



DEPARTMENT OF
**PUBLIC
UTILITIES**

DIRECTOR'S FINAL REGULATORY ACTION

In accordance with Section 28-26 of the Code of the City of Richmond, Virginia (2020), I hereby make the following final determination regarding the proposed Water Resources Guidance Manual.

DECISION

The Water Resources Guidance Manual is hereby ADOPTED AS PROPOSED.

STATEMENT OF BASIS AND PURPOSE

Legal Authority: This action is taken pursuant to Section 28-26 of the Code of the City of Richmond, Virginia (2020), which vests the Director of Public Utilities with the power to make reasonable rules and regulations for the proper management, conduct, operation and control of the gas, wastewater, water, stormwater and electric utilities.

Purpose: The Water Resources Guidance Manual provides comprehensive guidance for permitting, plan preparation, and regulatory compliance for all land disturbing activities within the City of Richmond. The manual explains in detail local, state, and federal water resources regulations including erosion and sediment control, stormwater management, floodplain protection, and Chesapeake Bay Preservation areas (CBPA).

Necessity: This guidance manual is necessary to:

1. Provide clear, standardized procedures for permit applicants
2. Ensure compliance with local, state, and federal regulations
3. Streamline the permitting process for water resources projects
4. Protect the City's water resources and environment

SUMMARY OF PUBLIC PARTICIPATION

Public Notice: Notice of the proposed Water Resources Guidance Manual and public hearing was published in the Richmond Times-Dispatch on July 19, 2025, providing the required ten (10) days advance notice in accordance with Richmond City Code Section 28-26(a)(2).

Public Inspection: The complete proposed guidance manual was made available for public inspection in convenient form at the Director's Office and on the Department website for the required minimum ten (10) day period prior to the public hearing.

Public Hearing: A public hearing was conducted on July 29, 2025, at 1801 Commerce Street, Richmond, VA 23224, in accordance with Richmond City Code Section 28-26(a)(3). The hearing was properly noticed and conducted to provide opportunity for all persons to appear and be heard for or against the adoption of the proposed guidance manual.

RESPONSE TO PUBLIC COMMENTS

Written Comments Received: None

Oral Comments at Public Hearing: None

Public Attendance: No members of the public attended the public hearing.

Analysis: The absence of public comments or opposition, combined with the comprehensive nature of the guidance manual and its alignment with existing regulatory requirements, supports adoption as proposed. The lack of public input suggests no significant concerns with the proposed guidance.

EFFECTIVE DATE AND IMPLEMENTATION

Effective Date: This Water Resources Guidance Manual shall become effective on the date of the Director's signature to this memo.

Implementation:

The guidance manual shall be filed in the Director's Office as required by Richmond City Code Section 28-26(a)(4)

Electronic copies will be made available on the Department website

Staff will be trained on the new guidance procedures


Permit applicants will be notified of the new guidance through standard communication channels

FILING REQUIREMENT

In accordance with Richmond City Code Section 28-26(a)(4), a true copy of this decision and the adopted Water Resources Guidance Manual shall be filed in the Director's Office.

APPROVED:

Signed by:


519C3E4AEE124C6...

8/13/2025

Date: _____

Scott Morris, DBA, P.E.
Director of Public Utilities
City of Richmond



Richmond Water Resources

RESMP Permit Process

Quick Sheet

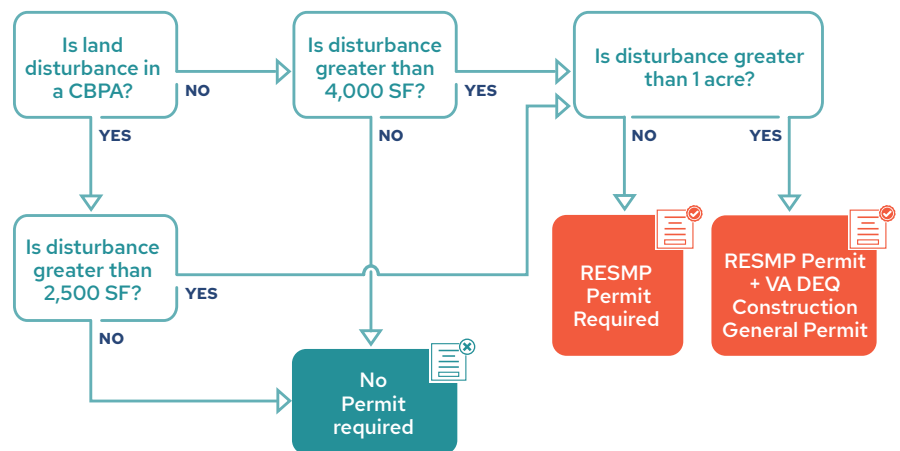
This quick sheet provides a simplified version for applying for a Richmond Erosion & Stormwater Program permit (RESMP). For more detailed information, our Guidance Manual outlines permitting, plan preparation, and regulatory compliance for all land disturbing activities within the city of Richmond. The manual explains in detail local, state, and federal water resources regulations - including erosion and sediment control, stormwater management, floodplain protection, and Chesapeake Bay Preservation areas (CBPA).

When is a Richmond Erosion & Stormwater Management Permit Required?

RESMP is required when:

- Land disturbance $\geq 2,500 \text{ ft}^2$ in CBPA
- Land disturbance $\geq 4,000 \text{ ft}^2$ in non-CBPA
- Any **construction, demolition, clearing, grading, or new impervious surfaces** may trigger permit needs.

Use the City's GeoHub to see if property is in a CBPA zone: <https://www.arcgis.com/home/webmap/viewer.html?webmap=10339f483a774998930b81accf227768>



Permit Submission Steps

1. Prepare required documents using [Stormwater Permit Intake Application Checklist](#)
 - Required documents include Environmental Plan Review Checklist, RLD form with proof of certification, Civil set of drawings with required/applicable plan sheets, Contractor's DPOR license, and Contractor's City business license
2. Submit via the [Online Permit Portal](#)
 - The required fee (based on the amount of land disturbance) will be invoiced.

3. Await plan review & invoice (See timeline below)
4. Submit the following items as applicable:
 - RLD certification and designation form
 - ESC bond package (per provided instructions)
 - SUMA with exhibit (per provided instructions)
5. Permit Issuance and Pre-Construction Meeting

Note: Certain projects may be eligible for the Streamline Review process. Upon submission of the required third-party review documentation, these projects may be exempt from the standard review procedure. Refer to the Expedited Review Process Checklist for more information. For further details, please contact Water Resources.

15 DAYS

Administrator will notify applicant of completeness 15 calendar days after receipt

60 DAYS

Administrator has additional 60 calendar days from notification of completeness to review plan and deem approved or disapproved and provide comments

15 DAYS

If plan is disapproved, the Administrator shall review revised plan within 15 calendar days of resubmission

45 DAYS

Administrator shall deem it approved or disapproved within 45 days of receipt

Required Plans & Submittals

- **General Information**
 - a. Site plan, application, and [Environmental Plan Review Checklist](#)
- **Erosion & Sediment Control (ESC) Plan**
 - a. Comply with [City of Richmond Code Chapter 14](#) and [Virginia Stormwater Management Handbook](#)
 - b. Must be signed and sealed by a licensed P.E.
 - c. Requires RLD certification and performance bond
- **Stormwater Management (SWM) Plan**
 - a. Required for sites in MS4
 - b. Show how post-construction runoff meets quantity and quality standards
 - c. Reference DEQ's Runoff Reduction Method
 - d. Follow Richmond's [Stormwater Management Design Manual](#), [City of Richmond Code Chapter 14](#), and [Virginia Stormwater Management Handbook](#)
- **Stormwater Pollution Prevention Plan (SWPPP)**
 - a. Required for sites ≥ 1 acre
 - b. Submit signed Registration Statement
 - c. Includes site-specific BMPs, discharge controls, inspection schedules, and off-site activity assessments
 - d. May cross-reference Spill Prevention, Control, and Countermeasure (SPCC) rule or other approved plans
- **Stormwater Utility Maintenance Agreement (SUMA)**
 - a. Required for sites with permanent BMPs
 - b. Must be submitted to Water Resources for review by the City Attorney's office prior to signing
- **Chesapeake Bay Site Plan**
 - a. Required for all development in RPA/RMA
 - b. Includes Water Quality Impact Assessment (WQIA), landscape plan, and stream study (if reclassifying)
- **Floodplain Management**
 - a. Required for development in 100-year floodplain
 - b. Elevation certificate, no-rise analysis, hydrologic/hydraulic modeling, USACE permits for levee-adjacent projects
 - c. Floodproofing and flood insurance is likely required

Single-Family Dwelling (SFD)

- Detached single family homes, on 1 lot, less than 1 acre, not in a common plan of development.
- May use **Agreement In Lieu of Plan (AILP)** instead of complex engineering drawings
- Site plan must include:
 - Proposed dwelling
 - Adjacent parcels, streets, driveways, and alleys
 - Limits of disturbance (LOD)
 - North Arrow
 - Stamped by PE, Architect, or Surveyor
 - Erosion controls (like silt fence and construction entrance(s))

Exemptions (No Permit Needed If...)

- Less than 2,500 ft² disturbed in CBPA and not part of a common plan
- Less than 4,000 ft² disturbed outside CBPA
- Permitted surface or deep mining operations
- Routine maintenance (not expansion or drainage redesign)
- Agricultural/forestry use (with specific conditions)
- Emergency repairs
- Small home landscaping projects

Best Practices

- Coordinate with DPU Water Resources early via pre-submittal meetings through the Site Plan Review process.
- Use Environmental Plan review Checklist to prepare plans
- Work on getting bonds, agreements and SUMA approved while plans are in review.
- Expedited Review - DPU will implement an expedited review process starting in September 2025.



Document Library

- [RESMP Permit Application](#)
- [Environmental Plan Review Checklist](#)
- [E & S Bond Package](#)
- [Responsible Land Disturber Form](#)
- [Expedited Review Process Checklist](#)
- [Stormwater Utility Maintenance Agreement \(SUMA\) Instructions](#)

Useful Links

- [Virginia Stormwater Management Handbook](#)
- [City of Richmond Code Chapter 14 - Floodplain Management, Erosion and Sediment Control, and Drainage \(Municode\)](#)
- [Department of Environmental Quality \(DEQ\)](#)
- [Runoff Reduction Method](#)
- [Interactive Chesapeake Bay Map](#)
- [Stormwater Management Design and Construction Standards Manual](#)
- [FEMA Floodplain Map Service Center](#)
- [VA Flood Risk Information](#)
- [NFWF Wetlands Inventory](#)
- [Planning & Development Review](#)



CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES ENGINEERING
SERVICES DIVISION - WATER RESOURCES

Water Resources Guidance Manual

July 2025



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Glossary

ACRONYMS

Acronym	Meaning
AILP/ALSWP	Agreement In Lieu of Plan (ESC and/or SWM plan)
BFE	Base Flood Elevation
BLDC	Building Permit (Commercial)
BLDR	Building Permit (Residential)
BMP	Best Management Practices
CBPA	Chesapeake Bay Preservation Act
CE	Construction Entrance
CIP	Capital Improvement Plan
CO	Certificate of Occupancy
COR	City of Richmond
CSS	Combined Sewer System
DA	Developer's Agreement
DEQ	Department of Environmental Quality
DEV R	Development Review Plan
DHS	Department of Homeland Security
DPU	Department of Public Utilities
EPA	Environmental Protection Agency
ESC	Erosion and Sediment Control
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FIS	Flood Insurance Study
GIS	Geographical Information System
CGP	Construction General Permit
H/H	Heavy Highway
IDA	Intensely Developed Areas
IF	Improvement Factor
LOD	Limit of Disturbance
MS4	Municipal Separate Storm Sewer Systems
NFHL	National Flood Hazard Layer
NFIP	National Flood Insurance Program

Acronym	Meaning
NPS	Nonpoint Source Pollution
NRC	No Rise Certification
PCB	Polychlorinated Biphenyl
PDR	Planning And Development Review's
POD	Plan of Development
PPP	Pollution Prevention Plan
RLD	Regulated Land Disturbances
RMA	Resource Management Area
RPA	Resource Protection Area
RESMP	Richmond Erosion and Stormwater Management Program
SD	Substantial Damage
SF	Silt Fence
SFD	Single-Family Dwelling
SI	Substantial Improvement
SPCC	Spill, Prevention, Control, and Countermeasure Plan
SUMA	Stormwater Utility Maintenance Agreement
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Loads
USACE	United States Army Corps of Engineers
VDEQ	Virginia Department of Environmental Quality
VESMP	Virginia Erosion and Stormwater Management Program
VMRC	Virginia Marine Resources Commission
VPDES	Virginia Pollution Discharge & Elimination Permit
VSMH	Virginia Stormwater Management Handbook
WFP	Water Filtration Plant
WQIA	Water Quality Impact Assessment
WSEL	Water Surface Elevation
WWTP	Wastewater Treatment Plant



Glossary

DEFINITIONS

100-year flood or base flood: flood that has a one percent chance of being equaled or exceeded in any given year.

Accessory structure: a building that is secondary to another building located on the same property, and it must not exceed an area of 200 square feet.

Addition: improvement that increases the square footage of a structure. However, if a building is attached to another through a covered breezeway or similar connection, it is a separate building not an addition.

Agreement in lieu: a legal agreement between the owner of a property and City of Richmond. This agreement specifies the measures that must be taken to protect the environment during the construction of a single-family residence that is separate from other buildings.

Applicant: anyone who submits a plan or requests a permit for land-disturbing activities.

Base flood elevation: the height that the Federal Emergency Management Agency (FEMA) has calculated as the projected height floodwater is expected to reach during a base flood as indicated on the flood insurance rate map (FIRM) of the City.

Basement: any area of the building having its floor sub-grade (below ground level) on all sides.

Best management practices (BMPs): a range of practices, techniques, and measures that are used to prevent or control the pollution of surface water and groundwater from land-disturbing activities.

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

Clearing: any activity that involves the removal of vegetation or other ground cover, including the removal of root mats or topsoil, and is typically associated with land-disturbing activities.

Development: any land disturbance and the resulting landform associated with the construction of various types of facilities or structures, as well as the clearing of land for non-agricultural or non-silvicultural purposes.

Excavating: any process of digging, scooping, or otherwise removing earth materials from a site.

Filling: the act of putting or storing earth materials in a specific location.

Flood or flooding: a temporary situation where normally dry areas of land become partially or completely covered with water, which can occur in a few different ways:

1. Water overflowing from rivers, lakes, or oceans.
2. A mudflow or mudslide
3. A sudden accumulation of surface water due to heavy rainfall or melting snow.

Floodplain: an area of land near a river or stream that can be partially or completely covered by water during a 100-year flood.

Freeboard: an additional height requirement above the base flood elevation (BFE) that provides a margin of safety against extraordinary or unknown risks, expressed in feet.

Grading: any activity that involves digging, moving or adding soil or other earth materials to a piece of land, which changes the land's original shape or contour.

Highly erodible soils: soils not including vegetation with an erodibility index equal to or greater than eight (8)

The erodibility index is calculated using the $RKLS/T$ formula, where K is the soil erodibility factor, R is the rainfall and runoff factor, LS is the slope length and steepness factor, and T is the soil loss tolerance factor.



Glossary

Highly permeable soils: soils that have a high potential to allow water to move through them, identified as any soil with a permeability equal to or greater than six (6) inches of water movement per hour in any part of the soil profile to a depth of 72 inches as found in the National Soil Survey Handbook of November 1996, in the “Field Office Technical Guide” of the United States Department of Agriculture Natural Resources Conservation Service.

Historic structure: any building that meets one or more of the following criteria:

1. It has been certified or preliminarily determined by the Secretary of the Interior to contribute to the historical significance of a registered historic district, or a district that has been preliminarily determined by the Secretary to qualify as a registered historic district.
2. It is listed in the Virginia Landmarks Register.
3. It is listed on a local inventory of historic places that has been certified by the Virginia Landmarks Register.
4. It is listed on the National Register of Historic Places, which is a list maintained by the US Department of the Interior or has been preliminarily determined by the Secretary of the Interior to meet the criteria for listing on the National Register as an individual property.

Hydrologic and hydraulic modeling: a type of analysis conducted by a licensed professional engineer, using established engineering methods that are recognized by the Virginia Department of Conservation and Recreation and the Federal Emergency Management Agency. This analysis is used to determine important information related to flooding, such as the base flood level, flood frequency, flood elevations, floodway boundaries, and flood profiles.

Infill: the development of unused or vacant land within already-developed areas.

Land-disturbing activity: any type of activity that alters the natural state of the land, such as clearing, grading, excavating, filling, or other construction work that changes the land’s natural vegetation or contours. These activities can lead to soil erosion caused by wind or water and can cause sediments to be carried into both public and private storm drainage facilities.

Large construction activity: any activity including clearing, grading and excavation that results in a land disturbance greater than five acres.

Lowest Floor: the lowest floor of the lowest enclosed area (including basement).

Market Value: In terms of determining substantial improvement/damage, market value is the value of the structure reflecting its original quality, subsequent improvements, physical age of building components and current condition.

Mudflow: when liquid mud flows on the surface of land that is usually dry, usually because it’s being carried by a current of water. It’s important to note that a mudflow is different from other types of earth movements, such as landslides, slope failures, or a soil mass that moves down a slope due to saturation.

Peak flow rate: the maximum instantaneous flow from a given storm condition at a particular location.

Reconstruction: cases where an entire structure is destroyed, damaged, purposefully demolished or razed, and a new structure is built on the old foundation or slab, as well as when an existing structure is moved to a new site.

Redevelopment: the developing of land that has already been or is currently developed involving the improvement or transformation of existing structures or land.

Rehabilitation: an improvement made to an existing structure which does not affect the external dimensions of the structure.

Responsible land disturber: a person who is responsible for carrying out a land-disturbing activity, and who meets one of the following criteria:

1. is licensed as a professional engineer, architect, certified landscape architect, or land surveyor in Virginia.
2. holds a certificate of competence from the Department of Environmental Quality, or
3. holds a certificate of competence from the State Water Control Board



Glossary

Runoff volume: the amount of water that flows off the surface of a land development project during a specific storm event.

Single-family residence: a housing unit that is not attached to any other primary building and consists of only one dwelling unit.

Small construction activity: activities that result in land disturbance equal to or greater than one acre but less than five acres.

Stabilized: that an area has been treated or designed in a way that prevents or minimizes erosion, such that the soil or other materials in the area will not be displaced or carried away by wind, water, or other natural forces.

State waters: all waters, on the surface and underground, wholly, or partially within, or forming a part of, the boundaries of the Commonwealth or its jurisdiction.

Stormwater management system: a system of structures and facilities designed to manage the flow of stormwater runoff, minimize the negative impacts on water quality and quantity in natural water systems, and promote recharge from precipitation events.

Storm drainage facility: any kind of natural or man-made structure, such as a sewer, ditch, creek, river, lake, swale, or any other facility that stormwater or runoff may flow through in a concentrated manner, either regularly or sporadically.

Structure: a type of building that has walls and a roof and is primarily above ground. This includes things like gas or liquid storage tanks, as well as manufactured homes.

Substantial Damage (SD): damage of any origin (flood, fire, earthquake, wind, rain, or other natural or human-induced hazard) sustained by a structure whereby the cost of restoring the structure to its “before-damaged” condition would equal or exceed 50 percent of the market value of the structure before the damage occurred; flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood even, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

Substantial Improvement (SI): any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost (cost of improvement project) of which equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement.

Use: any activity that takes place on land, excluding development including, but not limited to, agricultural, horticultural, and silvicultural practices.

Water quality volume: the volume of stormwater runoff that needs to be treated for pollutants before it is discharged into receiving waters.

Watercourse: any kind of channel, river, lake, stream, or other natural or man-made feature, over or through which water flows, at least periodically. This term includes specifically designated areas where there is a high risk of damage from flooding but is not limited to such areas.





1.1 INTRODUCTION

Uncontrolled stormwater has many cumulative impacts on the environment including flooding and damage to public and private property. In the City of Richmond (City), stormwater can carry many constituents such as nutrients and other contaminants that contribute to erode stream banks, and impair our waterways, particularly the James River. To manage stormwater, the City has two kinds of systems; a Combined Sewer System (CSS) and a Municipal Separate Storm Sewer System (MS4). A CSS carries stormwater and wastewater to a treatment facility prior to discharging into the river while an MS4 carries stormwater runoff from streets and neighborhoods untreated to the nearest waterway. Unmanaged stormwater and excessive sediment can adversely impact the downstream environment which is why permitting is in place to protect habitat degradation, avoid surface and groundwater pollution, and prevent channel erosion.

In 2014, the City adopted a new Virginia Stormwater Management Program (VSMP) General Permit for their MS4. This program grants authority to the City to review and approve all stormwater management permits in compliance with Virginia Department of Environmental Quality (DEQ) regulations. This Water Resources Guidance Manual provides technical guidance on preparing and submitting required documents to the City to ensure all land disturbing activities follow these regulations.

1.2 BACKGROUND AND PURPOSE

Water resources are protected under federal and state regulations, which all land disturbing projects must follow. The Environmental Protection Agency (EPA) issued the Clean Water Act in 1948 to regulate discharges of pollutants into the waters of the United States. The Virginia DEQ is a state level jurisdiction that provides additional guidelines to follow. There are three (3) Virginia codes that Virginia DEQ requires (9VAC25-875) and these requirements are referenced throughout Richmond, Virginia Code of Ordinances, Chapter 14 – Floodplain Management, Erosions and Sediment Control, and Drainage.

- Chesapeake Bay Preservation Act (CBPA):** The CBPA (9VAC25-830 et seq.) requires local governments to implement ordinances designed to protect and restore the quality of perennial streams and their associated tidal and/or non-tidal wetlands, as the conditions in these environments have been determined to directly affect the condition of the Chesapeake Bay.
- Virginia Stormwater Management Program (VSMP):** The VSMP, administered by the Virginia Department of Environmental Quality (DEQ) is required by the Virginia Stormwater Management Program Regulations (§ 62.1-44.15:25 et seq. and § 62.1-44.15:25 et seq. of the Code of Virginia) for issuing, modifying, revoking, reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing requirements pursuant to the federal Clean Water Act, the Virginia Stormwater Management Act, and associated regulations and guidance documents.
- Virginia Erosion and Stormwater Management Program (VESMP):** This locally implemented program is required by the Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq. of the Code of Virginia) and must comply with requirements and minimum standards of the Erosion and Sediment Control Regulations (9VAC25-875-20 et seq.) and the Virginia Stormwater Management Handbook published by the Virginia Department of Conservation and Recreation.
- Richmond Erosion and Stormwater Management Program (RESMP):** The RESMP is the Richmond program that issues erosion and stormwater permits and Construction General Permit (CGP) coverage under the VPDES permit. This program was adopted to ensure compliance with MS4 regulations.



The goal for these programs is to ensure general health, safety, and welfare of citizens of the Commonwealth of Virginia, and to protect the quality and quantity of state waters from the potential harm on unmanaged stormwater.



2.1 LAND DISTURBING ACTIVITIES

As a VSMP and VESCP Authority, the City of Richmond's Department of Public Utilities, Engineering Services Division - Water Resources is required to monitor all land-disturbing construction activities for all new and redevelopment projects to ensure erosion and sediment control, stormwater management, and Chesapeake Bay water quality requirements are met. Land disturbing activities can be any land change which may result in soil erosion from water, wind, or the movement of sediments into State waters or onto lands in the Commonwealth.

Types of Land Disturbing Activities:



CLEARING

Removing all or part of existing vegetation or trees



TRANSPORTING AND FILLING OF LAND

Adding or removing dirt



GRADING

Ensuring a level base or one with a specified slope



PAVING OF EXISTING PERVIOUS AREAS

Areas penetrable by water



EXCAVATING

Forming a cavity in the land by cutting, digging, or scooping



CREATING NEW IMPERVIOUS AREAS

Surface material significantly obstructing or preventing natural infiltration of water into the soil

All permits are determined by the type of land and amount of land being disturbed. Some disturbances may be further regulated based on their locations. Regulated land disturbances are specified as land disturbing activities within one of the following environmentally safe areas:

- Chesapeake Bay Preservation Areas
- 100-year Floodplain and Floodway
- Municipal Separate Storm Sewer System (MS4)





Permit Determination

2.1.1 Chesapeake Bay Preservation Areas

The Chesapeake Bay Preservation Area is issued under Article IV of the City's Code of Ordinance. It is comprised of three (3) different designations, Resource Protection Area (RPA), Resource Management Area (RMA) and Intensely Developed Areas (IDAs):

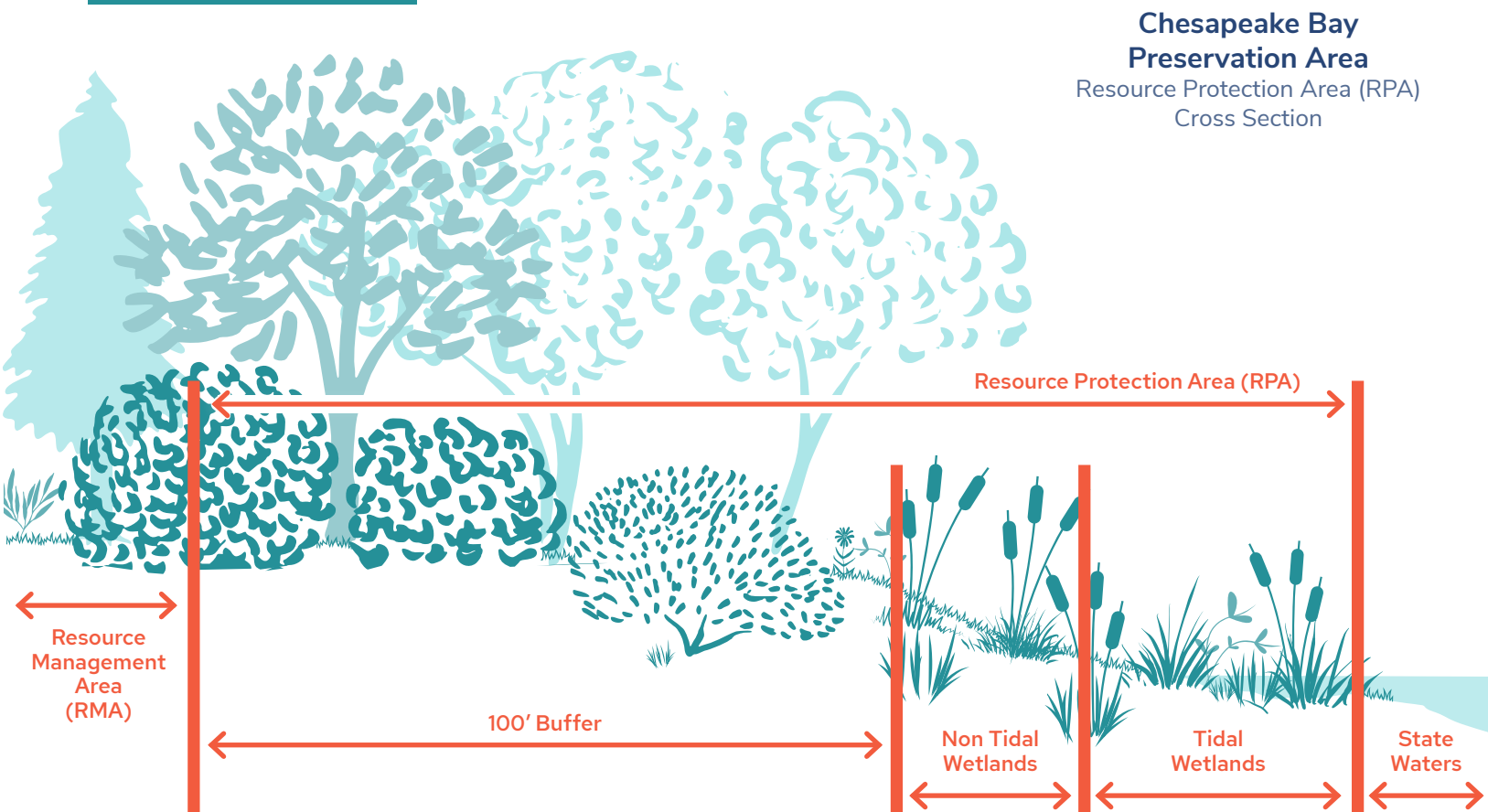
Resource Protection Area (RPA)

RPAs are regulated corridors of environmentally sensitive land that lies alongside or near the shorelines of streams, rivers, and other waterways, **Figure 2 1**. In their natural condition, RPAs protect water quality, filter pollutants out of stormwater runoff, reduce the volume of stormwater runoff, prevent erosion, and perform other important biological and ecological functions. RPAs consist of the following:

- Tidal Wetlands
- Nontidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow
- Tidal Shores
- A buffer area not less than 100 feet in width located adjacent to and landward of tidal wetlands, nontidal wetlands, or tidal shores, see **Figure 2-1**.

An ArcGIS layer of previous determinations for RPA's can be found in the City's GeoHub using the following link: <https://richmond-geo-hub-cor.hub.arcgis.com/>.

Figure 2-1: RPA Cross Section





Permit Determination

Resource Management Area (RMA)

RMAs include land types that, if improperly used or developed, have potential to cause significant water quality degradation and/or diminish the functional value of the RPA. RMAs must be provided contiguous to the entire inland boundary of the RPAs. Where mapping indicates the presence of the following land types contiguous to RPAs, the following will be classified as an RMA:

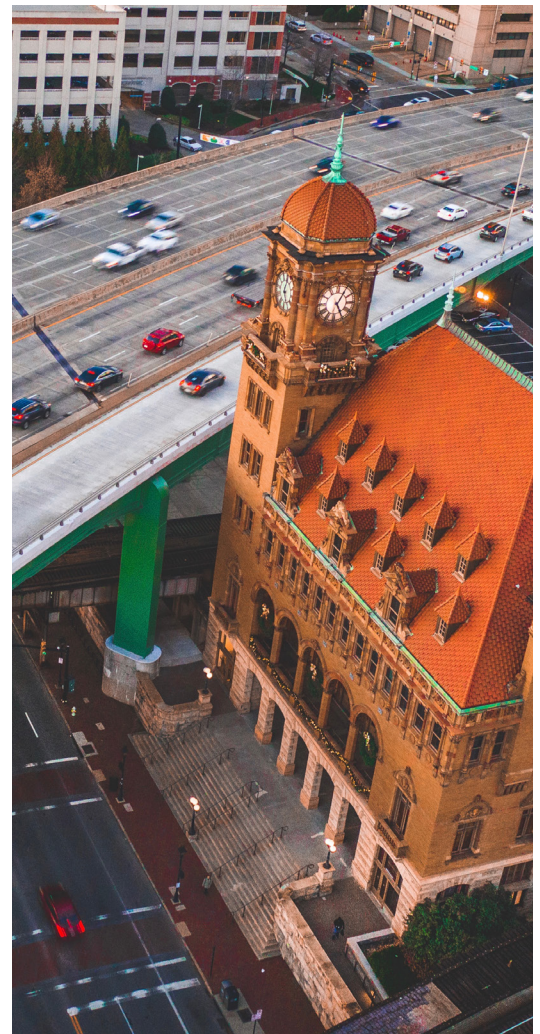
- a. 100-year floodplains;
- b. Highly erodible soils, including steep slopes;
- c. Highly permeable soils;
- d. Nontidal wetlands not included in RPAs; and
- e. Such other lands considered by the City to meet the provisions of subsection (a) of Section 14-232 of the City of Richmond code and to be necessary to protect the quality of State waters and lands delineated on the CBPA's Map.
- f. 500-foot buffers (protect RPAs and those other areas listed)
- g. 600-foot buffers outward from the center of the stream in areas where the RMA has no site-specific evaluation.

In lieu of delineating the individual RMA features, the applicant may designate the portion of the site that is outside of the RPA as RMA. An ArcGIS layer of previous determinations for RMAs can be found in the City's GeoHub using the following link: <https://richmond-geo-hub-cor.hub.arcgis.com/>.

Intensively Developed Area (IDA)

IDAs are an overlay to an RPA and are defined as areas of existing development and infill sites where little of the natural environment remains. IDA designated areas need to comply with the performance criteria for redevelopment in Section 14-262 et seq. of the City's code. Development in an IDA is treated as redevelopment, in which case the performance requirement is for a 10% percent reduction in nonpoint source pollution where runoff is not already treated by a BMP.

The City has examined areas of existing development within the CBPAs and has determined small areas within the Downtown Richmond and the Port of Richmond as the only IDAs where further non-water dependent waterfront developments should occur. An ArcGIS layer of the determination of IDA's can be found in the City's GeoHub using the following link: <https://richmond-geo-hub-cor.hub.arcgis.com/>.





Permit Determination

2.1.2 Floodplains

A floodplain is an area, including a watercourse, that is at risk of being partially or completely flooded during a 100-year flood event. These floodplains have been designated throughout the City of Richmond by FEMA. To determine if the planned land disturbing activity is within a flood plain, use the following website: <https://msc.fema.gov/portal/home>.

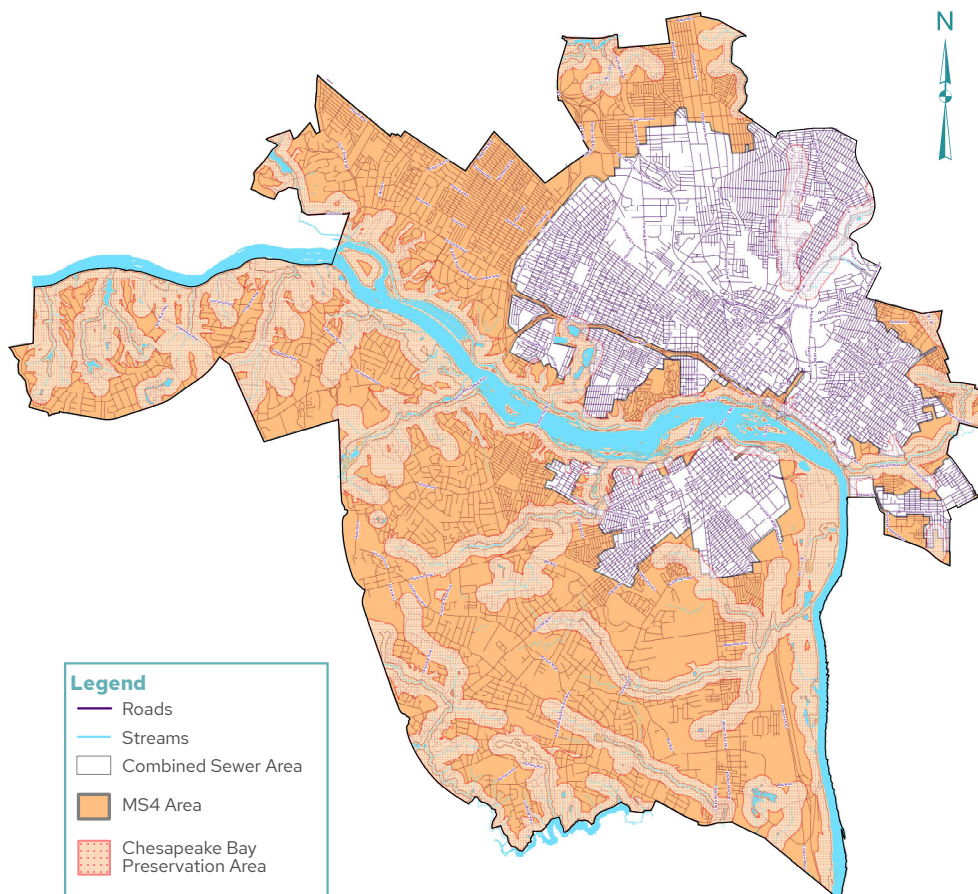
Please refer to **Section 6** for further details if project is within a floodplain.

2.1.3 MS4 and CSS

The City of Richmond has two types of systems for stormwater management: MS4 and CSS. MS4 area's are where stormwater runoff discharges directly to a body of water without being treated and CSS area's collect stormwater runoff within the existing sanitary sewer system and convey it to a treatment facility prior to discharge.

Figure 2-2 shows the MS4 drainage area within the City.

Figure 2-2: MS4 and CSS Designated Areas



The City of Richmond is designated as a Phase II MS4 by the Environmental Protection Agency (EPA) and the Virginia DEQ.

Being designated as Phase II requires specific activities within MS4 areas required to obtain a general permit and discharge stormwater from the designated outfall. The City is required under its VPDES permit to implement and enforce six (6) minimum control measures and special conditions for any planning in MS4 areas to reduce stormwater pollution to the maximum extent practicable. This includes approval of Total Maximum Daily Loads (TMDL) for both the Chesapeake Bay Area (CBA) TMDL and non-CBA TMDLs to minimize pollution to the James River.

The six minimum control measures are:

- 1 Public Education and Outreach
- 2 Public Involvement/Participation
- 3 Illicit Discharge Detection and Elimination
- 4 Construction Site Stormwater Runoff Control
- 5 Post-construction Stormwater Management
- 6 Pollution Prevention/Good Housekeeping for Municipal Operations



Permit Determination

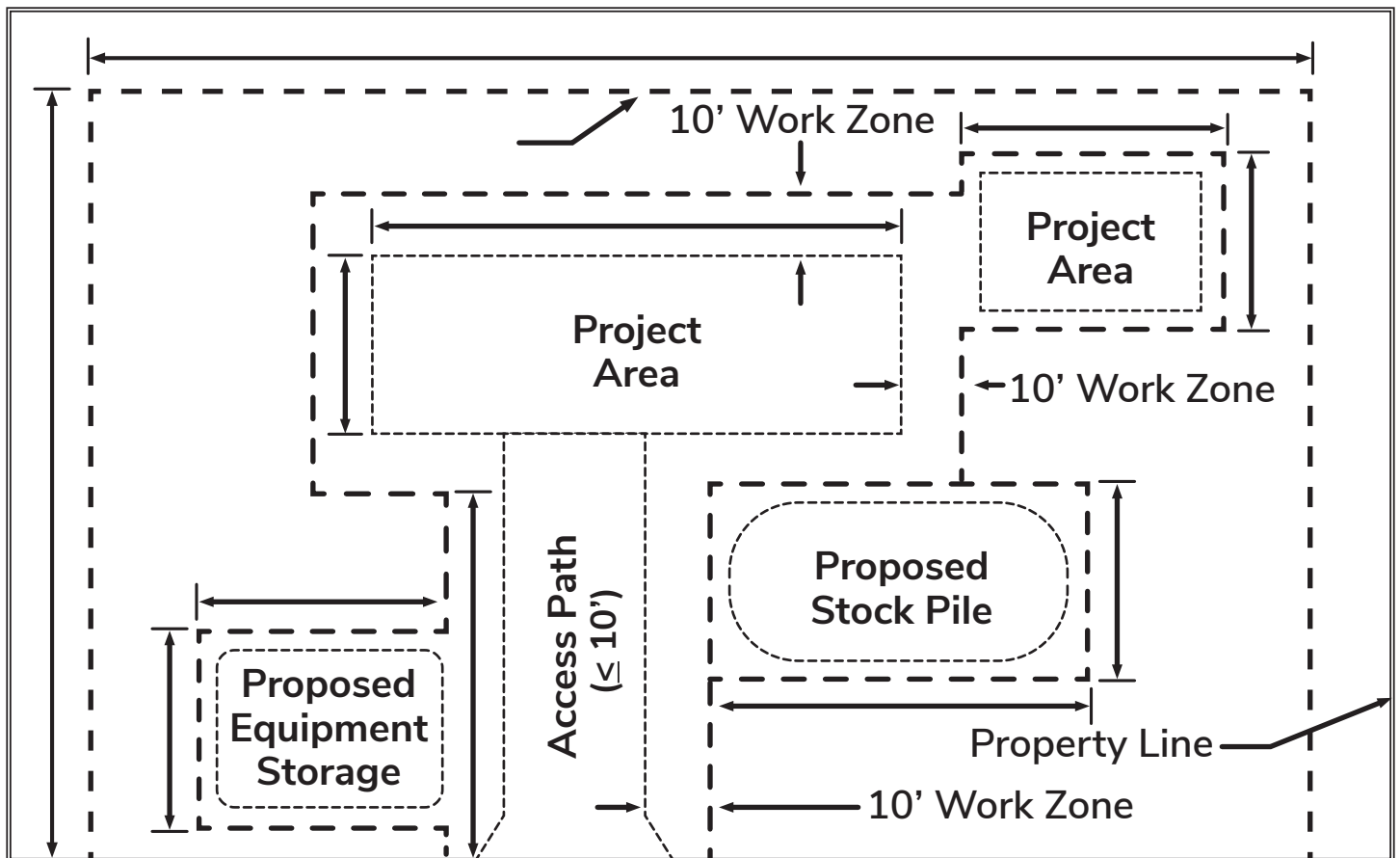
2.2 CALCULATING LAND DISTURBING ACTIVITIES

Land disturbing activity is defined by the total limits of disturbance (LOD) for a project in square feet (ft²). To calculate the LOD for a project, consider and include the following, see **Figure 2-3** for example:

- Required access paths to the work area from the public right of way
- Areas to be graded
- Tool/material laydown areas
- All erosion control measures
- Areas used for stockpiling material
- Area over which excavated soil is to be spread that is not included in any of the above areas
- Remaining footprint of proposed work
- A 5' buffer around the entire project area in which work will take place

The LOD should be determined by summing the total area of disturbance both off site and on site of a project. The City of Richmond Department of Public Utilities Water Resources Division reserves the right to determine the LOD on a case-by-case basis for items not included in the list above.

Figure 2-3: Land Disturbing Activity Calculation Example



(not to scale)

Permit Application Process, Fees and Inspections



Starting July 1, 2025, any project 4,000 sf or greater or 2,500 sq ft in a Chesapeake Bay Area will be required go through the Site Plan Approval process through the city's Department of Planning and Development Review. Once the plans have been approved, follow the steps for obtaining a permit below. **Contact Planning & Development Review for more information at (804) 646-6304.**

Preparing a site for land disturbing requires a permit separate from a building permit. The Department of Public Utilities, Water Resources is required to monitor all land disturbing construction activities, erosion and sediment control, stormwater construction and Chesapeake Bay water quality requirements for all new and redevelopment projects. Any owner or authorized agent who intends to conduct land disturbing activity within the City of Richmond of which is regulated by City code shall first make an application online to obtain the required permit(s).



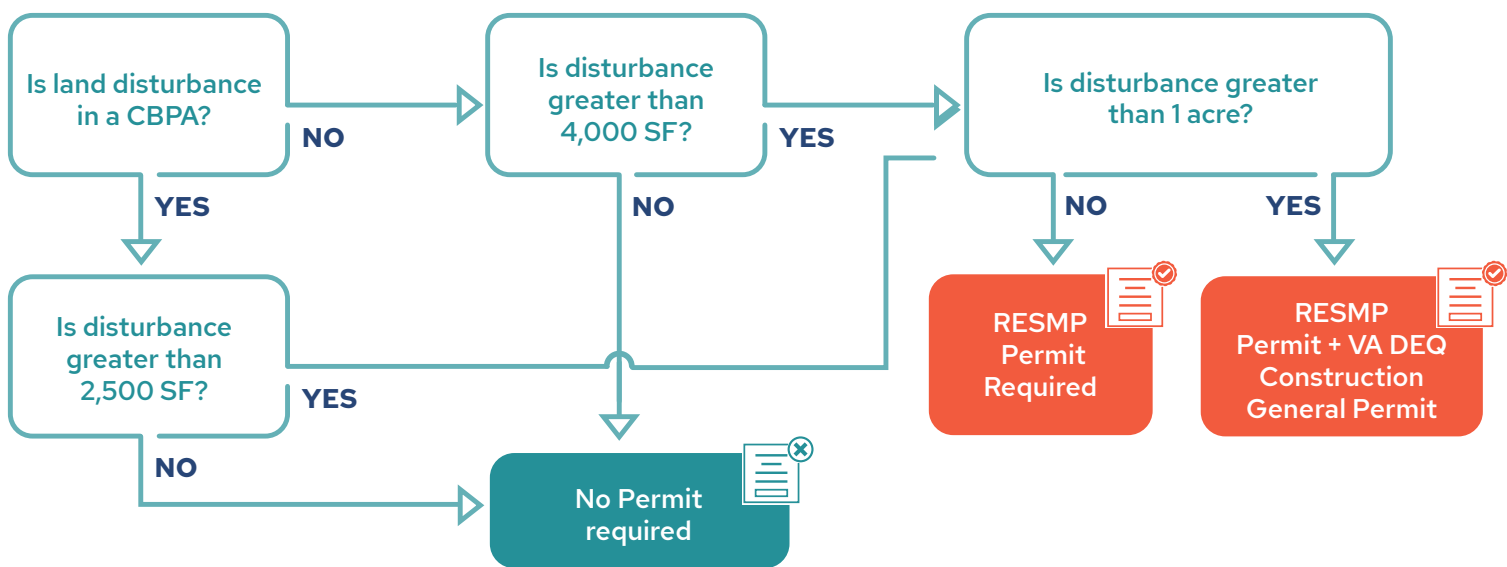
If you have questions about the permit application intake process, please call (804) 646-7586 or email waterresource@rva.gov

3.1 OBTAINING A LAND DISTURBANCE PERMIT

When do I need a permit?

Any land disturbance equal or greater than 4,000 square feet or equal to or greater than 2,500 square feet in a Chesapeake Bay Protection Area (CBPA) must obtain a separate Richmond Erosion & Stormwater Management Program permit (RESMP.) This permit is for residential and commercial development and includes but is not limited to demolition of structures, new buildings and accessory structures, houses, roads, additions, grading/clearing & grubbing, foundations, changing/redesign of existing onsite storm drainage. Single family dwellings an agreement in lieu of plan.

Figure 3-1: DPU Water Resources Permit Decision Flow Chart



This flowchart provided for planning purposes only and is not to be considered a replacement for VSMP regulations or City Code. Consult the DPU Water Resources Division at 804-646-4646 for final determination.



Permit Application Process, Fees and Inspections

What is required to submit a Permit?

Step 1: Prepare Plans

To best prepare your plans for plan review, use the appropriate checklist to ensure all the required information is complete.

- [Water Resources Environmental Plan Review Checklist](#)
- A completed Responsible Land Disturber Form with a copy of the certification
- An **approved** civil set of drawings containing an E & S plan, Stormwater plan, SWPPP plan (if applicable), Chesapeake Bay site plan (if applicable) and all supporting computations. ([The Stormwater Management Design and Construction Standards Manual](#) and the [VA Stormwater Handbook](#) can assist with all storm drainage design and specifications for proposed projects.) An electronic plan set is required with every application.

Where do I submit the RESMP application?

Step 2: Submit Application

The City has an [Online Permit Portal](#) for uploading applications, documents, paying fees and checking on application status. In addition to having all of the documents listed above, you should know the following information before you submit your application:

- Property owner name, address, phone number and email
- Contractor's name, address, phone number and email
- Design Engineering Firm name, contact person name, address, phone number and email.
- Payee Information: Know the designated person who will receive the invoice to pay the permit.

What if I'm building one detached single family house?

All Single Family Dwellings (SFD) disturbing 4,000 square feet of land (or 2,500 square feet in a CBPA area) or more are required to submit a separate RESMP permit for all single family dwellings in or out of a common plan of development (subdivision). A building permit does not grant permission to construct a house. Single Family dwellings may be eligible for an [Agreement In Lieu of Plan \(AILP\)](#) in place of submitting a complete set of civil engineering plans. A small site plan along with a bond is required for those SFDs that are eligible for the AILP.

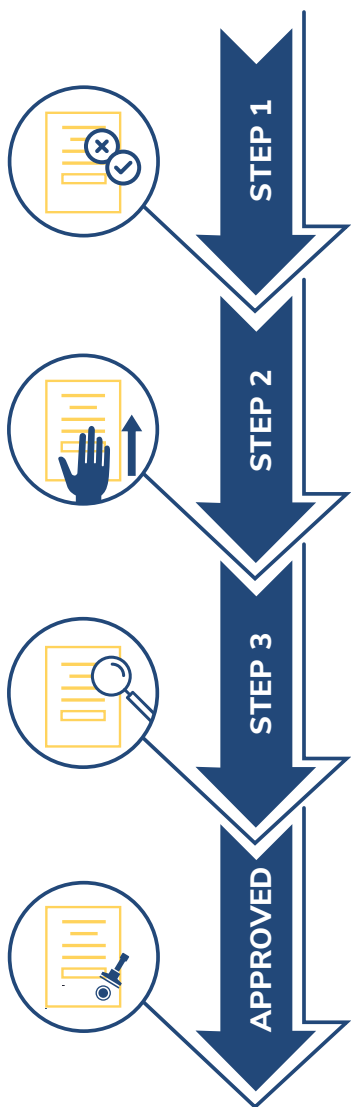
Use the Online Permit Portal to submit the application. Follow the steps under "Where Do I submit the VESMP Application?"

The following documents are required to be submitted for all SFDs:

- A completed Responsible Land Disturber Form with a copy of the certification
- A small site plan (Example of small site plan [here](#).) showing the following information:
 - The proposed dwelling
 - The adjacent street(s)
 - The adjacent parcel(s)
 - The limits of disturbance (LOD)
 - Silt fence protecting the site (SF)
 - A construction entrance (CE)

What if I'm building multiple houses at one time?

Building multiple structures on different but adjoining lots over a period of time is considered a Common Plan of Development and requires the submission of a RESMP permit. Follow the instructions for "Where do I submit".





Permit Application Process, Fees and Inspections

What is the final step?

Step 3: Administrator Review

The administrator shall first determine the completeness of each stormwater management plan and shall notify the applicant in writing of the completeness determination within 15 calendar days of receipt.

If the plan is deemed incomplete, written notification shall be given to explain the reasons the Administrator has deemed the plan incomplete. Where available to the applicant, electronic communication shall be considered communication in writing. Once a plan is deemed complete, the Administrator shall have an additional 60 calendar days from the date of communication that the plan is complete to the applicant to review the stormwater management plan.

During the review period, the plan shall be approved or rejected, and the decision communicated in writing to the applicant or their designated agent. If the plan is not approved, the reasons for not approving the plan shall be provided in writing, as well. If a plan meeting all requirements is submitted and no action is taken within the time frame above, the plan shall be deemed approved. If the stormwater management plan is rejected, the Administrator shall review the revised plan within 45 calendar days of the resubmission.

Prior to any RESMP permit approval the following information must be submitted:

- An unsigned Stormwater Utility Maintenance Agreement (SUMA) and plat
- E & S Bond package to include:
 - The Bond payment. (A performance surety is required for every land disturbing project except City of Richmond Capital Improvement Projects (CIP).)
 - A signed E&S Developers Agreement
 - The E & S Control Measures spreadsheet (Applicants are responsible for calculating the bond amount using the measures listed on the plans.)

Additional Information:

- Bond amounts are determined by the amount of E & S measures required on the plans. Should you not complete your project, your surety will be utilized towards stabilizing the site and you will be billed for the remaining amount.
- The bond can be paid with a surety bond, check, or an irrevocable letter of credit. Sureties are submitted directly to: DPU Water Resources at 1801 Commerce Road. The E & S Developer's Agreement (DA) must be signed and E & S Control Measures Worksheet must be submitted along with the surety.
- The DA must be signed by the director (this can take up to a week).
- Written verification of the final inspection from the City of Richmond Erosion and Sediment Control Inspector is required before any portion of the surety is released. It is the owner's responsibility to request an inspection to obtain a surety release. The final inspection shall not be completed prior to 75% of living perennial vegetation being established. See Virginia Department of Environmental Quality C-SSM-10 Permanent Seeding Section 3.0 Planning and Considerations.
- Surety will be released once 75% vegetation has been established at the final inspection. Bonds should be release in 30 days.
- SUMAs must be submitted when non-structural and structural best management practices (BMP) are proposed.
- The SUMA should be completed **but not signed or notarized**. It will be reviewed for correctness and returned for signature and notarizing.
- The final SUMA must be submitted to the City of Richmond's City Attorney's Office via the instructions listed here.



Permit Application Process, Fees and Inspections

3.2 PERMIT FEES

Each fee below covers the costs payable to the City of Richmond Department of Public Utilities and all other reasonable third-party costs and expenses incurred in connection with the application for and issuance of each applicable permit.

Table 3-1: Permit Fees

Fee to Cover Cost Associated Under a RESMP Authority Permit	
Chesapeake Bay Preservation Act Land-Disturbing Activity (Not subject to general permit coverage; sites within the City with land disturbance acreage equal to or greater than 2,500 square feet and less than one acre) (\$0.00 paid to the Virginia Department of Environmental Quality)	\$290.00
General/Stormwater Management - Small Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance equal to or greater than one acre and less than five acres) (\$756.00 paid to the Virginia Department of Environmental Quality, based upon 28 percent of total fee paid)	\$2,700.00
Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than five acres and less than ten acres) (\$952.00 paid to the Virginia Department of Environmental Quality, based upon 28 percent of total fee paid)	\$3,400.00
General/Stormwater Management - Small Construction Activity/Land Clearing (For single-family detached residential structures within or outside of a common plan of development of sale with land disturbance acreage less than five acres) (\$0.00 paid to the Virginia Department of Environmental Quality)	\$209.00
General/Stormwater Management - Small Construction Activity/Land Clearing (Areas within common plans of development or sale with land disturbance acreage less than one acre, except for single-family detached residential structures) (\$81.00 paid to the Virginia Department of Environmental Quality based upon 28 percent of total fee paid)	\$290.00
General/Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than ten acres and less than 50 acres) (\$1,260.00 paid to the Virginia Department of Environmental Quality, based upon 28 percent of total fee paid)	\$4,500.00
General/Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 50 acres and less than 100 acres) (\$1,708.00 paid to the Virginia Department of Environmental Quality, based upon 28 percent of total fee paid)	\$6,100.00
General/Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 100 acres) (\$2,688.00 paid to the Virginia Department of Environmental Quality, based upon 28 percent of total fee paid)	\$9,600.00



Permit Application Process, Fees and Inspections

3.2.1 Fee Variances

The Administrator may waive or modify any of the requirements that are deemed to be too restrictive for site conditions by granting a variance. A variance may be granted when all of the following conditions are satisfied:

1. At the time of plan submission, an applicant may request a variance to become part of the approved erosion and sediment control plan. The applicant shall explain the reasons for any requested variance in writing. The Administrator shall document any granted variances in the plan.
2. During construction, the person responsible for implementing the approved plan may request a variance in writing from the Administrator. The Administrator shall respond in writing either approving or disapproving such a request. If the Administrator does not approve a variance within ten days of receipt of the request, the request shall be considered to be disapproved. Following disapproval, the applicant may resubmit a variance request with additional documentation.

Once the Administrator has approved a plan, the permittee shall modify the plan only under the following terms:

1. After review and written approval by the Administrator. The Administrator shall have 60 calendar days to respond in writing either approving or disapproving such request.
2. When required by the Administrator, and within a time prescribed by the Administrator, to address any deficiencies noted during inspection.
3. The permittee shall submit a construction record drawing for permanent stormwater management facilities, unless waived by the Administrator pursuant to law.

3.3 PERMIT INSPECTIONS

The Administrator will conduct inspections to monitor compliance with the VESMP, CBPA, and ESC requirements. If the inspection results show noncompliance, the administrator has authority to pursue enforcement methods. Pre-construction meetings must be scheduled with the Water Resources inspector prior to any land disturbing. All other inspections can be scheduled through the [Online Permit Portal](#).

3.4 STORMWATER UTILITY MAINTENANCE AGREEMENT (SUMA) AND EXHIBIT

A Stormwater Utility Maintenance Agreement (SUMA) is required to be submitted for any permanent private BMPs being proposed. The SUMA shall include an access plat that provides a path between the public right-of-way and the proposed BMPs, see **Figure 3.2**. Additionally, proof of authorized representative in lieu of Owner's signature is required to be submitted with SUMA Agreement and Exhibit when an authorized representative signs in lieu of the Owner.

To ensure a timely review, please confirm the following items prior to submitting the SUMA application:

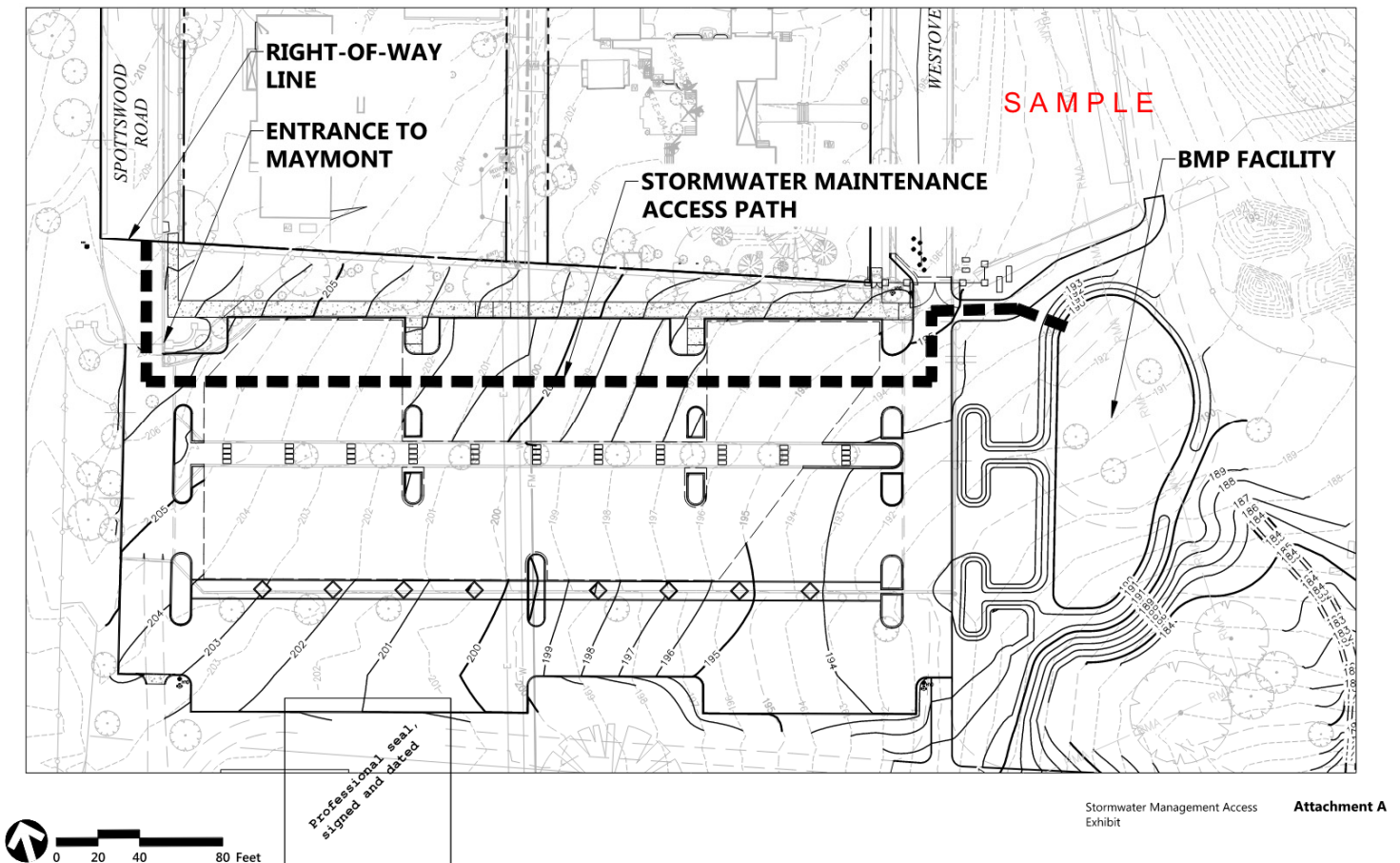
- ✓ Correct property owner's name
- ✓ Instrument number and/or book and page references are correct
- ✓ Appropriate plat title
- ✓ Preparer and date are consistent between the plat and the SUMA
- ✓ The plat is a size acceptable to the Richmond Circuit Court Clerk, typically 16" x 24", for recording.



Permit Application Process, Fees and Inspections

When all appropriate documentation is gathered, a SUMA template must be filled out and sent to waterresources@rva.gov for review. Water Resources and the City's Attorney's office will review these documents and may request corrections. Once the applicant has received notification that the SUMA and access plat are approved, they should deliver the original, notarized copies of the signed SUMA and access plat to the City Attorney's office (900 East Broad Street, Suite 400, Richmond VA 23219). The final, signed, and notarized copies of the SUMA and access plat must be submitted for City approval before Water Resources can approve permits. Do not record the SUMA and access plat yourself.

Figure 3-2: SUMA Plat Example



3.5 EXPEDITED REVIEW PROCESS

Certain projects may be eligible for the Expedited Plan Review process. Upon submission of the required third-party review documentation, these projects may be exempt from the standard review procedure. Refer to the **Appendix D: Expedited Plan Review Submission Checklist** for more information. For further details, please contact [Water Resources](#).



Permit Application Process, Fees and Inspections

3.6 CHESAPEAKE BAY BUFFER AREAS (CBPA)

Under the Chesapeake Bay Act framework, the City of Richmond is responsible for implementing its Bay Act program. The City of Richmond has adopted ordinance provisions that incorporate the performance criteria required by the Bay Act. Those provisions include City of Richmond, VA Municipal Code, Chapter 14, Article IV: Land Use and Development Performance Criteria

The CBPA are special areas of the city that are designated as having an impacting on or draining to the Chesapeake Bay. These areas are divided into area buffer areas, the Resource Management Area (RMA), the Resource Protection Area (RPA) and the Intensely Developed Area (IDA). Development within the RPA and the 50 foot buffer land ward of a perennial water body, is restricted and requires mitigation of the impacts to the area beyond water quality. The Chesapeake Bay Information Manual provides guidance to the public on the Chesapeake Bay and its requirements. The Riparian Buffer Manual provides guidance on the RPA.

Locally designated CBPA have been depicted on adopted Bay Act maps for the City of Richmond. These maps are to be used as a guide for applicants and local staff as to the general location of RPAs and RMAs on lots and parcels and should be used for planning purposes only. Once a project is proposed, a site-specific location of the RPA and the RMA must be determined. The locally adopted CMA can be found here: [Interactive Chesapeake Bay Map](#).

The VA DEQ has enacted Stormwater regulations that require development in these areas to meet new water quality standards. Using specific data regarding impervious areas, the amount Water quality treatment for each site is determined using the Runoff Reduction Spreadsheet.

Using specific data regarding impervious areas, the amount of phosphorus to be removed from the water will be determined. Land development of one (1) acre or greater in non CBPA will also be required to provide water quality treatment as part of the REMSP permit approval.

For development criteria for RPA, refer to City of Richmond, VA Municipal Code Sec. 14-264. Applicants must submit an [Application for Relief from Requirements of the Chesapeake Bay Preservation Program](#).



Document Library

- [Water Resources Environmental Check List](#)
- [E & S Developers Agreement](#)
- [Responsible Land Disturber Form](#)
- [Stormwater Utility Maintenance Agreement \(SUMA\) Instructions](#)
- [Stormwater Utility Maintenance Agreement \(SUMA\)](#)

Useful Links



- [Virginia Stormwater Management Handbook](#)
- [City of Richmond Code Chapter 14 - Floodplain Management, Erosion and Sediment Control, and Drainage \(Municode\)](#)
- [Department of Environmental Quality \(DEQ\)](#)
- [Runoff Reduction Method](#)
- [Interactive Chesapeake Bay Map](#)
- [Stormwater Management Design and Construction Standards Manual](#)
- [FEMA Floodplain Map Service Center](#)
- [VA Flood Risk Information](#)
- [NFWF Wetlands Inventory](#)
- [Planning & Development Review](#)
- [Richmond City GIS Mapper](#)
- [Richmond GeoHub](#)



To protect Richmond's natural resources and create a healthier environment, the Water Resources Division (WRD) issues permits to businesses and local, state, and federal facilities. This section explains the details of the RESMP permit, including stipulations, exemptions, or limitations.

4.1 RICHMOND EROSION AND STORMWATER MANAGEMENT PROGRAM (RESMP)

The Virginia Erosion and Stormwater Management Regulations require that the City of Richmond adopt a local program to administer the requirements. The City of Richmond has adopted the Richmond Stormwater Management Program (RESMP) to integrate the City's stormwater management, floodplain management, erosion and sediment control, and Chesapeake Bay Preservation Area requirements into a unified City program intended to meet VSMP requirements.

4.1.1 Permit Coverage and Requirements

A RESMP is the City's local program that adheres to Virginia DEQ General Permit requirements, including all erosion and sediment control, storm drainage installation for pipes, inlets, outfalls, and structural and non-structural best management practices, Chesapeake Bay Plans, and floodplain regulatory requirements. A RESMP permit is required when land disturbance meets any of the following criteria:

- Greater than or equal to 2,500 square feet in a Chesapeake Bay area
- Greater than or equal to 4,000 square feet in other areas

An RESMP permit will not be issued until the following information has been submitted to the City:

- | | |
|--|---|
| ✓ RLD Designation form and certificate | ✓ Stormwater Management Plan, Section 5.3 |
| ✓ WRD Environmental Plan Review Checklist | ✓ ESC bond and agreement |
| ✓ Contractor License & COR Business license | ✓ SUMA agreement and exhibit (if applicable) |
| ✓ ESC Plan, Section 5.1 | ✓ General registration statement, SWPPP book, and |
| ✓ Chesapeake Bay Site Plan, Section 5.2 | PPP drawing sheet in plan set (if applicable) |



Permit Details

In addition, the details provided in **Appendix J** must be included in site plans when a new sewer is being connected to the CSS. Construction of new combined sewers is strictly prohibited by the City. Calculations should be provided to prove available capacity within the existing combined sewer system.

The City of Richmond has developed a set of requirements to provide adequate drainage in land-disturbing activities which should be capable of handling stormwater peak flows based on the anticipated site conditions. The requirements for stormwater infrastructure standards can be found in the City of Richmond Public Utilities Stormwater Management Design and Construction Manual available online at: https://www.rva.gov/sites/default/files/2021-06/Stormwater_Management_Design_and_Construction_Standards_Manual.pdf.

In addition to the general permit, all support activities must obtain all necessary local, state, and federal approvals. In the event an SWPPP is required, discharges from support activities must be included in plan development and implementation.

4.1.2 Exemptions

The following exemptions apply to the RESMP Permit requirements outlined in subsection (a) of Section 14-324 of the City of Richmond Code:

- 1** Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted under the provisions Code of Virginia, Title 45.1 (Code of Virginia, § 45.1-161.1 et seq.)
- 2** Clearing of lands specifically for agricultural purposes and the management, tilling, planting, or harvesting of agricultural, horticultural, or forest crops, livestock feedlot operations, or as additionally set forth in State regulations, including engineering operations as follows: construction of terraces, terrace outlets, check dams, desilting basins, dikes, ponds, ditches, strip cropping, lister furrowing, contour cultivating, contour furrowing, land drainage, and land irrigation; however, this exception shall not apply to harvesting of forest crops, unless the area on which harvesting occurs is reforested artificially or naturally in accordance with the provisions of Code of Virginia, Title 10.1, Ch. 11 (Code of Virginia, § 10.1-1100 et seq.), or is converted to bona fide agricultural or improved pasture use as described in Code of Virginia, § 10.1-1163(B)
- 3** Single-family residences separately built, and additions or modifications to such existing single-family residential structures, disturbing less than one acre, or less than 2,500 square feet if located in an area delineated by the City as a Chesapeake Bay Preservation Area, and not part of a larger common plan of development or sale
- 4** Land-disturbing activities that disturb less than one acre, or less than 2,500 square feet if located in an area delineated by the City as a Chesapeake Bay Preservation Area, and not part of a larger common plan of development or sale
- 5** Activities under a State or Federal reclamation program to return an abandoned property to agricultural or open land use
- 6** Land-disturbing activities in response to a public emergency where the related work requires immediate authorization to avoid imminent endangerment to human health or the environment shall be advised of the disturbance to the Administrator within seven (7) days following commencement of the land-disturbing activity and compliance with the administrative requirements of this chapter will be required within 30 days of commencing the land-disturbing activity
- 7** Discharges to a sanitary sewer or a combined sewer system that are not from land-disturbing activity.

The following activities are required to comply with the soil erosion control requirements but are not required to comply with the water quantity and water quality technical criteria, unless otherwise required by federal law
- 8** Activities under a State or Federal reclamation program to return an abandoned property to agricultural or open land use
- 9** Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original construction of the project including the paving of an existing road with a compacted or impervious surface and reestablishment of existing associated ditches and shoulders if performed in accordance with this subsection
- 10** Discharges from a land-disturbing activity to a sanitary sewer or a combined sewer system



Permit Details

4.2 SINGLE-FAMILY DWELLING (SFD) PERMIT

In lieu of submitting an Erosion and Sediment Control Plan for the construction of a single-family dwelling, the City of Richmond allows developers to agree to meet the requirements determined by the Erosion and Sediment Control Program. These requirements are based on the conservation standards contained in the City of Richmond Erosion and Sediment Control Ordinance (Article V, Chapter 14, Code of the City of Richmond, Erosion and Stormwater Management Program and represent the minimum practices necessary to provide adequate erosion and sediment control measures during construction.

4.2.1 Permit Coverage and Requirements

For all SFDs permits for development projects under one (1) acre and over 2,500 square feet, an Agreement in Lieu of Plan (AILP) can be applied for in place of a complete set of civil engineering ESC and SWM drawings. If individual lots or sections in a residential development are being developed by different property owners, all land-disturbing activities related to the building construction shall be covered by an erosion and sediment control plan or an “Agreement in Lieu of a Plan” signed by the property owner. For eligible projects, a site plan, designation of RLD, and bond are required. The site plan must include:

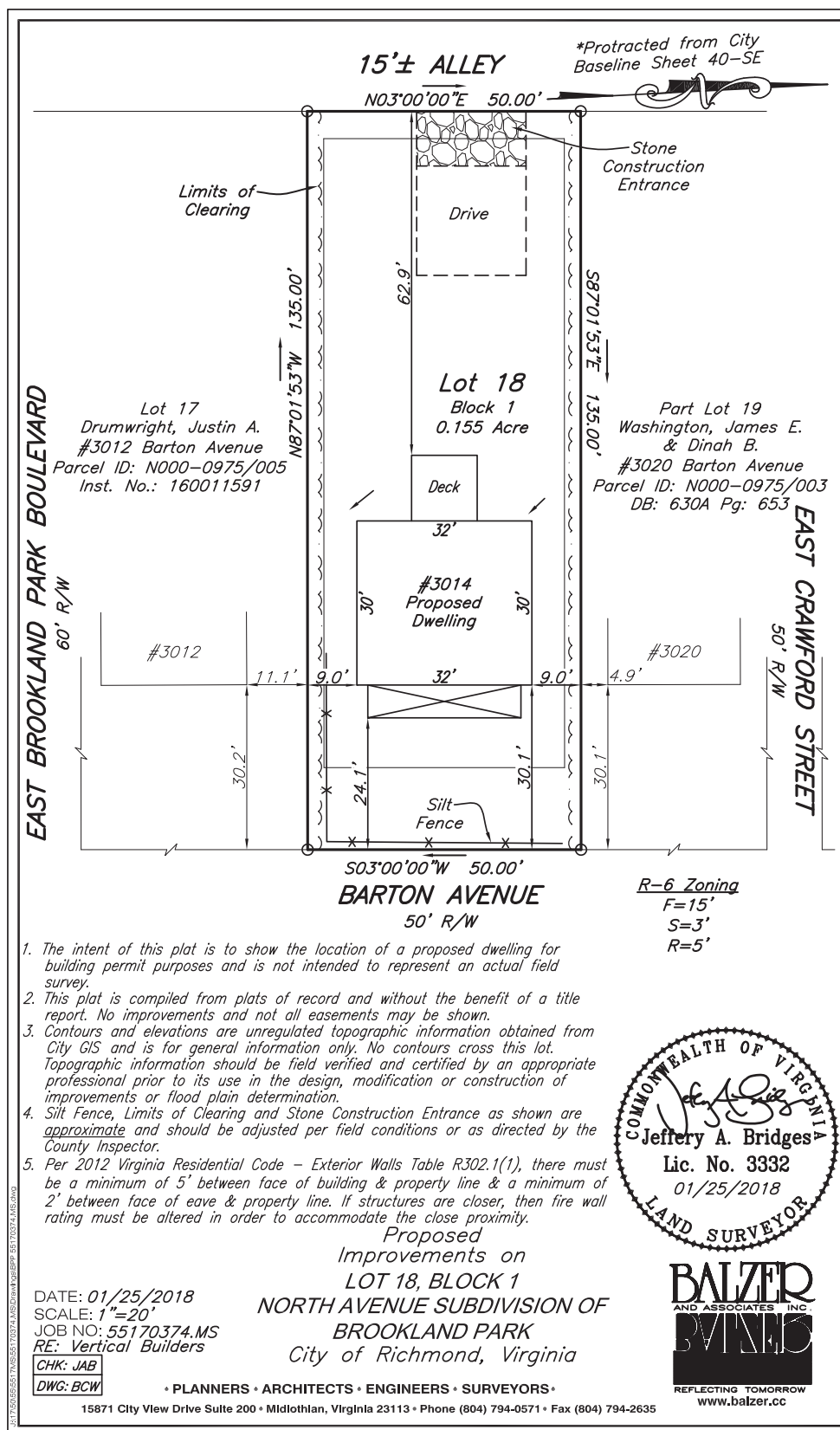
- ✓ The proposed dwelling
- ✓ The adjacent street(s)
- ✓ The adjacent parcel(s)
- ✓ The limits of disturbance (LOD)
- ✓ Any silt fence protecting the site
- ✓ Location of the construction entrance

An example site plan is shown in **Figure 4-1**. Additionally, the AILO/AILP forms for both ESC and SWM plans can be found in **Appendix A**.



Permit Details

Figure 4-1: Single-Family Dwelling Unit Small Site Plan





4.3 ADDITIONAL APPROVALS

In addition to the permits authorized by the Water Resources Division, applicants are required to meet all other jurisdictional permitting regulations not specified in this document. It is on the permittee to obtain any additional permits and approval necessary from outside agencies. Some of the most common permits required for approval prior to submitting Water Resource Division can be found in the following subsections, **Section 4.2.1** and **Section 4.2.2**.

4.3.1 Wetland Delineation

Wetlands are lands consisting of marshes, swamps, and areas where water covers the soil, or is present at or near the surface of the soil all year around. Wetland delineation by the United States Army Corps of Engineers is required if the project is encroaching on areas that are identified via desktop by the National Wetland Inventory. If the project is within wetlands, a Joint Permit Application may be required <https://ris.dls.virginia.gov/uploads/9VAC25/forms/33ffb005797~5t.pdf>. The National Wetlands Inventory can be used to preliminarily determine if wetlands are present on-site (<https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>).

Note: NWI wetland delineations are not acceptable in lieu of a USACE-approved wetland delineation.

4.3.2 Working in a Waterbody

Development and redevelopment within the floodplain are discouraged in the City. There are strict guidelines before land-disturbing activities can occur in the floodplain. All areas of the City have flood elevation protection requirements. Alterations to existing development require floodproofing to protect from property damage during flooding events. Residential and commercial properties within the Special Flood Hazard area (SFHA) that hold a federally backed mortgage will be required to carry flood insurance. For more information, please contact the city's Floodplain Administrator.

To find more details about building in a floodplain or floodway please refer to **Section 6**.

Individual Plan Requirements



All submittals require signed and sealed drawings by a licensed professional engineer in the Commonwealth of Virginia. Drawings and plans shall include accurate and up-to-date supporting documentation, as required.

5.1 EROSION AND SEDIMENT CONTROL (ESC) PLAN

ESC plans are to prevent degradation of properties, stream channels, waters, and other natural resources of the City. It is required of individuals responsible for land disturbing activities to take the proper steps for erosion and sediment control by implementing requirements per the Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq. of the Code of Virginia). All ESC plans shall comply with the following requirements and minimum standards of the Erosion and Sediment Control Regulations (9VAC25-875-20 et seq.) and the VSMH published by the VA DEQ.

The plan shall identify control practices to minimize soil erosion on site by:

- Controlling volume and velocity of stormwater runoff
- Controlling peak flow rates and total stormwater volume at outlets
- Minimizing soil exposure
- Reducing slope disturbances
- Minimizing sediment discharges
- Providing and maintaining natural buffers around surface waters and maximizing stormwater infiltration
- Minimizing soil compaction and preserving topsoil
- Initiating stabilization activities, as defined under 9VAC25-880-1

The following subsections provide additional details to meet each of the above minimum requirements for an ESC plan.

5.1.1 Drawing Plan Submission Requirements

All drawing plans shall follow the requirements and practices in the VSMH which is available using the following link: <https://online.encodeplus.com/regs/deq-va/doc-viewer.aspx#secid-5>. When developing the ESC plan it is recommended to always use the most recent version of the VSMH.

Individuals submitting plans shall provide a completed ESC plan checklist, see **Appendix B**. The checklist is a guide to help ensure all documentation is included in the ESC plans for plan approval. Without a complete checklist, the application is deemed incomplete.

5.1.2 Responsible Land Disturber

All plans must identify and submit the Designation of Responsible Land Disturber form with the name of an individual holding a certificate of competence that satisfies Virginia DEQ's Responsible Land Disturber (RLD) requirements, see **Appendix C**. A RLD is a person who is responsible for implementing and enforcing the requirements listed on the ESC plans for land disturbing activities as per Section 14-153 of the City of Richmond Code of Ordinance. Information on how one can obtain a RLD certificate can be found by going to this link: <https://www.deq.virginia.gov/our-programs/training-certification/responsible-land-disturber>.



Individual Plan Requirements

5.1.3 ESC Bond and Agreement

In addition to the plans and checklist, a performance bond is required for every land disturbing project, excluding developments by government agencies. To determine a bond amount, a complete Erosion and Sediment Control Table correctly listing all quantities of ESC measures on the plan will be required. Therefore, the bond amount will not necessarily be determined upon first review of application. ESC bond sheets will not be provided for POD and DEVR, unless an LDIS or RESMP permit has been applied for. Part of the bond agreement includes a Developer's Agreement that ensures the developers will uphold their ESC plans and provides the City authority to inspect and maintain as needed, see sample agreement in **Appendix D**. The bond and developer agreement must be submitted together for approval. Bonds can be paid by check, surety bond, or an irrevocable letter of credit. Bonds are returned at the end of the project once the site has established 80% vegetation (not at CO). In the event you do not complete your project, your bond can be called and used towards stabilizing the site.

5.2 CHESAPEAKE BAY SITE PLAN

The submission of a Chesapeake Bay Site Plan is required by Ordinance Section 14-263(10) for approval of any development or land disturbing activity in an RMA or RPA. The Chesapeake Bay Site Plan is the only document that best enables the Program Administrator to evaluate the conditions on site recommended for development and determine if the requirements of the program are being met. Please note, that a Chesapeake Bay Site Plan incorporates much of what is required by the other land permitting processes and can be utilized for such.

The following summarizes the main requirements to submit for a Chesapeake Bay Site Plan, if the land disturbing activity is not exempt:

- ✓ **Chesapeake Bay Site Plan**
The City has prepared the Chesapeake Bay Public Information Manual that serves as a guide to all that require a Chesapeake Bay Site Plan. Please refer to Section II – Submission and Review Process in the Chesapeake Bay Public Information Manual. A complete checklist is required as part of the site plan submission, see **Appendix B**.
- ✓ **Copies of Wetlands Permits**
Wetlands permits issued by the Army Corps of Engineers, Virginia Marine Resource Commission, and DEQ are required for a host of activities affecting wetlands, shore-lines and navigable waters, see **Section 2.1** for additional information.

If wetland permits are not required evidence of a determination that wetlands are not present or impacted is required.
- ✓ **Water Quality Impact Assessment (WQIA)**
Assessment must demonstrate the absence of significant adverse impacts of nonpoint source pollution (NPS) on topography, soils, environmentally sensitive areas, hydrology and the quality of State waters and mitigation of any unavoidable adverse impacts. Requirements for a WQIA are listed in **Appendix B**.
- ✓ **Landscape Plan**
Landscape plan including major landscaping features, including existing vegetation, to be retained, clear delineation of all trees proposed for removal, description of plant species to be disturbed or removed, treatment of the RPA buffer, indicating proposed landscaping and vegetation to be retained by type and quantity, replanting schedule for trees and other significant vegetation removed for construction, including list of trees and plants to be used, demonstration that the design will preserve to the greatest extent possible any significant trees and vegetation on site and provide maximum erosion control and overland flow benefits, and demonstration that indigenous plants are to be used to the greatest extent possible.



Individual Plan Requirements

5.2.1 CBPA Exemptions

An exemption to CBPA may be granted if the lot or parcel located within a CBPA would unreasonably restrict the utilization of the property under its current zoning. Exemptions must be approved prior to any activity or use in the RPA that is not already permitted by the CBPA ordinance.

Activities for exemption approval include:



GRADING



BUILDING



REMOVAL OF VEGETATION



FILLING



PAVING



ANY OTHER DISTURBANCES

For more information see **Appendix E** with the exemption form.

5.2.2 Stream Study

Additionally, if a project is encroaching on a stream that was a previously designated as a Perennial Stream, which would categorize it as an RPA, and is no longer acting as a Perennial Stream, then a stream study may be performed to prove the area shall no longer be designated as an RPA. The study shall only be performed by an individual with stream classification certifications. To submit for reclassification, a Stream Determination Evaluation Form found in **Appendix F** along with the RPA exemption form in **Appendix E**, and a technical memorandum with the findings shall be submitted to the permitting department.

5.3 STORMWATER MANAGEMENT PLAN (SWM)

Stormwater management plan consists of appropriate storm drainage design and stormwater management facility design as stated under Section 14-327 of the City of Richmond Code of Ordinances. The plan must include information on the type, location, and features of stormwater discharges as well as pre and post development drainage areas. If any of the requirements are intended to be met off site, then a letter from the off-site provides must be included within the plan. The City has prepared a [Stormwater Management Design and Construction Manual](https://www.rva.gov/sites/default/files/2021-06/Stormwater_Management_Design_and_Construction_Standards_Manual.pdf) that shall be used to prepare stormwater design drawings and calculations capable of handling stormwater peak flows based on the anticipated site condition. The manual is available online at https://www.rva.gov/sites/default/files/2021-06/Stormwater_Management_Design_and_Construction_Standards_Manual.pdf.

Additionally, stormwater management plans are to demonstrate how developments meet applicable stormwater quantity (9VAC25-875-600) and quality (9VAC25-875-580) regulations.

5.3.1 Stormwater Management Facilities (SWMFs)

Additionally, if structural or permanent stormwater management facilities (SWMFs) are required to minimize surface runoffs and nonpoint source pollution to meet total phosphorus water quality requirements the facility design shall follow the Virginia Stormwater BMP Clearinghouse which can be found in the following website: <https://www.deq.virginia.gov/our-programs/water/stormwater/stormwater-construction/bmp-clearinghouse>. The Virginia Stormwater BMP Clearinghouse is jointly administered by Virginia DEQ and the Virginia Water Resource Research Center which will provide the most recent and up to date requirements.

Contractor's Heavy Highway or Plumbing License

When any Contractor is installing permanent storm drainage or SWMFs, they must provide a copy of their heavy highway or plumbing license prior to commencing work with the stormwater management plan. The applicant must also verify the location of the parcel or parcels where the land disturbing activity is planned.



Individual Plan Requirements

5.4 RESMP REQUIREMENTS

A RESMP will cover all erosion and sediment control, storm drainage installation for pipes, inlets, outfalls, and structural and non-structural best management practices, Chesapeake Bay and floodplain regulatory requirements. Therefore, the following items are required of each.

5.4.1 Registration Statement

A registration statement is only required if more than 1 acre of land disturbance occurs. Registration statement form for General Permit can be found at the following link: <https://www.deq.virginia.gov/permits-regulations/permits/water/stormwater-ms4>.

5.4.2 Stormwater Pollution Prevention Plan (SWPPP)

Stormwater Pollution Prevention Plan (SWPPP) is required if a general registration statement is required. SWPPPs are meant to identify potential sources of pollutants which may affect the quality of stormwater discharges and develop mitigation procedures that will minimize the affect these pollutants have on discharges from construction activities. An SWPPP must be developed before submission of a registration statement. Failure to submit a completed SWPPP will result in rejection of permit coverage.

Each SWPPP should include the following:

✓ General Information

- » Site plan
 - Direction of stormwater and anticipated slopes
 - Limits of land disturbance
 - Locations of major control measures (structural and nonstructural)
 - Locations of surface waters
 - Discharge locations
 - Locations of on and off site support activities
 - Inspection related equipment
- » Copy of the Notice of Coverage Letter (Once received)
- » Signed registration statement

✓ Erosion and Sediment Control Plan

✓ Stormwater Management Control Plan

✓ Pollution Prevention Plan for any non-stormwater discharges

✓ Measures to address discharges to locally impaired waters, exceptional waters or surface waters with a TMDL

The requirement for an SWPPP or any of its required components may be met by referencing another plan, such as a spill prevention control and countermeasure (SPCC). If incorporated by reference, such plans will become enforceable under the granted permit. If a construction activity is a part of a larger common plan of development, and disturbs less than one acre, a template provided by DEQ may be utilized, so long as a SWPPP has been developed and implemented for the development at large.

Once approved, the SWPPP should be maintained and updated onsite for as long as land-disturbing activities are occurring in the site. If the location is unavailable, the operator should post the SWPPP near the main entrance to the site. The SWPPP is required to be available for public review, either electronically or in hard copy.



Individual Plan Requirements

Pollution Prevention Plan (PPP)

A pollution prevention plan (PPP) is required to be included in all SWPPPs for projects greater than 1 acre in an MS4 area.

The PPP addresses the following:

1. Wastewater from washout of concrete
2. Washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance
4. Soaps or solvents used in vehicle and equipment washing

Be sure to identify any pollutant-generating activities likely to be present at the project site to implement the appropriate pollution prevention practices. If an unlisted pollutant-generating activity is likely to be present at the project site: describe the activity, identify the associated pollutant(s), and provide the corresponding pollution prevention practice(s) to be implemented and maintained.

Additional Measures for Impaired Waters

Additional measures must be written into the SWPPP in the event stormwater is projected to be discharged to impaired or exceptional waters. These additional measures for pollutant minimization must also incorporate a more rigorous inspection schedule. Note that while inspection criteria are the same for all impaired waters, the definition of each type and impairment specific requirements have been detailed below.

TMDL Impaired Waters

The 305(b)/303(d) process is an integral part of Virginia's water quality management program, for which requirements are set forth in federal regulations (40 CFR 130). Any discharges to waters identified in 2022 § 305(b)/303(d) Water Quality Assessment Integrated Report or to waters with an applicable TMDL waste load allocation is defined as discharges to TMDL impaired waters and must be identified in a SWPPP. Additionally, for the Chesapeake Bay TMDL, DEQ has issued the Guidance Memo No. 20-2003 Chesapeake Bay TMDL Special Condition to help individuals submit the proper information and can be found at the following link: <https://www.deq.virginia.gov/permits-regulations/permits/water/stormwater-ms4>.

As such, the SWPPP must also provide clear direction as to the permanent or temporary stabilization of soil and the application of nutrients to part or all of the site within seven days of reaching final grade and must provide an inspection schedule in accordance with 9VAC25-880-70 Part II G 2 a.

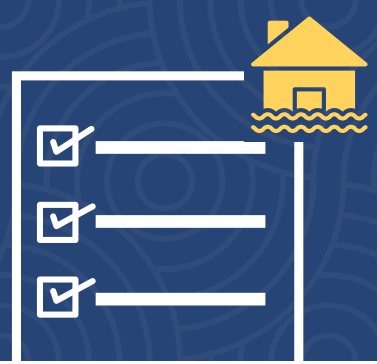
For additional resources, the EPA has developed guidance materials and templates that can be used for preparation of a plan: <https://www.epa.gov/chesapeake-bay-tmdl>.

PCB Impaired Waters

Polychlorinated biphenyl (PCB) is a pollutant of major concern. Discharges from construction activities which include the demolition of any structure built or renovated prior to January 1, 1980 with at least 10,000 square feet of floor space to PCB impaired waters must be identified in the SWPPP. These discharges must be central to the development of the erosion and sediment control plan. Additionally, the methods for disposal of waste materials must also be detailed in the provided SWPPP to ensure compliance with all applicable federal state and local requirements.

All sites where stormwater is discharged to PCB impaired waters must be inspected either once every 4 business days or once every 5 business days AND no later than 24 hours following a measurable storm event.

Floodplain Management Requirements



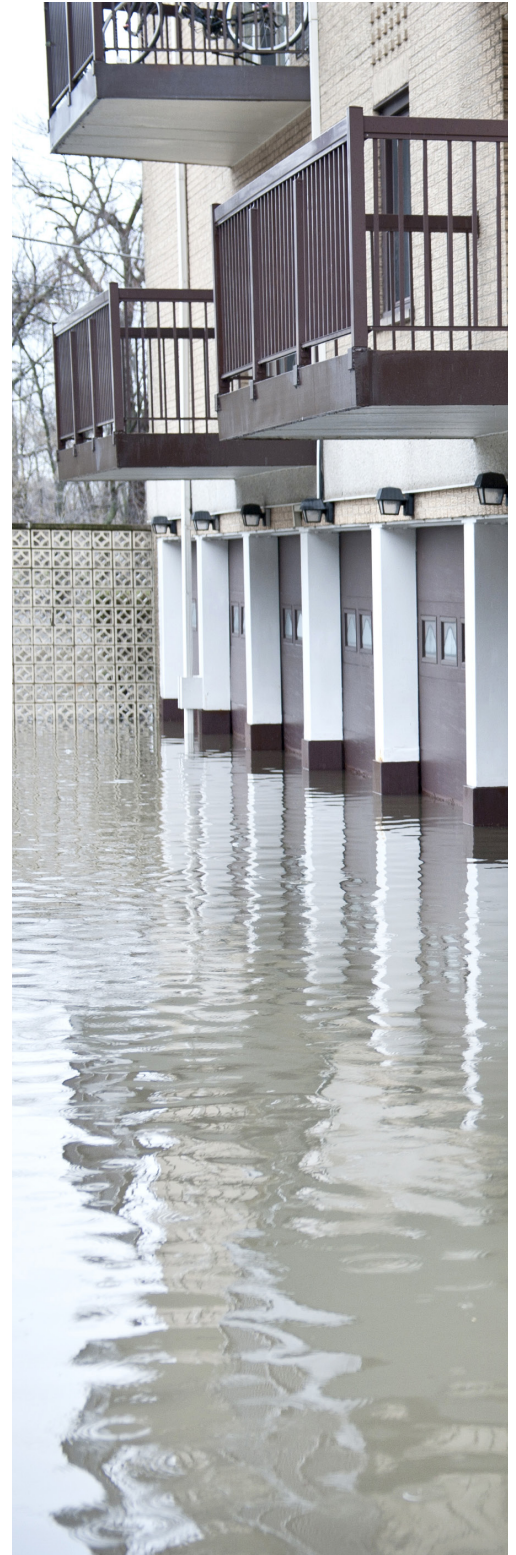
6.1 INTRODUCTION

Development, redevelopment or land-disturbing activity within the floodplain, floodway, flood fringe and approximate floodplain are subject to Chapter 14, Article II, City of Richmond Code of Ordinances. Floodplain management is a public safety program at a local level that helps people minimize flood risk by modifying human susceptibility to flood damage, the impact of flooding, flooding itself, and preserving and restoring natural resources. By participating in the National Flood Insurance Program (NFIP), the City of Richmond is voluntarily agreeing to adopt and enforce floodplain management ordinances that meet minimum NFIP requirements in exchange for flood insurance. The NFIP is a component of the Department of Homeland Security (DHS), and its goal is to reduce future flood damages by identifying flood risks (maps), regulating floodplain development, providing insurance in participating communities, and mitigating flood risks.

To determine a community's risk to flood hazards, the Federal Emergency Management Agency (FEMA) performs engineering studies called Flood Insurance Studies (FIS). The studies contain detailed flood elevation data in flood profiles and data tables valuable for assessing flood risk within a community or jurisdiction. As a subset to the FIS, Flood Insurance Rate Maps (FIRM) are prepared to illustrate the boundaries of designated flood zones. The FIS tables and the FIRM are used in unison to determine floodplain permit requirements.

The City of Richmond has designated floodplain districts, including floodway districts, flood fringe districts and approximate floodplain districts, as those areas in the City subject to partial or complete inundation by a 100-year flood. The basis for the delineation of these districts are the City's FIS and the FIRM for the City prepared by the Federal Insurance Administration of FEMA. Additionally, the City may identify and regulate local flood hazard or ponding areas that are not delineated on the FIRMs. Such areas may be delineated on a local flood hazard map using the best available topographic data and locally derived information, such as flood of record, historic high water marks or approximate study methodologies.

Periodically, the FIS and FIRM are revised and updated with information from a more recent engineering study completed for the NFIP and published as a preliminary. When this occurs, the use of preliminary flood hazard data is required where the preliminary base flood elevations or floodway areas exceed the base flood elevations or designated floodway widths in existing flood hazard data provided by FEMA.





Floodplain Management Requirements

6.2 DEVELOPMENT IN THE FLOODPLAIN

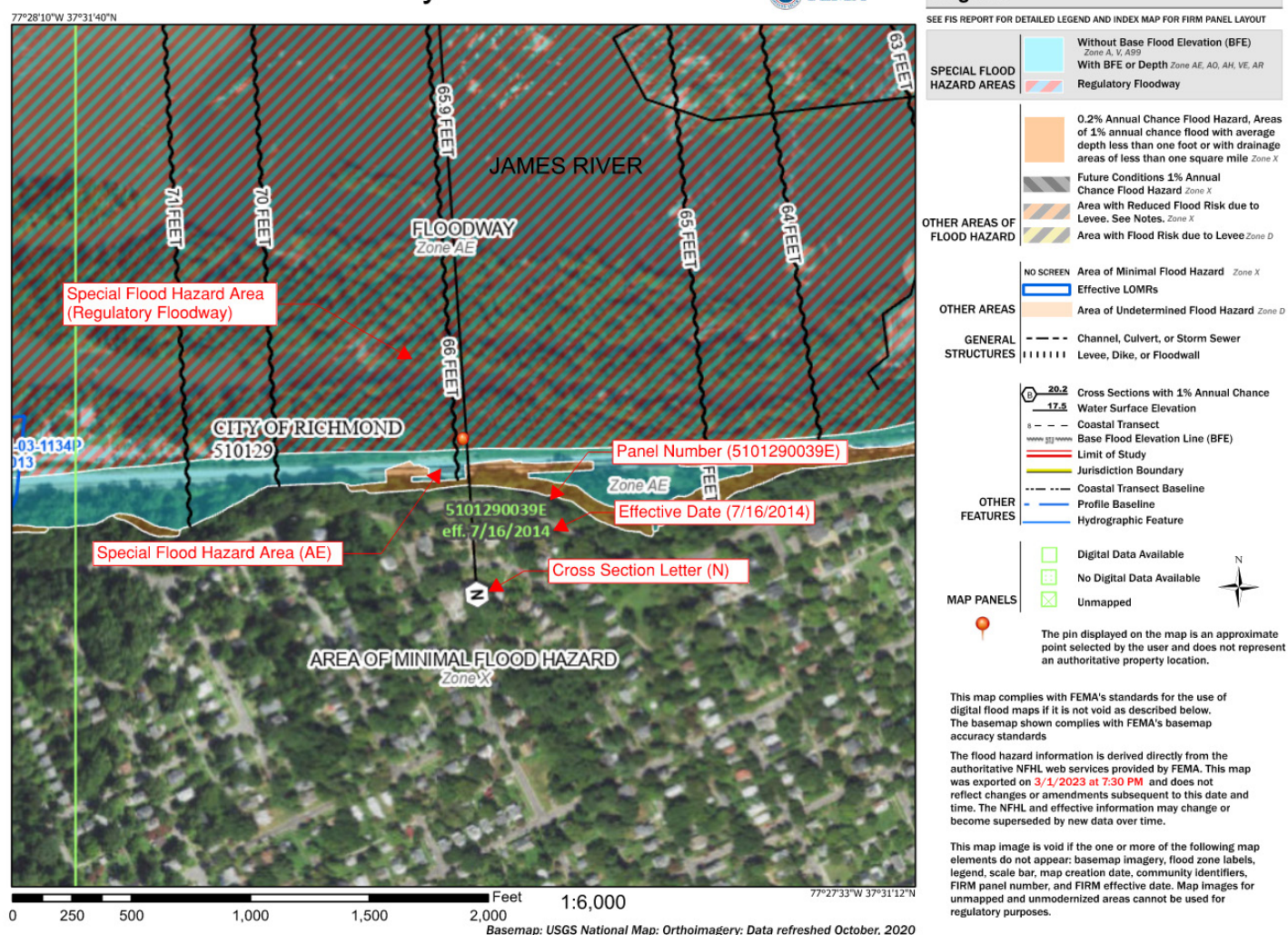
6.2.1 Floodplain Determination

A floodplain determination is required as part of the permitting process. To complete this step, the applicant must submit a FIRMette illustrating flood risk at the project location. A FIRMette is an official copy of a portion of the effective FIRM, and the document can be obtained from FEMA's Flood Map Service Center (<https://msc.fema.gov/portal/home>). To create a FIRMette, the applicant must first input the address where the land-disturbing activity will take place and then click on "Dynamic Map" to generate an output pdf file of the FIRMette. Additionally, by clicking on "Show ALL Products", the applicant may have access to all applicable effective and preliminary FIRM and FIS data for the project area.

The Panel Number, Effective Date, FIRM Zone Designation are to be included in the permitting documents submitted to the Water Resources Department may be obtained from the FIRMette. Refer to **Figure 6-1** for an example of a FIRMette and the data to be obtained.

Figure 6-1: Single-Flood Insurance Regulatory Map – FIRMette

National Flood Hazard Layer FIRMette





Floodplain Management Requirements

6.2.2 Base Flood Elevation Determination

As part of the floodplain determination process, the applicant must also determine the 100-year flood elevation or Base Flood Elevation (BFE) at the project site. The City of Richmond has adopted the “With Floodway” condition as the BFE. The increase in base flood elevation from the “no floodway” to “with floodway” condition is called the surcharge and typically ranges between 0 and 1.0 foot.

To obtain the “with floodway” BFE, the applicant must use the FIRM in conjunction with the Floodway Data Tables. After identifying the Flooding Source and Cross Section Letter from the FIRM, the “with floodway” BFE, is obtained from the FIS Floodway Data Table. Refer to **Figure 6-2** for an illustration on how to obtain the “with floodway” BFE value for the project location shown in **Figure 6-1**.

For locations located between Cross Sections, the higher “with floodway” BFE value is to be used. For locations that lack Floodway Data Tables, the “with floodway” BFE is to be determined by adding one foot to the Water Surface Elevation (WSE) at the project site. Lastly, where the BFE cannot be determined from FIRM or FIS data, the applicant must determine the “width floodway” BFE through hydrologic and hydraulic analysis performed in accordance with standard engineering practice.

Figure 6-2: Flood Insurance Study – Floodway Data Table

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
James River (continued)								
N	106.39 ¹	2,110	20,729	14.0	65.9	65.9	65.9	0.0
O	106.83 ¹	1,932	33,700	8.6	78.8	78.8	78.8	0.0
P	108.58 ¹	1,541	26,501	10.7	101.8	101.8	102.0	0.2
Q	108.76 ¹	2,313	37,678	7.7	104.9	104.9	105.0	0.1
R	109.40 ¹	2,336	39,447	8.8	108.5	108.5	108.6	0.1
S	110.33 ¹	2,566	32,971	8.7	113.7	113.7	113.9	0.2
T	110.59 ¹	2,049	31,328	5.5	118.6	118.6	118.7	0.1
U	110.99 ¹	1,635 ²	29,792	9.7	120.4	120.4	120.6	0.2
V	111.73 ¹	2,320 ²	41,877	6.9	125.4	125.4	126.4	1.0
W	113.35 ¹	2,200 ²	48,212	6.4	134.0	134.0	134.9	0.9
Pittway Creek								
A	530 ³	44	140	5.9	137.0	130.5 ⁴	130.9	0.4
B	1,310 ³	38	101	8.2	144.2	144.2	144.2	0.0
C	1,540 ³	58	255	3.3	147.4	147.4	148.1	0.7
D	3,265 ³	77	118	5.1	173.0	173.0	173.1	0.1
E	3,760 ³	65	180	3.3	181.6	181.6	181.7	0.1
F	4,220 ³	44	104	5.8	188.5	188.5	188.5	0.0

¹ Miles above mouth, based on historical milepost stationing

² This width extends beyond corporate limits

³ Feet above confluence with James River

⁴ Elevation computed without consideration of backwater effects from James River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY
CITY OF RICHMOND, VA
(INDEPENDENT CITY)

FLOODWAY DATA

JAMES RIVER - PITTAWAY CREEK



Floodplain Management Requirements

6.2.3 Elevation Requirements

The City of Richmond requires the lowest floor of a building to be elevated above the “with floodway” BFE plus a freeboard of one foot. Unfinished or flood resistant enclosures, used solely for parking vehicles, building access or storage in an area other than a basement will not be considered a building’s lowest floor, provided that such an enclosure is not build so as to render the structure in violation of the applicable non-elevation design requirements. When floodwaters are intended to enter these enclosures, flood resistant building materials must use, and appropriately sized openings must be provided to allow floodwaters to enter and leave.

The City of Richmond requires that an Elevation Certificate be submitted for buildings constructed in the floodplain. The purpose of the certificate is to show both compliance with the City of Richmond floodplain management requirements and FEMA National Flood Insurance policy. The Elevation Certificate is to be signed by a Professional Land Surveyor or Professional Engineer licensed in the state of Virginia. Elevation Certificate forms and instructions may be downloaded from FEMA at <https://www.fema.gov/glossary/elevation-certificate>.

6.2.4 Floodway Modifications

No encroachments, including infill, new construction, substantial improvements, or other development is permitted in the floodway, unless the party requesting the encroachment has demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachment will not result in any increase in flood levels within the community during the occurrence of the 100-year flood discharge.

When development in the floodway will cause an increase in flood stage, it may be possible to compensate for the rise by physically modifying the floodway to replace the flood conveyance that would be lost as a result of the development.

Typical ways that this is done include:

1. Modifying the channel or overbank areas of the cross section or channel improvements to compensate for the loss of conveyance.
2. Removal of an existing comparable obstruction such as a building or bridge.
3. Changing permanently the land use such as replacing a floodplain forest with a ball field or parking lot can also be used to compensate for loss of conveyance.
4. Expanding the floodway to replace the conveyance lost due to the obstruction.

Note that modifications to the floodway will require approval from FEMA via the conditional flood insurance map and floodway revision (CLOMR) process. Other permits that might be required include the wetland permits under Section 404 of the Clean Water Act of 1972 and incidental take permits under Section 10 of the Endangered Species Act of 1972.

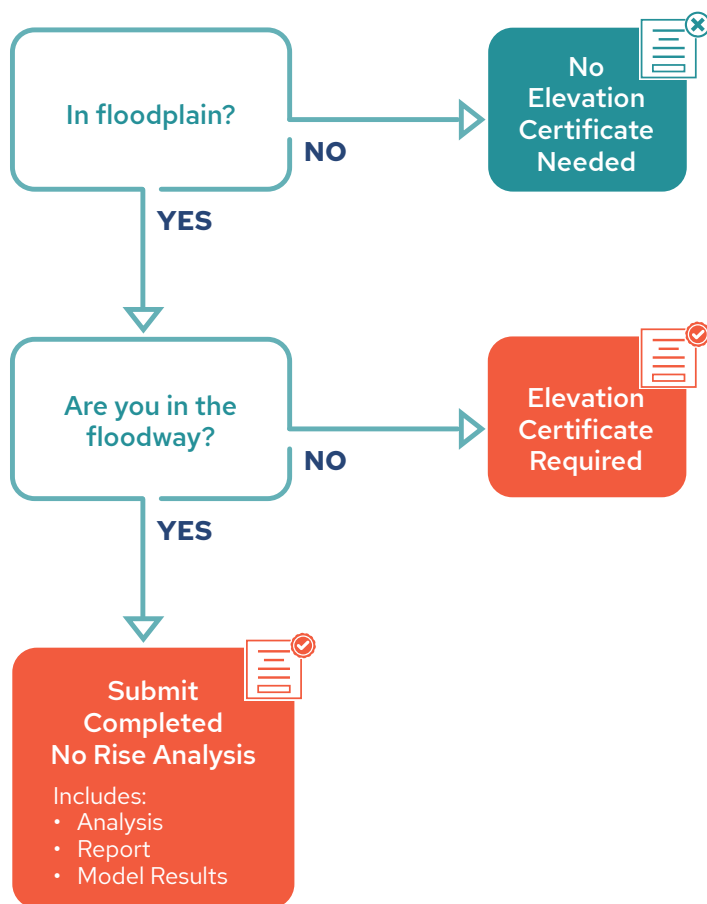
The City of Richmond requires that a No Rise Certificate (NRC) and a No Rise Analysis report be submitted for every project located in the floodway, see **Appendix G**. The purpose of these documents is to certify that the proposed activity will result in no rise in flood heights at the project site and upstream and downstream areas.



Floodplain Management Requirements

In support of determining the necessary steps that needed to be completed for the Water Resources Division, **Figure 6-3**, DPU Water Resources Floodplain Management Requirements Decision Flow Chart, provides a guide for determining which, if not all, requirements necessary.

Figure 6-3: DPU Water Resources Floodplain Management Requirements Decision Flow Chart





Floodplain Management Requirements

6.3 NO RISE ANALYSIS

6.3.1 Hydrologic and Hydraulic Modeling

The City of Richmond requires applicants to obtain a copy of the most recent version of the effective model by contacting Water Resources Division at (804) 646-7586. The following modeling conditions must accompany the permit application:

- 1. Duplicate Condition:** Obtain the model used to develop the effective /preliminary flood insurance study from FEMA and duplicates the results.
- 2. Existing Condition:** Make corrections to the Duplicate Condition Model based on field surveys of the project's site and/or available topographic data that more accurately portrays the existing site conditions.
- 3. Proposed Condition:** Modify the Existing Condition Model to represent the changes being proposed by the project.

The City of Richmond will compare the results of the Proposed Condition Model to the Existing Conditions Model to determine if there will be an increase in elevation of the base flood or floodway elevations at any existing or new cross section or evaluation line. No activity will be permitted in the floodway that adversely affects the capacity of any floodway or watercourse. Under certain conditions, activities which increase the base flood elevation may be allowed provided that the applicant first applies, with the City's endorsement, for a CLOMR and receives approval from FEMA.

The City of Richmond specifies the roughness coefficients to be used for modeling purposes. See Reference **Table 6-3** for prescribed values.

Table 6-1: Roughness Coefficients for the City of Richmond Flooding Sources

Flooding Source	Channel "n"	Overbank "n"
All flooding sources mapped as Zone A on the FIRM	0.045-0.055	0.045-0.120
Bacons Quarter Branch	0.025-0.030	0.040-0.060
Broad Rock Creek	0.040-0.045	0.040-0.100
Broad Rock Creek (Overland Flow)	0.025-0.030	0.040-0.060
Cannon Creek Branch	0.025-0.030	0.040-0.060
Cherokee Creek	0.045	0.065-0.100
Falling Creek	0.045	0.040-0.080
Gillies Creek	0.025-0.045	0.045-0.120
Goodes Creek	0.025-0.037	0.055-0.100
Grindall Creek	0.030-0.048	0.045-0.080
James River	0.038-0.050	0.040-0.100
Jordans Branch	0.020-0.050	0.060-0.140
Pittaway Creek	0.030-0.045	0.050-0.100
Pocosham Creek	0.045	0.045-0.080
Pocoshock Creek	0.040-0.048	0.030-0.090
Powwhite Creek	0.040-0.048	0.040-0.082
Rattlesnake Creek	0.045	0.045-0.080
Reedy Creek	0.030-0.048	0.048-0.090
Shockoe Creek	0.025-0.030	0.040-0.060
Shockoe Creek Split Flow	0.025-0.030	0.040-0.060
Stony Point Creek	0.045-0.050	0.065-0.100
Stony Run	0.040-0.048	0.040-0.080
Unnamed Tributary to Bacons Quarter Branch	0.025-0.030	0.040-0.060
Upham Brook	0.055-0.140	0.050-0.150



Floodplain Management Requirements

6.3.2 Minimum Content of Report

The flood study report should contain the following sections at minimum:

Section 1. Introduction (include project vicinity map)

- 1.1. Project Summary
- 1.2. Available Information

Section 2. Hydrology

- 2.1. 100-Year Flood Discharge information

Section 3. Hydraulics (explain and list model progressions of the provided model to facilitate the flood study)

- 3.1. Provide table summarizing the plan files. See table below for template.

	Name	File	Description
Project	James_River	James_River.prj	James River HEC-RAS Data in Richmond, VA
Plan	James_River_MP	James_River.p03	James River Multiple profiles for return storms and historical storms
Geometry	James_River_withLevee	James_River.g03	Includes the three levee systems for Richmond
Steady Flow	JR_Multipleprofile	James_River.f01	Steady flow files

3.2. Duplicate Preliminary Floodway Model

- 3.2.1. This is only downloading the existing model, no modifications

3.3. Corrected Preliminary Floodway Model

- 3.3.1. Takes Duplicative Preliminary Floodway Model and corrects technical errors in the preliminary modeling or the inclusion of any floodplain changes that occurred prior to the date of the preliminary model. If there are none, this step is not necessary.

3.4. Existing Conditions Model

- 3.4.1. To the Corrected Preliminary Floodway Model or the Duplicate Preliminary Floodway Model if there were no corrections, the Engineer adds the appropriate cross-sections for the work in the floodway including ones upstream and downstream of the project site
- 3.4.2. After addition of the cross-sections modify such that results match the initial FEMA modeling data.
- 3.4.3. Document that additional cross sections and modifications to align
- 3.4.4. Minimum of two cross sections upstream and downstream of the project site spaced at 100-FT intervals is required, if existing cross sections are within this distance they may count towards the minimum number of cross sections required



Floodplain Management Requirements

3.5. Proposed Conditions Model

3.5.1. Take the Existing Conditions Model and modify to add proposed work and obstructions.

3.5.2. Provide itemized log of the changes made to reflect proposed conditions

3.5.2.1. i.e. The obstruction of X width and Y height was added to cross XX,XXX from Stations 100 to 136 feet

3.5.2.2. Or stations 100, 110, and 120 were raised 2 feet to reflect proposed grading conditions

3.5.2.3. Or the Manning's roughness coefficient was changed from 0.06 to 0.04 from stations 175 to 250

3.6. Summary of Model Results (include a table comparing 100-yr water surface elevation (WSEL)) for all model progressions for cross sections within the project area and 1,000 feet upstream and downstream of the project area

3.6.1. Shown for both the baseline conditions and for the 'with floodway' condition

Section 4. Conclusions

Appendices

Appendix A Firm Map

Appendix B Floodplain Study Figures

(Include figures showing the project area with existing contours, FIS cross sections, floodway and floodplain boundaries and hydraulic modeling results at minimum)

- Figure for Duplicate Preliminary and Corrected Effective Preliminary Conditions
- Figure for Existing Conditions
- Figure for Proposed Conditions (with revised contours)

Appendix C Detailed Model Output

- For all below only show the model output table and cross sections for the project area and the cross sections 1,000 feet upstream and downstream of the project area. Label all cross sections with the Station Number.
- Detailed model output table and cross-sections (two per sheet) showing 100-yr WSEL for Duplicate Preliminary Model
- Detailed model output table and cross-sections (two per sheet) showing 100-yr WSEL for Corrected Effective Preliminary Model (Only if this model was required)
- Detailed model output table comparing both Existing Conditions and Proposed Conditions Models for only the 100-yr flood
 - Show the same cross section for the Existing Conditions and Proposed Conditions on the same sheet (two per sheet) showing 100-yr WSE.

Appendix D No-Rise Certification

Appendix E Digital copy of the model(s) (for review)



Floodplain Management Requirements

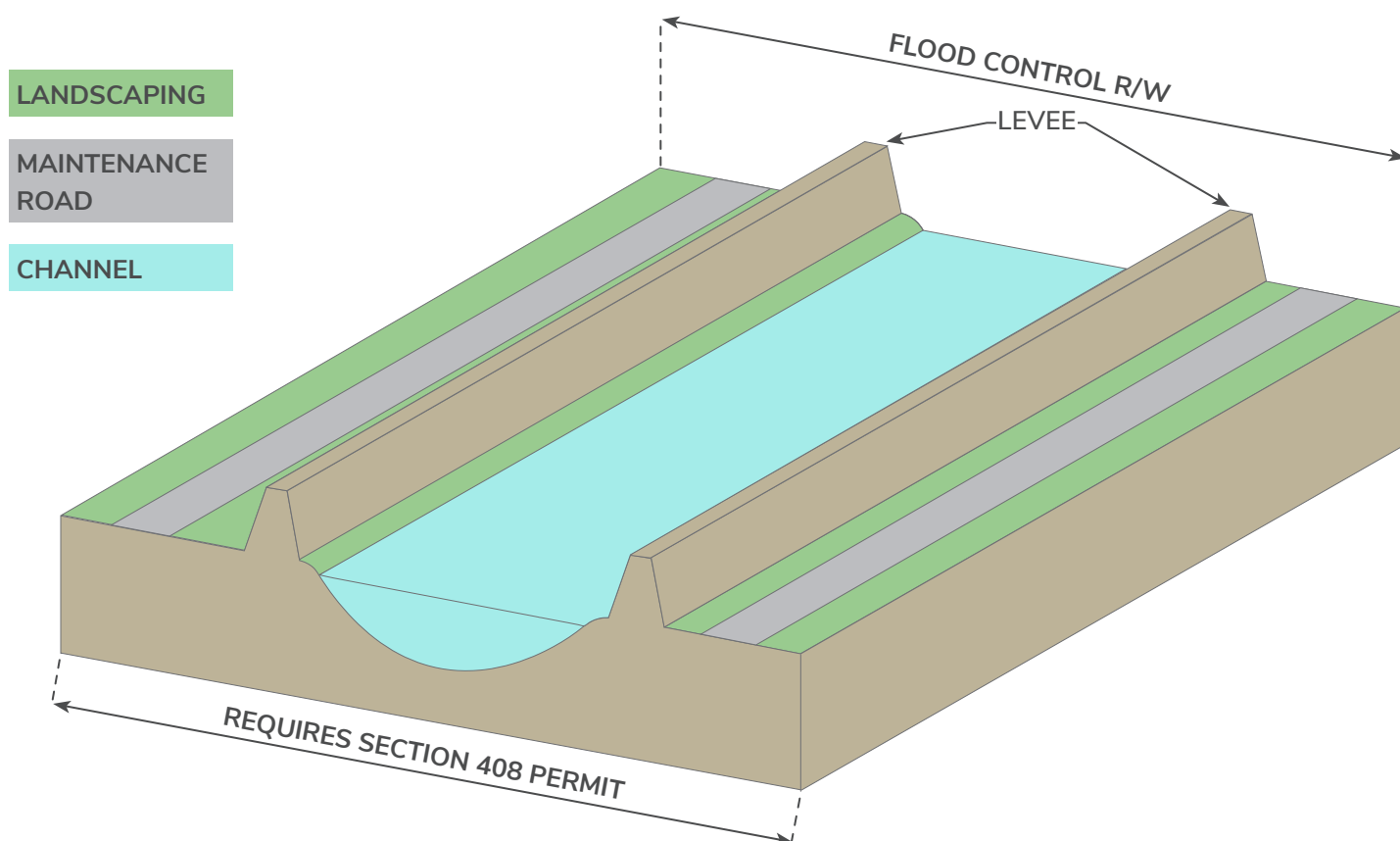
6.4 LEVEE FLOOD CONTROL RIGHT OF WAY (R/W)

A flood wall system currently protects the Shockoe Creek watershed on the north side of the James River and the large industrial area near the Wastewater Treatment Plant (WWTP) on the south side of the James River from flooding. The Water Filtration Plant (WFP) is also protected with a floodwall.

The City of Richmond requires approval by the US Army Corps of Engineers (USACE) under Section 408 for any construction activity near the levee system. Documentation of approval for must be submitted to the City of Richmond Water Resources Division.

Figure 6-4 illustrates the areas surrounding a levee system that require a Section 408 permit. Typically, if a project is located within 50 feet of any of the levee systems within the City of Richmond, a USACE Section 408 permit will be required to start construction activities. If it is located within 100-1,000 feet, a permit might be needed. To confirm that a project located near a levee system needs a Section 408 permit, please submit an inquiry to the USACE at <https://www.spl.usace.army.mil/Missions/Section-408-Permits/>.

Figure 6-4: Areas Requiring USACE Section 408 Permit





Floodplain Management Requirements

6.5 SUBSTANTIAL DAMAGE AND IMPROVEMENTS

To mitigate repetitive flood losses, the City of Richmond requires that any structure located in the floodplain be brought into compliance with NFIP requirements if substantial improvements or repair of substantial damage (referred to as SI/SD determination) is proposed.

6.5.1 Substantial Damage Assessments

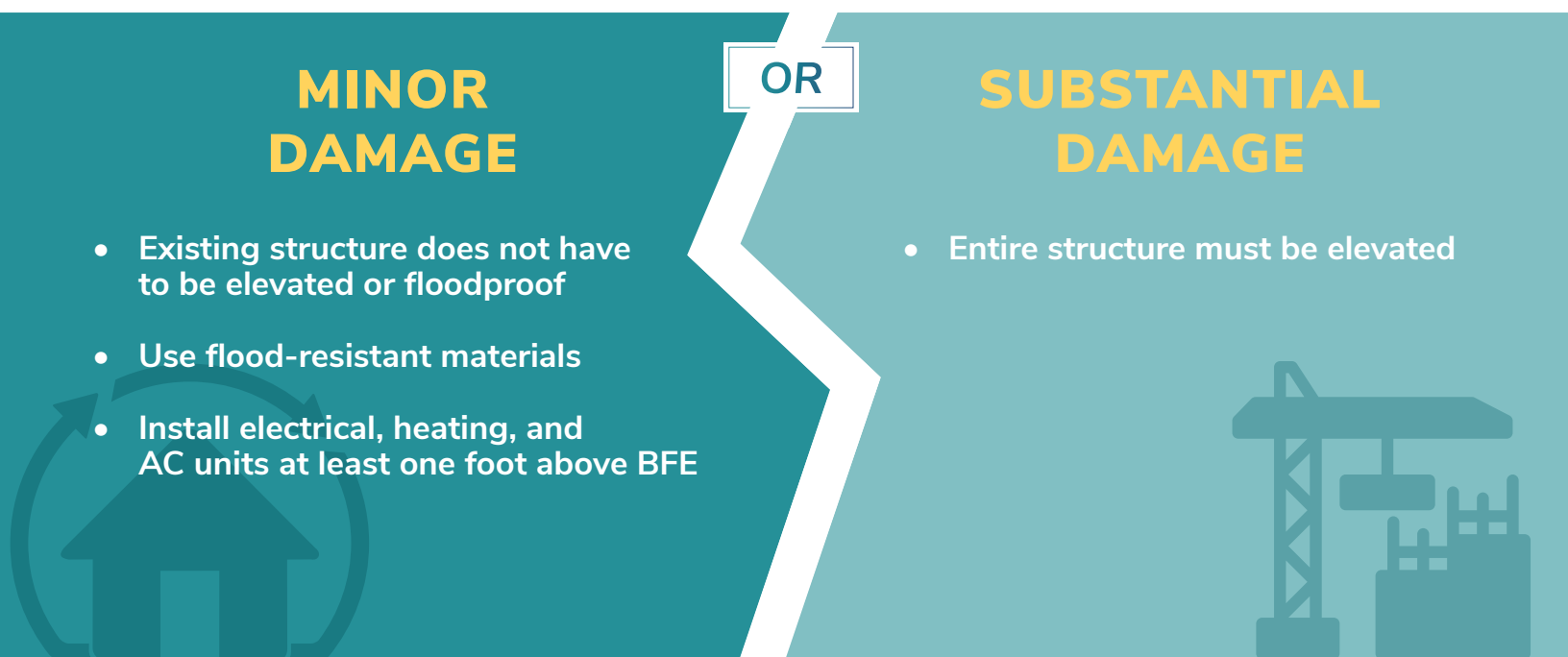
A structure is deemed to have sustained substantial damage under the following conditions:

- When the cost of restoring the damage of any origin (flood, fire, earthquake, wind, rain, or other natural or human-induced hazard) would equal or exceed 50 percent of the market value of the structure before the damage occurred.
- When the cost of repair for flood-related damage sustained by a structure on two separate occasions during a 10-year period averages, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

To determine whether a structure is substantially damaged, the City of Richmond uses the ratio between the cost of repairs and the market value of the structure pre-damage.

The cost of repair for the structure must be calculated for full value of repair necessary to restore the building to its pre-damage condition plus any other improvements include in the repair project. This includes the value of all repairs, even if the owner opts not to pay for all the items needed by doing some of the work voluntarily, obtaining free materials, designating work to volunteers, and/or disregarding some repairs. Please see **Figure 6-5** for NFIP requirements for the repair of damaged structures.

Figure 6-5: Repair of Damage





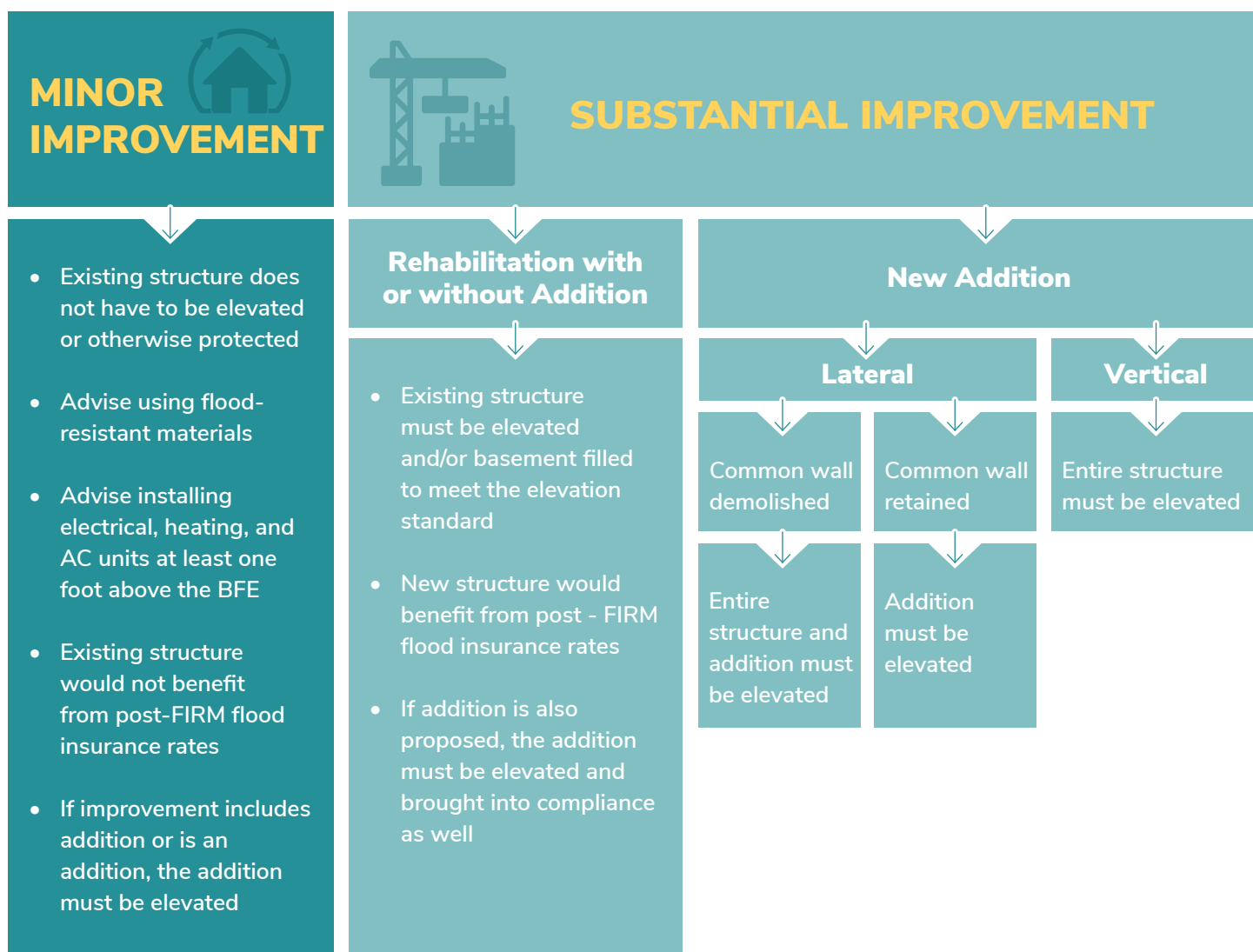
Floodplain Management Requirements

6.5.2 Substantial Improvement Requirements

This section relates to any improvements performed to a structure located in floodplain. Substantial Improvement is considered to be any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement.

For this purpose, the City of Richmond evaluates the ratio between the cost of improvements and market value of the existing structure. If the cost of improvements exceeds 50 percent of the market value, the improvement is considered substantial, and the structure must be brought into compliance with NFIP requirements. Reference below for requirements under various improvement scenarios.

Figure 6-6: Improvement of Structures





Floodplain Management Requirements

6.5.3 Exceptions

The substantial improvement and substantial damage requirements effect all buildings regardless of reason for improvement or cause of damage. However, there are three exceptions:

- 1 Costs exempt from improvement/repair project cost calculation:
 - Plans and specifications
 - Surveying costs
 - Permit fees
 - Demolition or emergency repairs made for health or safety reasons or to prevent further damage to the building
 - Improvements or repairs to items outside the building, such as the driveway, fencing, landscaping, and detached structures.

- 2 Historic structures exempt from substantial improvement requirements under the following criteria:
 - The building must be a bona fide “historic structure”
 - The project must maintain the historic status of the structure
 - Take all possible flood damage reduction measures

- 3 Existing safety violation correction projects exempt from substantial improvement requirements must be:
 - Involuntary improvements or violations that existed before the improvement permit was applied for or before the damage occurred
 - Items specifically required by code – only what is minimally required by current local and state health and safety codes costs are exempt



SINGLE FAMILY DWELLING UNIT AGREEMENT IN LIEU



AGREEMENT IN LIEU OF AN EROSION AND SEDIMENT CONTROL PLAN

-SINGLE FAMILY RESIDENCE -

Address _____ Permit Number _____

In lieu of submitting an Erosion and Sediment Control Plan for the construction of this single family dwelling, I agree to comply with the requirements as determined by the Erosion and Sediment Control Program Administrator, "Program Administrator" or designated agent. These requirements shall be based on the conservation standards contained in the City of Richmond Erosion and Sediment Control Ordinance (Article III, Chapter 14, Code of the City of Richmond, Erosion and Sediment Ordinance and shall represent the minimum practices necessary to provide adequate erosion and sediment control measures. **I further understand that failure to comply with such requirements within three (3) working days following notice by the Program Administrator could result in citation for violation of the E&S Ordinance.**

MEASURES SPECIFIED BY THE PROGRAM ADMINISTRATOR:

- The Erosion & Sediment Control Inspector shall be contacted at least two (2) working days before the commencement of the site clearing to schedule a pre- construction meeting. Please call your inspector to set up the site meeting.
- Show clearly the limits of clearing and grading for the proposed development.
- Install appropriate E&S control measures to prevent sediment from leaving the site. The E&S measures shall be in accordance with Virginia Stormwater Handbook 5.3.1. The E&S control measures shall be maintained until the site is stabilized
- Provide temporary construction entrance as in accordance with VESCH, 1992, Plate 3.02-1. The minimum standard #17- must be implemented in order to minimize the transport of sediment by vehicular traffic onto a paved surface.
- Provide tree protection to all saved trees within the disturbed area. See VESCH, 1992, Plate 3.38.
- Grade the site to provide positive surface drain away from the building. Surface drain should not pond on site or to adversely impact adjacent properties.
- At the end of each work day, E&S Control measures shall be properly reinstalled for areas that have been used to access the site.
- After final grading, the site shall be stabilized within seven (7) days with permanent vegetation or a protective ground cover suitable for the time of year prior to the issuance of a Certificate of Occupancy permit.
- Other E&S Control measures may be required as the site condition permits.

PERFORMANCE BOND

Section 14-152 of the Code of the City of Richmond requires that a Performance Guarantee be posted in the amount determined by the Program Administrator. The bond amount will be based on the estimated quantity of E&S Control measures, the unit price from the VESCH, 1992 and twenty (20) percent of the total estimated E&S Control measures cost. Such Performance Guarantee shall be conditioned to conform to any work of approved standards and specifications as specified in this approved Agreement.

Final inspection of the project shall be made by the Program Administrator or designee. The release of the Performance Guarantee is contingent upon the findings of such inspection. Release of the Performance Guarantee shall occur 80% vegetation of the project site is deemed adequately stabilized by the Program Administrator.

SUBMITTED:

Applicant signature & address

Date

APPROVED:

Program Administrator

Date

Responsible Land Disturber

Date



PRELIMINARY PLAN REVIEW CHECKLISTS AND FULL CHECKLISTS



CITY OF RICHMOND, DPU WATER RESOURCES DIVISION
ENVIRONMENTAL PLAN REVIEW CHECKLIST

Department of Public Utilities, Water Resources Division
1801 Commerce Road
Richmond, VA 23219

THIS FORM MUST BE COMPLETED BY THE ENGINEER OF RECORD FOR EVERY RESMP PERMIT SUBMITTAL . INCOMPLETE APPLICATIONS WILL BE REJECTED.

All items must be fully addressed and indicated so by checking the box for that item. Identify plan sheet(s) addressing specific requirements to help facilitate plan review under SHEET # box on the form.

PROJECT INFORMATION

PROJECT ADDRESS:	PROJECT NAME:
TOTAL DISTURBED ACRES:	
PLAN PREPARED BY:	EMAIL:
DATE CHECKLIST PREPARED:	PHONE:
PARCEL OWNER:	EMAIL:
	PHONE:

Check features applicable to this plan:

Yes	No		Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Perennial Stream	<input type="checkbox"/>	<input type="checkbox"/>	Common Plan of Development
<input type="checkbox"/>	<input type="checkbox"/>	Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Subdivision (3+ parcels)
<input type="checkbox"/>	<input type="checkbox"/>	100 Year Floodplain	<input type="checkbox"/>	<input type="checkbox"/>	Combined Sewer Service Area
<input type="checkbox"/>	<input type="checkbox"/>	Floodway	<input type="checkbox"/>	<input type="checkbox"/>	Municipal Separate Storm Sewer System (MS4)
<input type="checkbox"/>	<input type="checkbox"/>	Chesapeake Bay Preservation Area			

Check which areas apply and complete indicated checklist section:

CHECKLIST SECTION	REGULATION/GUIDANCE
Section 2 <input type="checkbox"/>	Erosion and Sediment Control [Chapter 14, Article V]
Section 3 <input type="checkbox"/>	Chesapeake Bay Plan [Chapter 14, Article IV]
Section 4 <input type="checkbox"/>	Storm Drain System [COR Stormwater Management Design and Construction Standards Manual]
Section 5 <input type="checkbox"/>	Stormwater Management Facilities [Sec. 14-327]
Section 6 <input type="checkbox"/>	Floodplain [Chapter, 14, Article III]



CITY OF RICHMOND, DPU WATER RESOURCES DIVISION
ENVIRONMENTAL PLAN REVIEW CHECKLIST

Check if additional permits or supporting documentation may apply and are included with application:

YES	NA	
<input type="checkbox"/>	<input type="checkbox"/>	Stream determination and wetland delineation study with maps and supporting documentation. Approved map and DEQ/VMRC approved wetland permit(s).
<input type="checkbox"/>	<input type="checkbox"/>	City confirmation letter of stream perennality study (include on appropriate plan sheet).
<input type="checkbox"/>	<input type="checkbox"/>	Nutrient Credit information (include DEQ approval of Bank and recorded approval of sale on appropriate plan sheet)
<input type="checkbox"/>	<input type="checkbox"/>	General permit coverage registration statement and SWPPP.
<input type="checkbox"/>	<input type="checkbox"/>	A copy of all Federal permits
<input type="checkbox"/>	<input type="checkbox"/>	A copy of all State permits

SECTION 1 – GENERAL INFORMATION

Instructions: All plans require this General Information.

YES	SHEET #	REQUIREMENT	NA
		1) Cover Sheet	
		a. Project name	
		b. Owner/developer name, address, phone number, and contact person	
		c. Vicinity map with project outlined	
		d. List all required permits	
		e. Sheet index	
		f. Plan date/revision dates	
		g. List ESC quantities	
		h. List storm drainage quantities	
		i. Provide BMP summary table (example Excel file available for download)	
		2) Plan Sheets	
		a. Engineer's, Architect's, Land Surveyor's, or Landscape Architect's stamp signed and dated on all plan sheets	
		b. All drawings must be to scale	
		c. Provide a north arrow on every plan sheet	
		d. Show all existing and proposed contours (2' intervals maximum)	
		e. Show property lines with metes and bounds and owner information. Include legal description for adjacent properties	
		f. Provide detail schematic for plans that cover two or more sheets	
		g. Complete title block	
		h. Show and label extents of buildable area (setbacks, floodplain limits, RPA, etc.)	
		i. Show limits of construction, limits of disturbance, and limits of grading	
		3) Existing Conditions; show the following features, where applicable:	
		a. All 100-year flood plain limits (No land disturbance or structures shall be permitted in the floodplain limits without prior City Approval)	
		b. Location and boundaries of tidal and non-tidal wetlands, as delineated on the National Wetland Inventory (NWI) Maps prepared by the U.S. Department of the Interior (available from the Program Administrator)	
		c. Any Chesapeake Bay Preservation Area (RMA and/or RPA) buffer zones	
		d. Existing/proposed right of way (including improved and unimproved)	
		e. All existing easements (utilities, streets)	



CITY OF RICHMOND, DPU WATER RESOURCES DIVISION
ENVIRONMENTAL PLAN REVIEW CHECKLIST

YES	SHEET #	REQUIREMENT	NA
		f. Physical features, including streets, alleys, parking areas and existing site improvements to remain, such as structures and their use, parking areas, driveways and all areas of impervious cover	
		g. Existing utilities including storm sewer, curb and gutter, sewer (including septic drain fields), water, electrical, and gas	
		h. Existing streams, ponds, culverts, ditches, and other water bodies; including field located perennial streams	
		i. Soil types	
		j. Forest cover and other vegetative areas	

Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.



CITY OF RICHMOND, DPU WATER RESOURCES DIVISION
PLAN REVIEW CHECKLIST

SECTION 2 – EROSION AND SEDIMENT CONTROL PLAN

Instructions: All plans require an Erosion and Sediment Control Plan. Single-family homes covered by an Agreement in Lieu of for Erosion Control are exempt from submitting a full Erosion and Sediment Control Plan but are required to show the locations of the silt fence and construction entrance (VSMH Section 4.3.2.6.1).

YES	SHEET #	REQUIREMENT	NA
		1) ESC Narrative per DEQ Virginia Stormwater Management Handbook (VSMH) Section 4.3.2.6.1	
		a. Project Description – Describe purpose and scope of land disturbing activity and area (acres) to be disturbed	
		b. Existing Site Conditions – Describe existing topography, vegetation, drainage, etc.	
		c. Adjacent Site – Describe neighboring areas, streams, lakes, residential areas, roads, parks, etc., which may be affected by the land disturbance	
		d. Off-Site areas – Describe any offsite land disturbing activities (borrow/disposal, stockpiles, grading, etc.) associated with the project.	
		e. Soils – Provide brief description including, name, mapping unit, erodibility, permeability, depth, texture, and soil structure	
		f. Critical areas – Describe critical areas with potential erosion problems (long/steep slopes, water bodies, wetlands, etc.)	
		g. Erosion & Sediment Control measures – Describe methods and measures used	
		h. Permanent stabilization – Describe how the site will be stabilized after construction is complete	
		i. Maintenance – Designate responsible party for maintaining ESC measures	
		j. Maintenance, continued – Provide a description and schedule of regular inspection and repair of ESC measures	
		k. Stormwater run-off considerations – Will site cause increase in peak run off rates?	
		l. Calculations – All temporary and permanent channels, basins, diversions, pre- and post-development run-off, MS-19, etc.	
		2) Show limits of disturbance outlined and labeled (all ESC measures must be within the limits of disturbance)	
		3) Show existing vegetation with any tree protection	
		4) Show limits of clearing and any undisturbed areas	
		5) Provide a soils map	
		6) Provide ESC measures during demolition of the site (this should be stated in the sequence of construction under the first phase)	
		7) Provide adequate access, staging, and stockpiling areas with appropriate ESC measures	
		8) List key of ESC measures with quantities	
		9) Show and label all ESC measures on plan sheet	
		10) List construction sequence/schedule specific to project and all phases, including any site demolition and removal of ESC measures	
		11) All detention/retention ESC measures within 20' of a building's foundations must be evaluated	
		12) Show existing and proposed drainage patterns with flow arrows, time of concentration flow paths, and c- factors (or curve numbers)	
		13) Notate any off-site drainage areas (in acres) entering site	
		14) Sediment traps (Disturbed area with contributing drainage area of < 3 acres):	
		a. Provide inlet protection and outlet location	
		b. Maximize flow length from inlet to outlet	
		c. Provide existing drainage area, proposed drainage area, storage capacity, and all supporting calculations per VSMH Chapter 7.4 C-SCM-11	



CITY OF RICHMOND, DPU WATER RESOURCES DIVISION
PLAN REVIEW CHECKLIST

YES	SHEET #	REQUIREMENT	NA
		15) Sediment basins (Disturbed area with contributing drainage area of > 3 acres):	
		a. Provide inlet and outlet protection	
		b. Maximize flow length from inlet to outlet (add baffles as needed)	
		c. Provide basin data as follows: Basin type, existing drainage areas, proposed drainage area, storage required, storage provided, weir crest elevation, storage depth, bottom dimensions, cleanout elevation, channel depth of flow, maximum side slopes (specify cut or fill), bottom elevation, embankment elevation, riser dimensions, barrel dimensions. Include Temporary Sediment Basin Design Data Sheet.	
		d. Show separate dewatering device for pipe outlet traps	
		e. Provide all supporting calculations per VSMH Chapter 7.4 C-SCM-12	
		16) Temporary storm drain diversions	
		a. Show profile	
		b. Give invert elevations of temporary pipe into trap on plan view	
		c. Provide details	
		17) Required notes on plans	
		a. General ESC Notes 1-9 (VAESCH Chapter 6 , Table 6-1, pg. VI-15)	
		b. City of Richmond Standard ESC notes	
		c. City of Richmond Standard ESC measure maintenance items	
		d. All 19 Minimum standards (9VAC25-875-560, VSMH Chapter 5.3.1)	
		18) Provide details for all erosion & sediment control measures proposed per VSMH Chapter 7	
		19) Provide temporary seeding schedule per VSMH Chapter 7 .	
		20) Provide permanent seeding schedule per VSMH Chapter 7 .	
		21) Off-site grading requires written documentation of permission from adjoining owner. Otherwise, include on current permit or separate land disturbing plan.	
		22) Subdivision	
		a. For the MS-19 requirements, an analysis of the outfall of the proposed development shall be done so that the natural channel is extended to the receiving stream.	
		b. If the drainage analysis fails to meet MS-19, stormwater management shall be required at the road construction plan stage of submission for a central facility.	
		c. Any lots submitted for a building permit that are part of a subdivision development shall not be considered as separate project, rather the subdivision development, shall be considered as a single project. Therefore, the central stormwater management facility and the overall site grading plan shall govern.	

Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.



CITY OF RICHMOND, DPU WATER RESOURCES DIVISION
PLAN REVIEW CHECKLIST

SECTION 3 – CHESAPEAKE BAY PLAN

Instructions: If the site or a portion of the site is located within the Chesapeake Bay Preservation Act (CBPA) Resource Protection Area (RPA) or Resource Management Area (RMA), a Chesapeake Bay Plan must be provided. Applicable requirements of a Chesapeake Bay Plan include: Physical site characteristics, proposed improvements, grading plan, BMPs, landscape plan, narrative, WQIA, hydrology, impacts, wastewater, stream perennial flow determination, USACE wetland delineation approval, etc.

YES	SHEET #	REQUIREMENT	NA
		1) The City of Richmond Chesapeake Bay Preservation Program Public Information Manual has been reviewed by the plan preparer and submitted plan(s) meet all requirements	
		2) All existing conditions, as specified in Section 1 of this checklist	
		3) Location of all significant plant material, including all trees on site six inches or greater in diameter at breast height; groupings of trees or significant vegetation may be outlined	
		4) Areas of proposed impervious surface, including:	
		a. Streets, alleys, sidewalks, curbs and gutters, driveways, and access, loading and other paved areas	
		b. Structures, including building footprint, dimensions, and use	
		5) The location of any sewage disposal system or reserve drain fields	
		6) Preliminary grading plan and/or cross-section drawings (if necessary to evaluate site drainage and conservation of natural features)	
		7) If structural Best Management Practice (BMP)/stormwater management facilities are proposed, complete Section 5 of this checklist	
		8) Additional supporting information shown in a table format	
		a. Total site area	
		b. Total ChesBay area	
		c. Amount of impervious area	
		d. Amount of impervious area in ChesBay	
		e. Amount of open/forested space on site	
		f. Amount of open/forested space in ChesBay	
		g. Percentage of impervious area for existing and proposed conditions	
		9) An Erosion and Sediment Control Plan that meets (at a minimum) the requirements in Section 2 of this checklist, and specifically addresses stream crossings, wetland disturbances, and shoreline conditions	
		10) Landscape plan	
		a. Major landscaping features, including existing vegetation, to be retained	
		b. Clear delineation of all trees proposed for removal	
		c. Description of plant species to be disturbed or removed	
		d. Treatment of the RPA buffer, indicating proposed landscaping and vegetation to be retained by type and quantity	
		e. Replanting schedule for trees and other significant vegetation removed for construction, including list of trees and plants to be used	
		f. Demonstration that the design will preserve, to the greatest extent possible, any significant trees and vegetation on site and provide maximum erosion control and overland flow benefits; provide description in narrative	
		g. Demonstration that indigenous plants (see the City of Richmond Chesapeake Bay Preservation Program Public Information Manual Plant List, Appendix C) are to be used to the greatest extent possible	
		h. At the discretion of the Program Administrator, the applicant may be required to provide additional information, particularly in support of significant mitigation requirements for a project that disturbs more than 50,000 square feet of area	



CITY OF RICHMOND, DPU WATER RESOURCES DIVISION
PLAN REVIEW CHECKLIST

YES	SHEET #	REQUIREMENT	NA
		11) A Water Quality Impact Assessment (WQIA) is required for all development proposed in an RPA or any other area warranted as determined by the Program Administrator. The WQIA consists of the following elements:	
		a. Describe existing topography, soils, hydrology and geology of the site and immediately adjacent lands	
		b. Describe impacts of the proposed development on topography, soils, hydrology and geology on site and adjacent lands	
		c. Quantify disturbance/destruction of wetlands and provide justification	
		d. Describe disruption/reduction in supply of water to wetlands, streams, lakes, rivers or other water bodies	
		e. Describe disruption to existing hydrology, including wetland and stream circulation patterns	
		f. Provide source, location and description of proposed fill material	
		g. Characterize dredge material and provide location of dumping area for material	
		h. Locate and describe impacts on shellfish beds, submerged aquatic vegetation, and fish spawning areas	
		i. Describe any creation of wetlands to replace those lost	
		j. Describe efforts to minimize cut and fill	
		12) An RPA encroachment application with the Landscape Mitigation Plan that is done per the Riparian Buffer Mitigation Manual with replanting plan and encroachment layout.	
		13) Septic System & Drain Fields	
		a. Show any existing septic tank and drain field location	
		b. Include calculations and locations of anticipated changes which affect existing septic drain field or wastewater irrigation areas	
		c. Provide justification for sewer line locations in environmentally sensitive areas and describe construction techniques and standards	
		d. New septic tanks are not allowed	

Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.



ENVIRONMENTAL PLAN REVIEW CHECKLIST

SECTION 4 – STORM DRAIN SYSTEM

Instructions: If a site contains a storm drain system, including underground piping or open channels, this section should be filled out. All storm drain systems shall be designed according to the [COR Stormwater Management Design and Construction Standards Manual](#). In general, components required for review of a storm drain system include: existing hydrology, proposed hydrology, hydraulics (culvert, storm drain, open channel), profiles, calculation/modeling report with narrative/data/results, etc.

YES	SHEET #	REQUIREMENT	NA
		1) Hydrology	
		a. Identification of each stormwater outfall, including existing and proposed drainage areas: show size of drainage area, time of concentration flow path, composite break down of the runoff coefficient, and arrows indicating flow directions	
		b. Clearly define any sub-drainage areas and drainage divide lines	
		c. Show all existing and proposed hydrology computations	
		2) Hydraulics	
		a. Show and label all existing and proposed drainage structures on plan	
		b. Existing and proposed storm drain pipes should show the length of the pipe, the size of the pipe, and the type of the pipe in plan and profile	
		c. Any storm drainage within a building footprint shall comply with Chapter 7 in the latest edition of the International Plumbing Code.	
		d. Storm drainage design requirements:	
		i. Show all storm drain hydraulic computations on plans	
		ii. Demonstrate the 10-year design flow less than pipe capacity	
		iii. Storm sewer slopes meet minimum criteria (0.3%)	
		iv. All calculations shall be submitted on standard VDOT forms or other acceptable documentation	
		v. Manhole steps required in structures 4-feet and greater in depth	
		vi. Provide a minimum cover of 3.5-feet for all storm drain structures, OR, provide protective fill for all storm drainage with less than two feet of cover	
		vii. Provide storm drain load protection where necessary such as cradle and encasement (provide pipe loading table on plan)	
		viii. Show and analyze the outfall of the storm drain profile. Submit storm drain computations to support all drainage outfalls	
		ix. Specify/show on plan/profile a dimensioned outfall channel section with 10-year lining depth, side slopes, bottom width	
		e. Open channel design requirements:	
		i. Provide cross-section details for open channel section. Show and label the location of the section on plan. Show the section's depth of flow, velocity, discharge and channel lining 'n' value, etc.	
		ii. Open channel depth of flow less than 3', otherwise flow path shall be piped	
		iii. Maximum permissible flow velocity of 3.5 fps for grass ditches	
		iv. Open channel longitudinal slope > minimum slope (0.2%)	
		v. Show rip-rap channel(s) meet design criteria: >100 ft from front of single-family dwellings, unless otherwise approved; >75 ft from rear of single-family dwellings	
		vi. Rip-rap lining thickness meets minimum criteria of 24-inch thickness with geotextile fabric underlayment	
		vii. Specify paved channels when open channel slopes < 0.75%	



ENVIRONMENTAL PLAN REVIEW CHECKLIST

YES	SHEET #	REQUIREMENT	NA
		viii. Where paved channels are steeper than 15%, anchor lugs are required every 10-feet on center	
		ix. 9-inch freeboard (vertical wall) is required along outside radius of paved ditches	
		f. Storm drain/open channel profile requirements:	
		i. Show existing and proposed storm drain profiles, where applicable	
		ii. Show existing ground and proposed grade surface elevations along the centerline of the system	
		iii. Label the percent grade (slope) and length	
		iv. Label the size and type of material	
		v. Show and label all existing and proposed storm drain structures to include rim elevations, inverts in and out, etc.	
		vi. Show the hydraulic grade line on storm drain profile (all hydraulic grade lines must be supported with computations shown on plan)	
		vii. Show and label all existing and proposed utilities that cross the proposed storm drain/open channel and label clearances (minimum clearance is required)	
		viii. Show all storm drain crossings with the appropriate clearances	

Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.



ENVIRONMENTAL PLAN REVIEW CHECKLIST

SECTION 5 – STORMWATER MANAGEMENT FACILITIES

Instructions: If a site contains a stormwater management facility this section should be filled out, Complete the following checklist to document technical criteria and BMP requirements.

YES	SHEET #	REQUIREMENT	NA
		1) Stormwater management plan requirements (9VAC25-875-510)	
		a. A general description of the proposed stormwater management facilities and the mechanism through which the facilities will be operated and maintained after construction is complete;	
		b. Documentation and summary of calculations verifying compliance with the water quality and quantity requirements (9VAC25-875-580 and 9VAC25-875-600 , respectively); or	
		c. If an operator intends to meet the quality and quantity requirements using off-site compliance options, where applicable, then a letter of availability from the off-site provider must be included, as well as documentation of the applicant's acquisition of nutrient credits;	
		d. A map or maps of the site includes:	
		i. Existing conditions, as defined in Section 1	
		ii. All contributing drainage areas; existing and proposed land use/land cover with tabulation of percentages of surface area for various uses (if not already included with Section 3);	
		iii. Sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels;	
		iv. Proposed stormwater management facilities and associated existing and proposed drainage patterns;	
		e. Stormwater management facility/BMP design calculation summary. (See VA Stormwater Management Handbook Chapter 8 . Refer to Item 3 for additional calculation requirements	
		2) Profile requirements	
		a. Storm drainage system entering device (refer to Section 4 of this checklist)	
		b. Low flow channel in basins (Pilot channel)	
		c. Profiles of all structures	
		d. Existing ground	
		e. Proposed grade	
		f. Pipes and other utilities	
		g. Water Surface Elevation of 2, 10 and 100-year design storms and Normal Pool	
		h. Emergency spillway elevation	
		i. Sub-surface details, if required (i.e., cutoff trench, clay core, clay liner, etc.)	
		3) Additional Stormwater BMP information	
		a. All BMPs	
		i. Construction and material specifications	
		ii. Details and notes	
		iii. All permanent material to be equal to standard inlet and structure quality and materials	
		iv. Grades 15% max	
		v. Side slopes 2:1 max	
		vi. Maintenance access provisions (fence and gate details with location, height, materials, and specifications, if applicable)	
		b. Infiltration BMPs	
		i. Soil investigation data	
		ii. Soil borings locations	
		iii. Soil classification	



ENVIRONMENTAL PLAN REVIEW CHECKLIST

YES	SHEET #	REQUIREMENT	NA
		iv. Strata profile	
		v. Water table elevation	
		vi. Elevations of strata	
		vii. Location and easements	
		viii. Phreatic line	
		c. Attenuation BMPs	
		i. Design flow inundation areas	
		4) Design Report	
		a. Narrative	
		i. Explanation of method used	
		ii. Findings of existing conditions	
		iii. Proposed development	
		iv. Best management investigation	
		v. Alternatives considered	
		vi. Why chosen or abandoned	
		vii. Water quality benefits of design	
		viii. Peak management benefits of design	
		b. Design data	
		i. Formulas and source of information	
		ii. HEC-2 or HEC-RAS, or other appropriate computer modeling input/output	
		iii. Details, nomographs, formulas	
		1. Existing peak flows for 2- and 10-year storms	
		2. Proposed peak flows for 2- and 10-year storms	
		3. Performance curve of device (elevation vs. discharge)	
		4. Hydrograph plot for proposed conditions 2- and 10-year storms	
		5. Water quality computations	
		iv. Clearances – vertical and horizontal	
		c. Outfall study	
		i. Existing conditions recommendations and hydraulic analysis	
		ii. Proposed conditions	
		1. Statement	
		2. Proposed flows	
		5) Maintenance Requirements	
		a. Provide inspection and maintenance schedules/frequencies on plans	
		b. Stormwater Utility Maintenance Agreement (SUMA) completed by owner and notarized	
		c. Stormwater Management Access Exhibit (Attachment A) provided	
		6) For projects with Limits of Disturbance > 1 acre:	
		a. Pollution Prevention Plan (PPP, Standard plan sheet available for download), that addresses the following:	
		i. Wastewater from washout of concrete	
		ii. Washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials	
		iii. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance	



CITY OF RICHMOND, DPU WATER RESOURCES DIVISION

ENVIRONMENTAL PLAN REVIEW CHECKLIST

YES	SHEET #	REQUIREMENT	NA
		iv. Soaps or solvents used in vehicle and equipment washing	
		b. Stormwater Pollution Prevention Plan (SWPPP)	
		1. Designation forms	
		2. See template for a list of requirements	

Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.

**ENVIRONMENTAL PLAN REVIEW CHECKLIST****SECTION 6 – FLOODPLAIN**

Instructions: If a site is located within the Floodplain this section should be filled out. For Floodplain management review, provide the following: a description of work, other development activities, floodplain determination, building alterations, etc.

Description of work:

ACTIVITY	STRUCTURE TYPE
<input type="checkbox"/> New Structure	<input type="checkbox"/> Residential (1-4 family)
<input type="checkbox"/> Addition	<input type="checkbox"/> Residential (>4 family)
<input type="checkbox"/> Alteration	<input type="checkbox"/> Non-residential (Floodproofing? <input type="checkbox"/> Yes <input type="checkbox"/> No)
<input type="checkbox"/> Relocation	<input type="checkbox"/> Mixed Use (Residential & Commercial)
<input type="checkbox"/> Demolition	<input type="checkbox"/> Manufactured (Mobile) Home (In Manufactured Home Park? <input type="checkbox"/> Yes <input type="checkbox"/> No)
<input type="checkbox"/> Replacement	

Nearest intersection: _____

Estimated Cost of Project: \$ _____

OTHER DEVELOPMENT ACTIVITIES

<input type="checkbox"/> Clearing	<input type="checkbox"/> Fill	<input type="checkbox"/> Mining	<input type="checkbox"/> Drilling	<input type="checkbox"/> Grading
<input type="checkbox"/> Excavation (except for structural development checked above)				
<input type="checkbox"/> Watercourse Alteration (including dredging and channel modifications)				
<input type="checkbox"/> Drainage Improvements (including culvert works)				
<input type="checkbox"/> Road, Street or Bridge Construction				
<input type="checkbox"/> Subdivision (<input type="checkbox"/> New or <input type="checkbox"/> Expansion)				
<input type="checkbox"/> Individual Water or Sewer System				
<input type="checkbox"/> Other: _____				

FLOODPLAIN DETERMINATION

The proposed development is located on: FIRM Panel #: _____ Effective Date: _____

The proposed development is:

Yes No

Partially located in the SFHA, but building/development is NOT

Located in a Special Flood Hazard Area

FIRM Zone designation is: _____

100-year flood elevation at the site is _____ ft. NAV88 (MSL) or ☐ Unavailable

Located in the floodway

Located in the flood fringe

ADDITIONAL INFORMATION

Change in water elevation _____ ft., meets floodplain ordinance limits.

Top of new compacted fill elevation: _____ ft. NAVD 88 (MSL)

Floodproofing protection level (non-residential): _____ ft. NAVD 88 (MSL)



ENVIRONMENTAL PLAN REVIEW CHECKLIST

YES	SHEET #	REQUIREMENT	NA
		1) Show ultimate condition (as zoned) for the 100-year storm	
		2) Show existing natural channel grade:	
		a. Profile along natural line boundary to boundary	
		b. b) Average grade line	
		3) Show required plan information	
		a. Base Flood Elevation (BFE) at the property limits and work area	
		b. Limits of Special Flood Hazard Area (SFHA) including floodway where applicable	
		c. Location and elevation of existing and proposed construction in the SFHA, including, but not limited to: streets, pavement, retaining walls, accessory buildings, swimming pools, parking lots, driveways, trash enclosures, storage tanks, and other onsite features	
		d. The extent of watercourse relocation and/or landform alterations	
		e. Compaction requirements for fill areas	
		f. Locations of existing and proposed underground utilities	
		g. "100-year" flood elevations, if they are not otherwise available, for subdivision or other development plans (Required if the subdivision or other development exceeds 50 lots or 5 Acres, whichever is the lesser)	
		4) Show information required if buildings are to be constructed, enlarged, or altered within the floodplain	
		a. Anchorage of proposed structures, including details for anchoring structures	
		b. Residential: Basement or lowest floor at least 1 foot above BFE	
		c. Non-Residential: Lowest floor or flood proofing 1 foot above BFE	
		d. For floodproofed structures, applicant must attach certification from registered engineer or architect	
		e. Show types of water-resistant materials used below the first floor	
		f. Provide details of floodproofing of utilities located below the first floor	
		g. Provide details of enclosures below the first floor	
		h. Show venting of enclosed areas for pressure equalization	
		i. Demonstrate that electrical, heating, ventilation, plumbing, air-conditioning, and other service equipment is designed or located to prevent water from entering or accumulating within the components during flooding (above BFE)	
		j. Show on-site waste disposal systems located to avoid impairment or contamination	

Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.



DESIGNATION OF REGULATED LAND DISTURBER



Department of Public Utilities
Water Resources Division
1801 Commerce Road
Richmond VA 23224
Tel. 804.646.7586

Designation of "Responsible Land Disturber"

For project located at _____ under Permit # _____

All applicants for permits involving Land Disturbing activities in the City of Richmond, Virginia, must provide the name of a "Responsible Land Disturber" ("RLD") prior to the permit being issued (Code of the City of Richmond – Section 14-150).

The RLD must be based within a reasonable travel distance of the project in order to effectively monitor it and to promptly carry out any corrective action.

I, (signature of "RLD") _____, hold a certificate of competency*, as provided for by Code of Virginia §62.1-44.15:55, and will be in charge of and responsible for carrying out all activities related to the land disturbing activity regulated by the above noted permit.

I will advise the E&S Administrator immediately and in writing upon my termination as "RLD".

*** The holder of a valid Virginia Professional Engineer, Land Surveyor, Landscape Architect or Architect License who is also involved in site design and land disturbance, or possession of any of the other DCR certifications are acceptable alternative certifications for this purpose. Submit a copy of your license or certificate with this form.**

"Responsible Land Disturber" information (Please print clearly)

Name		Date signed	
License # or Certificate of Competency #		License or certificate type (PE, RLD, etc.)	
Expiration date of license or certificate			
Telephone number	Fax number	E-mail address	
Mailing address			

Sec. 14-147. of the Code of the City of Richmond defines Land Disturbing activity, in part, as "...any land change which may result in soil erosion from water or wind and the movement of sediments into state waters or onto lands in the Commonwealth, including, but not limited to, clearing, grading, excavating, transporting and filling of land..."



EXPEDITED PLAN REVIEW SUBMISSION CHECKLIST



WATER RESOURCES DIVISION EXPEDITED PLAN REVIEW SUBMISSION CHECKLIST

This checklist must be completed in its entirety and included on the Cover Sheet of all plans submitted to the Water Resources Division. Your submission will be considered incomplete if you do not provide an answer (or indicate "NA" or "not applicable") for all fields on the checklist. Your bond will be determined after the project has been submitted. Projects that are greater than 5 acres of disturbance or within the Special Flood Hazard Area (SFHA) are not eligible for the expedited review process.

A. APPLICANT INFORMATION

- ☐ Initial Submission
☐ Resubmission (based on comments) - Plan #: _____
☐ Revision - Permit #:
☐ Part of a Larger Common Plan of Development? ☐ Yes ☐ No
☐ Offsite Improvements Proposed? ☐ Yes ☐ No

Design Engineering Firm Name	Contact Name:
Mailing Address:	City, State, Zip Code:
Phone:	Email:
Contractor Name	Contact Name:
Mailing Address:	City, State, Zip Code:
Phone:	Email:
Owner Name	
Mailing Address:	City, State, Zip Code:
Phone:	Email:
Project Name	Address
City, State, Zip Code:	
Phone:	Email:
GPIN:	Latitude, Longitude
Total Area of Land Development:	Total Area to be Disturbed:

B. ESC & SWM PLAN INFORMATION [provide the plan sheet number where information is located]

Pre-development Site Information	Plan Sheet No.
1. Narrative of pre-development site conditions	
2. Existing property boundaries (inc. lease boundaries)	
3. Existing topography (existing contours)	
4. Existing streams, ponds, ditches, wetlands & other water bodies	
5. Existing karst features	
6. Existing 100-year FEMA floodplain	
7. Existing Improvements (inc. buildings, roads, parking & utilities)	
8. Existing vegetative areas (inc. forest cover, open space & turf)	
9. Existing land cover / use tabulation	Sec. C, checklist
10. Existing easements (inc. Deed Book/Page ref. or Instrument #)	
11. Pre-development drainage areas (inc. acreage, divides and flow paths)	

General Plan Information	Plan Sheet No.
12. Vicinity map	
13. North arrow (on appropriate every plan sheet)	
14. Plan legend	
15. Plan scale	
16. Plan sheet index	
Post-development Site Information	Plan Sheet No.
17. Narrative of post-development site conditions	
18. Proposed property boundaries	
19.	
20. Proposed limits of land disturbance (limits of clearing & grading)	
21. Proposed grading & contours	
23. Proposed improvements (inc. buildings, roads, parking & utilities)	
24. Proposed vegetative areas (inc. forest cover, open space & turf, landscaping)	
25. Proposed land cover /use tabulation	Sec. D, checklist
26. Proposed easements	
27. Post-development drainage areas (inc. acreage, divides and flow paths)	
Erosion & Sediment Control Information	Plan Sheet No.
28. Full Narrative of proposed erosion & sediment controls	
29. All Minimum standards (9VAC25-840-40)	
30. Critical erosion areas (see VESCH, Chapter 6)	
31. Proposed erosion & sediment controls (see VA Stormwater Management Handbook)	
32. Erosion & sediment control detail drawings	
33. Hydrologic & hydraulic computations (inc. runoff characteristics)	
34. Inspection, operation & maintenance requirements	
Post-development Water Quantity & Water Quality Control Information	Plan Sheet No.
35. Narrative of proposed stormwater management facilities / practices	
36. Proposed stormwater management facilities / practices	Sec. F, checklist
37. Hydrologic & hydraulic computations (inc. runoff characteristics)*	
38. Long-term inspection, operation & maintenance requirements	
39. Outfall summary table with pre, post, and allowable discharge rates used for quantity assessment; identify the type of conveyance system at each point of discharge	
40. Storm drainage design computations	
41. Storm sewer pipe longitudinal profiles	
42. Hydraulic grade lines elevations	
43. Cross-section for open manmade channel (1, 2 and 10yr wse)	
Stormwater & Water Quantity Control Information	Plan Sheet No.
35. Narrative of proposed stormwater management facilities / practices	
36. Proposed stormwater management facilities / practices	Sec. F, checklist
37. Hydrologic & hydraulic computations (inc. runoff characteristics)*	
38. Long-term inspection, operation & maintenance requirements	
39. Outfall summary table with pre, post, and allowable discharge rates used for quantity assessment; identify the type of conveyance system at each point of discharge	

All Storm drainage must follow the City's Storm Drainage Construction Standards Manual

Soils & Geotechnical Information	Plan Sheet No.
40. Soils map (inc. NRCS soil types)	
41. Soils tabulation	Sec. D, checklist
42. Geotechnical investigation / report (inc. acid forming soils, karst, impoundments & site preparation)	
Other Supporting Information	Plan Sheet No.
43. Boundary survey (see 18VAC10-20-370)	
44. Physical improvement survey (see 18VAC10-20-380)	
45. Topographic survey (see 18VAC10-20-382)	

C. LAND COVER TABULATION [acreages reported to 1/100th of an acre]

Existing Land Cover / Use	Acres
1. Impervious Cover	
Impervious Cover (percentage of total land area of development)	%
2. Managed Turf	
3. Open Space	
4. Forest Cover	
5. Prime Farmland (per NRCS Farmland Classification)	
Proposed Land Cover / Use (per "Site" tab of VRRM spreadsheet)	Acres
1. Impervious Cover	
Impervious Cover (percentage of total land area of development)	%
2. Managed Turf	
3. Open Space	
4. Forest Cover	

D. SOILS TABULATION [acreages reported to 1/100th of an acre]

Map Unit Symbol	Map Unit Name	HSG ¹	K factor ²	Erodibility ³	LOD	% of LOD

¹ HSG means Hydrologic Soil Group.

² K factor indicates the susceptibility of soil to the forces of erosion

³ Erodibility (Low, Moderate or High).

⁴ LOD" means Limits of Land Disturbance (limits of clearing & grading).

E. STORMWATER MANAGEMENT

Completed Stormwater Management Utility Agreement

F. STORMWATER MANAGEMENT FACILITIES / PRACTICES [latitude and longitude reported to 6 digits, decimal degrees format; acreages reported to 1/100th of an acre]

Address	Facility No.	Facility Type	Lat.	Long.	Rec. Water	Tot. Acres Treated	Imp. Acres Treated	Plan Sheet No.	Public or Private

--	--	--	--	--	--	--	--	--	--

G. OWNER / DEVELOPER CERTIFICATION

I hereby certify that all wetlands permits required by law will be obtained, if required, prior to commencing land disturbing activities.

I hereby certify that permission to construct any offsite improvements, if proposed, will be obtained prior to commencing land disturbing activities.

I hereby certify that all offsite nonpoint source nutrient credits will be obtained, if proposed, prior to commencing land disturbing activities.

I hereby certify that construction record drawings (as-built drawings) for all permanent stormwater management facilities/practices will be prepared and submitted to the City of Richmond prior to project closeout. The construction record drawings will be appropriately sealed and by a professional registered in the Commonwealth of Virginia, certifying that the stormwater management facilities/practices have been constructed in accordance with the approved plan(s).

Owner / Developer Name: _____

Owner / Developer Title: _____

Signature: _____ Date: _____

H. DESIGN PROFESSIONAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I hereby certify that the plans and hydrologic & hydraulic computations herein are in compliance with the Stormwater Management Act and attendant regulations, the Erosion and Sediment Control Law and attendant regulations, and applicable DEQ guidance.

Design Professional Name: _____ License No.: _____

Signature: _____

Date: _____

I. DUAL COMBINED ADMINISTRATOR (DCA) CERTIFICATION

I hereby certify that I have reviewed the plans and hydrologic & hydraulic computations herein for compliance with the Stormwater Management Act and attendant regulations, the Erosion and Sediment Control Law and attendant regulations, and applicable DEQ guidance, and recommend the plans and computations for DEQ approval.

DCA Name: _____

DCA Certification No.: _____

Signature: _____

Date: _____



EROSION AND SEDIMENT CONTROL BOND AGREEMENT AND SURETY



**CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
Erosion and Sediment (E&S) Control Agreement
Instructions**

Follow these instructions carefully to avoid delays in processing times.

The following documents ***must be submitted together***:

- A. E&S Developer's Agreement
- B. E&S Surety Calculation Sheet
- C. E&S Performance Surety (Bond, Check, or Letter of Credit)

Instructions for Attachment A: The City/Developer E&S Control Agreement must be **signed by the Landowner of Record or their Agent** on which the land disturbing activity is taking place. Please complete all highlighted fields of the document. NOTE: Do **not** fill out the date in the first line, it will be added once signed by the Director.

Instructions for Attachment B: The E&S Surety Calculation will be approved by the Water Resources Division during their review process. It will be emailed to the applicant's contact person once the plans are approved/issued. Once completed, print a copy of the calculation sheet to submit along with the other documentation for your E&S Agreement.

A Performance Surety for the estimated cost of the agreement is required. Surety may be by bond, check, or irrevocable letter of credit. Checks can be made payable to: **City of Richmond**

Water Resources can be contacted at (804)646-7586.

Completed documents must be hand-delivered (Monday through Wednesday from 9:00 am-12:00 pm) to:

Collection Systems & Regulatory Affairs Facility
Water Resources
1801 Commerce Road
Richmond, Virginia 23224
804-646-7586

***A receipt will be given upon submission of documents. You are then required to send a copy to Water Resources for proper processing.**

Request release of surety at the end of a project with Water Resources:

Written verification from the City of Richmond Erosion & Sediment Control Inspector is required before any portion of the surety is released. It is the owner's responsibility to request an inspection to obtain a surety release. The final inspection **shall not** be completed **prior to 75%** of living perennial vegetation being established. [See Virginia Department of Environmental Quality C-SSM-10 Permanent Seeding Section 3.0 Planning and Considerations.](#)



**CITY OF RICHMOND, VIRGINIA
CITY/DEVELOPER EROSION & SEDIMENT CONTROL AGREEMENT**

This Agreement, made on _____ by and between _____ **ADD OWNER NAME HERE**, hereafter called "**AGENT or OWNER**" and the City of Richmond, Virginia, hereafter called "**CITY.**"

WHEREAS, the OWNER desires approval of plans for the proposed Erosion and Sediment control measures at _____ **ADD SITE ADDRESS AND PROJECT NAME/PHASE HERE,**

WHEREAS, the Director of Public Utilities has been authorized to act on behalf of the City under Article III, Chapter 14, Richmond City Code (2020) as amended:

WITNESSETH:

1. That the OWNER has deposited with the City a performance bond with corporate surety in a form approved by the City Attorney, a cash escrow or securities acceptable to the Director of Finance in the amount of _____ **\$ADD SURETY AMOUNT HERE** the erosion and sediment controls set forth in the Virginia Erosion and Sediment Control handbook.
2. That no OWNER shall construe the posting of the cash escrow, performance bond or securities as alleviating the OWNER's responsibility for planning, placement and maintenance of adequate erosion and sediment controls.
3. That in the event measures for the control of erosion and sediment as provided for on the plans referred to herein, or on any approved revision thereof, are not constructed at or prior to the occurrence of any rainstorm or other phenomena actually causing any erosion and sediment, the City shall have the right to enter the OWNER's property and construct such measures or do such other work as may be necessary to prevent further erosion or sediment, provided that the City shall first give notice in writing to the OWNER of its intent to do so.
4. That in the event the City performs or programs work of any nature, including labor, use of equipment, and materials, under the provisions of paragraph three (3) above, either by force account or contract, the City shall be reimbursed by the OWNER for all necessary corrective action taken under the provisions of Article III, Chapter 14, Richmond City Code (2020) as amended.
5. That within sixty (60) days of the achievement of adequate stabilization of the land disturbing activity, as determined by the City, and after written notice from the poster of the bond and the completion of the land disturbing activity, the performance bond, cash escrow, securities or unexpended portion thereof, shall be refunded to the applicant or terminated as the case may be.
6. That during the performance of this agreement, the OWNER for itself, its assignees and successors in interest, affirms that it agrees to comply with Article III, Chapter 14, Richmond City Code (2020) as amended.

OWNER/Agent

CITY OF RICHMOND

(signature)

Date

Deputy Director of Public Utilities

Date

(printed)

Director of Public Utilities

Date

DPU Contract # _____

Revised 4/2025

Project Address: 1801 Commerce Rd.

Project Name: SFR

Plan Number: RSMP-145960-2025

Date Prepared:

4.8.2025

Prepared By: Susie Mcdonald

Bond Estimate for Erosion and Sediment Control Measures

Item	Description	Units	Rate	Quantity	Cost	Remark
1	Construction entrance	each	\$ 1,122.00	1.00	\$ 1,122.00	standard CE =187yd ²
2	Silt Fence	linear ft	\$ 6.00	350.00	\$ 2,100.00	
3	Temporary Seeding	acre (0-5)	\$ 2,500.00		\$ -	minimum 1 ac
4	Permanent Seeding & Mulching	acre (0-5)	\$ 2,500.00		\$ -	minimum 1 ac
5	Permanent Seeding & Mulching	acre (5-10)	\$ 2,500.00		\$ -	
6	Rip rap	square yard	\$ 20.00		\$ -	
7	Check Dams	square yard	\$ 20.00		\$ -	
8	Inlet protection	each	\$ 200.00		\$ -	
9	Outlet protection	each	\$ 200.00		\$ -	
10	Tree protection	linear ft	\$ 6.00		\$ -	
11	Diversion dike	linear ft	\$ 4.00		\$ -	
12	Safety Fence	linear ft	\$ 5.00		\$ -	
13	Super silt fence	linear ft	\$ 9.00		\$ -	
14	Straw bale barriers	each	\$ 2.00		\$ -	length = 3 ft
15	Excavation	cubic yard	\$ 30.00		\$ -	
16	Sediment Trap	each	\$ 700.00		\$ -	
17	Sediment Basin	each	\$ 2,000.00		\$ -	
18	Blanket Matting	acre	\$ 2,200.00		\$ -	
	Subtotal				\$ 3,222.00	\$ 3,866.40
	Contingency (20%)				\$ 644.40	
	Total				\$ 3,866.40	

Return Contact
Information:

NAME
ADDRESS
CITY/ST/ZIP
PHONE
E-MAIL

Susie Mcdonald
 730 E Broad St.
 Richmond, VA 23220
 804.646.7586
Susie.Mcdonald@aol.com



CBPA EXEMPTIONS AND RPA ENCROACHMENT



CHESAPEAKE BAY PRESERVATION PROGRAM

Application Instructions

EXCEPTIONS, WAIVERS, EXEMPTIONS AND BUFFER ENCROACHMENTS

PURPOSE

The Chesapeake Bay Preservation Program as defined in city code Chapter 14, Article IV, implements the requirements of the Virginia Chesapeake Bay Preservation Act and the Chesapeake Bay Preservation Area Designation and Management Regulations. As an element of the program, there are four opportunities for property owners to seek partial relief from specific requirements of the requirements. Some of this relief can be provided administratively by the City's Program Administrator; other relief can only be granted by the City Planning Commission, following public notice and a public hearing. Property owners requesting relief from requirements of the program must complete the application form for "Relief from Requirements of the Chesapeake Bay Preservation Program." In consultation with the program Administrator, the most appropriate avenue of relief can be determined.

EXCEPTIONS TO THE PROGRAM REQUIREMENTS

When the application of the Chesapeake Bay Preservation Area Ordinance to a lot or parcel located within a Chesapeake Bay Preservation Area would unreasonably restrict the utilization of the property under its current zoning, a CBPA **Exception** can be requested. Submission of the Exception Application is required for approval of any activity or use in the Resource Protection Area not specifically permitted by ordinance. Activities include grading, filling, building, paving, removal of vegetation, and any other disturbances.

Exceptions to the program requirements can only be granted by the City Planning Commission. There are no specific deadlines for the filing of an application for an exception. In general, however, the staff review and public notice period mandated by the City Code combine to result in an approval process of approximately 30 to 60 days. The City Planning Commission considers approval of Chesapeake Bay Program Exceptions at its regular meetings on the first and third Monday of each month. Incomplete submissions or major changes to the plans during the review process may cause delays in this schedule.

WAIVERS FOR NONCONFORMING USES

Under specific circumstances, for structures that existed prior to November 11, 1991, the City's Chesapeake Bay Program Administrator may waive the requirements of the ordinance. There is no fee to request a waiver, nor are there specific deadlines for the application or review process.

EXEMPTIONS TO PROGRAM REQUIREMENTS

Specific uses and development processes are identified in the Ordinance as exempt from the requirements of the program. Property owners should complete the "Relief from Requirements of the Chesapeake Bay Preservation Program" form in order to provide documentation of the necessity of the uses in the locations identified on the submitted plans. Exemptions are granted by the Program Administrator and do not require additional approval or review.

ENCROACHMENTS

Encroachments into the Resource Protection Area buffer may be approved by the Program Administrator, for lots recorded prior to the effective date of the program, provided they meet the conditions described in Section 14-264(4) of the Richmond City Code

FILING

Applications for all forms of relief are filed with the:

Department of Public Utilities
Water Resources Division
1801 Commerce Road
Richmond, Virginia 23224
Phone: (804) 646-7586
Attn: Water Resources Program Administrator

Requests for Exceptions will be forwarded to the Secretary to the City Planning Commission to schedule a hearing and provide public notice.

DEADLINES

There are no specific deadlines for the filing of an application. Applications for **Exceptions** must be approved by the City Planning Commission, which requires public notice, generally resulting in an approval process of approximately 30 to 60 days. All other requested forms of relief are generally responded to within 15 days upon receipt of a completed application.

PRE-APPLICATION CONFERENCE

Applicants **must** schedule a pre-application conference with the Program Administrator or his/her designee prior to submittal to review the request and other permitting issues that may be involved. **Staff may reject any request without a pre-application conference.** Staff will review submitted applications to ensure all required materials and information are provided. If the application is not acceptable, the required information must be provided prior to formal staff review.

SUBMITTAL REQUIREMENTS

Applications must include the following elements: **1)** completed request form; **2)** Chesapeake Bay Site Plan; **3)** Chesapeake Bay Water Quality Impact assessment.

Applications for **Exceptions** will be forwarded to the City Planning Commission for their consideration and available for public review.

1) Application Form:

The application form for relief from the Requirements of the Chesapeake Bay Preservation Program must be signed by all the owners of the property. If a legal representative signs for a property owner, a copy of the executed power of attorney is required.

2) Chesapeake Bay Site Plan

Applicants should [submit](#) an electronic version of a Chesapeake Bay Site Plan with all required elements as described in the *City of Richmond Chesapeake Bay Preservation Program Public Information Manual* and any additional information required by the Program Administrator. Depending on the type of relief requested, additional documentation as described in the Public Information Manual may also be required.

3) Chesapeake Bay Water Quality Impact Assessment

As part of the Chesapeake Bay Site Plan, the submission of a Water Quality Impact Assessment is required. The submission requirements are described in the *City of Richmond Chesapeake Bay Preservation Program Public Information Manual* which may be supplemented by any other information determined necessary by the Program Administrator for evaluation of the Application.

CITY PLANNING COMMISSION APPROVAL PROCESS for requests for exceptions

Exceptions to the Chesapeake Bay Program requirements can only be approved by the City Planning Commission. Scheduling of the hearing by the Planning Commission will be undertaken by the Planning Commission Secretary. Prior to consideration by the Planning Commission, notice of the hearing is posted on the property and is advertised in a daily newspaper, and mailed to nearby property owners. The Planning Commission will receive a report from the staff and conduct a public- hearing prior to considering and voting on the request. The decision of the City Planning Commission is final.



APPLICATION FOR RELIEF FROM REQUIREMENTS OF THE CHESPEAKE BAY PRESERVATION PROGRAM EXCEPTIONS, WAIVERS, EXEMPTIONS AND BUFFER ENCROACHMENTS

To:

Department of Public Utilities
Water Resources Division
1801 Commerce Road
Richmond, VA 23224
Phone (804) 646-7586

Date: _____

Type of Relief Requested (check one)

☐ Exception ☐ Waiver ☐ Encroachment ☐ Exemption

Please attach required documents.

Property Address(es): _____

Tax Parcel No(s): _____

Brief Description of Exception: _____

Applicant/Contact Person: _____

Mailing Address: _____

Telephone: (_____) Fax: (_____) _____

Email address: _____

Property Owner: _____

Mailing Address: _____

Telephone: (_____) Fax: (_____) _____

Property Owner's Signature: _____

**The signatures of all owners of the property are required. Please attach additional sheets as required.
If a legal representative signs for a property owner, please attach an executed power of attorney.**

Project Information (check appropriate boxes)

Current Use of Property (check one)–

- | | |
|--|---|
| <input type="checkbox"/> Vacant Land to be developed | <input type="checkbox"/> Commercial/Office/Industrial |
| <input type="checkbox"/> Single Family Residential | <input type="checkbox"/> Parking or other paved surface |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> Multi-family residential |

Subdivision Name, Lot and Section Number: _____

Lot was last recorded:

- ☐ Prior to October 1989
☐ Between October 1989 and February 2002
☐ After February 2002

Area of Property (square footage)

Within RPA: _____ Outside RPA: _____ Total: _____

Activity requiring relief is located in (check all that apply)

- ☐ Resource Protection Area Buffer land ward 50 feet
☐ Resource Protection Area Buffer seaward 50 feet
☐ Slopes greater than ____ percent
☐ Wetlands
☐ Resource Management Area

Activity requiring relief involves (check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Construction of New principal structure | <input type="checkbox"/> Paved pathways |
| <input type="checkbox"/> Accessory (detached) structure | <input type="checkbox"/> Tree/vegetation removal |
| <input type="checkbox"/> Addition to principal structure | <input type="checkbox"/> Utilities |
| <input type="checkbox"/> Parking area, or driveway, or roadway | <input type="checkbox"/> Other: _____ |

Total square footage of RPA impacted: _____

Are there any additional approvals or permits from local, state, or federal agencies required for any portion of this project (zoning variances, wetland permits, etc)?

- ☐ No
☐ Yes, Please describe: _____

Description of the Activity and reason for the request:

For **Exceptions**, Please complete the following

APPLICANT'S JUSTIFICATION FOR THE REQUESTED EXCEPTION

In accordance with Section 14-292(c) (1) of the Richmond City code, an exception cannot be granted unless specific findings are made. Please describe how the particular CBPA exception request would meet these six findings:

1. The requested exception to the criteria is the minimum necessary to afford relief;
2. Granting the exception will not confer upon the applicant any special privileges that are denied by the ordinance to other property owners who are subject to its provisions and who are similarly situated;
3. The exception request is in harmony with the purpose and intent of the Ordinance and is not of substantial detriment to water quality;
4. The exception request is not based upon conditions or circumstances that are self-created or self-imposed;
5. Reasonable and appropriate conditions are imposed, as warranted, to prevent the proposed activity from causing degradation of water quality;
6. Other findings and conditions, required by the City have been met.

For **EXCEPTIONS** and **ENROACHMENTS**, please complete the following.

Describe all mitigation measures, including BMPs and vegetation enhancement*,

- Note: all vegetation enhancement should be in accordance with the Riparian Buffers Modification and Mitigation Manual available at <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/RiparianBufferManual.pdf>

Do not mark below this line

Approvals

Program Administrator_____ Date_____

City Planning Commission_____ Date_____

Comments:_____



STREAM DETERMINATION EVALUATION FORM

North Carolina Division of Water Quality – Stream Identification Form; Version 3.1

Date:	Project:	Latitude:
Evaluator:	Site:	Longitude:
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30</i>	County:	Other <i>e.g. Quad Name:</i>

A. Geomorphology (Subtotal = _____)				
	Absent	Weak	Moderate	Strong
1 ^a . Continuous bed and bank	0	1	2	3
2. Sinuosity	0	1	2	3
3. In-channel structure: riffle-pool sequence	0	1	2	3
4. Soil texture or stream substrate sorting	0	1	2	3
5. Active/relic floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	1	2	3
9 ^a . Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. Second or greater order channel on <u>existing</u> USGS or NRCS map or other documented evidence.	No = 0		Yes = 3	

^a Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = _____)				
14. Groundwater flow/discharge	0	1	2	3
15. Water in channel and > 48 hrs since rain, <u>or</u> Water in channel -- dry or growing season	0	1	2	3
16. Leaf litter	1.5	1	0.5	0
17. Sediment on plants or debris	0	0.5	1	1.5
18. Organic debris lines or piles (Wrack lines)	0	0.5	1	1.5
19. Hydric soils (redoximorphic features) present?	No = 0		Yes = 1.5	

C. Biology (Subtotal = _____)				
20 ^b . Fibrous roots in channel	3	2	1	0
21 ^b . Rooted plants in channel	3	2	1	0
22. Crayfish	0	0.5	1	1.5
23. Bivalves	0	1	2	3
24. Fish	0	0.5	1	1.5
25. Amphibians	0	0.5	1	1.5
26. Macroinvertebrates (note diversity and abundance)	0	0.5	1	1.5
27. Filamentous algae; periphyton	0	1	2	3
28. Iron oxidizing bacteria/fungus.	0	0.5	1	1.5
29 ^b . Wetland plants in streambed	FAC = 0.5; FACW = 0.75; OBL = 1.5 SAV = 2.0; Other = 0			

^b Items 20 and 21 focus on the presence of upland plants, Item 29 focuses on the presence of aquatic or wetland plants.

Notes: (use back side of this form for additional notes.)

Sketch:



NO RISE CERTIFICATE

NO RISE CERTIFICATION

This is to certify that I am a duly qualified, registered professional engineer licensed to practice in the Commonwealth of Virginia.

It is to further certify that the attached technical data supports the fact that the proposed _____ will not impact the 100-year flood elevations, floodway elevations, or floodway widths on _____ as presented on the current preliminary/effective Floodplain Maps in the vicinity of the proposed development.

Attached are the documents and technical data that support my findings:

- ☐ No Impact Statement
- ☐ Compensatory Storage
- ☐ Flood Study
- ☐ Other: _____

Submitted By:

Date: _____

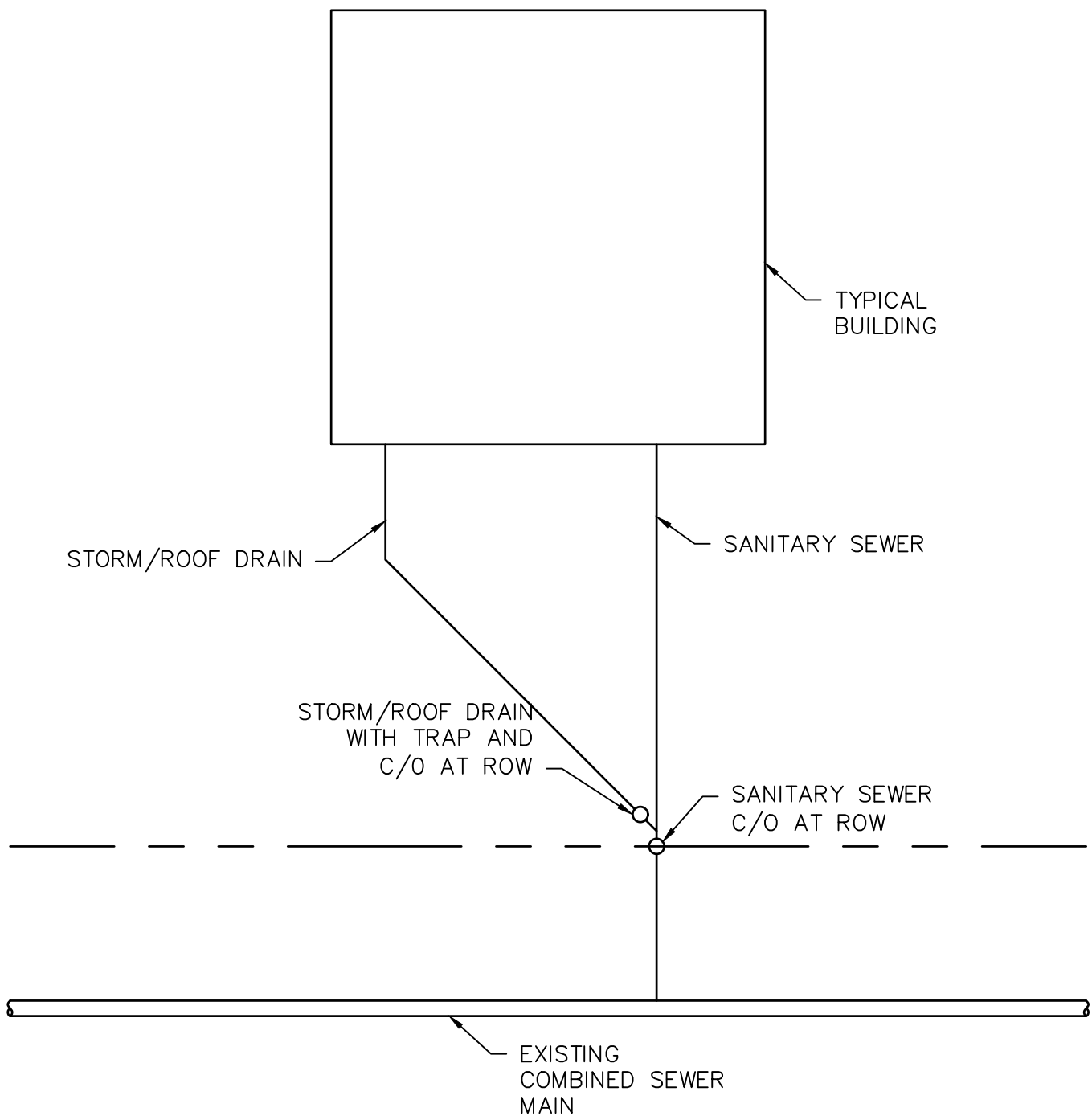
Name: _____

Title: _____

[Insert PE Seal & Signature]



CONNECTION TO EXISTING COMBINED SEWER DETAIL



NOTES:

1. CONSTRUCTION OF NEW COMBINED SEWERS IS PROHIBITED.
2. IF A COMBINED SEWER IS USED, THE CONNECTION POINT SHALL BE OUTSIDE
3. TRAPS SHALL BE UTILIZED AT ALL CONNECTIONS OF STORM OR ROOF DRAINS TO SEWER LINES.



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