APPENDIX A

Checklist

Chesapeake Bay Preservation Area Check List for Single Family Homes and Building Additions Proposed Within the Resource Protection Area (RPA).

GENERAL

____ Building permit application

4 copies of a development plan showing:

____ Name, address, signature and registration of professional who prepared plan.

____ North arrow, scale (1' = 40") minimum size paper of 8 1/2" X 14" to a maximum of 24" X 36", date and vicinity map.

____ Property line courses and minimum distances.

____ Existing locations and areas in square feet of all buildings, structures and other impervious surfaces.

____ Building setbacks

____ Existing topography and 100-year floodplain elevation.

____ Waterways, and other physical features on the property.

ENVIRONMENTAL SITE FEATURES, AS APPLICABLE:

Resource Protection Area

____ Tidal wetlands, tidal shores, and non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or tributary streams.

Note: Wetland delineations must be consistent with the procedures specified in the Corps of Engineers Wetlands Delineation Manual. Turning points in the delineation line shall be referenced to existing landmarks on the site to allow for field verification. The above features shall be labeled consistent with City standards.

____ Delineation of 50-foot and 100-foot RPA buffer area measured from the landward limit of the features listed above.

Resource Management Area

____ Delineation of 100-foot wide RMA, landward and parallel to the 100-foot buffer described above.

____ RMA must include contiguous slopes 15% or greater, land area within the 100-year floodplain and highly erodible soils as defined in the City's CBPA Ordinance.

PROPOSED IMPROVEMENTS

____ Driveway, type, and surface area in square feet.

____ Buildings, structures, and other proposed impervious surfaces with their area in square feet.

____ Lot grading to include erosion and sedimentation controls.

____ Landscaping, including tree protection barriers for trees over 6" diameter at breast height in land clearing areas.

____ Stormwater management with calculations and proposed Best Management Practices (BMPs)

____ Total area of land disturbance.

____ Reserve sewage disposal site for lots or parcels recorded after October 1, 1989

____ Construction notes as required.

____ Copies of applicable wetlands permits.

____ Copies of applicable land disturbance permits before construction begins.

Comments: _____

Property Owner:	Name of Project:
Mailing Address: Phone No:	Site Address:
Date of Plan Review:	Reviewer Signature:
Date of Site Visit:	
Date of Follow-up Visit:	File No.:

APPENDIX B

Applications for Buffer Modifications and Development Waivers

File No: _____

APPLICATION FOR MODIFYING RESOURCE PROTECTION AREA (RPA) BUFFER WIDTH FOR LOTS RECORDED PRIOR TO OCTOBER 1, 1989 (As Provided by Chapter 37.1, Sec. 37.1-51, (b)(2) b. Newport News City Code)

1. NAME OF APPLICANT:_____ PHONE:_____

   ADDRESS OF APPLICANT:_____

2. NAME OF PROPERTY OWNER:_____ PHONE:_____

3. ADDRESS AND LEGAL DESCRIPTION OF PROPERTY:_____

   _____

4. PROPOSED USE OF PROPERTY: _____

   _____

5. DATE WHEN THE SUBDIVISION, WHERE LOT IS LOCATED, WAS RECORDED IN THE COURTHOUSE

   _____

6. ATTACH A SURVEY OR PLAT PLAN SHOWING THE DIMENSIONS OF THE PROPERTY TO SCALE, LOCATION OF PROPOSED BUILDINGS, STRUCTURES OR IMPERVIOUS AREAS AND BOUNDARIES OF RESOURCE PROTECTION AREA AND RESOURCE MANAGEMENT AREA.

7. IDENTIFY IMPACTS OF THE PROPOSED BUFFER MODIFICATION ON WATER QUALITY AND ON LAND IN THE RESOURCE PROTECTION AREA: (See Section 37.1-52 (f) (2), and (3)

   A minor Water Quality Impact Assessment is required for land disturbance of no more than 10,000 square feet in the RPA or for any modification or reduction of the landward 50 feet of the 100-foot wide buffer area. A plan of development that demonstrates through the use of pollutant loading calculations that the remaining buffer area and necessary best management practices will collectively achieve the equivalent of the 100-foot buffer shall satisfy the requirement for a minor water quality impact assessment.

_____ _____

Applicant Date

THIS SECTION TO BE COMPLETED BY CITY STAFF

_____ All necessary information has been received.

_____ Encroachments into the buffer area shall be the minimum necessary to achieve a reasonable buildable area for a principal structure and necessary utilities.

_____ Where practicable, a vegetated area that will maximize water quality protection, mitigate the effect of buffer encroachment, and is, equal to the area of encroachment into the buffer area shall be established elsewhere on the lot or parcel.

_____ The encroachment may not extend into the seaward 50 feet of the buffer area.

WATER QUALITY EVALUATION (Department of Engineering)

_____ The proposed encroachment is necessary due to the inability to place improvements elsewhere to provide a reasonable and appropriate buildable area on the site.

_____ Impervious surface is minimized.

_____ Proposed best management practices, where required, achieve the requisite reductions in pollutant loadings.

_____ The development, as proposed, meets the purpose and intent of Article 37.1.

Comments/Conditions: _____

_____

RECOMMENDATION: _____

_____ _____
Senior District Planner Date

_____ _____
Director of Planning Date

APPROVAL
RECOMMENDED: _____ _____
Department of Engineering Date

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File No._____

APPLICATION FOR MODIFYING RESOURCE PROTECTION AREA (RPA) BUFFER WIDTH FOR LOTS RECORDED BETWEEN OCTOBER 1, 1989 AND MARCH 1, 2002
(As Provided by Chapter 37.1, Sec. 37.1-51, (b)(2) c. Newport News City Code)

1. NAME OF APPLICANT:_____ PHONE: _____

2. ADDRESS OF APPLICANT:_____

_____

3. NAME OF PROPERTY OWNER: _____ PHONE: _____

4. ADDRESS AND LEGAL DESCRIPTION OF PROPERTY:_____

_____

5. PROPOSED USE OF PROPERTY:_____

6. DATE WHEN THE SUBDIVISION, WHERE LOT IS LOCATED, WAS RECORDED IN THE COURTHOUSE: _____

7. ATTACH A SURVEY OR PLAT PLAN SHOWING THE DIMENSIONS OF THE PROPERTY TO SCALE, LOCATION OF PROPOSED BUILDINGS, STRUCTURES, OR IMPERVIOUS AREAS AND BOUNDARIES OF RESOURCE PROTECTION AREA AND RESOURCE MANAGEMENT AREA.

8. IDENTIFY IMPACTS OF THE PROPOSED BUFFER MODIFICATION ON WATER QUALITY AND ON LAND IN THE RESOURCE PROTECTION AREA: (See Section 37.1-52 (f) (2), and (3)

A minor Water Quality Impact Assessment is required for land disturbance of no more than 10,000 square feet in the RPA or for any modification or reduction of the landward 50 feet of the 100-foot wide buffer area. A plan of development that demonstrates through the use of pollutant loading calculations that the remaining buffer area and necessary best management practices will collectively achieve the equivalent of the 100-foot buffer shall satisfy the requirement for a minor water quality impact assessment.

_____ _____
Applicant Date

THIS SECTION TO BE COMPLETED BY CITY STAFF

_____ All necessary information has been received;

_____ The lot or parcel was created as a result of a legal process conducted in conformity with the city's subdivision regulations;

_____ Conditions or mitigation measures imposed through previously approved exceptions shall be met;

_____ If the use of a Best Management Practice was previously required, the BMP shall be evaluated to determine if it continues to function effectively and, if necessary, the BMP shall be re-established or repaired and maintained as required;

_____ Encroachments into the buffer area shall be the minimum necessary to achieve a reasonable buildable area for a principal structure and necessary utilities;

_____ Where practicable, a vegetated area that will maximize water quality protection, mitigate the effect of buffer encroachment, and is equal to the area of encroachment into the buffer area shall be established elsewhere on the lot or parcel;

_____ The encroachment may not extend into the seaward 50 feet of the buffer area.

WATER QUALITY EVALUATION (Department of Engineering)

_____ The proposed encroachment is necessary due to the inability to place improvements elsewhere to provide a reasonable and appropriate buildable area on the site.

_____ Impervious surface is minimized.

_____ Proposed best management practices, where required, achieve the requisite reductions in pollutant loadings.

_____ The development, as proposed, meets the purpose and intent of Article 37.1.

Comments/Conditions: _____

_____

RECOMMENDATION:_____

_____ _____

Senior District Planner Date

_____ _____

Director of Planning Date

APPROVAL
RECOMMENDED: _____ _____

Department of Engineering Date

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File No. _____

DEVELOPMENT WAIVER FOR EXPANSION OF AN EXISTING LEGAL NON-CONFORMING PRINCIPAL STRUCTURE
(As Provided by Chapter 37.1, Sec. 37.1-53
Newport News City Code)

1. NAME OF APPLICANT: _____ PHONE:_____

   ADDRESS OF APPLICANT: _____

2. NAME OF PROPERTY OWNER: _____ PHONE: _____

   ADDRESS OF PROPERTY OWNER:

3. ADDRESS AND LEGAL DESCRIPTION OF PROPERTY: _____

   _____

4. PROPOSED USE OF PROPERTY: _____

5. ATTACH A SURVEY OR PLOT PLAN SHOWING THE DIMENSIONS OF THE PROPERTY TO SCALE, LOCATION OF EXISTING FOUNDATION FOR STRUCTURE RE-CONSTRUCTION OF BUILDING AND/OR ADDITION, AND BOUNDARY OF RESOURCE PROTECTION AREA.

_____ _____
Applicant Date

THIS SECTION TO BE COMPLETED BY CITY STAFF

_____ The applicant provides satisfactory evidence that any delinquent real estate taxes owed to the city which have been properly assessed against the subject property have been paid.

_____ There will be no net increase in non-point source pollution load;

_____ Any development or land disturbance exceeding an area of two thousand five hundred (2,500) square feet complies with all erosion and sediment control requirements;

_____ The requested waiver from the criteria is the minimum necessary to afford relief;

_____ Granting the waiver will not confer upon the applicant any special privileges that are denied by Chapter 37.1 to other property owners who are subject to its provisions and who are similarly situated;

_____ The waiver is in harmony with the purpose and intent of this part and is not of substantial detriment to water quality;

_____ The waiver request is not based upon conditions or circumstances that are self-created or self-imposed.

_____ Reasonable and appropriate conditions are imposed, as warranted, that will prevent the allowed activity from causing a degradation of water quality;

_____ Other findings, if appropriate and required by the local government, are met.

Comments/Conditions:_____ _____

RECOMMENDATION: _____

	_____	_____
	Senior District Planner	Date
	_____	_____
	Director of Planning	Date
APPROVED & CERTIFIED:	_____	_____
	Department of Engineering	Date

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APPENDIX C

Application for Exception to the Ordinance and Instructions

APPLICATION FOR EXCEPTION TO THE CHESAPEAKE BAY PRESERVATION ORDINANCE, Chapter 37.1, Article 5 Code of Newport News

OFFICE USE ONLY
APPLICATION NUMBER

_____ , 20 _____

TO THE BOARD OF ZONING APPEALS:

I, _____ THE UNDERSIGNED OWNER OF LOT _____ BLOCK _____ OF _____ SUBDIVISION, LOCATED AT ADDRESS _____ (TAX ID. # _____) HEREBY APPLY FOR AN EXCEPTION FROM THE FOLLOWING SECTION OF THE CHESAPEAKE BAY PRESERVATION ORDINANCE OF THE CITY OF NEWPORT NEWS. (CHECK ALL THAT APPLY.)

- ☐ Section 37.1-51 (b)(2) New principal structure encroaching in seaward fifty feet of 100-foot Resource Protection Area (RPA) buffer.
- ☐ Section 37.1-51 (b)(2) New principal structure encroaching in 100-foot RPA buffer on lot created after _____. (Year)
- ☐ Section 37.1-51 (b)(2) Accessory structure encroaching in the 100-foot RPA buffer.
- ☐ Section 37.1-51 (b)(2) Non-compliant erosion control structures.
- ☐ Section 37.1-51 (b)(1) b.2. Non-compliant redevelopment outside established Intensely Developed Areas.
- ☐ Section 37.1-51(b)(1) d. Non-compliant private roads and driveways in the RPA.
- ☐ Section 37.1-51 (b) (1) m. Non-compliant flood control and stormwater management facilities in the RPA.
- ☐ Section 37.1-51(b)(1) b.1. Non-compliant water dependent uses in the RPA.
- ☐ Other _____

Owner's Agent Representing the Application:

NAME: _____

ADDRESS: _____

_____

TELEPHONE: _____

Signature of Property Owner(s):

NAME: _____

ADDRESS: _____

_____

TELEPHONE: _____

THIS APPLICATION MUST BE ACCOMPANIED BY A NON-REFUNDABLE $100.00 FEE

DO NOT COPY!! PICK UP ORIGNAL IN THE PLANNING DEPARTMENT

CHESAPEAKE BAY PRESERVATION ORDINANCE

EXCEPTION APPLICATION

INSTRUCTIONS

An application for an exception may be made at the Department of Planning, City of Newport News, 2nd Floor, City Hall, 2400 Washington Avenue, telephone (757) 926-8761. The completed application form, together with all required submissions must be returned to the Department of Planning by (_____) to be heard by the Board of Zoning Appeals on (_____).

NOTE: NO APPLICATIONS WILL BE PROCESSED IF THERE ARE DELINQUENT REAL ESTATE TAXES OWED TO THE CITY AGAINST THE SUBJECT PROPERTY OR IF ALL SUBMISSION REQUIREMENTS ARE NOT MET.

SUBMISSION REQUIREMENTS:

1. Completed application form with all necessary signatures (do not separate sheets).
2. Nonrefundable processing fee of $100.00 made payable to the "City of Newport News".
3. A full narrative description of the proposed improvements detailing its impact on the 100-foot RPA buffer and any mitigation proposed.
4. A survey plat (no smaller than 1 inch equals 100-feet) showing:
    a. All existing structures and impervious areas on the property and the proposed improvements, including mitigation, erosion and sediment control
    b. Distances from the proposed construction to property lines and other structures
    c. Existing topography and 100-year floodplain elevation.
    d. Waterways and wetlands on the property
    e. Existing and proposed easements
    f. Resource Protection Area (RPA) and Resource Management Area
    g. Notes to include amounts of existing and proposed impervious area in square feet, total area of land disturbance, total area of land disturbance in the Resource Protection Area
    h. Landscaping plan for Vegetative BMP, if appropriate
    i. A signed seal of a licensed professional Surveyor or Engineer
5. BMP Guidance Calculations for New Development/Redevelopment and Compliance.
6. BMP Guidance Calculations for buffer encroachment
7. Major Water Quality Impact Assessment if more than 10,000 square feet of land disturbance occurs in the RPA; or if any portion of the seaward fifty-feet of the RPA or its protected components is disturbed
8. Photographs of property where proposed construction is proposed

REVIEW PROCEDURES

The Newport News Board of Zoning Appeals will consider the request at its regular meeting date. After notifying surrounding property owners, posting the property and advertising in the newspaper, a public hearing will be held by the Board. Prior to the public hearing, a staff report on the application will be sent to Board members.

DEFERRALS, WITHDRAWALS, DENIALS AND APPEALS OF APPLICATIONS

1. Deferral of an application: An Applicant may request the Board to defer action on an application for an Exception to the Chesapeake Bay preservation requirements prior to a public hearing. When such request is granted, the applicant shall pay a reprocessing fee of one hundred dollars ($100.00) before the board considers the application. The fee shall not be required for an administrative deferral.

2. Withdrawal of an application: An application for an exception to the Chesapeake Bay preservation requirements may be withdrawn by the applicant prior to a public hearing; provided such request is filed in writing by 5:00 p.m. on the Thursday prior to the public hearing; however, any re-submittal shall be deemed a new application.

3. Denial of application: Denial of application: If the Board denies the application, substantially the same application shall not be reconsidered within one (1) year of denial.

4. Appeals: Appeals of Board of Zoning Appeals decisions are handled by the circuit court of appeals (refer to section 45-3207 of the Zoning Ordinance.)

Attachments:

1. Two (2) Exception Application forms. (Only one needs to be submitted.
2. BMP Guidance calculation forms (regular and buffer encroachment.)
3. Board Meeting Schedule showing cut-off dates for submission of applications.
4. List of present Board members.
5. Sections of the City's Zoning Ordinance pertaining to the Board of Zoning Appeals Chesapeake Bay Exception criteria.

APPENDIX D

BMP Guidance Calculations for RPA Encroachment

BMP GUIDANCE CALCULATION PROCEDURE
TO BE USED IN THE DETERMINATION OF REQUIRED BMP REMOVAL EFFICIENCIES (%RR), FOR MITIGATION OF RPA BUFFER ENCROACHMENT.

Step 1. Compile Site Specific Data.

Total Area of Property (**A**) above mean high water = _____ acres

Impervious Area ($\mathbf{I_a}$): structures _____ square feet
driveways _____ square feet
roads _____ square feet
other _____ square feet

Total $\mathbf{I_a}$ = _____ square feet (sf)

Total $\mathbf{I_a}$ / 43,560 sf = _____ acres

$\mathbf{I^{site}}$ = [$\mathbf{I_a}$ / **A**] x 100 = _____ % (round to nearest whole #)

Step 2. $\mathbf{I_{watershed}}$ = 36%

If $\mathbf{I_{site}}$ < 36%, then *no additional* BMP=s are required. Continue to **Step 3**.

If $\mathbf{I_{site}} \geq$ 36%, then *additional* BMP=s will be required. Refer to "Worksheet A: New Development, Option one", or "Worksheet B : Redevelopment" for additional BMP requirements. Then continue to **Step 3**.

Step 3. Calculate the Post Development Load ($\mathbf{L_{post}}$)

$\mathbf{L_{post}}$ = 9.32 [0.05 + (0.009) $\mathbf{I_{site}}$] .26 **A**

$\mathbf{L_{post}}$ = _____ pounds / year

Step 4. Assuming that a 100' Buffer strip will remove 40% of pollutants:

$\mathbf{L_{post}}$ x 0.40 = _____ pounds / year = Buffer Strip Removal (**BSR**)

Step 5. Calculate the Buffer Encroachment Fraction (**BEF**):

Buffer Encroachment (**BE**) = _____ sf

Total Buffer size (**TB**) = _____ sf

BEF = **BE** / **TB** = _____ / _____ = 0._____

Step 6. If *additional* BMP=s are required due to the % of impervious area on the site (from **Step 2**), then skip to **Step 7**.

If *no additional* BMP=s are required, then determine the required BMP removal efficiency (%**RR**).

%**RR** = **BEF** x 100 = _____ X 100 = _____%

Step 7 Determine the *overall* required BMP removal efficiency (%$\mathbf{RR^{overall}}$).

Calculate pollutant load (**PL1**) to be removed, due to loss of Buffer area:

PL1 = **BEF** x **BSR** = _____ x _____ = _____ pounds / year

From "Worksheet A: New Development, Option one", or "Worksheet B: Redevelopment", determine the pollutant removal requirement (**RR**) in pounds per year.

Add **PL1** and **RR** to determine the total pollutant load removal required (**TRR**).

TRR = **PL1** + **RR** = _____ + _____= _____ pounds / year

$\%RR_{overall}$ = [**TRR** / ($\mathbf{L_{post}}$ + **BSR**)] x 100 = _____%

= [_____ / (_____ + _____)] x 100 = _____%

APPENDIX E

Tables showing BMP Efficiencies

Table 1-3-1

TOTAL P REMOVAL EFFICIENCIES FOR BMPs SUITABLE FOR DEVELOPMENT AND REDEVELOPMENT IN THE CITY OF NEWPORT NEWS

BMP (listed in order of preference)	AVERAGE TOTAL P REMOVAL		MAXIMUM TOTAL P REMOVAL	
	EFFICIENCY	DESIGN CRITERIA	EFFICIENCY	DESIGN CRITERIA
1. Wet Detention	50%	• Permanent pool storage = (4.0)*(WQ VOL)	65%	• Same as "average"
2. Extended Dry Detention	30%	• Temporary storage of WQ VOL • 30-hour detention period	40%	• Temporary storage of (2.0)*(WQ VOL) • 30-hour detention period
3. Modified Extended Dry Detention	50%	• Temporary storage of WQ VOL • 30-hour detention period • Shallow marsh in lower stage of basin	60%	• Temporary storage of (2.0)*(WQ VOL) • 30-hour detention period • Shallow marsh in lower stage of basin
4. Infiltration (Trench, Dry Well)	50%	• Infiltration storage for WQ VOL	65%	• Infiltration storage for (2.0)*(WQ VOL)
5. Grassed Swale with Check Dams	10-20%	• Storage of WQ VOL upstream of check dams	30%	• Same as "average"
6. Biofiltration Swale	10-20%	• Minimum residence time of nine minutes	30%	• Same as "average"
7. Natural Open Space Preservation	1% per 1% of site area	• Undisturbed open space	1% per 1% of site area	• Same as "average

NOTE: WQ VOL is the "water quality volume" specified in the State Stormwater Management Regulations. It is equivalent to 0.5 inch of runoff per impervious acre within the project area.

Table 1-3-2

BMP EFFICIENCY REQUIREMENTS

LAND USE	UNCONTROLLED TOTAL P LOADINGS (LBS/ACRE/YR)	RESERVOIR PROTECTION ORDINANCE*	STATE STORMWATER MANAGEMENT REGULATIONS			CBLAD REGS**
			WET DETENTION	EXTENDED DRY DETENTION	INFILTRATION	
SF Residential (< 2 DU/acre) (20% impervious)	0.7	65%	50-55%	30%	50%	---
SF Residential (2-4 DU/acre) (30% impervious)	0.9	65%	50-55%	30%	50%	---
SF Residential (4-7 DU/acre) (40% impervious)	1.1	65%	50-55%	30%	50%	18%
MF Residential (55% impervious)	1.2	65%	50-60%	30%	50%	25%
Office (60% impervious)	1.5	65%	50-60%	30%	50%	40%
Light Industrial (65% impervious)	1.6	65%	50-60%	30%	50%	44%
Heavy Industrial (85% impervious)	2.0	65%	50-60%	30%	50%	55%
Commercial (85% impervious)	2.0	65%	50-60%	30%	50%	55%

* Based on designation of wet detention as preferred BMP in water supply watersheds.
** Based on "average land cover" conditions (36% imperviousness citywide) that result in baseline total P loading rate of 0.9 lbs/acre/year.

APPENDIX F

Vegetative BMP Maintenance Agreement

Memorandum of Agreement

TO: The City of Newport News
Department of Planning
Department of Engineering
2400 Washington Avenue
Newport News, VA 23607

FROM: Property Owner(s) Name
Address
City, State, Zip Code

DATE: June 15, 2004

RE: Construction of a (house, addition, out building) on property located at _____.
(Address)

As the property owner of the subject property and improvements, I, (Name), agree to install and oversee the installation and maintenance of the vegetative BMP for stormwater management. The vegetative BMP shall be_____, as shown on the attached landscape plan. Plants within the bed will consist of shrubs, ground cover, ornamental grasses, and flowering perennials found in the attached "Bayscapes Brochure". I, (Name), will provide maintenance work for the BMP.

Routine Maintenance:

- Watering:
  - Water only one inch per week until establishment. More watering will be needed between Memorial Day and Labor Day. Water only as needed thereafter.
  - Water only in the coolest part of the day, never between the hours of 8 a.m. and 5 p.m.

- Pest Management:
  - Use only non-chemical controls for pests and diseases. These include:
    - Handpick, prune or spray plants with water to remove insect pests.
    - Removing the affected leaves or plant parts.
    - Use safer solutions such as insecticide soaps, horticultural oils and *Bacillus thuringiensis* (Bt).
    -

(Continued on Page 2)

- Fertilization:
  - No fertilization within 15 feet of the BMP.

- Mulch:
  - Apply and maintain a 2- to 3-inch layer of mulch.
  - Avoid piling mulch against plant stems and trunks. This promotes rot and can reduce the plant's survivability.

Non-Routine Maintenance:

- Plant Replacement:
  Replace plants that are diseased or dying.

The obligations and terms of this agreement are intended to be binding upon all successors in title to this property.

By: _____
(Print Name of Property Owner)

_____ Date: _____
(Signature of Property Owner)

Subscribed and sworn to before me in my City and State aforesaid.

_____
Notary Public

My Commission Expires:

_____ (Seal)
(Date)

APPENDIX G

Beneficial Plant List For The Coastal Region Of The Chesapeake Bay

BENEFICIAL PLANT LIST FOR THE COASTAL REGION OF THE CHESAPEAKE BAY		
Trees		
Evergreen	***Height***	***Features***
Loblolly Pine *Pinus taeda*	20-60'	Pioneer species; WL value, tolerates sandy soils, salt spray; needles in bundles. (Stream-side buffer.)
Eastern Red Cedar *Juniperus virginiana*	50' - 75'	Pyramidal; wildlife value; thick branches, dense foliage; tolerates poor soils.
Eastern Hemlock *Tsugo canadensis*	75' – 100'	Pyramidal; dense habitat; wildlife value; prefers rich moist soil.
Deciduous	***Height***	***Features***
Red Maple *Acer rubrum*	75'-100'	Globular; fast-growing, early red blossom; prefers wet but tolerates dry soil. (Streamside Buffers.)
Shad Blow Serviceberry *Amelanchier canadensis*	35'-50'	Oval; light gray bark, early bloom, red fruit summer, wildlife value. (Streamside Buffers.)
Riverbirch *Betulanigna*	50'-75'	Prefers sun; drought tolerant; prefers wet soils; wildlife value; (Streamside Buffers.)
Red or Green Ash *Fraxinus pennsylvanica*	60'	Oval; fast growing; prefers rich, well-drained soil. (Streamside buffers.)
Tulip Poplar, Tulip Tree *Lirodendron tulipifera*	75'-100'	Pyramidal; rapid growth, tulip like flower in June; needs deep, rich soil; sun. (Streamside buffers.)
Black Cherry *Prunus serotina*	50'-75'	Abundant black fruit; white fragrant flowers
White Oak *Quercus alba*	60'-90'	Round-headed, largest of oaks; wildlife value; tolerates range of soils.
Scarlet Oak *Quercus coccinea*	60'-80'	Oval; medium grower, lustrous foliage, brilliant fall color; wildlife value; tolerates dry soil; needs sun.
Willow Oak *Quercus phellos*	50'	Pyramidal; fast growing, fine textured foliage; tolerates wet/dry soil.
Flowering Dogwood *Cornus florida*	10' – 30'	Oval; May flowers, small red fruits, Wildlife value; needs well-drained, acid soil; tolerates some shade
Witch hazel *Hamamelis virginiana*	20'-35'	Prefers partial shade and sun; drought toler-ant; yellow bloom in the fall.

Shrubs		
Name	***Height***	***Features***
Mountain laurel *Cornus florida*	5'-30'	Whorled leaves, flower in June; needs deep, moist, acid soil; tolerates light sun. (Streamside buffer.)
Winterberry holly *Ilex verticillata*	4'-9'	Oval; small flower may, bright red berry; wildlife value; tolerates any soil and some shade.
Elderberry *Sambucus Canadensis*	6'-12'	Oval; flat flower cluster June-July; wildlife value; needs deep well drained soil and sun.
Buttonbush *Cephalanthus occidentalis*	6'-12'	Prefers sun; ball like clusters; prefers moderate to wet soil. (Streamside buffer.)
Highbush blueberry *Vaccinium corymbosum*	3'-10'	Oval; fragrant small flower, brilliant fall color, winter twigs; wildlife value; tolerates poor soil; needs sun.
Southern Arrowwood *Viburnum dentatum*	6'-12'	Prefers sun or partial shade; prefers moderate to wet soils; bluish black fruit. (Streamside buffer.)
Ground Covers		
Green and Gold *Chrysogonum virginianum*	4"-12"	Yellow green flowers; needs sun of partial shade and moderately wet soil conditions.
Creeping Phlox *Phlox stolonifera*	3"-18"	Semi-evergreen; partial shade and full shade tolerant; needs moderately we soil conditions.
Sensitive fern *Onochlea sensibilis*	18" – 24"	Dried brown spore stalks; sun to full shade tolerant; needs moderate or very wet soil conditions.
Grasses		
River Oats *Uniola Paniculata*	Up to 3'	Three season interest; needs sun; tolerates wet soil and drought.
Switch Grass *Pancium virgatum*	3' – 5'	Dried flowers, screen; needs sun; tolerates dry soil and drought.
Little Bluestem *Schizachyrium scparium*	Up to 3'	Needs sun; drought tolerant.
Indian grass *Sorghastrum nutans*	5' –6'	Needs sun; drought tolerant to moderately moist soil conditions.
Flowering Perennials		
Butterfly Weed *Asclepias tuberosa*	2'-3'	Attracts butterflies, brilliant orange flower; needs sun; tolerates dry soil and drought.
Black-eyed Susan *Rudbeckia hirta variety plucherrima*	1'-3'	Yellow; daisy-like flower, upright habitat, meadow plant; needs sun; tolerates dry soil and drought. (Streamside buffer.)

Name	*Height*	*Features*
Seaside Goldenrod *Solidago sempervirens*	8'	Salt tolerant, background plant for seashore plantings; needs sun; tolerates dry soil and drought. (Streamside buffer.)
Wild Bergamot *Monarda fistulosa*	3'	Lilac to purple flowers; prefers dry soils; excellent perennial herb.
Cardinal Flower *Lobelia cardinalis*	2.5'-5'	Bright scarlet flowers; prefers moist soil, partial shade; erect perennial. (Streamside Buffer.)
Wild columbine *Aquilegia Canadensis*	1.5'-2'	Excellent garden selection; yellow sepals and red spur; prefers loamy soil; partial shade.
Swamp Milkweed *Asclepias incarnata*	2'-5'	Pink-red flowers; tolerates full sun to full shade; prefers moderate to very wet soil conditions. (Streamside Buffer.)
New England Aster *Aster nova- angliae*	3'-4'	Pink to violet flowers; needs partial shade; and moderately wet soil conditions.
Mistflower *Eupatorium coelestinum*	3'-4'	Violet to blue flowers; needs full sun; moderately wet soil conditions. (Streamside Buffer.)
Joe-pye-weed *Eupatorium fistubsum*	5'-10'	Pink to purple flowers, needs partial shade and moderate to very wet soil conditions. (Streamside Buffer.)
New York Ironweed *Vernonia noveboracensis*	Up to 7'	Deep purple flowers; needs full sun and moderate to very wet soil conditions. (Streamside Buffer.)

This partial list of beneficial plants is comprised of indigenous or native species and non-native species. The plants listed above are generally available in the Chesapeake Bay region at large, full service nurseries and garden centers.

Consult your local nursery for recommendations on many other beneficial plants.

For more information on Bayscapes, Contact:

Alliance for the Chesapeake Bay
Post Office Box 1981 Richmond, Virginia 23216
(804) 775-0951

Web site Address: http://www.acb-online.org

APPENDIX H

Chesapeake Bay Local Assistance Department's
Riparian Buffer Modification and Mitigation Guidance Manual

Buffer Restoration and Replacement Information

APPENDIX D - VEGETATIVE REPLACEMENT STANDARDS

The vegetation replacement standards are a complilation of information from many sources. The following list reflects the major sources of information used to develop the replacement and restoration standards:

USDA:
- Natural Resources Conservation Service
- Forest Service

Virginia Department of Conservation and Recreation
Virginia Department of Forestry
Chesapeake Bay Local Assistance Department
Conversations and emails with members of the Technical Committee.
Maryland Chesapeake Bay Critical Area Commission
Maryland Department of Natural Resources Forest Service
Pennsylvania Releaf
Local governments in Virginia and Maryland

VEGETATION REPLACEMENT RATES

VEGETATION REMOVED	PREFERRED REPLACEMENT VEGETATION	ACCEPTABLE ALTERNATIVE VEGETATION
1 tree or sapling 1/2"-2 1/2" caliper	1 tree @ equal caliper or greater	**Or** 2 large shrubs @ 3'-4' **Or** 10 small shrubs or woody groundcover *@ 15"-18"
1 tree ≥ 2 1/2" caliper	1 tree @ 1 1/2" - 2" caliper,or 1evergreen tree @ 6' min. ht., per every 4" caliper of tree removed (ex: a 12" cal. tree would require 3 trees to replace it)	**Or** 75% trees @ 1 1/2" - 2" and 25% large shrubs @ 3'-4' per every 4" caliper of tree removed. (ex: a 16" cal. tree removed would require 3 trees and 1 large shrub) **Or** 10 small shrubs or woody groundcover @ 15"-18" per 4"caliper of tree removed (ex: a 8" caliper tree removed requires 20 small shrubs)
1 large shrub	1 large shrub @ 3'-4'	**Or** 5 small shrubs or woody groundcover @ 15"-18"

* Woody groundcover is considered to be a woody, spreading shrub that remains close to the ground, to 18" high, such as a shore juniper, *juniperus conferta*. Vines may not be considered "woody groundcover" for the purpose of vegetation replacement.

RESTORATION / ESTABLISHMENT TABLE A

Definitions:

Canopy tree: a tree that reaches 35 feet in height or larger when mature
Understory tree: a tree that matures to a height of 12 feet to 35'
Large shrub: a shrub that reaches 10 feet of height or greater at maturity
Small shrub: a woody plant that can reach up to 10 feet of height at maturity

¼ acre or less of buffer

Up to 10,890 square feet or less

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

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

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

Units x	plant/unit	Number of plants
25 units x	1 canopy tree	25 canopy trees
	2 understory trees	50 understory trees
	3 small shrubs	75 small shrubs
		150 plants

RESTORATION / ESTABLISHMENT TABLE B

Greater than ¼ acre of buffer

More than 10,890 square feet

A. Plant at the same rate as for ¼ acre or less.

B. The waterside 50% of the buffer (from the waterline inland for the first 50 feet):
For every 400 square-foot unit (20'x20') or fraction thereof plant:

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

The landward 50% of buffer (from 50 feet inland to 100 feet inland):
either plant
Bare root seedlings or whips at 1,210 stems per acre[1], approximately 6'x6' on center (Minimum survival required after two growing seasons: 600 plants)
or
Container grown seedling tubes at 700 per acre approximately 8'x 8' on center (Minimum survival required after two growing seasons: 490 plants)

C. If the applicant is willing to enter into a five year maintenance and performance guarantee:
100% of buffer planted with:
Bare root seedlings or whips at 1,210 per acre, approximately 6'x 6' on center (Minimum survival required after two growing seasons: 600 plants)
or
Container grown seedling tubes at 700 per acre approximately 8'x 8' on center (Minimum survival required after two growing seasons: 490 plants)

1 acre or more of buffer

With an evaluation from an arborist or forester or other professional, natural regeneration may be an acceptable method of buffer establishment, however, a forestry management plan must be in place prior to any vegetation being removed. A minimum of 35 feet next to the water must be left in forest and protected prior to any vegetation being removed. If over 20 percent of the vegetation must be removed for the health of the woodlot, within the 35 feet closest to the shoreline, vegetation must be reestablished by seedling plantings at the rates above.

[1] Palone, Roxanne S., and Al Todd, *Chesapeake Bay riparian handbook: A guide for establishing and maintaining riparian forest buffers.* May 1977. p. 7-20.

APPENDIX I

BMP Agreement for Structural BMPs on Single-Family Properties

Memorandum of Agreement

TO: The City of Newport News
Department of Planning
Department of Engineering
2400 Washington Avenue
Newport News, VA 23607

FROM: Property Owner Name
Address
City, State, Zip Code

DATE: March 30, 2004

RE: Construction of a (house, addition, out building) at (Address)

As property owner of the subject property and improvements, I, (Name) agree to install and oversee the installation and properly maintain the (type of structural BMP and description) for stormwater management as shown on the attached plan.

(Property Owner) and/or his assigns or successors specifically agree to perform the maintenance items for the (type of structural BMP) listed below.

1. Routine Maintenance

(Description changes based on type of BMP)

2. Non-Routine Maintenance

(Description changes based on type of BMP)

The obligations and terms of this agreement are intended to be binding upon all suc-

cessors in title to this property.

By: _____
(Print Name of Property Owner)

_____ Date: _____
(Signature of Property Owner)

Subscribed and sworn to before me in my City and State aforesaid.

_____
Notary Public

My Commission Expires:

_____ (Seal)
(Date)

APPENDIX J

Four types of Minor Water Quality Impact Assessments

Minor WATER QUALITY IMPACT ASSESSMENT

Redevelopment/Development in the Resource Protection Area RPA) for Commercial and Industrial Development with less than 10,000 Square feet of Land Disturbance in Landward 50-feet of RPA

Purpose Statement:

The purpose of the water quality impact assessment (WQIA) is to:

- Identify the impacts of proposed land disturbance, development or redevelopment on water quality and lands in RPAs;
- Ensure that, where land disturbance, development or redevelopment does take place within RPAs, it occurs on those portions of a site and in a manner that will be least disruptive to the natural functions of RPA features;
- Protect individuals from investing funds on improvements proposed for location on lands unsuited for such development because of high ground water, erosion, or vulnerability to flood and storm damage;
- Provide documentation for administrative relief from the City's ordinance when warranted and in accordance with the requirements of the ordinance; and
- Specify mitigation that addresses water quality protection.

In general, WQIAs are tools that the City uses to evaluate the environmental impacts of development or redevelopment activities within the RPA. A WQIA also may be required, at the discretion of the local government, for development proposed in Resource Management Areas (RMAs). Localities may determine that a WQIA is warranted because of the unique characteristics of the site or intensity of the proposed development.

This form is to be used for the review of single-family development projects within the City's RPA that involves land disturbance or removal of vegetation. Generally, the purpose of this WQIA is to:

1. **IDENTIFY THE IMPACTS OF THE PROPOSED PROJECT ON WATER QUALITY;**
2. **ENSURE THAT THE PROPOSED LAND DISTURBANCE WILL OCCUR IN A MANNER THAT WILL BE LEAST DISRUPTIVE TO THE NATURAL FUNCTIONS OF RPAS (IF A NATURAL VEGETATED RPA EXISTS);**
3. **PROVIDE MITIGATION THROUGH POLLUTANT LOAD REMOVAL AND**

EROSION, SEDIMENT AND RUNOFF CONTROL THAT WILL ADDRESS WATER QUALITY PROTECTION EQUIVALENT TO THE BUFFER FUNCTIONS OF 75 PERCENT REDUCTION OF SEDIMENTS AND 40 PERCENT REDUCTION OF NUTRIENTS, IF A VEGETATIVE BUFFER EXISTS.

Regulatory Authority:

Section 37.1-51(b)(1) c. of the City's Ordinance states that a "water quality impact assessment shall be required for any proposed land disturbance" within an RPA, including the 100-foot buffer area.

Development and redevelopment within RPA's, Section 37.1-51 of the ordinance requires the City to make a determination that:

- The project complies with the **stormwater management** requirements.
- The project complies with **erosion and sediment control** requirements.
- The **establishment of vegetation** in the buffer area, if practical, is considered in order to maximize water quality protection, pollutant removal, and water resource conservation.

Submittal Requirements:

In order to adequately review the project, the applicant must submit copies of a site plan through the City's Site Plan Review process that will include all information required in the Site Regulations, as well as:

- Identification on the plan of field-delineated location of the RPA, (perennial water body determination and wetland delineation) including the 100-foot buffer area;
- Identification on the plan of the 100 year floodplain;
- Identification on the plan of existing vegetation on site; and
- Identification on the plan of vegetation to be removed or impacted,

Other requirements:

- Provide a buffer mitigation plan (re-vegetation plan) if practicable, or an explanation why a plan is not practical.
- Copy of the Joint Permit Application or other required wetlands permits prior to clearing and/or grading.

Project Evaluation Within RPAs:

Erosion and Sediment Control:

Has applicant demonstrated compliance with the local E&S control regulations or indicated that compliance will be required prior to issuance of any land-disturbing permits?

_____

_____

_____

Stormwater Management:

Has applicant demonstrated compliance with the requirements for stormwater management requirements including the required BMP Guidance calculations and that pre-development and post-development runoff are equivalent, at a minimum.

_____

_____

_____

_____

_____

Preservation of indigenous vegetation/ Land Disturbance:

Area consisting of existing woody vegetation within buffer: _____ ft.^{2}

Area of woody vegetation proposed to be disturbed for: impervious area _____ft.^{2}
Access/ grading area _____ ft.^{2}
Total area of disturbance _____ ft.^{2}

Mitigation plantings proposed:

Vegetation to be planted: _____ ft.^{2}
_____ Plants/ acre

(Vegetation proposed for mitigation should satisfy all buffer functions described in Section 37.1-51 (b)(2), including retarding runoff, preventing erosion and filtering non-point source pollution from runoff. Mitigation species should be native to the local environment and reference sites should be consulted where possible.)

REQUIRED CONDITION	**Y/N**
The project will comply with all erosion and sediment control requirements.	
The project will comply with stormwater management requirements.	
Indigenous vegetation been preserved to the maximum extent practicable.	
Appropriate mitigation plantings are proposed that will provide the required buffer area functions. *(Please refer to the Buffer Guidance Manual for assistance. Lawn grass is not appropriate as a replacement planting)*	

Final Determination

The proposed redevelopment project is:

_____CONSISTENT _____ INCONSISTENT with the City's Ordinance.

If inconsistent, the following conditions must be addressed prior to issuance of any permits:

_____
_____
_____
_____
_____
_____

MINOR WATER QUALITY IMPACT ASSESSMENT

Redevelopment/Development in the Resource Protection Area (RPA) for Single-Family properties in Landward 50-feet of RPA

Purpose Statement:

The purpose of the water quality impact assessment (WQIA) is to:

- Identify the impacts of proposed land disturbance, development or redevelopment on water quality and lands in RPAs;
- Ensure that, where land disturbance, development or redevelopment does take place within RPAs, it occurs on those portions of a site and in a manner that will be least disruptive to the natural functions of RPA features;
- Protect individuals from investing funds on improvements proposed for location on lands unsuited for such development because of high ground water, erosion, or vulnerability to flood and storm damage;
- Provide documentation for administrative relief from the City's ordinance when warranted and in accordance with the requirements of the ordinance; and
- Specify mitigation that addresses water quality protection.

In general, WQIAs are tools that the City uses to evaluate the environmental impacts of development or redevelopment activities within the RPA. A WQIA also may be required, at the discretion of the local government, for development proposed in Resource Management Areas (RMAs). Localities may determine that a WQIA is warranted because of the unique characteristics of the site or intensity of the proposed development.

This form is to be used for the review of single-family development projects within the City's RPA that involves land disturbance or removal of vegetation. Generally, the purpose of this WQIA is to:

1. **IDENTIFY THE IMPACTS OF THE PROPOSED PROJECT ON WATER QUALITY;**
2. **ENSURE THAT THE PROPOSED LAND DISTURBANCE WILL OCCUR IN A MANNER THAT WILL BE LEAST DISRUPTIVE TO THE NATURAL FUNCTIONS OF RPAS (IF A NATURAL VEGETATED RPA EXISTS);**
3. **PROVIDE MITIGATION THROUGH POLLUTANT LOAD REMOVAL AND EROSION, SEDIMENT AND RUNOFF CONTROL THAT WILL ADDRESS WATER QUALITY PROTECTION EQUIVALENT TO THE BUFFER FUNCTIONS OF 75 PERCENT REDUCTION OF SEDIMENTS AND 40**

PERCENT REDUCTION OF NUTRIENTS, IF A VEGETATIVE BUFFER EXISTS.

Regulatory Authority:

Section 37.1-51(b)(1) c. of the City's Ordinance states that a "water quality impact assessment shall be required for any proposed land disturbance" within an RPA, including the 100-foot buffer area.

Development and redevelopment within RPA's, Section 37.1-51 of the ordinance requires the City to make a determination that:

- The project complies with the **stormwater management** requirements.
- The project complies with **erosion and sediment control** requirements.
- The **establishment of vegetation** in the buffer area, if practical, is considered in order to maximize water quality protection, pollutant removal, and water resource conservation.

Submittal Requirements:

In order to adequately review the project, the applicant must submit copies of a site plan through the City's Site Plan Review process that will include all information required in the Site Regulations, as well as:

- Identification on the plan of field-delineated location of the RPA, (perennial water body determination and wetland delineation) including the 100-foot buffer area;
- Identification on the plan of the 100 year floodplain;
- Identification on the plan of existing vegetation on site; and
- Identification on the plan of vegetation to be removed or impacted,

Other requirements:

- Provide a buffer mitigation plan (re-vegetation plan) if practicable, or an explanation why a plan is not practical.
- Copy of the Joint Permit Application or other required wetlands permits prior to clearing and/or grading.
-

Project Evaluation Within RPAs:

Erosion and Sediment Control:

Has applicant demonstrated compliance with the local E&S control regulations or indicated that compliance will be required prior to issuance of any land-disturbing permits?

_____

_____

_____

Stormwater Management:

Has applicant demonstrated compliance with the requirements for stormwater management requirements including the required BMP Guidance calculations and that pre-development and post-development runoff are equivalent, at a minimum.

_____

_____

_____

_____

_____

Preservation of indigenous vegetation/ Land Disturbance:

Area consisting of existing woody vegetation within buffer: _____ ft.^{2}

Area of woody vegetation proposed to be disturbed for: impervious area _____ft.^{2}
Access/ grading area _____ ft.^{2}
Total area of disturbance _____ ft.^{2}

Mitigation plantings proposed:

Vegetation to be planted: _____ ft.^{2}
_____ Plants/ acre

(Vegetation proposed for mitigation should satisfy all buffer functions described in Section 37.1-51 (b)(2), including retarding runoff, preventing erosion and filtering non-point source pollution from runoff. Mitigation species should be native to the local environment and reference sites should be consulted where possible.)

REQUIRED CONDITION	Y/N
The project will comply with all erosion and sediment control requirements.	
The project will comply with stormwater management requirements.	
Indigenous vegetation been preserved to the maximum extent practicable.	
Appropriate mitigation plantings are proposed that will provide the required buffer area functions. *(Please refer to the Buffer Guidance Manual for assistance. Lawn grass is not appropriate as a replacement planting)*	

Final Determination

The proposed redevelopment project is:

_____CONSISTENT _____ INCONSISTENT with the City's Ordinance.

If inconsistent, the following conditions must be addressed prior to issuance of any permits:

_____
_____
_____
_____
_____
_____

MINOR WATER QUALITY IMPACT ASSESSMENT

Shoreline Erosion Projects in the Resource Protection Area

Purpose Statement:

The purpose of the water quality impact assessment (WQIA) is to:

- Identify the impacts of proposed land disturbance, development or redevelopment on water quality and lands in RPAs;
- Ensure that, where land disturbance, development or redevelopment does take place within RPAs, it occurs on those portions of a site and in a manner that will be least disruptive to the natural functions of RPA features;
- Protect individuals from investing funds on improvements proposed for location on lands unsuited for such development because of high ground water, erosion, or vulnerability to flood and storm damage;
- Provide documentation for administrative relief from the City's ordinance when warranted and in accordance with the requirements of the ordinance; and
- Specify mitigation that addresses water quality protection.

In general, WQIAs are tools that the City uses to evaluate the environmental impacts of development or redevelopment activities within the RPA. A WQIA also may be required, at the discretion of the local government, for development proposed in Resource Management Areas (RMAs). Localities may determine that a WQIA is warranted because of the unique characteristics of the site or intensity of the proposed development.

This form is to be used for the review of single-family development projects within the City's RPA that involves land disturbance or removal of vegetation. Generally, the purpose of this WQIA is to:

1. **IDENTIFY THE IMPACTS OF THE PROPOSED PROJECT ON WATER QUALITY;**
2. **ENSURE THAT THE PROPOSED LAND DISTURBANCE WILL OCCUR IN A MANNER THAT WILL BE LEAST DISRUPTIVE TO THE NATURAL FUNCTIONS OF RPAS (IF A NATURAL VEGETATED RPA EXISTS);**
3. **PROVIDE MITIGATION THROUGH POLLUTANT LOAD REMOVAL AND**

EROSION, SEDIMENT AND RUNOFF CONTROL THAT WILL ADDRESS WATER QUALITY PROTECTION EQUIVALENT TO THE BUFFER FUNCTIONS OF 75 PERCENT REDUCTION OF SEDIMENTS AND 40 PERCENT REDUCTION OF NUTRIENTS, IF A VEGETATIVE BUFFER EXISTS.

Regulatory Authority:

Section 37.1-51(b)(1) c. of the City's Ordinance states that a "water quality impact assessment shall be required for any proposed land disturbance" within an RPA, including the 100-foot buffer area.

Shoreline Erosion Control Projects within RPA's, Section 37.1-51 of the ordinance requires the City to make a determination that:

- The project complies with **erosion and sediment control** requirements.
- The **establishment of vegetation** in the buffer area, if practical, is considered in order to maximize water quality protection, pollutant removal, and water resource conservation.

Submittal Requirements:

In order to adequately review the project, the applicant must submit copies of a site plan through the City's Site Plan Review process that will include all information required in the Site Regulations, as well as:

- Identification on the plan of field-delineated location of the RPA, (perennial water body determination and wetland delineation) including the 100-foot buffer area;
- Identification on the plan of the 100 year floodplain;
- Identification on the plan of existing vegetation on site; and
- Identification on the plan of vegetation to be removed or impacted,

Other requirements:

- Provide a buffer mitigation plan (re-vegetation plan) if practicable, or an explanation why a plan is not practical.
- Copy of the Joint Permit Application or other required wetlands permits prior to clearing and/or grading.

Project Evaluation Within RPAs:

Erosion and Sediment Control:

Has applicant demonstrated compliance with the local E&S control regulations or indicated that compliance will be required prior to issuance of any land-disturbing permits?

_____

_____

_____

_____

Preservation of indigenous vegetation/ Land Disturbance:

Area consisting of existing woody vegetation within buffer: _____ ft.^{2}

Area of woody vegetation proposed to be disturbed for: impervious area _____ft.^{2}
Access/ grading area _____ ft.^{2}
Total area of disturbance _____ ft.^{2}

Mitigation plantings proposed:

Vegetation to be planted: _____ ft.^{2}
_____ Plants/ acre

(Vegetation proposed for mitigation should satisfy all buffer functions described in Section 37.1-51 (b)(2), including retarding runoff, preventing erosion and filtering non-point source pollution from runoff. Mitigation species should be native to the local environment and reference sites should be consulted where possible.)

REQUIRED CONDITION	**Y/N**
The project will comply with all erosion and sediment control requirements.	
Indigenous vegetation been preserved to the maximum extent practicable.	
Appropriate mitigation plantings are proposed that will provide the required buffer area functions. *(Please refer to the Buffer Guidance Manual for assistance. Lawn grass is not appropriate as a replacement planting)*	

Final Determination

The proposed redevelopment project is:

_____CONSISTENT _____ INCONSISTENT with the City's Ordinance.

If inconsistent, the following conditions must be addressed prior to issuance of any permits:

_____
_____
_____
_____

Minor Water Quality Impact Assessment

Redevelopment/Development in Industrial Waterfront Intensely Developed Area (IWIDA)

THE IWIDA IS AN OVERLAY OF THE CHESAPEAKE BAY PRESERVATION AREA (CBPA), WHICH MEANS THE RESOURCE PROTECTION AREA (RPA) 100-FOOT BUFFER AND THE RESOURCE MANAGEMENT AREA (RMA) STILL EXISTS IN THESE AREAS. HENCE, THE NECESSITY OF PERFORMING A WATER QUALITY IMPACT ASSESSMENT.

Purpose Statement:

The purpose of the water quality impact assessment (WQIA) is to:

- Identify the impacts of proposed land disturbance, development or redevelopment on water quality and lands in RPAs;
- Ensure that, where land disturbance, development or redevelopment does take place within RPAs, it occurs on those portions of a site and in a manner that will be least disruptive to the natural functions of RPA features;
- Protect individuals from investing funds on improvements proposed for location on lands unsuited for such development because of high ground water, erosion, or vulnerability to flood and storm damage;
- Provide documentation for administrative relief from the City's ordinance when warranted and in accordance with the requirements of the ordinance; and
- Specify mitigation that addresses water quality protection.

In general, WQIAs are tools that the City uses to evaluate the environmental impacts of development or redevelopment activities within the RPA. A WQIA also may be required, at the discretion of the local government, for development proposed in Resource Management Areas (RMAs). Localities may determine that a WQIA is warranted because of the unique characteristics of the site or intensity of the proposed development.

This form is to be used for the review of all redevelopment projects within the City's locally designated IWIDA that involves land disturbance or removal of vegetation in the RPA. Generally, the purpose of this WQIA is to:

1. IDENTIFY THE IMPACTS OF THE PROPOSED PROJECT ON WATER

QUALITY;

2. **ENSURE THAT THE PROPOSED LAND DISTURBANCE WILL OCCUR IN A MANNER THAT WILL BE LEAST DISRUPTIVE TO THE NATURAL FUNCTIONS OF RPAS (IF A NATURAL VEGETATED RPA EXISTS);**

3. **PROVIDE MITIGATION THROUGH POLLUTANT LOAD REMOVAL AND EROSION, SEDIMENT AND RUNOFF CONTROL THAT WILL ADDRESS WATER QUALITY PROTECTION EQUIVALENT TO THE BUFFER FUNCTIONS OF 75 PERCENT REDUCTION OF SEDIMENTS AND 40 PERCENT REDUCTION OF NUTRIENTS, IF A VEGETATIVE BUFFER EXISTS.**

Regulatory Authority:

Section 37.1-51(b)(1) c. of the City's Ordinance states that a "water quality impact assessment shall be required for any proposed land disturbance" within an RPA, including the 100-foot buffer area.

Section 37.1-51 (b) (1) b. of the City's Ordinance allows development or redevelopment within designated IWIDAs.

Development and redevelopment within IWIDAs, Section 37.1-51 of the ordinance requires the City to make a determination that:

- The project complies with the **stormwater management** requirements.
- The project complies with **erosion and sediment control** requirements.
- The **establishment of vegetation** in the buffer area, if practical, is considered in order to maximize water quality protection, pollutant removal, and water resource conservation.

Submittal Requirements:

In order to adequately review the project, the applicant must submit copies of a site plan through the City's Site Plan Review process that will include all information required in the Site Regulations, as well as:

- Identification on the plan of field-delineated location of the RPA, (perennial water body determination and wetland delineation) including the 100-foot buffer area;
- Identification on the plan of the 100 year floodplain;
- Identification on the plan of existing vegetation on site; and
- Identification on the plan of vegetation to be removed or impacted,

Other requirements:

- Provide a buffer mitigation plan (re-vegetation plan) if practicable, or an explanation why a plan is not practical.
- Copy of the Joint Permit Application or other required wetlands permits prior to clearing and/or grading.

Project Evaluation Within IDAs:

Erosion and Sediment Control:

Has applicant demonstrated compliance with the local E&S control regulations or indicated that compliance will be required prior to issuance of any land-disturbing permits?

_____

_____

_____

_____

_____

Stormwater Management:

Has applicant demonstrated compliance with the requirements for stormwater management requirements including the required 10 percent reduction between pre-development and post-development conditions?

_____

_____

_____

_____

_____

Preservation of indigenous vegetation/ Land Disturbance:

Area consisting of existing woody vegetation within buffer: _____ ft.^{2}

Area of woody vegetation proposed to be disturbed for: impervious area _____ft.^{2}
Access/ grading area _____ ft.^{2}
Total area of disturbance _____ ft.^{2}

Mitigation plantings proposed:

Vegetation to be planted: _____ ft.^{2}
_____ Plants/ acre
(Vegetation proposed for mitigation should satisfy all buffer functions described in Section 37.1-51 (b)(2), including retarding runoff, preventing erosion and filtering non-point source pollution from runoff. Mitigation species should be native to the local environment and reference sites should be consulted where possible.)

REQUIRED CONDITION	Y/N
The project will comply with all erosion and sediment control requirements.	
The project will comply with stormwater management requirements.	
Indigenous vegetation been preserved to the maximum extent practicable.	
Appropriate mitigation plantings are proposed that will provide the required buffer area functions. *(Please refer to the Buffer Guidance Manual for assistance. Lawn grass is not appropriate as a replacement planting)*	

Final Determination

The proposed redevelopment project is:

_____CONSISTENT _____ INCONSISTENT with the City's Ordinance.

If inconsistent, the following conditions must be addressed prior to issuance of any permits:

_____
_____
_____
_____
_____
_____