition shall be conveyed to a detention pond located on the southern portion of the site, adjacent to International Parkway. The remaining impervious cover shall drain into a wet detention pond which shall be located within the drainage outfall ditch bisecting the site. However, the use of an existing ditch which serves as an outfall for another detention pond and is located within a drainage easement may not be possible. The stormwater management plan is subject to further review by the City Engineer.

#### **D. Recommendation**

The applicant is requesting a variance to Section 106 and 108 of the Chesapeake Bay Preservation Area Ordinance to locate a parking lot and portions of an assembly plant in the Resource Protection Area. There is an existing building and a parking lot. The Parking lot addition shall be located on the eastern side of the property and adjacent to Canal #2. The building addition will be located on the western sides of the existing buildings. The parking lot addition shall be entirely within the Resource Protection area and shall be approximately 50,102 square feet of impervious cover. The existing impervious cover on this commercial site of 50 acres is almost 13 acres. The proposed improvements will increase the impervious cover on the site to 27.15 acres and will cover almost 54% of the site area. The applicant is also requesting a waiver of a Landscape Plan.

It is recommended that the request for a variance to Section 106 and 108 be granted subject to the following conditions and the request for a waiver of the Landscape Plan be denied.

1. The parking lot addition shall not encroach below the top of bank.
2. A buffer shall be established on the slopes adjacent to canal #2 with a variety of trees, shrubs and understory planting. The buffer shall be established according to the City's Buffer Establishment guidelines.
3. A Landscape Plan identifying the buffer in condition #2 and tree mitigation shall be required.
4. The existing 100 foot buffer located south of the "Future Assembly and Parts Addition" shall not be encroached upon.

5. Stormwater Management Plan is subject to further review by the City Engineer.
6. Erosion and Sediment Control devices shall be identified on the site plan itself.
7. A revised site plan meeting the above conditions shall be submitted to the Planning Department for a full Plan of Development Review and approval, and appropriate bonds posted prior to the issuance of a building permit.

## **Stihl, Inc. Part B**

Following this board meeting a follow-up report was produced for the deferred portion of the variance request.

### **A. Description**

Application of Ronnie W. Rouse for Stihl, Inc. for variance to section 106 and 108 of the Chesapeake Bay Preservation Area Ordinance at 2692 International Parkway, Princess Anne Borough.

### **B. Description of Request and Site Conditions**

*On November 17, 1992, the Chesapeake Bay Preservation Area Board granted a variance to locate a parking lot and a Best Management Practice in the Resource Protection Area adjacent to Canal #2. The Board deferred the rest of the variance request (Part B) for 60 days. The applicant has not submitted any new plans since and the following report is based on the site plan submitted originally. Part B of the variance request includes the "future assembly and parts addition", "future shipping facility addition" and "future auto parking area".*

The applicant is requesting a variance to section 106 and 108 of the Chesapeake Bay Preservation Area Ordinance to locate factory building structures and parking lots in the Resource Protection Area. All of these additions will be on the western portion of the property which is currently heavily wooded. There is an existing building and a parking lot. Part A of the variance request included a parking lot and a Best Management Practice on the eastern side of the property. The Chesapeake Bay Preservation Area Board granted that part of the variance request. The existing impervious cover on this industrial site of 50 acres is almost 13 acres. The proposed improvements including the parking lot in Part A request will increase the impervious cover on the site to 27.15 acres and will cover almost 54% of the site area.

The subject property is a group of two parcels of land contiguous to each other and is located in the Oceana West Industrial Park and is bounded by Canal #2 on east and Lynnhaven Parkway on the west. The site is bisected by a drainage ditch running from west to east and serves as an outfall for a 100 year storm for the two wet ponds located across Lynnhaven Parkway and next to Lynnhaven Mall. The areas adjacent to the ditch and the canal are included in the Resource Protection Area. The Resource Protection Area on the site is characterized by tidal shores, wetlands highly erodible soils and the 100 foot buffer. The proposed parking lot is located in the 100 foot buffer. The proposed parking lot is located in the 100 foot buffer and partially below the top of bank, on highly erodible soils.. The western portion of the site is heavily wooded.

### **C. Performance Standards and Water Quality Impact Assessment**

#### **Land Disturbance**

The proposed development shall entail a considerable amount of land disturbance

within the Resource Protection Area. The applicant has noted on the submitted plan that erosion and sediment control devices shall be installed. However, the erosion and sediment control devices have not been identified on the plan. The erosion and sediment control devices must be identified on the plan itself.

The submitted plan indicates that land disturbance shall occur below the top of bank on highly erodible soils. The 100 foot buffer located south of the "future assembly and parts addition" building shall be disturbed and paved completely. The subject area has an extensive stand of trees. There is ample property located outside the Resource Protection Area where part of the building can be relocated. The staff is of the opinion that a reconfiguration of the building will keep the 100 foot buffer intact. The submitted plan is completely against the intent of the Chesapeake bay Preservation Area Ordinance.

#### Indigenous Vegetation

The proposed development shall remove a minimum of 7 acres of forested area. No mitigation has been proposed for the trees to be removed within the Chesapeake Bay Preservation Areas. The applicant has requested a waiver of the Landscape Plan. The existing 100 foot buffer on the northern side of the drainage ditch has been proposed to be paved. Part A of the variance request included the removal of the 100 foot buffer area adjacent to Canal #2 and replace it with a parking lot. However that area was devoid of trees. The 100 foot buffer on the northern side of the drainage ditch is part of a forested area and is an established buffer. Removal of the buffer in this area shall prove detrimental to water quality because of the proposed parking area south of the "future assembly parts and addition" building.



## Stormwater Management

Runoff from the impervious cover shall drain into a wet detention pond which shall be located within the drainage ditch bisecting the site. However, the use of an existing ditch which serves as an outfall for another retention system and is located within the drainage easement may not be acceptable from an engineering perspective.

Accordingly, the stormwater management plan is subject to further review by the City Engineer.

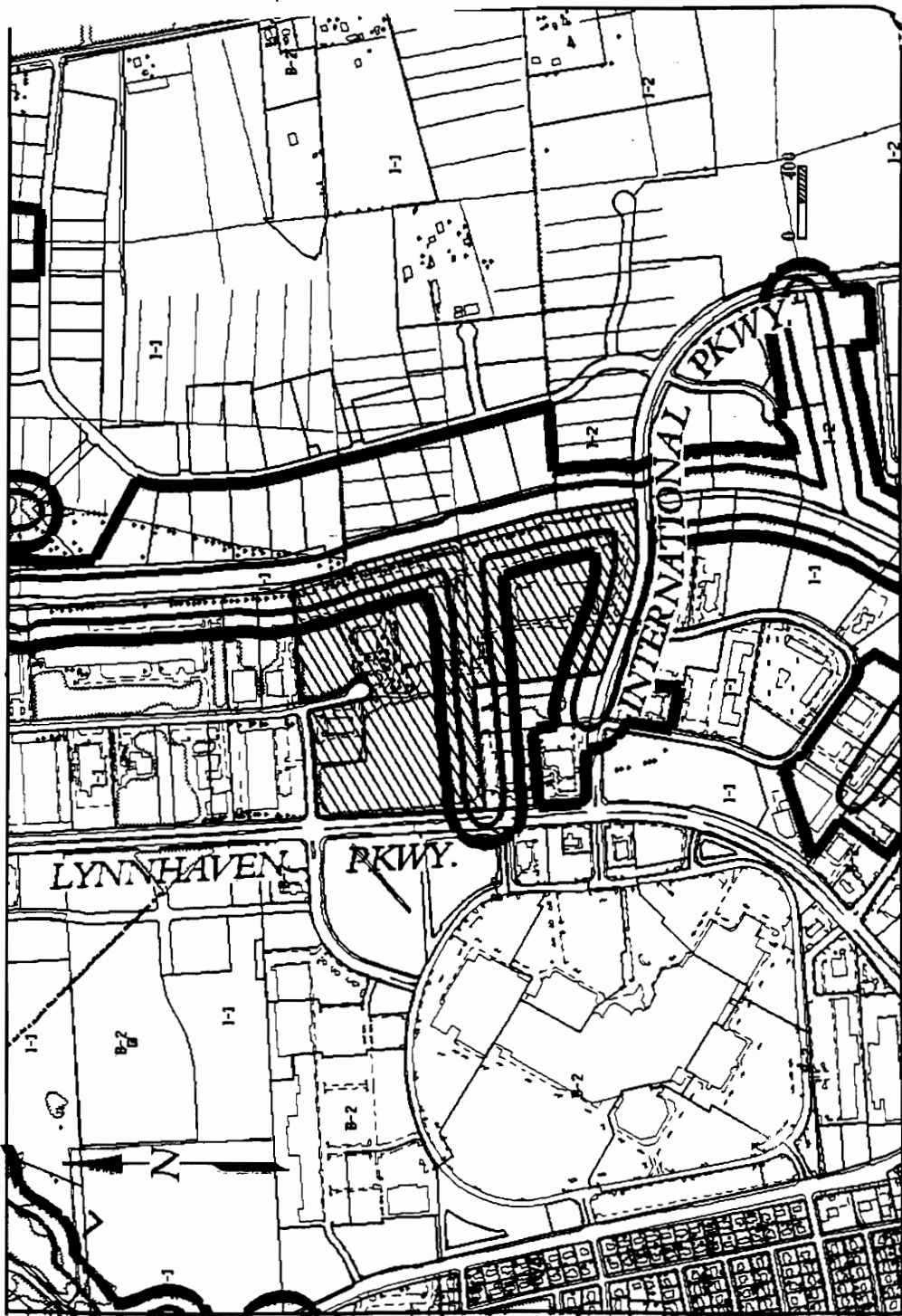
### **D. Recommendation**

The applicant is requesting a variance to section 106 and 108 of the Chesapeake Bay Preservation Area Ordinance to locate factory building structures and parking lots in the Resource Protection Area. All of these additions will be on the western portion of the property which is currently heavily wooded. There is an existing building and a parking lot. Part A of the variance request included a parking lot and a Best Management Practice on the eastern side of the property.. The Chesapeake Bay Preservation area Board granted that part of the variance request. The existing impervious cover on this industrial site of 50 acres is almost 13 acres. The proposed improvements including the parking lot in Part Aa request will increase the impervious cover on the site to 27.15 acres and will cover almost 54 % of the site area.

Removal of an established buffer on the northern side of the existing drainage ditch is completely against the spirit and intent of the Chesapeake Bay Preservation Area Ordinance. A reconfiguration of the architectural plans to accommodate the buffer is strongly recommended by the staff.

It is recommended that the request for Part B of a variance to section 106 and 108 of the Chesapeake Bay Preservation Area Ordinance be granted subject to the following condition and the request for a waiver of Landscape Plan be denied:

1. The existing 100 foot buffer located south of the "Future Assembly and Parts Addition" shall not be encroached upon.
2. Stormwater Management Plan is subject too further review by the City Engineer.
3. Erosion and Sediment Control devices shall be identified on the site plan itself.
4. A revised site plan meeting the above conditions shall be submitted to the Planning Department for a full Plan of Development Review and approval, and appropriate bonds posted prior to the issuance of a building permit.



# Homeowner

Property Owner: Jane M. Grant

Property Address: Parcel A-1, Ewell Road

## A. Description

Application of Jane M. Grant for a variance to section 105 of the Chesapeake Bay Preservation Area Ordinance on parcel A-1, subdivision of Julina L. Nixon, Ewell Road. Bayside Borough.

## B. Description of Request and Site Conditions

The applicant did not have a pre-application meeting with City staff. The applicant is requesting a variance to Section 105 of the Chesapeake Bay Preservation Area Ordinance to construct a two story single family residence, a deck and a swimming pool within the Resource Protection Area feature of highly erodible slopes. The proposed improvements will introduce about 6,825 square feet of impervious cover on the site and will cover approximately 18.7% of the site area.

The site is located in the Thoroughgood neighborhood and is within the Resource Protection Area. The subject property is heavily wooded. The proposed improvements shall require the removal of several trees. The Resource Protection Area on the site is characterized by tidal shores, wetlands, highly erodible slopes and a 100 foot buffer. The majority of the development has been proposed below the top of bank even though approximately half of the available high and dry land is above the top of bank.

### **C. Performance Standards and Water Quality Impact Assessment**

#### **Land Disturbance**

The applicant has proposed the majority of land disturbance below the top of bank. The applicants's position is that if the proposed development is pulled more landward, more trees would be removed. The staff is of the opinion that preserving trees on the slopes is more important for soil stabilization than cutting a few trees on flatter land. Locating a development on highly erodible soils when it can be located above the top of bank does not meet the intent of the Chesapeake Bay Preservation Area Ordinance and is not an acceptable solution to the staff. Furthermore, the area above the top-of-bank is heavily wooded.

The applicant has identified erosion and sediment control devices. However no accessway, staging area, or stockpiling area have been identified.

#### **Indigenous Vegetation**

The proposed improvements shall involve the removal of at least 36 trees. No tree mitigation plan has been proposed. The staff understands that the site is heavily wooded and a 3:1 tree mitigation may not be possible. However, small tree and shrubs can be used for mitigation. A landscape plan identifying tree mitigation shall be submitted.

#### **Stormwater Management**

The applicant has proposed mulch beds as part of the stormwater management plan which is acceptable. However, the calculations are subject to further review by the City Engineer.

#### **D. Recommendation**

The applicant did not have a pre-application meeting with City staff. The applicant is requesting a variance to Section 105 of the Chesapeake Bay Preservation Area Ordinance to construct a two story single family residence, a deck and a swimming pool within the Resource Protection Area feature of highly erodible slopes. The proposed improvements will introduce about 6,825 square feet of impervious cover on the site and will cover approximately 18.7% of the site area. The majority of the development is proposed below the top of bank even though approximately half of the available land is above the top of bank, exclusive of steep slopes.

Section 110(H) states that one of the purposes of the Water Quality Impact Assessment is to

"Ensure that, where development or redevelopment takes place within Chesapeake Bay Preservation Areas, 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 Area and other sensitive lands."

The applicant has proposed a "maximum disturbance" scenario for the development. It is the most disruptive to the natural functions of Resource Protection Areas and other sensitive lands.

Section 113(F) of the CBPA Ordinance states that no variance shall be granted unless the board finds that:

1. Granting the variance will not confer upon the applicant any special privileges not accorded other owners of property in Chesapeake Bay Preservation Areas;

2. The application is not based upon condition or circumstances that are to have been created or imposed by the applicant or his predecessor in title.

3. The variance is the minimum necessary to afford relief.

4. The variance will be in harmony with the purpose and intent of this ordinance, and not injurious to the neighborhood or otherwise detrimental to the public welfare; and

5. There will be no net increase in nonpoint source pollution load.

The application is not based upon the minimum necessary to afford relief.

Accordingly, it is recommended that this request for a variance to Section 105 of the Chesapeake bay Preservation Area Ordinance be DENIED.

If approved, the following should be conditions of approval:

1. There shall be no encroachment below the top of bank

2. A tree mitigation plan will be required.

3. Stormwater calculations are subject to further review by the City Engineer.

4. A revised site plan meeting the above conditions shall be submitted to the Planning Department for a full plan of development review and appropriate bonds posted prior to the issuance of a building permit.

NOTE: if site line vistas are a concern to view the cove, the ordinance permits select clearing for pedestrian access and accommodates this desire.

The outcome of this hearing sided with the planning department's recommendation for denial. The homeowner, J. Grant, if still considering the construction of a building on this site would have to develop additional plans in accordance with the trend set by the planning department.

The following is the reapplication by J. Grant for development upon the previous site and the planning department assessment of the water quality ramifications of that development.

## **Home Owner Part B**

### **A. Description**

Application of Jane M. Grant for variance to section 105 of the Chesapeake Bay Preservation Area Ordinance on Parcel A-1, subdivision of Julian L. Nixon, Ewell Road. BAYSIDE BOROUGH.

### **B. Description of Request and Site Conditions**

*This application was denied by the Chesapeake Bay Preservation Area Board on August 23, 1993. Since then the applicant has met with city staff on site and a new development proposal has been submitted. The following is based on the revised plan.*

The applicant did not have a pre-application meeting with City staff. The applicant is



requesting a variance to Section 105 of the Chesapeake Bay Preservation Area Ordinance to construct a two story family residence, a deck and a swimming pool within the Resource Protection Area feature of highly erodible slopes. The proposed improvements will introduce about 6,000 square feet of impervious cover on the site and will cover approximately 16.46% of the site area. The earlier proposal would have covered about 18.7% of the site.

The site is located in the Thoroughgood neighborhood and is within the Resource Protection Area. The subject property is heavily wooded. The proposed improvements shall require the removal of several trees. The Resource Protection Area on the site is characterized by tidal shores, tidal and non tidal wetlands, highly erodible slopes and a 100 foot buffer. A ditch at least 18 inches deep is located on the north eastern part of the site. Almost half of the development has been proposed below the top of bank even though approximately half of the available high and dry land is above the top of bank.

### **C. Performance Standards and Water Quality Impact Assessment**

#### **Land Disturbance**

Almost half of the proposed development is below the top of bank. However, the land disturbance proposed with this submittal is considerably less than what was proposed in the earlier application. The amount of impervious cover has been reduced by 825 square feet. The proposed pool has been realigned to minimize disturbance. The entire project has been relocated landward by approximately 30 feet. However, there is enough area above the top of bank to locate the dwelling.

The submitted site plan identifies erosion and sediment control devices, accessway, staging area and tree protection.

### Indigenous Vegetation

The proposed improvements shall involve the removal of at least 32 trees. No tree mitigation plan has been proposed. Staff understands that the site is heavily wooded and a 3:1 tree mitigation may not be possible. However, small trees and shrubs can be used for mitigation in this particular case. A landscape plan identifying tree mitigation is required.

### Stormwater Management

The applicant has proposed mulch beds as part of the stormwater management plan which is acceptable. However, the calculations are subject to further review by the City Engineer. Additionally, leaving the area below construction activity in a forested environment will assist with stormwater filtration.

### **D. Recommendations**

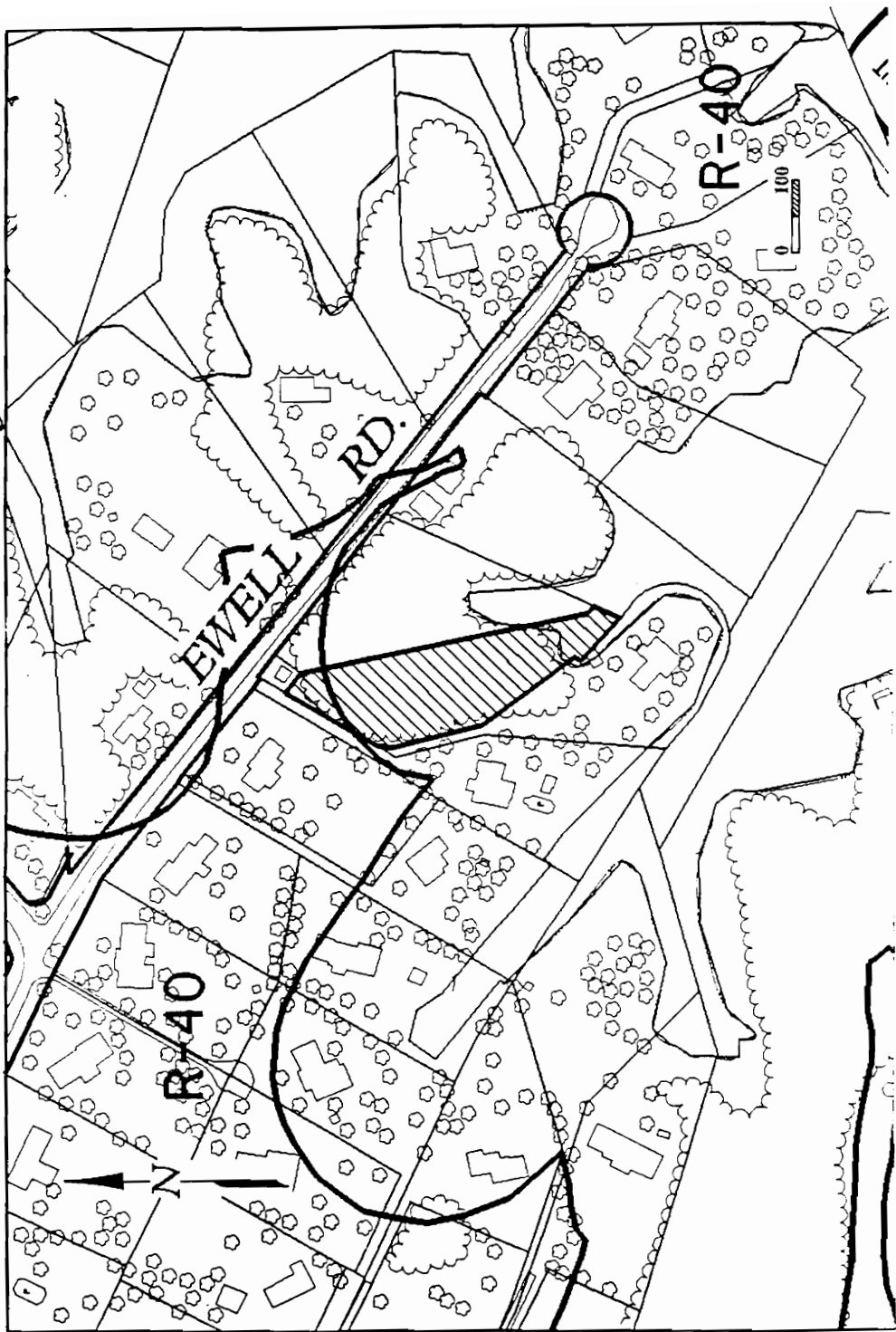
The applicant is requesting a variance to Section 105 of the Chesapeake Bay Preservation Area Ordinance to construct a two story single family residence, a deck and a swimming pool within the Resource Protection Area feature of highly erodible slopes. The proposed improvement will introduce about 6,000 square feet of impervious cover on the site and will cover approximately 16.46% of the site area. The previous proposal covered about 18.7% of the site.

It is recommended that this request for a variance to Section 105 of the Chesapeake Bay Preservation Area Ordinance be granted subject to the following conditions:

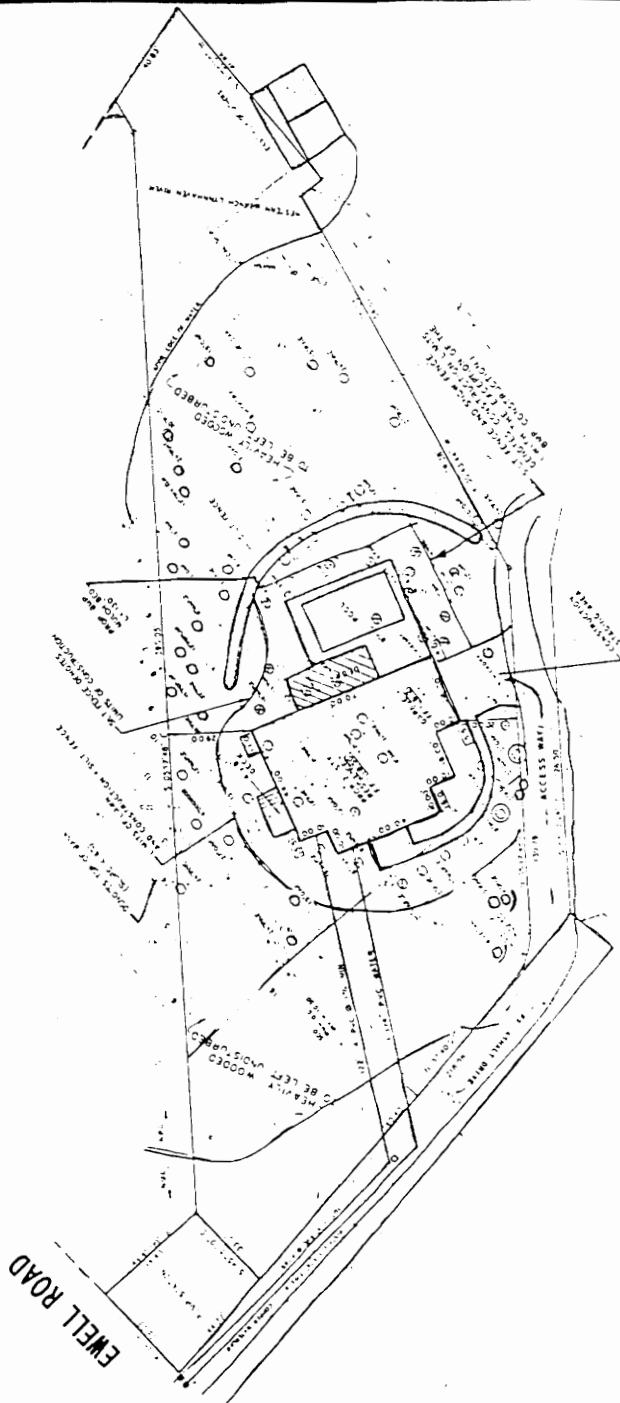
1. A tree mitigation plan identifying at least 10 small trees and a variety of shrubs will be required.

2. Stormwater calculations are subject to further review by the City Engineer.
  
3. A revised site plan meeting the above conditions shall be submitted to the Planning Department for a full plan of development review and appropriate bonds posted prior to the issuance of a building permit.

JANE M. GRANT



JANE M. GRANT



**Appendix G: Planning Department Informational  
Handouts for Assistance to Potential  
Applicants**

**QUESTIONS & ANSWERS  
RELATED TO THE CHESAPEAKE BAY PRESERVATION AREA ORDINANCE**

1. **What is a Chesapeake Bay Preservation Area (CBPA), a Resource Management Area (RMA) and a Resource Protection Area (RPA)?**  
As of January 1, 1993, the City of Virginia Beach classifies all property located in the Chesapeake Bay watershed as the Chesapeake Bay Preservation Area. The Chesapeake Bay Preservation Area has two components: the Resource Management Area and the Resource Protection Area. RMAs and RPAs include land types which if improperly used or developed, have the potential for causing significant water quality degradation. The RMA is intended to protect the integrity of the RPA and extends inland from the RPA boundary out to the watershed boundary. The RPA comprises lands at or nearest the shoreline that have an intrinsic water quality value or are sensitive to the impacts of development. RPAs include highly erodible soils, tidal shores, tidal wetlands, nontidal wetlands connected by surface flow contiguous to tidal wetlands and tributary streams, and a 100 foot buffer landward of these components and along both sides of tributary streams.
2. **How can I find out if my property is located in a Chesapeake Bay Preservation Area?**  
To find out if your property is located in a preservation area, please call the Planning Department at 426-5790.
3. **What is considered the landward 50 feet of the buffer and seaward 50 feet of the buffer?**  
From the edge of the shoreline or tributary stream or any other seaward component of the RPA (highly erodible soils, tidal and contiguous nontidal wetlands), if present on the site, the first 50 feet inland is called the seaward 50 feet of the buffer. The next 50 feet inland is called the landward 50 feet of the buffer. The seaward 50 feet and the landward 50 feet of the buffer comprise the 100 foot buffer known as the landward component of the RPA. Please refer to Appendix A for illustration.
4. **What are highly erodible soils?**  
Those soils on slopes seaward of the point at which the slope of the ground changes from less than six percent to greater than six percent, and the toe of the slope (the bottom of the slope) is located within 100 feet of any seaward component of the RPA. Please refer to Appendix B for illustration.
5. **Are seaward components found on every lot in the RPA?**  
All sites in the RPA have at least one seaward component present on the site - the edge of either a tidal shore or a tributary stream. However, not all seaward components are present on every site. Highly erodible soils are only on lots in the RPA which have a slope greater than six percent.
6. **What types of projects located in the Resource Management Area (RMA) fall under the provisions of the CBPA Ordinance?**  
All development and redevelopment in the RMA is subject to the requirements of the Ordinance except any alteration or enlargement with a construction footprint less than or equal to 2,500 square feet to an existing structure where the alteration or enlargement is located entirely in the RMA.

7. **What type of development activities are allowed in the Resource Protection Area?**  
Construction, installation, or maintenance of water-dependant facilities, and redevelopment subject to the requirements of the Ordinance are the only uses allowed in the RPA. Minor projects in the landward 50 feet of the buffer are allowed as an exception. Other exceptions and variances are granted on an individual basis. Some projects may be reviewed and approved administratively while others may require Chesapeake Bay Preservation Area Board review and approval. Please refer to the CBPA Matrix for additional information.
8. **Which CBPA projects can be approved "over the counter" in the Zoning Division of the Planning Department?**  
An application for one single family dwelling, semidetached dwelling or attached dwelling located entirely in the RMA and alterations or enlargements with a construction footprint less than or equal to 2,500 square feet to an existing structure where the alteration or enlargement lies entirely in the RMA or the landward 50 feet of the buffer can be approved at the counter. The Zoning Division is located in the Operations Building, 1st Floor, Room 100.
9. **What information is required when applying at the Zoning Division's counter for project approval?**  
A completed CBPA checklist and a completed site plan or land survey should be brought to the counter. If a waiver of any of the information is requested, a CBPA application must also be completed. CBPA applications and checklists are available at the Planning Department or call 426-5790.
10. **Which projects under the Chesapeake Bay Preservation Area (CBPA) Ordinance can be approved administratively and are submitted to the Development Services Center (DSC) for review?**  
The DSC is located in the Operations Building, 1st Floor, Room 191. The following projects will be reviewed administratively:
- a. any development greater than 2,500 square feet in the RMA;
  - b. any industrial/commercial development in the RMA, other than an alteration or enlargement less than or equal to 2,500 square feet to an existing structure, or in the landward 50 feet of the buffer area provided that the lot was recorded prior to 10/1/89;
  - c. any development in the landward 50 feet of the buffer, other than an alteration or enlargement less than or equal to 2,500 square feet to an existing structure, provided that the lot was recorded prior to 10/1/89;
  - d. any alteration or expansion greater than 2,500 square feet to an existing structure where the existing structure was built or was issued a building permit prior to January 1, 1991 and the alteration or expansion is located in the landward 50 feet of the buffer;
  - e. CBPA map amendments; and,
  - f. city projects in the RMA and RPA.
11. **What information is required for project submission to the DSC for an administrative review?**  
All of the projects listed above require a completed CBPA application, a completed checklist, a site plan or land survey as stipulated on the checklist and other required plans and information. Failure to submit a complete package may result in delayed project review. The CBPA application and checklists may be obtained from the Planning Department or by calling 426-5790.



12. **Which projects require Chesapeake Bay Preservation Area Board review and approval? How long does Board review take and how much will it cost?**  
Any project located in the seaward 50 feet of the buffer and any development in the landward 50 feet of the buffer (excluding an alteration or enlargement with a construction footprint less than or equal to 2,500 square feet to an existing structure) where the lot was recorded after 10/1/89 must be reviewed and approved by the Board. A decision on an application will not take more than 60 days after its submittal and will cost \$155.00 (\$105 public hearing fee, \$50 sign fee - \$40 is refundable).
13. **Where should I submit my CBPA application, checklist and other required plans for Chesapeake Bay Preservation Area Board review?**  
All information should be submitted to the DSC of the Planning Department. The DSC is located in the Operations Building, 1st Floor, Room 191. The CBPA application and checklists may be obtained from the Planning Department or by calling 426-5790.
14. **What if my project is partially in the RPA and partially in the RMA? What requirements should I follow?**  
If land disturbance only occurs in the RMA, even though portions of the lot are in both the RMA and the RPA, RMA standards shall be followed. If any land disturbance is proposed within the RPA, the project must follow the requirements formulated for RPA projects.
15. **Is a minor project simply a project that is less than or equal to 2,500 square feet?**  
No. A minor project is a change or alteration to an existing use (e.g. an addition, a deck, a swimming pool) where the change or alteration proposed has a construction footprint of less than or equal to 2,500 square feet. A minor project may also be an accessory structure such as a shed or a gazebo. For a project to be classified as a "minor project" an existing use must have been built on the site prior to the date City Council adopted the Ordinance - January 1, 1991. A minor project is not a new house or a new office building or any other land disturbing activity (except as described above) less than or equal to 2,500 square feet.
16. **What does the Ordinance call a change or alteration to an existing use when the existing use was built prior January 1, 1991?**  
This is known as a change or alteration to a "nonconforming use." Any building built within the RPA prior to January 1, 1991, is classified as a nonconforming use building.
17. **Can I add a room, a deck, a pool, or a gazebo to my house?**  
If your proposed alteration or expansion has a construction footprint less than or equal to 2,500 square feet and will be located entirely in the RMA, the alteration or expansion will not have to meet any requirements of the CBPA Ordinance. If the area of land to be disturbed is over 2,500 square feet or is located in the RPA, specific requirements must be met to ensure water quality protection. CBPA Board review and approval may be required. Please refer to the CBPA matrix for additional information.
18. **How are pools treated in the Ordinance?**  
The water surface of a pool is not counted in the calculation of amount of impervious surface. Pools proposed to be located in the RPA are no longer exempt from the requirements of the Ordinance. The size and location of proposed pool will determine which CBPA requirements and review process the project will follow.

19. **What is impervious material?**  
Impervious material is a material, such as asphalt or concrete, which does not allow water to seep into the ground. As the amount of impervious material on a site increases, the amount of stormwater runoff and nonpoint source pollution also increases. Impervious surfaces on your lot may include the roof of any structure, the driveway (gravel, concrete or asphalt), the sidewalk, the concrete patio, the deck, etc.
20. **What is nonpoint source pollution?**  
Nonpoint source pollution occurs when pollutants, which accumulate on the land during dry weather, are carried to lakes, rivers, the Bay and the ocean by runoff produced by rainfall. It is called nonpoint because it does not enter the waterbody from a pipe or other identifiable point. The amount of runoff and nonpoint source pollution increases as the amount of impervious surface, such as pavement and buildings, increases.
21. **If my property has wetlands on it that are not recognized by the City's definition in the Chesapeake Bay Preservation Area Ordinance or if I obtain a local wetlands permit do I still need to obtain permits from the State or the Federal Government?**  
It is the applicant's responsibility to obtain any state and/or federal wetland permits. To find out if your project requires any of these permits call the Virginia Marine Resources Commission at 1-247-2200 and the U.S. Army Corps of Engineers at 441-7500.
22. **Who can help me determine whether my project will require a local wetlands permit?**  
This information may be obtained through the Operations Division of the Planning Department at 426-5790.
23. **How is "construction footprint" calculated?**  
For minor projects, construction accessways and staging areas are not included in the construction footprint calculation provided that such accessways and staging areas do not result in land disturbance. All other projects, except a minor project, must include accessways and staging areas in the construction footprint calculation.
24. **How are tree removal projects handled?**  
Removal of dead trees, diseased trees, or trees weakened by age, storm, fire or other injury is allowed under the provisions of the CBPA Ordinance. Other tree removal projects are considered "new development." The review process can be determined by answering these questions and then referring to the CBPA matrix. First, is the total area of land to be disturbed under or over 2,500 square feet? Second, is the area of land disturbance in the RMA, or in the landward or seaward 50 feet of the buffer (RPA)? Third, if land to be disturbed is in the landward 50 feet of the buffer, when was the lot recorded?
25. **What should I do if I think that the CBPA map is in error?**  
If you think that the CBPA map is incorrect, follow the procedures outlined on Checklist E. Required information includes: a request letter; a map depicting the current CBPA boundary; a map depicting proposed change to CBPA boundary; and, any other supporting documentation. Checklist E may be obtained at the Planning Department or by calling 426-5790.

26. **Because public sewers are not available, I need to use a septic system. What requirements must be met?**  
After January 1, 1991, new development requiring septic systems must have a reserve drainfield on the site and the primary septic tank must be pumped out once every five years. The reserve drainfield must be large enough for treatment capacity to replace the primary drainfield. The primary nor the reserve drainfield can be located in the RPA. No permanent construction will be permitted on the site of the reserve drainfield. Contact the Health Department at 427-4261 for additional information concerning reserve drainfields.
27. **My house is located in the CBPA and I am currently on septic. Do I need to meet any requirements of the CBPA Ordinance?**  
All existing and new septic systems must be pumped out once every five years. If you would like additional pump out information, please contact the Planning Department at 425-5790.
28. **Will this program prevent me from installing a new bulkhead, a new pier, or riprap revetment or maintaining existing shoreline structures?**  
No, however, you will still need a permit from the Virginia Beach Wetlands Board, the Virginia Marine Resources Commission or the U.S. Army Corps of Engineers.
29. **Must a farmer comply immediately with the buffer area requirements, or do the regulations extend a compliance deadline for five years as with the conservation plan requirement?**  
Farmers were required to establish a 100 foot wide vegetated buffer with the first crop planting as of Virginia Beach's adoption of the Chesapeake Bay Preservation Area Ordinance on January 1, 1991. If a farmer is applying one or more BMPs approved by the Virginia Dare Soil and Water Conservation District to the field or tract in question, the buffer may be reduced to a minimum width of 50 feet. Should a farmer have a soil and water quality conservation plan (erosion control, nutrient management and pest control) which has been approved by the District for the field or tract, then the buffer width may be reduced to a minimum of 25 feet. If these requirements present hardships, farmers may apply to the CBPA Board for a variance.
30. **If agricultural land qualifies for a reduced buffer width can the property be developed with the reduced buffer area also?**  
If agricultural land is developed or changed to another use, the full 100 foot buffer area must be reestablished. The reduced buffer only applies to land in agricultural use.
32. **If my lot is within the RPA, can I mow my lawn and am I required to plant any additional trees?**  
A lawn that exists in the RPA may be mowed and should be maintained in good condition. There is no requirement to plant trees, but a full range of plant life is most effective in preventing erosion, promoting infiltration of runoff into the soil, and filtering pollution runoff. Any bare or eroding soil must be stabilized with appropriate vegetation.

January 5, 1993

CHESAPEAKE BAY PRESERVATION AREA ORDINANCE

APPLICATION FOR PLAN REVIEW

The following application must be completed in full and be submitted along with a completed checklist to the Planning Department. Please note that submission locations are referenced on the CBPA Matrix. All questions on this application must be answered completely. Incomplete submissions may delay project review. A presubmittal meeting with the property owner, the consultant and planning staff is strongly encouraged.

1. PLEASE INDICATE CBPA CHECKLIST USED: \_\_\_\_\_
  
2. CURRENT PROPERTY OWNER(S) NAME(S), ADDRESS(ES), TELEPHONE NUMBER(S): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
3. CONTRACT PURCHASER(S) NAME(S), ADDRESS(ES), TELEPHONE NUMBER(S): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
4. AGENT/CONSULTANT NAME, ADDRESS, TELEPHONE NUMBER: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
4. PROPERTY GPIN NUMBER (information may be obtained at the Bureau of Mapping, 3rd Floor, Operations Building): \_\_\_\_\_
  
5. LEGAL DESCRIPTION OF PROPERTY AS NOTED ON THE PLAT: \_\_\_\_\_  
\_\_\_\_\_
  
6. PROPERTY STREET ADDRESS (information may be obtained at the Planning Department, 1st Floor, Operations Building, Room 117): \_\_\_\_\_  
\_\_\_\_\_
  
7. PROPERTY SUBDIVISION: \_\_\_\_\_
  
8. PROPERTY BOROUGH: \_\_\_\_\_

9. IS AN EXCEPTION OR VARIANCE FROM THE CHESAPEAKE BAY PRESERVATION AREA ORDINANCE REQUESTED? IF YES, STATE WHICH SECTION(S) OF THE ORDINANCE: \_\_\_\_\_

\_\_\_\_\_

10. IF APPLYING FOR AN EXCEPTION OR VARIANCE, PLEASE DESCRIBE ANY HARDSHIP CAUSED BY THE ORDINANCE: \_\_\_\_\_

\_\_\_\_\_

11. A WAIVER MAY BE REQUESTED FOR ANY OF THE INFORMATION REQUIRED IN SECTIONS 106 OR 110 OF THE CBPA ORDINANCE. UNIQUE CHARACTERISTICS OF THE SITE OR THE INTENSITY OF THE PROPOSED USE OR DEVELOPMENT MAY REQUIRE SUBMISSION OF ALL PLANS AND INFORMATION ON A CHECKLIST. IS APPLICANT REQUESTING A WAIVER OF ANY OF THE INFORMATION REQUIRED IN EITHER SECTION 106 OR SECTION 110 OF THE CBPA ORDINANCE? IF YES, DESCRIBE WHICH ELEMENTS AND THE JUSTIFICATION FOR THE REQUEST: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. IS THERE A BOARD OF ZONING APPEALS VARIANCE, WETLANDS BOARD APPLICATION, OR PLANNING COMMISSION APPLICATION ANTICIPATED OR PENDING FOR THIS PROPERTY? IF YES, DATE OF HEARING(S) AND SPECIFICS OF REQUEST(S): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

BY SIGNING THIS APPLICATION I, THE PROPERTY OWNER, CERTIFY THAN ALL INFORMATION CONTAINED HERE IS TRUE AND ACCURATE AND PERMIT ANY EMPLOYEE OF THE CITY OF VIRGINIA BEACH TO INSPECT THE GROUNDS AND/OR PHOTOGRAPH THE PROPERTY IDENTIFIED IN THIS APPLICATION:

\_\_\_\_\_  
PROPERTY OWNER'S SIGNATURE

\_\_\_\_\_  
DATE

I, THE PROPERTY OWNER, AUTHORIZE \_\_\_\_\_ TO  
SERVE AS AGENT/CONSULTANT ON MY BEHALF FOR THIS CBPA PROJECT:

\_\_\_\_\_  
PROPERTY OWNER'S SIGNATURE

\_\_\_\_\_  
DATE

PLEASE NOTE THAT PROPOSED PROJECT MAY REQUIRE ADDITIONAL STATE AND/OR FEDERAL WETLAND PERMITS. FOR INFORMATION ON THESE PERMITTING REQUIREMENTS, PLEASE CONTACT THE WATER CONTROL BOARD AT 552-1840, THE VIRGINIA MARINE RESOURCES COMMISSION AT 1-247-2200 AND THE U.S. ARMY CORPS OF ENGINEERS AT 441-7500.

CHESAPEAKE BAY PRESERVATION AREA ORDINANCE  
DISCLOSURE STATEMENT

1. IF THE PROPERTY OWNER IS A CORPORATION, LIST THE OFFICERS OF THE CORPORATION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. IF THE PROPERTY OWNER IS A PARTNERSHIP, FIRM OR OTHER UNINCORPORATED ORGANIZATION, LIST ALL MEMBERS OR PARTNERS IN THE ORGANIZATION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

AUTHORIZED OFFICER OF CORPORATION SIGNATURE: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

December 29, 1992

PROJECTS SUBMITTED TO THE DEVELOPMENT SERVICES CENTER

December 28, 1988

CBPA ACTIVITY	CBPA CHECKLIST	SUBMITTED TO PLANNING/DEVELOPMENT SERVICES CENTER	CBPA PROJECT APPROVED BY CITY MANAGER OR DESIGNEE	CBPA BOARD ACTION REQUIRED	NUMBER OF COPIES OF SITE PLAN/SURVEY FOR CBPA PURPOSES	TOTAL CBPA FEES
ALL DEVELOPMENT > 2,500 S.F. ENTIRELY IN THE RMA OTHER THAN ONE (1) SINGLE FAMILY, SEMI-DETACHED OR ATTACHED DWELLING/TOWNHOUSE	D	X	X		13	\$200
COMMERCIAL/INDUSTRIAL DEVELOPMENT < 2,500 S.F. OTHER THAN AN ALTERATION OR EXPANSION TO AN EXISTING USE WHERE DEVELOPMENT IS LOCATED ENTIRELY IN THE RMA OR DEVELOPMENT < 2,500 S.F. OTHER THAN AN ALTERATION OR EXPANSION TO AN EXISTING USE WHERE THE DEVELOPMENT IS IN THE LANDWARD 50 FEET OF THE BUFFER AND THE LOT WAS RECORDED PRIOR TO 10/1/88	C	X	X		13	COMMERCIAL FEES VARY \$100
AN ALTERATION OR EXPANSION < 2,500 S.F. TO AN EXISTING USE WHERE THE ALTERATION OR EXPANSION IS LOCATED IN THE SEAWARD 50 FEET OF THE BUFFER	C	X		X	20	\$50 \$100 \$100
DEVELOPMENT < 2,500 S.F. OTHER THAN AN ALTERATION OR EXPANSION TO AN EXISTING USE WHERE THE DEVELOPMENT IS IN THE LANDWARD 50 FEET OF THE BUFFER AND THE LOT WAS RECORDED AFTER 10/1/88 OR DEVELOPMENT < 2,500 S.F. OTHER THAN AN ALTERATION OR EXPANSION TO AN EXISTING USE WHERE THE DEVELOPMENT IS IN THE SEAWARD 50 FEET OF THE BUFFER	C	X		X	20	\$50 \$100 \$100
DEVELOPMENT > 2,500 S.F. IN THE LANDWARD 50 FEET OF THE BUFFER AND THE LOT WAS RECORDED PRIOR TO 10/1/88 OR AN ALTERATION OR EXPANSION > 2,500 S.F. TO AN EXISTING USE WHERE THE EXISTING USE WAS BUILT/PERMITTED PRIOR TO 1/1/81 AND THE ALTERATION OR EXPANSION IS LOCATED IN THE LANDWARD 50 FEET OF BUFFER						\$200
CITY PROJECTS IN THE RMA OR CITY PROJECTS IN THE RPA	D	X	X		13	NO FEE
DEVELOPMENT > 2,500 S.F. IN THE LANDWARD 50 FEET OF THE BUFFER AND THE LOT WAS RECORDED AFTER 10/1/88 OR AN ALTERATION OR EXPANSION > 2,500 S.F. TO AN EXISTING USE WHERE THE EXISTING USE WAS BUILT/PERMITTED AFTER 1/1/81 AND THE ALTERATION OR EXPANSION IS LOCATED IN THE LANDWARD 50 FEET OF BUFFER OR AN ALTERATION OR EXPANSION > 2,500 S.F. TO AN EXISTING USE WHERE THE ALTERATION OR EXPANSION IS LOCATED IN THE SEAWARD 50 FEET OF THE BUFFER						\$50 \$100 \$200
DEVELOPMENT > 2,500 S.F. IN THE SEAWARD 50 FEET OF THE BUFFER	D	X		X	20	\$50 \$100 \$200
CBPA MAP AMENDMENT	E	X	X		N/A	NO FEE

FEE SCHEDULE: Residential development only - commercial fees vary  
 \$200 - Full Plan of Development Review  
 \$100 - Abbreviated Plan of Development Review  
 \$105 - CBPA Board Fee  
 \$50 - CBPA Sign Fee (\$40 refundable)

(OVER)

CBPA PROJECTS SUBMITTED TO THE ZONING DIVISION

December 29, 1992

CBPA ACTIVITY	NO CBPA ACTION REQUIRED	CBPA CHECKLIST	SUBMITTED TO PLANNING/ ZONING	CBPA PROJECT APPROVED BY CITY MANAGER OR DESIGNEE	NUMBER OF COPIES OF SITE PLAN/SURVEY FOR CBPA PURPOSES	TOTAL CBPA FEES
MINOR PROJECTS IN THE RMA	X	n/a	X	X	n/a	0
AN ALTERATION OR EXPANSION < 2,500 S.F. TO AN EXISTING USE WHERE THE ALTERATION OR EXPANSION IS LOCATED IN THE LANDWARD 50 FEET OF THE BUFFER		A	X	X	1	0
ONE (1) SINGLE FAMILY, SEMIDETACHED OR ATTACHED DWELLING/TOWNHOUSE & APPURTENANT ADDITIONS & ACCESSORY STRUCTURES PROJECT ENTIRELY IN THE RMA		B	X	X	1	0

(OVER)



CHESAPEAKE BAY PRESERVATION AREA CHECKLIST A

This completed checklist and the information requested below should be submitted to the Zoning Division of the Planning Department in the Operations Building, Room 100. Additional copies of the land survey or site plan may be required. If a certified land survey or site plan currently exists which accurately depicts all impervious surfaces on the property, the applicant may add information to the survey or site plan without further certification. If applicant requires assistance with any of the items on this checklist, particularly Item 5, please contact the Planning Department at 426-5790 to set up an appointment. If a waiver or modification is requested for any of the information below, a completed CBPA application must be submitted as well. Please submit the following information:

\_\_\_\_\_ A LOCATION MAP WITH SITE CLEARLY INDICATED

A LAND SURVEY OR SITE PLAN OF THE PROPERTY WHICH DEPICTS CURRENT AND PROPOSED DEVELOPMENT CONTAINING THE FOLLOWING INFORMATION:

- \_\_\_\_\_ 1. DATE EXISTING USE (PRINCIPAL STRUCTURE) WAS BUILT OR PERMITTED
- \_\_\_\_\_ 2. GEOGRAPHICAL PARCEL IDENTIFICATION NUMBER (GPIN)
- \_\_\_\_\_ 3. RESOURCE PROTECTION AREA (RPA) AND RESOURCE MANAGEMENT AREA (RMA) BOUNDARIES
- \_\_\_\_\_ 4. DIMENSIONS AND COMPOSITION OF ALL IMPERVIOUS SURFACES (buildings, walkways, driveways, etc.) AND TOTAL IMPERVIOUS SURFACE/PERCENTAGE OF IMPERVIOUS SURFACE
- \_\_\_\_\_ 5. BEST MANAGEMENT PRACTICES FOR BUFFER ENCROACHMENT - Location, Calculations, Description, Vegetative or Structural - If standard detail is used than calculations are not required
- \_\_\_\_\_ 6. LOCATION OF EROSION AND SEDIMENT CONTROL DEVICES, AS SITE CONDITIONS WARRANT
- \_\_\_\_\_ 7. EXCAVATION STATEMENT THAT INDICATES THAT ALL EXCAVATION MATERIAL FROM CONSTRUCTION SHALL BE DISPOSED OF IN A LAWFUL MANNER
- \_\_\_\_\_ 8. EXISTING AND PROPOSED STORM DRAINAGE INCLUDING DRAINAGE EASEMENTS
- \_\_\_\_\_ 9. ALL EXISTING TREES SIX INCHES OR GREATER WITHIN 25 FEET OF CONSTRUCTION FOOTPRINT IDENTIFIED AND PROTECTED
- \_\_\_\_\_ 10. REVEGETATION SCHEDULE - REPLANTING SCHEDULE FOR TREES AND OTHER VEGETATION REMOVED
- \_\_\_\_\_ 11. SEQUENCE OF CONSTRUCTION
- \_\_\_\_\_ 12. TOP OF BANK AND TOE OF SLOPE
- \_\_\_\_\_ 13. LIMITS OF LAND DISTURBANCE - TO INCLUDE ALL AREAS OF CLEARING AND GRADING, AND ACCESSWAYS AND STAGING AREAS
- \_\_\_\_\_ 14. WATER QUALITY IMPACT ASSESSMENT/ENVIRONMENTAL FEATURES SURVEY
  - \_\_\_\_\_ a. Tidal wetlands delineated
  - \_\_\_\_\_ b. Tidal shores delineated
  - \_\_\_\_\_ c. Nontidal wetlands delineated
  - \_\_\_\_\_ d. Highly erodible soils delineated
  - \_\_\_\_\_ e. Buffer area delineated
  - \_\_\_\_\_ f. Edge of tributary streams delineated
  - \_\_\_\_\_ g. All required permits

\* OTHER REASONABLE AND APPROPRIATE CONDITIONS MAY BE IMPOSED. THIS CAN BE VERIFIED WITH STAFF REVIEWING THE APPLICATION.

March 1, 1993

CHESAPEAKE BAY PRESERVATION AREA CHECKLIST B

This completed checklist and a site plan with the information requested below shall be submitted to the Zoning Division of the Planning Department in the Operations Building, Room 100. Additional copies of the site plan may be required. The site plan is to be prepared in accordance with the Site Plan Ordinance. If a waiver or modification is requested for any of the information below, a completed CBPA application must be submitted as well. Please submit the following information on a site plan:

- \_\_\_ 1. PROFESSIONAL ENGINEER OR CERTIFIED LAND SURVEYOR SEAL & SIGNATURE
- \_\_\_ 2. LOT RECORDATION STATEMENT - Indicate map book and page reference or deed book and page reference
- \_\_\_ 3. LOT GRADING STATEMENT WHICH INDICATES THAT LOT GRADING IS IN ACCORDANCE WITH THE LATEST SUBDIVISION CONSTRUCTION PLAN SUBMITTED AND DATE APPROVED BY ENGINEERING OFFICE - If an approved plan is not available all elevations on site plan must be at or above 5.0 feet and lot must meet one of the following criteria:
  - A. on a 100 foot long lot, there is one foot of fall from the back of the lot to the existing right-of-way (1% grade), or
  - B. split lot grading is applied with a minimum of one foot of fall for a 100 foot long lot (1% grade) and either a canal or an enclosed drainage system is in the rear of the lot to intercept surface drainage.
- \_\_\_ 4. TOP OF CURB ELEVATIONS
- \_\_\_ 5. FINISHED FLOOR AREA ELEVATION STATEMENT - finished floor elevations are to be one foot above 100 year flood level
- \_\_\_ 6. FLOODZONE STATEMENT
- \_\_\_ 7. GEOGRAPHICAL PARCEL INFORMATION NUMBER (GPIN)
- \_\_\_ 8. SETBACK DISTANCE FROM ALL STRUCTURES TO PROPERTY LINES
- \_\_\_ 9. ALL REQUIRED PARKING
- \_\_\_ 10. SIDEWALK STATEMENT
- \_\_\_ 11. DIMENSIONS AND COMPOSITION OF ALL IMPERVIOUS SURFACES (buildings, walkways, driveways, etc.) AND TOTAL IMPERVIOUS SURFACE/PERCENTAGE OF IMPERVIOUS SURFACE
- \_\_\_ 12. BEST MANAGEMENT PRACTICES, IF IMPERVIOUS SURFACE IS GREATER THAN 25 PERCENT - Location, Calculations, Description Vegetative or Structural - Redevelopment projects must reduce existing pollutant load by 10 percent, percentage impervious surface is irrelevant
- \_\_\_ 13. EXISTING AND PROPOSED STORM DRAINAGE INCLUDING DRAINAGE EASEMENTS
- \_\_\_ 14. RESOURCE PROTECTION AREA (RPA) AND RESOURCE MANAGEMENT AREA (RMA) BOUNDARIES
- \_\_\_ 15. LIMITS OF LAND DISTURBANCE - to include all areas of clearing and grading, and accessways and staging areas
- \_\_\_ 16. LOCATION OF ALL APPROVED PROPOSED AND EXISTING SEPTIC TANKS AND DRAINFIELDS
- \_\_\_ 17. LOCATION OF PROPOSED & EXISTING WELLS
- \_\_\_ 18. LOCATION OF PROPOSED & EXISTING WATER AND/OR SEWER LINES
- \_\_\_ 19. LOCATION OF EROSION & SEDIMENT CONTROL DEVICES, AS SITE CONDITIONS WARRANT
- \_\_\_ 20. EXCAVATION STATEMENT THAT INDICATES THAT ALL EXCAVATION MATERIAL FROM CONSTRUCTION SHALL BE DISPOSED OF IN A LAWFUL MANNER
- \_\_\_ 21. SPECIFICATIONS FOR VEGETATION PROTECTION
- \_\_\_ 22. REVEGETATION SCHEDULE - REPLANTING SCHEDULE FOR TREES AND VEGETATION REMOVED
- \_\_\_ 23. EXISTING ZONING OF SITE
- \_\_\_ 24. ALL WETLAND PERMITS, AS REQUIRED
- \_\_\_ 25. SEQUENCE OF CONSTRUCTION
- \_\_\_ 26. LOCATION MAP WITH SITE CLEARLY INDICATED

\* OTHER REASONABLE AND APPROPRIATE CONDITIONS MAY BE IMPOSED. THIS CAN BE VERIFIED WITH STAFF REVIEWING THE APPLICATION.

March 1, 1993

**CHESAPEAKE BAY PRESERVATION AREA CHECKLIST C**

A completed CBPA application, this checklist and information requested below should be submitted to the Development Services Center of the Planning Department in the Operations Building, Room 191. Additional copies of the land survey or site plan may be required. A single family, semidetached or attached dwelling/townhouse and any new commercial or industrial projects must additionally comply with the Site Plan Ordinance. If applicant requires assistance with any of the items on this checklist, particularly Item 1. B., please contact the Development Services Center of the Planning Department at 426-5790 to set up an appointment. The following plans are required along with the information listed below:

1. A LAND SURVEY OR SITE PLAN WHICH DEPICTS CURRENT AND PROPOSED DEVELOPMENT CONTAINING THE FOLLOWING INFORMATION: (PLEASE REFER TO THE CBPA ORDINANCE MATRIX FOR NUMBER OF COPIES REQUIRED)
  - A. DIMENSIONS AND COMPOSITION OF ALL IMPERVIOUS SURFACES (Buildings, walkways, driveways, etc.) AND TOTAL IMPERVIOUS SURFACE/PERCENTAGE OF IMPERVIOUS SURFACE
  - B. BEST MANAGEMENT PRACTICES, IF PERCENTAGE IMPERVIOUS SURFACE IS GREATER THAN 25 PERCENT AND/OR FOR BUFFER ENCROACHMENT - Location, Calculations, Description, Vegetative or Structural - If standard detail is used than calculations are not required - Redevelopment projects must reduce existing pollutant load by 10 percent, percentage impervious surface is irrelevant
  - C. RESOURCE PROTECTION AREA (RPA) AND RESOURCE MANAGEMENT AREA (RMA) BOUNDARIES
  - D. TOP OF BANK AND TOE OF SLOPE
  - E. EXISTING AND PROPOSED STORM DRAINAGE INCLUDING DRAINAGE EASEMENTS
  - F. LIMITS OF LAND DISTURBANCE TO INCLUDE ALL AREAS OF CLEARING AND GRADING, AND ACCESSWAYS AND STAGING AREAS
  - G. LOCATION OF EROSION AND SEDIMENT CONTROL DEVICES, AS SITE CONDITIONS WARRANT
  - H. DATE EXISTING USE (PRINCIPAL STRUCTURE) WAS BUILT OR PERMITTED
  - I. LOT RECORDATION DATE
  - J. GEOGRAPHICAL PARCEL INFORMATION NUMBER (GPIN)
  - K. SEQUENCE OF CONSTRUCTION
  - L. EXCAVATION STATEMENT THAT INDICATES THAT ALL EXCAVATION MATERIAL FROM CONSTRUCTION SHALL BE DISPOSED OF IN A LAWFUL MANNER
  - M. REVEGETATION SCHEDULE - REPLANTING SCHEDULE FOR TREES AND OTHER VEGETATION REMOVED
  - N. ALL EXISTING TREES SIX INCHES OR GREATER WITHIN 25 FEET OF CONSTRUCTION FOOTPRINT IDENTIFIED AND PROTECTED

FIVE (5) COPIES OF THE FOLLOWING:

2. LOCATION MAP WITH SITE CLEARLY INDICATED
3. ENVIRONMENTAL FEATURES SURVEY
  - A. TIDAL WETLANDS DELINEATED
  - B. TIDAL SHORES DELINEATED
  - C. NONTIDAL WETLANDS DELINEATED
  - D. HIGHLY ERODIBLE SOILS DELINEATED
  - E. BUFFER AREA DELINEATED
  - F. EDGE OF TRIBUTARY STREAMS DELINEATED
4. LANDSCAPE PLAN
  - A. EXISTING AND PROPOSED PLANTS
  - B. EXISTING 6" DIAMETER TREES
  - C. TREES & PLANTS TO BE PRESERVED
  - D. TREES & PLANTS DISTURBED
  - E. REVEGETATION SCHEDULE - REPLANTING SCHEDULE FOR TREES AND OTHER VEGETATION REMOVED

March 1, 1993

(LANDSCAPE PLAN CONTINUED)

- \_\_\_ F. NEW BUFFER AREA VEGETATION
- \_\_\_ G. GRADE CHANGES
- \_\_\_ H. LIMITS OF CLEARING
- \_\_\_ I. TREE PROTECTION SPECIFICATIONS

\_\_\_ 5. STORMWATER MANAGEMENT PLAN

- \_\_\_ A. LOCATION & DESIGN OF DEVICES
- \_\_\_ B. IMPLEMENTING PROCEDURES FOR NON-STRUCTURAL DEVICES
- \_\_\_ C. ROOF RIDGE LINES & DIRECTION OF RUNOFF
- \_\_\_ D. PRE & POST DEVELOPMENT NON-POINT SOURCE POLLUTANT LOADINGS
- \_\_\_ E. PROFESSIONAL ENGINEER CERTIFICATION
- \_\_\_ F. LONG-TERM INSPECTION & MAINTENANCE SCHEDULE

\_\_\_ 6. WQIA DESCRIPTIVE NARRATIVE

- \_\_\_ A. EXISTING TOPOGRAPHY
- \_\_\_ B. IMPACT ON TOPOGRAPHY, SOILS, HYDROLOGY
- \_\_\_ C. IMPACT ON WETLANDS
- \_\_\_ D. EXCAVATION MATERIAL AMOUNT AND LOCATION
- \_\_\_ E. LOCATION OF ANY SHELLFISH BEDS, SUBMERGED AQUATIC VEGETATION, SPAWNING AREAS
- \_\_\_ F. PERMITS REQUIRED
- \_\_\_ G. MITIGATION MEASURES

March 1, 1993

**CHESAPEAKE BAY PRESERVATION AREA CHECKLIST D**

A completed CBPA application, this checklist and the information requested below should be submitted to the Development Services Center of the Planning Department in the Operations Building, Room 191. The following plans are required along with the information listed below:

- \_\_\_\_\_ 1. **A SITE PLAN PREPARED IN ACCORDANCE WITH THE SITE PLAN ORDINANCE CONTAINING THE FOLLOWING INFORMATION: (PLEASE REFER TO THE CBPA MATRIX FOR NUMBER OF COPIES REQUIRED FOR CBPA REVIEW - ADDITIONAL COPIES OF THE SITE PLAN MAY BE REQUIRED)**
  - \_\_\_\_\_ A. PROFESSIONAL ENGINEER OR CERTIFIED LAND SURVEYOR SEAL & SIGNATURE
  - \_\_\_\_\_ B. LOT RECORDATION STATEMENT - Indicate map book and page reference or deed book and page reference
  - \_\_\_\_\_ C. LOT GRADING STATEMENT WHICH INDICATES THAT LOT GRADING IS IN ACCORDANCE WITH THE LATEST SUBDIVISION CONSTRUCTION PLAN SUBMITTED AND DATE APPROVED BY ENGINEERING OFFICE - If an approved plan is not available all elevations on the site plan must be at or above 5.0 feet and lot must meet one of the following criteria:
    - 1. on a 100 foot long lot, there is one foot of fall from the back of the lot to the existing right-of-way (1% grade), or
    - 2. split lot grading is applied with a minimum of one foot of fall for a 100 foot long lot (1% grade) and either a canal or an enclosed drainage system is in the rear of the lot to intercept surface drainage.
  - \_\_\_\_\_ D. TOP OF CURB ELEVATIONS
  - \_\_\_\_\_ E. FINISHED FLOOR AREA ELEVATION STATEMENT - finished floor elevations are to be one foot above 100 year flood level
  - \_\_\_\_\_ F. NUMBER OF FLOORS
  - \_\_\_\_\_ G. FLOODZONE STATEMENT
  - \_\_\_\_\_ H. GEOGRAPHICAL PARCEL INFORMATION NUMBER (GPIN)
  - \_\_\_\_\_ I. SETBACK DISTANCE FROM ALL STRUCTURES TO PROPERTY LINES
  - \_\_\_\_\_ J. ALL REQUIRED PARKING
  - \_\_\_\_\_ K. SIDEWALK STATEMENT
  - \_\_\_\_\_ L. DIMENSIONS & COMPOSITION OF ALL IMPERVIOUS SURFACES (buildings, walkways, driveways, etc.) AND TOTAL IMPERVIOUS SURFACE/PERCENTAGE IMPERVIOUS SURFACE
  - \_\_\_\_\_ M. BEST MANAGEMENT PRACTICES, IF PERCENTAGE IMPERVIOUS SURFACE IS GREATER THAN 25 PERCENT AND/OR FOR BUFFER ENCROACHMENT - Location, Calculations, Description, Vegetation or Structure - Redevelopment projects must reduce existing pollutant load by 10 percent, percentage impervious surface is irrelevant
  - \_\_\_\_\_ N. EXISTING ZONING OF SITE
  - \_\_\_\_\_ O. EXISTING AND PROPOSED STORM DRAINAGE INCLUDING DRAINAGE EASEMENTS
  - \_\_\_\_\_ P. RPA AND RMA BOUNDARIES
  - \_\_\_\_\_ Q. TOP OF BANK AND TOE OF SLOPE
  - \_\_\_\_\_ R. SEQUENCE OF CONSTRUCTION
  - \_\_\_\_\_ S. LIMITS OF LAND DISTURBANCE TO INCLUDE ALL CLEARING AND GRADING, AND ACCESSWAYS AND STAGING AREAS
  - \_\_\_\_\_ T. LOCATION OF APPROVED PROPOSED & EXISTING SEPTIC TANKS AND DRAINFIELDS
  - \_\_\_\_\_ U. LOCATION OF PROPOSED AND EXISTING WELLS
  - \_\_\_\_\_ V. LOCATION OF PROPOSED AND EXISTING WATER AND/OR SEWER LINES

**FIVE (5) COPIES OF THE FOLLOWING:**

- \_\_\_\_\_ 2. LOCATION MAP WITH SITE CLEARLY INDICATED
- \_\_\_\_\_ 3. ENVIRONMENTAL FEATURES SURVEY
  - \_\_\_\_\_ A. TIDAL WETLANDS DELINEATED
  - \_\_\_\_\_ B. TIDAL SHORES DELINEATED

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(ENVIRONMENTAL FEATURES SURVEY CONTINUED)

- \_\_\_ C. NONTIDAL WETLANDS DELINEATED
- \_\_\_ D. HIGHLY ERODIBLE SOILS DELINEATED
  
- \_\_\_ E. BUFFER AREA DELINEATED
- \_\_\_ F. EDGE OF TRIBUTARY STREAMS DELINEATED

\_\_\_ 4. LANDSCAPE PLAN

- \_\_\_ A. EXISTING & PROPOSED PLANTS
- \_\_\_ B. EXISTING 6" DIAMETER TREES
- \_\_\_ C. TREES & PLANTS TO BE PRESERVED
- \_\_\_ D. TREES & PLANTS DISTURBED
- \_\_\_ E. REVEGETATION SCHEDULE - REPLANTING SCHEDULE FOR TREES AND OTHER VEGETATION REMOVED
- \_\_\_ F. NEW BUFFER AREA VEGETATION
- \_\_\_ G. GRADE CHANGES
- \_\_\_ H. LIMITS OF CLEARING
- \_\_\_ I. TREE PROTECTION SPECIFICATIONS

\_\_\_ 5. STORMWATER MANAGEMENT PLAN

- \_\_\_ A. LOCATION & DESIGN OF DEVICES
- \_\_\_ B. IMPLEMENTING PROCEDURES FOR NON-STRUCTURAL DEVICES
- \_\_\_ C. ROOF RIDGE LINES & DIRECTION OF RUNOFF
- \_\_\_ D. PRE & POST DEVELOPMENT NON-POINT SOURCE POLLUTANT LOADINGS
- \_\_\_ E. PROFESSIONAL ENGINEER CERTIFICATION
- \_\_\_ F. LONG-TERM INSPECTION & MAINTENANCE SCHEDULE

\_\_\_ 6. EROSION AND SEDIMENT CONTROL PLAN PREPARED IN ACCORDANCE WITH CHAPTER 30, ARTICLE 3 OF THE CITY CODE - EROSION AND SEDIMENT CONTROL AND TREE PROTECTION ORDINANCE

\_\_\_ 7. WQIA DESCRIPTIVE NARRATIVE

- \_\_\_ A. EXISTING TOPOGRAPHY
- \_\_\_ B. IMPACT ON TOPOGRAPHY, SOILS, HYDROLOGY
- \_\_\_ C. IMPACT ON WETLANDS
- \_\_\_ D. EXCAVATION MATERIAL AMOUNT AND LOCATION
- \_\_\_ E. LOCATION OF ANY SHELLFISH BEDS, SUBMERGED AQUATIC VEGETATION, SPAWNING AREAS
- \_\_\_ F. PERMITS REQUIRED
- \_\_\_ G. MITIGATION MEASURES

OTHER REASONABLE AND APPROPRIATE CONDITIONS MAY BE IMPOSED. THIS CAN BE VERIFIED WITH STAFF REVIEWING THE APPLICATION.

March 1, 1993

**CHESAPEAKE BAY PRESERVATION AREA CHECKLIST E**

**REQUEST FOR AMENDMENT TO CBPA MAP**

One copy of a completed CBPA application, this checklist and the information requested below should be submitted to the Development Services Center of the Planning Department in the Operations Building, Room 191.

- \_\_\_\_\_ 1. LETTER REQUESTING MAP AMENDMENT WHICH INCLUDES:
  - \_\_\_\_\_ A. ADDRESS OF PROPERTY OR PROPERTIES
  - \_\_\_\_\_ B. REASON FOR REQUEST
  - \_\_\_\_\_ C. SUPPORTING INFORMATION TO SUBSTANTIATE REASON FOR REQUEST (INCLUDE ALL WRITTEN DOCUMENTATION)
  - \_\_\_\_\_ D. NAME, ADDRESS, AND WORK PHONE OF OWNER OF PROPERTY OR PROPERTIES
- \_\_\_\_\_ 2. COPY OF CURRENT CBPA MAP HIGHLIGHTING AREA OF CONCERN
- \_\_\_\_\_ 3. COPY OF CURRENT CBPA MAP SUPERIMPOSED WITH PROPOSED MAP AMENDMENT
- \_\_\_\_\_ 4. ATTACHMENT OF ANY ADDITIONAL SUPPORTING MATERIALS

December 29, 1992

**CHESAPEAKE BAY PRESERVATION AREA BOARD MEETING**

GPIN # \_\_\_\_\_

BOARD MEETING DATE: \_\_\_\_\_ TIME: 11:00 A.M.

PLACE: CITY HALL BUILDING - COUNCIL CHAMBERS

APPEAL: \_\_\_\_\_

NONCONFORMING USE: \_\_\_\_\_

VARIANCE: \_\_\_\_\_

LOCATION: \_\_\_\_\_

SIGN MUST BE POSTED ON THE PROPERTY BY: \_\_\_\_\_

*Section 114(d) of the Chesapeake Bay Preservation Area Ordinance requires posting of a suitable sign, clearly visible and legible from the public streets, fifteen (15) days prior to the Chesapeake Bay Preservation Area Board Public Hearing. SUCH SIGNS MUST BE REMOVED WITHIN FIVE (5) DAYS AFTER THE FINAL CHESAPEAKE BAY PRESERVATION AREA BOARD ACTION.*

*Signs may be purchased from the Planning Department, Operations Building, Room 191, for a fifty dollar (\$50.00) fee, or can be made by the applicant according to Planning Department specifications.*

*In accordance with Section 114(d) of the Chesapeake Bay Preservation Area Ordinance, in the event that such sign is removed, obscured or otherwise rendered illegible prior to the hearing, the Board may deny or defer the application. Any application deferred by the Board by reason of noncompliance with the posting requirements shall not be heard unless and until an additional fee in the amount of twenty-five dollars (\$25.00) is paid.*

*I, \_\_\_\_\_, have read and do understand the above provisions and hereby accept the terms and conditions stated therein.*

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

\*\*\*\*\*

*The sign, if purchased from the City, may be returned to the Planning Department, Operations Building, Room 191. If the sign is in reusable condition, as determined by the Planning Department, and accompanied by the original receipt, a \$40.00 refund will be mailed within six to eight weeks.*



**Appendix H: Chesapeake Bay Preservation Area Plan  
Review/Enforcement Tracking Forms**

**CHESAPEAKE BAY PRESERVATION AREA  
PLAN REVIEW/ENFORCEMENT TRACKING FORM**

Locality Name: CITY OF VIRGINIA BEACH

192

<i>Plan Review/ Enforcement Activities</i>	<i>Month: January 1993</i>	<i>Month: February 1993</i>	<i>Month: March 1993</i>
Lots Recorded	3	9	14
Building Permits	187	228	299
E & S Control Permits	187	228	299
Wetland Delineations	2	6	5
WQIAs	2*	6*	5*
Waivers/Modifications	DATA NOT AVAILABLE	DATA NOT AVAILABLE	DATA NOT AVAILABLE
Formal Exceptions	2	6	4
Cited Violations	DATA NOT AVAILABLE	DATA NOT AVAILABLE	DATA NOT AVAILABLE

NOTE: Increase in building permits due to watershed wide beginning January 1, 1993.

\*Additional WQIA were performed, however, data on the number of minor projects in the landward 50 feet, which require WQIA is not available. This number only reflects the number of projects submitted for CBPA Board review and all of these projects require a WQIA.

**CHESAPEAKE BAY PRESERVATION AREA  
PLAN REVIEW/ENFORCEMENT TRACKING FORM**

Locality Name: City of Virginia Beach

193

<i>Plan Review/ Enforcement Activities</i>	<i>Month: April 1993</i>	<i>Month: May 1993</i>	<i>Month: June 1993</i>
Lots Recorded	8	4	8
Building Permits	403	439	379
E & S Control Permits	403	439	379
Wetland Delineations	12	13	7
WQIAs	12*	13*	7*
Waivers/Modifications	Data Not Available	Data Not Available	Data Not Available
Formal Exceptions	10	13	7
Cited Violations	Data Not Available	Data Not Available	Data Not Available

\* Additional WQIAs were performed, however, data on the number of minor projects in the landward 50 feet, which require WQIAs, is not available. This number only reflects the number of projects submitted for CBPA Board review and all of these projects require a WQIA.

# Appendix I: Chesapeake Bay Board Process

## Chesapeake Bay Board Process

- Step 1:** Ideally, the property owner or a person interested in purchasing/developing a piece of property contacts an Environmental Planner-Rick Scarper or Carolyn Couch- or Clay Bernick, Administrator of the Environmental Management Center, for a pre-submittal meeting. We typically meet the person on the site to discuss their project. (This meeting with the "environmental experts" is not mandatory, therefore, roughly 15 percent of all projects located in the Chesapeake Bay preservation area have the benefit of a pre-submittal review).
- Step 2:** If a pre-submittal meeting was held, we recommend that the citizen forward a copy of the site plan showing the proposed land disturbance to the Environmental Planner Prior to formal submittal. The planner then can provide the applicant with any additional recommendations to ensure speedy review while maintaining environmental integrity. (Most applicants that have utilized steps 1 and 2 are able to design their project to meet the intent of the Chesapeake Bay preservation Area Ordinance and often do not have to go to the Board for review and approval. those that do go to the Board are usually on the consent agenda).

**Step 3:** Projects requiring Board action are submitted to the Development Services Center by the close of business on the 20th of each month.

**Step 4:** The plans are routed to the following departments and appropriated divisions for review and comment:

1. Public Works- Engineering, Traffic Engineering
2. Planning- Waterfront Operations, Zoning, Operations
3. Public Utilities
4. Health-only if site is not currently served by water and sewer.

**Step 5:** A group field trip is conducted by the planners reviewing the projects

**Step 6:** A preliminary agenda meeting is held. present at this meeting are the Planners and the environmental technical staff. At this meeting, Planners describe each project and identify any conflicts with the intent of the CBPA ordinance and discuss possible recommendations to minimize any environmental impacts. The general consensus of the planners and the technical staff form the basis of the recommendation of each agenda item forwarded to the Board.

**Step 7:** Planners prepare the final reports with recommendations for the CBPA Board agenda.

**Step 8:** Applicants are notified by telephone and later through the mail, of the staff's recommendation: approval, approval with conditions, denial.

- Step 9:** Staff make every effort to clarify and answer questions concerning the reasons for the recommendation and any possible attached conditions with the applicants.
- Step 10:** The applicant notifies the staff if the conditions are satisfiable and if they would like to be placed on the consent agenda.
- Step 11:** Possible alterations to plans may occur up to the time of the Board public hearing. If this occurs, staff will advise the Board and note any corrections/revisions to the agenda which are necessary.
- Step 12:** Project is presented to the Board and voted on at the public hearing.
- Step 13:** Letter is sent by Wayne Couch to the applicant of Board decision and necessary steps to follow.

This process is the work of the Virginia Beach Planning Department, Environmental Management Center.<sup>90</sup>

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<sup>90</sup> Couch, Carolyn. 1993. Chesapeake Bay Board Process. Environmental Management Center, Virginia Beach, Virginia.