

1941 - CID510112_PetersburgCity_CFPF: Inventory, Maintenance, and Improvements to Current Citywide Drainage System

Application Details

Funding Opportunity: 1447-Virginia Community Flood Preparedness Fund - Project Grants - CY23 Round 4
Funding Opportunity Due Date: Nov 12, 2023 11:59 PM
Program Area: Virginia Community Flood Preparedness Fund
Status: Under Review
Stage: Final Application

Initial Submit Date: Nov 10, 2023 4:01 PM
Initially Submitted By: Darryl Walker
Last Submit Date:
Last Submitted By:

Contact Information

Primary Contact Information

Active User*: Yes
Type: External User
Name*: Mr. Darryl Middle Name Walker
Salutation First Name Last Name
Title:
Email*: dwalker@petersburg-va.org
Address*: 1340 E. Washington Street

Petersburg Virginia 23803
City State/Province Postal Code/Zip

Phone*: (804) 733-2357 Ext.
Phone #####-#####
Fax: #####-#####
Comments:

Organization Information

Status*: Approved
Name*: PETERSBURG CITY
Organization Type*: Local Government
Tax ID*:

Unique Entity Identifier (UEI)*:

Organization Website: sturille@petersburg-va.org

Address*: City of Petersburg

135 N. Union Street

Petersburg Virginia 23803
City State/Province Postal Code/Zip

Phone*: (804) 733-2300 Ext.

###-###-####

Fax: ####-####-#####

Benefactor:

Vendor ID:

Comments:

VCFPF Applicant Information

Project Description

Name of Local Government*: Petersburg City

Your locality's CID number can be found at the following link: [Community Status Book Report](#)

NFIP/DCR Community Identification Number (CID)*: 510112

If a state or federally recognized Indian tribe,

Name of Tribe:

Authorized Individual*: March Altman
First Name Last Name

Mailing Address*: 135 N Union Street

Address Line 1

Address Line 2

Petersburg Virginia 23803
City State Zip Code

Telephone Number*: 804-733-2300

Cell Phone Number*: 804-733-2301

Email*: maltman@petersburg-va.org

Is the contact person different than the authorized individual?

Contact Person*: Yes

Contact: Joanne Williams
First Name Last Name

1340 East Washington Street

Address Line 1

Address Line 2

Petersburg Virginia 23803
City State Zip Code

Telephone Number: 804-347-3321

Cell Phone Number: 804-347-3321

Email Address: jwilliams@petersburg-va.org

Enter a description of the project for which you are applying to this funding opportunity

Project Description*:

The multi-faceted project will result in immediate improvement of the City's ability to convey storm events and minimize the impacts of localized flooding. Further, the project will include tasks to identify projects for future stormwater system upgrades, and a study to evaluate sediment transport in the City's Harbor and other critical areas within the City with significant sediment deposition impacting flooding risks.

Low-income geographic area means any locality, or community within a locality, that has a median household income that is not greater than 80 percent of the local median household income, or any area in the Commonwealth designated as a qualified opportunity zone by the U.S. Secretary of the Treasury via his delegation of authority to the Internal Revenue Service. A project of any size within a low-income geographic area will be considered.

Is the proposal in this application intended to benefit a low-income geographic area as defined above?

Benefit a low-income geographic area*: Yes

Information regarding your census block(s) can be found at census.gov

Census Block(s) Where Project will Occur*: Census Tracts 8101, 8103, 8104, 8105, 8106, 8107, 8109, 8110, 8112, 8113

Is Project Located in an NFIP Participating Community?*: Yes

Is Project Located in a Special Flood Hazard Area?*: Yes

Flood Zone(s) (if applicable): X AE

Flood Insurance Rate Map Number(s) (if applicable): 510112-0002D, 0004D, 0006D, 0007D, 0008D, 0009D, 0020D, 0026D, 0028D, 00029D, 0036D, 00037D

Eligibility CFPF - Round 4 - Projects

Eligibility

Is the applicant a local government (including counties, cities, towns, municipal corporations, authorities, districts, commissions, or political subdivisions created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, or any combination of these)?

Local Government*: Yes
Yes - Eligible for consideration
No - Not eligible for consideration

Does the local government have an approved resilience plan and has provided a copy or link to the plan with this application?

Resilience Plan*: Yes
Yes - Eligible for consideration under all categories
No - Eligible for consideration for studies, capacity building, and planning only

If the applicant is not a town, city, or county, are letters of support from all affected local governments included in this application?

Letters of Support*: Yes
Yes - Eligible for consideration
No - Not eligible for consideration
N/A- Not applicable

Has this or any portion of this project been included in any application or program previously funded by the Department?

Previously Funded*: No
Yes - Not eligible for consideration
No - Eligible for consideration

Has the applicant provided evidence of an ability to provide the required matching funds?

Evidence of Match Funds*: N/A
Yes - Eligible for consideration
No - Not eligible for consideration
N/A- Match not required

Scoring Criteria for Flood Prevention and Protection Projects - Round 4

Scoring

Category Scoring:

Hold CTRL to select multiple options

Project Category*:

All other projects

Is the project area socially vulnerable? (based on ADAPT Virginia's Social Vulnerability Index Score)

Social Vulnerability Scoring:

Very High Social Vulnerability (More than 1.5)
High Social Vulnerability (1.0 to 1.5)
Moderate Social Vulnerability (0.0 to 1.0)
Low Social Vulnerability (-1.0 to 0.0)
Very Low Social Vulnerability (Less than -1.0)

Socially Vulnerable*:

Very High Social Vulnerability (More than 1.5)

Is the proposed project part of an effort to join or remedy the community's probation or suspension from the NFIP?

NFIP*:

No

Is the proposed project in a low-income geographic area as defined below?

"Low-income geographic area" means any locality, or community within a locality, that has a median household income that is not greater than 80 percent of the local median household income, or any area in the Commonwealth designated as a qualified opportunity zone by the U.S. Secretary of the Treasury via his delegation of authority to the Internal Revenue Service. A project of any size within a low-income geographic area will be considered.

Low-Income Geographic Area*:

Yes

Projects eligible for funding may also reduce nutrient and sediment pollution to local waters and the Chesapeake Bay and assist the Commonwealth in achieving local and/or Chesapeake Bay TMDLs. Does the proposed project include implementation of one or more best management practices with a nitrogen, phosphorus, or sediment reduction efficiency established by the Virginia Department of Environmental Quality or the Chesapeake Bay Program Partnership in support of the Chesapeake Bay TMDL Phase III Watershed Implementation Plan?

Reduction of Nutrient and Sediment

Yes

Pollution*:

Does this project provide ?community scale? benefits?

Community Scale Benefits*:

More than one census block

Expected Lifespan of Project

Expected Lifespan of Project*:

10 - 14 Years

Comments:

Scope of Work - Projects - Round 4

Scope of Work

Upload your Scope of Work

Please refer to Part IV, Section B. of the grant manual for guidance on how to create your scope of work

Scope of Work*:

[CID510112_PetersburgCity_CFPF-3_Proj.pdf](#)

Comments:**Budget Narrative****Budget Narrative Attachment*:**

[B_Str_Convey_Budget Narrative Attachment.pdf](#)

Comments:

Scope of Work Supporting Information - Projects

Supporting Information - Projects

Provide population data for the local government in which the project is taking place

Population*:

33394.00

Provide information on the flood risk of the project area, including whether the project is in a mapped floodplain, what flood zone it is in, and when it was last mapped. If the property or area around it has been flooded before, share information on the dates of past flood events and the amount of damage sustained

Historic Flooding data and Hydrologic Studies*:[3 - Historic Flood Data and Images.pdf](#)

Include studies, data, reports that demonstrate the proposed project minimizes flood vulnerabilities and does not create flooding or increased flooding (adverse impact) to other properties

No Adverse Impact*:[No Adverse Impact Statement.pdf](#)

Include supporting documents demonstrating the local government's ability to provide its share of the project costs. This must include an estimate of the total project cost, a description of the source of the funds being used, evidence of the local government's ability to pay for the project in full or quarterly prior to reimbursement, and a signed pledge agreement from each contributing organization

Ability to Provide Share of Cost*:[Ability to Provide Share of Cost Statement.pdf](#)

A benefit-cost analysis must be submitted with the project application

Benefit-Cost Analysis*:[10 - Benefit Cost Analysis.pdf](#)

Provide a list of repetitive loss and/or severe repetitive loss properties. Do not provide the addresses for the properties, but include an exact number of repetitive loss and/or severe repetitive loss structures within the project area

Repetitive Loss and/or Severe Repetitive[Repetitive Loss Statement.pdf](#)**Loss Properties*:**

Describe the residential and commercial structures impacted by this project, including how they contribute to the community such as historic, economic, or social value. Provide an exact number of residential structures and commercial structures in the project area

Residential and/or Commercial Structures*:

This project will not directly or negatively affect any residential or commercial structures.

If there are critical facilities/infrastructure within the project area, describe each facility

Critical Facilities/Infrastructure*:

This project will address clogged stormwater structures, providing needed maintenance to reduce flooding and increase access to critical facilities and infrastructure across the City.

Explain the local government's financial and staff resources. How many relevant staff members does the local government have? To what relevant software does the local government have access? What are the local government's capabilities?

Financial and Staff Resources*:

The City is a low-income geographic area, as defined in the CFPF Grant Manual, as an area where the median household income (\$44,890) is significantly less than 80% of the local median household income (\$80,615 in VA), according to the US Census Data in 2022. Further, several areas in the City are designated as Qualified Opportunity Zones, as presented in the supporting documentation. Funding the inventory and analysis of the extensive number of additional encountered stormwater infrastructure as part of the Citywide Drainage Study is not possible with current City budget. The City has attempted to recover the inaccessible stormwater assets with City resources but is overwhelmed by the number of inaccessible structures and does not have the personnel and resources available to provide timely recovery of the inaccessible structures, including the three outfalls in the City's old harbor that need dredging and backflow prevention device replacement to be operational. The existing flap gates are blocked from operating properly due to mud and silt settling in and around the flap gates. With the flap gates stuck, stormwater cannot discharge appropriately from the downtown area and this contributes to flooding conditions of the downtown area during storm events.

Identify and describe the goals and objectives of the project. Include a description of the expected results of the completed project and explain the expected benefits of the project. This may include financial benefits, increased awareness, decreased risk, etc.

Goals and Objectives*:

The goals of this project will be:

1. To complete the Citywide Drainage Study including the mapping and modeling of the additional encountered features of the stormwater conveyance system within the three-year grant agreement period.
2. To complete structure recovery maintenance of storm drains to facilitate the complete attribution and mapping of the existing stormwater system within the three year grant agreement period. This task includes the removal and disposal of sediment, trash and other contaminants. Quantify and document the removed material from storm drains for pollutant removal credit for the Chesapeake Bay TMDL Action Plan within the three-year grant agreement period.
3. To complete dredging at outfalls located within the Harbor near Pocahontas Island in order to restore functionality, and to retrofit Tideflex units or approved equal, onto the outfalls to provide improved performance of back flow prevention. This task will be achievable within the three-year grant agreement period.
4. To study flood and sediment transport conditions of the Harbor, make recommendations for potential green solutions to revitalize the waterway and encourage natural riverine conditions. In addition the study will identify critical areas within the City along the Appomattox River and other parts of the city where dredging of sediment and other material can contribute flood risk reduction. This task will be achievable within the three-year grant agreement period.

Outline a plan of action laying out the scope and detail of how the proposed work will be accomplished with a timeline identifying expected completion dates. Determine milestones for the project that will be used to track progress. Explain what deliverables can be expected at each milestone, and what the final project deliverables will be. Identify other project partners

Approach, Milestones, and Deliverables*: [Approach Milestones and Deliverables.pdf](#)

Where applicable, briefly describe the relationship between this project and other past, current, or future resilience projects. If the applicant has received or applied for any other grants or loans, please identify those projects, and, if applicable, describe any problems that arose with meeting the obligations of the grant and how the obligations of this project will be met

Relationship to Other Projects*:

A Citywide Drainage Study is underway to inventory and assess all storm infrastructure and conveyances within the City of Petersburg, made possible with Round 2 CFPF funding. The goal of the Citywide Drainage Study is to locate, attribute, and assess stormwater assets (public and private) within the City. A key outcome from the Citywide Drainage Study is that areas of capacity-constrained stormwater infrastructure will be identified and a prioritized list of projects to improve flooding conditions will be identified. As the Citywide Drainage Study has been in progress, additional needs have been identified for the successful completion of the project. Hence, this Project CFPF Application seeks to obtain funding to complete the work and realize a full inventory of storm conveyances in the City. The Study also revealed extensive maintenance would be required in order to complete the inventory, which this Project seeks to address.

For ongoing projects or projects that will require future maintenance, such as infrastructure, flood warning and response systems, signs, websites, or flood risk applications, a maintenance, management, and monitoring plan for the projects must be provided

Maintenance Plan*: [5 - Maintenance and Management Plan.pdf](#)

Describe how the project meets each of the applicable scoring criteria contained in Appendix B. Documentation can be incorporated into the Scope of Work Narrative

Criteria*:

The project meets the following criteria:

All Other Projects - The project is an inventory and maintenance of all storm structures in the City of Petersburg, qualifying as all other projects (10 points)

Social Vulnerability Index - The average social vulnerability index score is 1.9 across all census tracts in the City of Petersburg and therefore qualifies as Very High Social Vulnerability (10 points).

Community Scale of Benefits - This project will serve to benefit all of Petersburg, most immediately all of the Census Blocks which currently experience flooding due to unmaintained storm structures, and thus applies to more than one census block (30 points).

Expected Lifespan of Project - The lifespan associated with data collected, regarding inventory and modeling is indefinite. The city fully anticipates having to perform repetitive maintenance on structures recovered and hopes to develop an asset management and workflow computerized system for stormwater assets someday to provide more proactive maintenance on a routine schedule. The anticipated lifespan associated with the Tideflex valves, or approved equal, is 30 years. Thus, it is expected that the average lifespan of this project will be at least 10-14 years (3 points) across all of its components.

Remedy for NFIP probation or suspension - No, this project is not being completed to remedy NFIP probation or suspension (0 points).

Proposed project part of a low-income geographic area - Yes, as described in the Need for Assistance section, the City is a low-income geographic area (10 points).

Proposed project implements a Chesapeake Bay TMDL BMP - Yes, storm drain cleaning is a listed BMP in the Chesapeake Assessment Scenario Tool, which was built to assist in decision making for BMP choices that align with Chesapeake Bay TMDL reduction requirements (5 points).

Point Total: 68 points

Budget

Budget Summary

Grant Matching Requirement*: LOW INCOME - Projects that will result in hybrid solutions - Fund 90%/Match 10%

I certify that my project is in a low-income geographic area: Yes

Total Project Amount*: \$3,605,000.00

REQUIRED Match Percentage Amount: \$360,500.00

BUDGET TOTALS

Before submitting your application be sure that you meet the match requirements for your project type.

Match Percentage:	10.00%	Verify that your match percentage matches your required match percentage amount above.
Total Requested Fund Amount:	\$3,244,500.00	
Total Match Amount:	\$360,500.00	
TOTAL:	\$3,605,000.00	

Personnel

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Fringe Benefits

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Travel

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Equipment

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Supplies

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Construction

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Contracts

Description	Requested Fund Amount	Match Amount	Match Source
Structural Conveyance and Beneficial Reuse	\$3,244,500.00	\$360,500.00	N/A - Request 100% of funding from CFPF
	\$3,244,500.00	\$360,500.00	

Maintenance Costs

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Pre-Award and Startup Costs

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Other Direct Costs

Description	Requested Fund Amount	Match Amount	Match Source
No Data for Table			

Long and Short Term Loan Budget - Projects - VCFPF

Budget Summary

Are you applying for a short term, long term, or no loan as part of your application?

If you are not applying for a loan, select "not applying for loan" and leave all other fields on this screen blank

Long or Short Term*: Not Applying for Loan

Total Project Amount: \$0.00

Total Requested Fund Amount: \$0.00

TOTAL: \$0.00

Salaries

Description	Requested Fund Amount
No Data for Table	

Fringe Benefits

Description	Requested Fund Amount
No Data for Table	

Travel

Description	Requested Fund Amount
No Data for Table	

Equipment

Description	Requested Fund Amount
No Data for Table	

Supplies

Description	Requested Fund Amount
No Data for Table	

Construction

Description	Requested Fund Amount
No Data for Table	

Contracts

Description	Requested Fund Amount
No Data for Table	

Other Direct Costs

Description	Requested Fund Amount
No Data for Table	

Supporting Documentation

Supporting Documentation

Named Attachment	Required	Description	File Name	Type	Size	Upload Date
Detailed map of the project area(s) (Projects/Studies)		Map of Structures Identified so far across Petersburg	1 - PetersburgSWPosterMap.pdf	pdf	139 MB	10/31/2023 04:59 PM
FIRMette of the project area(s) (Projects/Studies)		FIRMettes Across Petersburg	2 - FIRMettes of City.pdf	pdf	4 MB	10/31/2023 05:00 PM
Historic flood damage data and/or images (Projects/Studies)		Historic Flood Data	3 - Historic Flood Data and Images.pdf	pdf	9 MB	11/08/2023 01:58 PM
Alink to or a copy of the current floodplain ordinance		Petersburg Floodplain Ordinance	4 - Petersburg Floodplain Ordinance.pdf	pdf	356 KB	10/31/2023 05:00 PM
Maintenance and management plan for project		Maintenance and Management Plan	5 - Maintenance and Management Plan.pdf	pdf	29 KB	11/10/2023 02:48 PM
Alink to or a copy of the current hazard mitigation plan		2017 Hazard Mitigation Plan	6 - Hazard Mitigation Plan.pdf	pdf	4 MB	11/03/2023 10:44 AM
Alink to or a copy of the current comprehensive plan		2013 Comprehensive Plan (last updated 2015)	7 - Comprehensive Plan 2015-09-13.pdf	pdf	7 MB	11/03/2023 10:45 AM
Social vulnerability index score(s) for the project area		Petersburg SVI 2023	8 - Petersburg SVI 2023.pdf	pdf	971 KB	11/03/2023 10:45 AM
Authorization to request funding from the Fund from governing body or chief executive of the local government		Letter of Authorization to Request Funding	9 - Letter of Authorization.pdf	pdf	258 KB	11/09/2023 08:53 AM
Signed pledge agreement from each contributing organization						
Maintenance Plan						
Benefit-cost analysis must be submitted with project applications over \$2,000,000. in lieu of using the FEMA benefit-cost analysis tool, applicants may submit a narrative to describe in detail the cost benefits and value. The narrative must explicitly indicate the risk reduction benefits of a flood mitigation project and compares those benefits to its cost-effectiveness.						
Benefit Cost Analysis		BCA Analysis	10 - Benefit Cost Analysis.pdf	pdf	46 KB	11/10/2023 02:42 PM
Other Relevant Attachments		Qualified Opportunity Zone Map	11 - OZ Map.pdf	pdf	12 MB	11/09/2023 08:54 AM

Letters of Support

Description	File Name	Type	Size	Upload Date
Letter of Support from Friends of the Lower Appomattox	FOLAR Letter of Support - Structural ConveyanceBeneficial Reuse Petersburg CFPF.pdf	pdf	160 KB	11/09/2023 08:54 AM
Partnership for Petersburg Letter of Support	Partnership for Petersburg Letter of Support.pdf	pdf	261 KB	11/10/2023 09:55 AM

Resilience Plan

Resilience Plan

Description	File Name	Type	Size	Upload Date
2022 Resilience Plan (Appendices omitted due to file size but can be provided upon request)	Resilience Plan CID 510112.pdf	pdf	1 MB	11/10/2023 03:48 PM

City of Petersburg, Virginia

Resilience Plan

Prepared in accordance with the 2022 Grant Manual for the Virginia
Community Flood Preparedness Fund

Community Identification Number (CID#): 510112



March 2022



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ACRONYMS & ABBREVIATIONS

Bay	Chesapeake Bay
BMP	Best management practice
CITY	City of Petersburg
CWA	Clean Water Act
DEQ	Virginia Department of Environmental Quality
DPU	Petersburg Department of Public Utilities
DPW	Petersburg Department of Public Works
EMA	Easement and Maintenance Agreement
EPA	United States Environmental Protection Agency
GIS	Geographic information systems
HHW	Household Hazardous Wastes
HUC	Hydrologic Unit Code
IDDE	Illicit Discharge Detection and Elimination
MEP	Maximum Extent Possible
MS4	Municipal Separate Storm Sewer System
NMP	Nutrient Management Plan
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
VPDES	Virginia Pollution Discharge & Elimination System Permit
VSMP	Virginia Stormwater Management Program



EXECUTIVE SUMMARY

Per the 2022 Grant Manual for the Virginia Community Flood Preparedness Fund, the Resilience Plan must include the following elements:

1. It is project-based with projects focused on flood control and resilience.
2. It incorporates nature-based infrastructure to the maximum extent possible.
3. It includes considerations of all parts of a locality regardless of socioeconomics or race.
4. It includes coordination with other local and inter-jurisdictional projects, plans, and activities and has a clearly articulated timeline or phasing for plan implementation.
5. Is based on the best available science, and incorporates climate change, sea level rise, storm surge (where appropriate), and current flood maps.

The City of Petersburg, by reference, has incorporated the following documents into its initial Resilience Plan, developed March 28, 2022:

- Richmond-Crater Multi-Regional Hazard Mitigation Plan (2017 Update): Executive Summary for the City of Petersburg: http://www.craterpdc.org/environment/documents/hazmit2017/Petersburg_HMP_JusSumMaps_2017.pdf
- City of Petersburg Comprehensive Plan (2014): <http://www.petersburgva.org/DocumentCenter/View/1836/Comprehensive-Plan-Working-Master-Copy-CC1?bidId=>
- Draft Comprehensive Plan 2040: <http://www.petersburgva.org/DocumentCenter/View/6042/2021CompPlan?bidId=>
- Water Quality Master Plan: Appendix A
- Chesapeake Bay TMDL Action Plan: <https://www.petersburgva.gov/295/Stormwater-Management>, and Chesapeake Bay TMDL Action Plan 2021: Appendix B
- Lakemont Drainage Study (2019): Appendix C
- Flood Maps: <https://msc.fema.gov/portal/search?AddressQuery=petersburg#searchresultsanchor>

Consistent with the multitude of objectives of the reference plans, the City of Petersburg is committed to implementing nature-based infrastructure to the maximum extent possible. Please refer to **Table 1** for a list of required elements and the specific reference location.



Table 1. Required Element Reference Table.

Item #	Required Item	Reference Document (Page #)	Rationale
1	Project-based (focused on flood control and resilience).	Hazard Mitigation Plan (pages 9-11)	Please refer specifically to Petersburg-1 and Petersburg-15 of the Hazard Mitigation Plan.
2	Nature-based infrastructure (MEP).	Resilience Plan Executive Summary (pg. 3) Draft Comprehensive Plan 2040 (page 5) Chesapeake Bay TMDL Action Plan (all inclusive)	The City of Petersburg is committed to incorporating nature-based solutions to the maximum extent possible. Refer to the Executive Summary of this document and item number 4 of the Draft Comprehensive Plan 2040 where the City will include sustainable measures to provide quality groundwater and surface water. Further, stream restoration, a nature-based solution was specifically studied and identified as a strategy in the City's Chesapeake Bay TMDL Action Plans (2015 and 2021).
3	Inclusive City-wide regardless of socioeconomics or race.	Hazard Mitigation Plan (all inclusive) Draft Comprehensive Plan 2040 (all inclusive) City-wide Water Quality Master Plan (all inclusive) Chesapeake Bay TMDL Action Plan (all inclusive) Flood Maps (all inclusive)	The City has developed multiple planning documents that encompass the entire jurisdiction, regardless of socioeconomics or race. These planning level documents are then used to further localized studies to identify projects. An example of this model is the Water Quality Master Plan that identified the need for neighborhood drainage studies and the subsequent Lakemont Neighborhood Drainage Study.
4	Inter-jurisdictional with clearly articulated timeline or phasing.	Hazard Mitigation Plan (pages 9-11) Chesapeake Bay TMDL Action Plan (all inclusive) Lakemont Neighborhood Drainage Study (page 11)	The Hazard Mitigation Plan includes a table with projects, or strategies, identified on pages 9-11 that include a column titled timeframe for specific implementation. The Chesapeake Bay TMDL Action Plan includes nature-based solutions that are intended to be completed by June 30, 2025, in accordance with the City's MS4 Permit. The Lakemont Neighborhood Drainage Study, which is an outcome of the City's Water Quality Master Plan includes projects that were prioritized (phasing) by the impacted community and are currently being implemented.
5	Based on best available science, incorporates climate change, sea level rise, storm surge, and current flood maps.	Chesapeake Bay TMDL Action Plan (all inclusive) Water Quality Master Plan (pages 1, 3, 14, etc.) Lakemont Neighborhood Drainage Study (pages 7-25) Flood Maps (all inclusive)	The Chesapeake Bay TMDL Action Plan, Water Quality Master Plan, and Lakemont Neighborhood Drainage Study were all prepared by professional engineers by one of the City's on-call consultants, Timmons Group. Each document was prepared based on best available science, including the most recent and relevant guidance from the Department of Environmental Quality and best engineering practices current at the time of report preparation. The Flood Maps were updated based on best available science and published for public comment in 2021 by FEMA.



Appendix A



Appendix B



Appendix C

Stormwater Infrastructure Mapping: Initial Pass

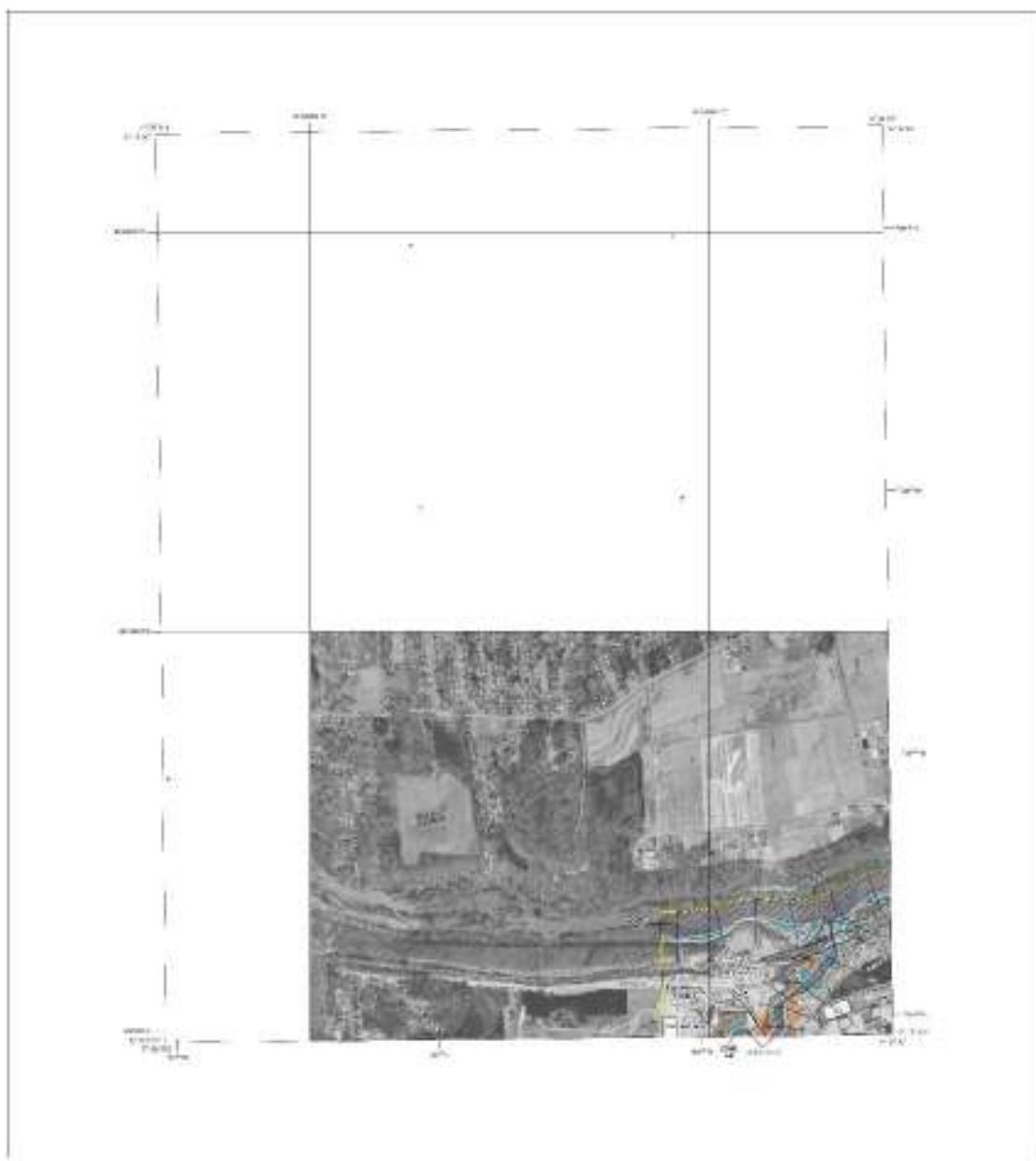
Lieutenant Run & Brickhouse Run



0.150.07 0 0.15 0.3 0.45 0.6 Miles

TIMMONS GROUP





BLOOD HAZARD INFORMATION

On 11/14/2018, Hurricane Michael made landfall near Mexico Beach, Florida. The storm caused significant flooding and damage across the panhandle. This map displays the areas affected by the storm.

Legend:

- General Flood Hazard (GPH)
- Flood Risk Area (FRA)
- Roadway Flooded

General Flood Hazard (GPH)

- A U.S. National Flood Hazard Layer (NFHL) developed by FEMA. It identifies areas that have a 1% chance of flooding in a given year.

Flood Risk Area (FRA)

- Areas where flood risk has been identified.

Roadway Flooded

- Roadways that have been inundated by floodwaters.

Other Flooded Areas

- Other areas that have been inundated by floodwaters.

Legend:

General Flood Hazard (GPH)

Flood Risk Area (FRA)

Roadway Flooded

Other Flooded Areas

Inundated Roads

Other Flooded Areas

Landfill Flood

Industrial Flood

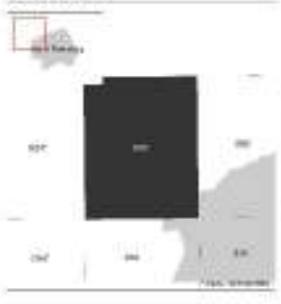
NOTES TO USERS

This map displays the areas affected by Hurricane Michael. The map is intended to provide a general overview of the flooding and damage. It is not a detailed engineering or scientific map. The map is not intended to be used for navigation or other specific purposes. It is not intended to be used for planning or design purposes. It is not intended to be used for zoning or permitting purposes. It is not intended to be used for insurance or other financial purposes. It is not intended to be used for legal or other purposes. It is not intended to be used for any other purpose.

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLORIDA PANHANDLE, FLORIDA

(See page 4)



FLORIDA

MAP NUMBER: 000-00000000

MAP SCALE: 1:250,000

MAP DATE: 11/14/2018

MAP VERSION: 1

MAP ID: 000-00000000

MAP NUMBER: 000-00000000

MAP SCALE: 1:250,000

MAP DATE: 11/14/2018

MAP VERSION: 1

MAP ID: 000-00000000

MAP NUMBER: 000-00000000

MAP SCALE: 1:250,000

MAP DATE: 11/14/2018

MAP VERSION: 1

MAP ID: 000-00000000

MAP NUMBER: 000-00000000

MAP SCALE: 1:250,000

MAP DATE: 11/14/2018

MAP VERSION: 1

MAP ID: 000-00000000

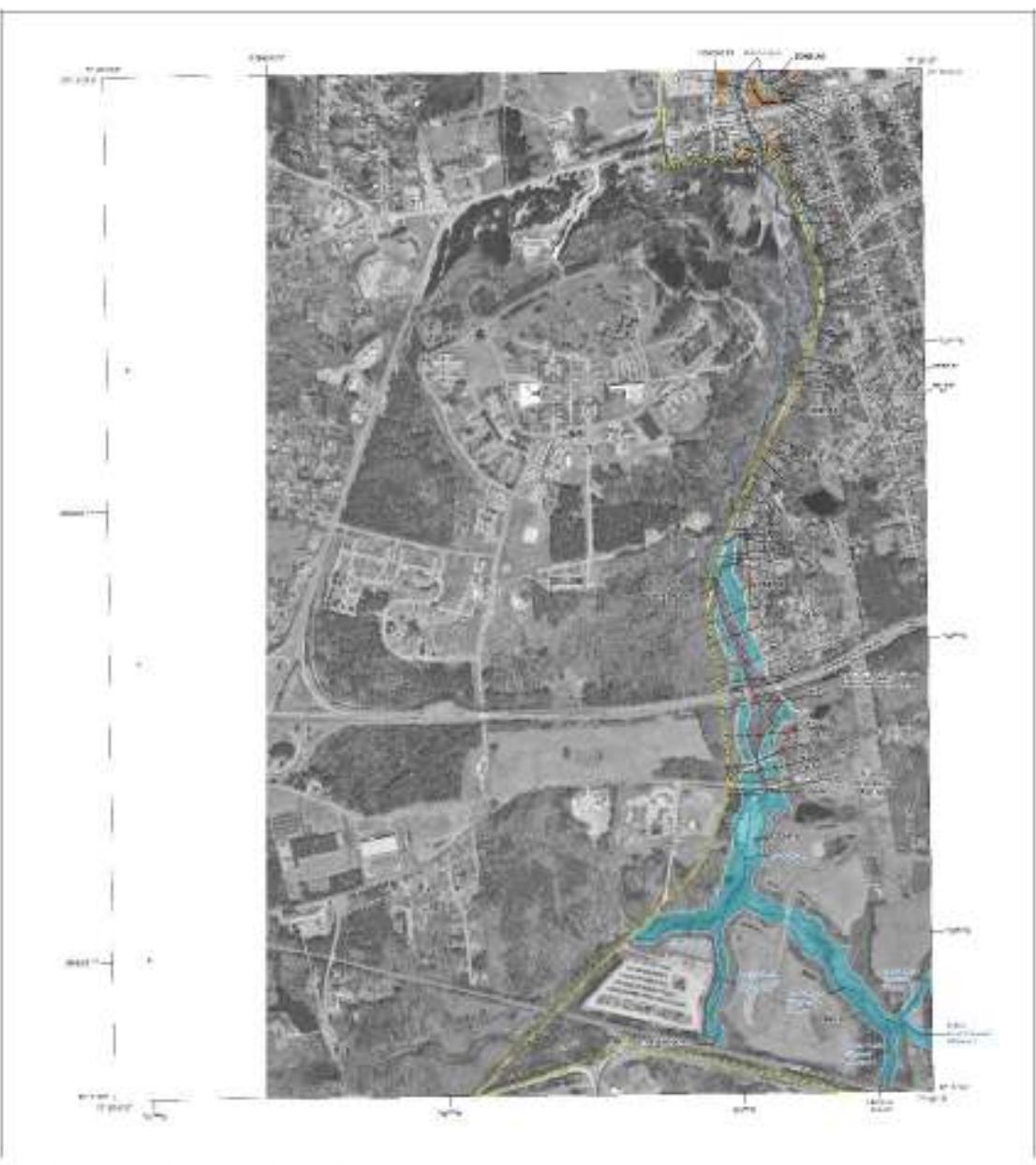
MAP NUMBER: 000-00000000

MAP SCALE: 1:250,000

MAP DATE: 11/14/2018

MAP VERSION: 1

MAP ID: 000-00000000



FLOOD HAZARD INFORMATION

This map identifies areas subject to flooding from the following sources:
1. TIDE AND SURGE
2. LANDSLIDES
3. EARTHQUAKES
4. VOLCANIC ERUPTIONS
<http://www.fema.gov/floodinfo>

GENERAL FLOOD HAZARD AREAS	
Yellow	General Flood Hazard
Light Blue	High Velocity Hurricane Wind Hazard
Legend:	
Dark Blue	Local Flood Hazard
Brown	A U.S. Army Corps of Engineers Area of Critical Concern with Special Management Required with Existing Flood Protection Measures
Green	Flood Protection Areas
White	High Velocity Hurricane Wind Hazard
Black	High Velocity Hurricane Wind Hazard
Gray	Urban Land or Waterbody
Red	Coastal Flood Hazard
Blue	Coastal Storm Surge Hazard
Light Gray	Urban Land or Waterbody

GENERAL HAZARD AREAS	Detailed Description
Coastal Flood Hazard	Coastal Flood Hazard
Coastal Storm Surge Hazard	Coastal Storm Surge Hazard
Urban Land or Waterbody	Urban Land or Waterbody
Coastal Wind Hazard	Coastal Wind Hazard
Volcanic Eruption	Volcanic Eruption
Earthquake	Earthquake
Landslide	Landslide

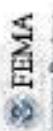
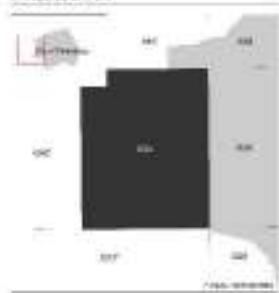
NOTES TO USERS

This map identifies areas subject to flooding from the following sources:
1. TIDE AND SURGE
2. LANDSLIDES
3. EARTHQUAKES
4. VOLCANIC ERUPTIONS
<http://www.fema.gov/floodinfo>

SCALE



PANEL LOCATOR



National Flood Insurance Program
MAP NUMBER: 101000000000000000



Printed
12/04
2000
FEMA
12/24/2000
12/24/2000
2000



BLOOD HAZARD INFORMATION

On October 23rd, Hurricane Sandy made landfall and caused significant flooding along the eastern coast of the United States.

For more information about the effects of Hurricane Sandy on your community, visit www.fema.gov/hurricane-sandy.

GENERAL FLOOD HAZARD AREAS
 Moderate Risk
 High Risk
 Very High Risk

PROTECTION OF PROPERTY
 Flood Protection Measures
 Flood Protection Measures

GENERAL HAZARDS
 Severe Weather Hazards
 Severe Weather Hazards
 Severe Weather Hazards
 Severe Weather Hazards
 Severe Weather Hazards

MAP SOURCE
 U.S. Army Corps of Engineers
 U.S. Geological Survey
 U.S. Fish & Wildlife Service

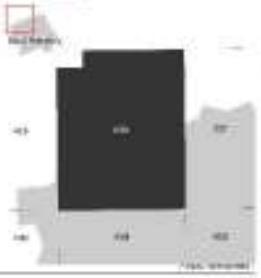
NOTES TO USERS

The data presented in this map is derived from the National Flood Insurance Program's Flood Hazard Map and is provided as a service to the public. This map is intended to serve as a general reference to the flood hazard potential of an area. It is not a detailed engineering survey. The map does not show all hazards or areas affected by flooding. The map is not to be used for engineering purposes or surveying. It is not a substitute for professional engineering judgment.

SCALE



PANEL LOCATOR



Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM
U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY
NOAA/National Weather Service



DISASTER RISK REDUCTION PROGRAM

FEDERAL DISASTER RELIEF

HAZARD MITIGATION

FLOOD INSURANCE

HAZARD MITIGATION

MAPPING

INVENTORY

RELIEF

RECOVERY

DISASTER

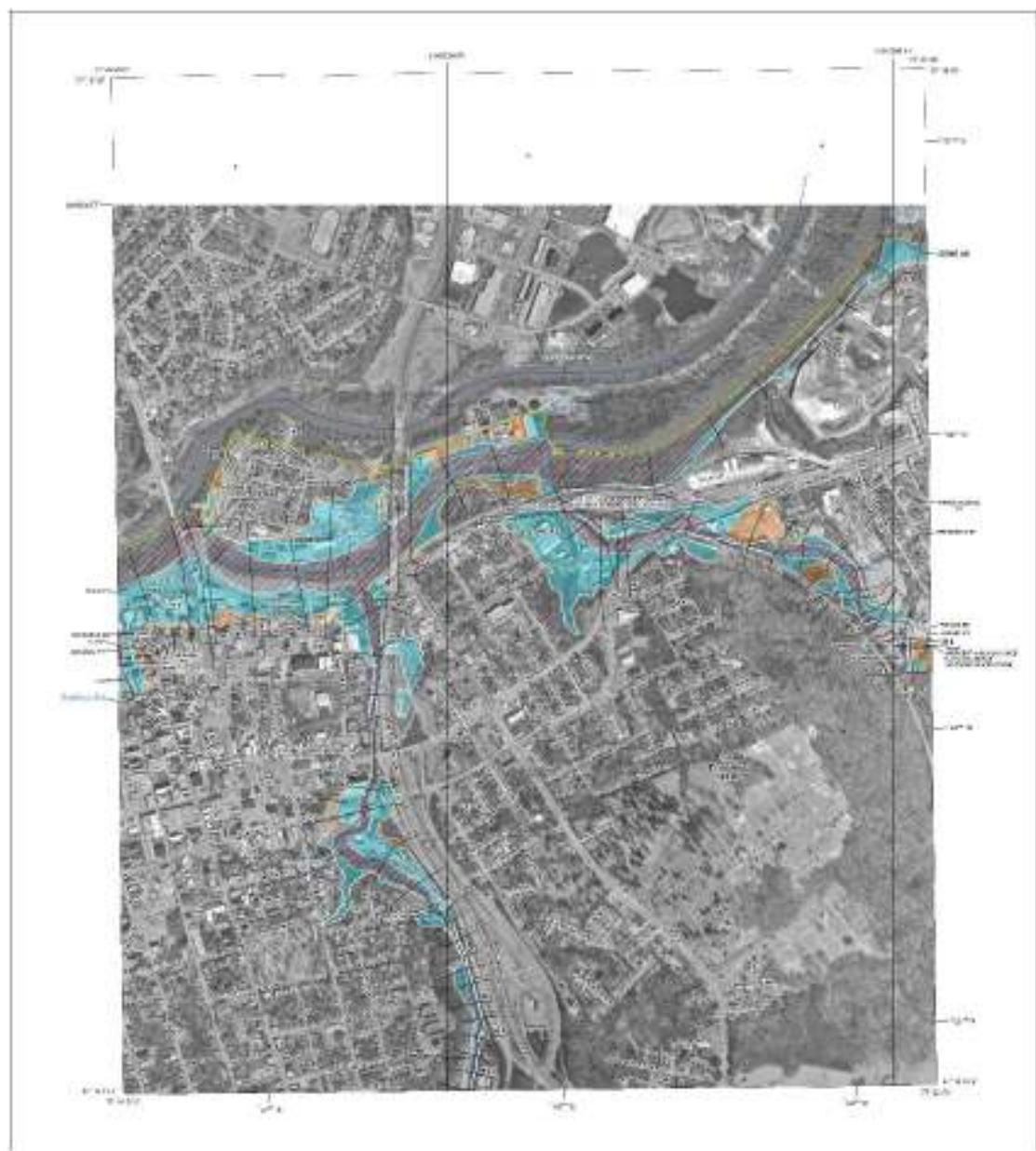
RELIEF

RECOVERY

DISASTER

RELIEF

RECOVERY



FLOOD HAZARD INFORMATION

For further information concerning the boundaries and specific characteristics of the areas depicted on this map, refer to the following sources:

<http://www.fema.gov/floodmaps>

General Flood Hazard Areas
Flood Zones (A, AE, AH, A1-A30, X, V, VO, XE, XA)

Riparian Floodplain

A 1% Annual Chance Flood Hazard Area
The 1% annual chance flood hazard area is determined by applying hydrologic and hydrodynamic analysis methods to determine the areal extent of flooding for a 1% chance of occurrence in any given year.

Vegetation Flood Hazard
Areas where vegetation may reduce flood flow rates.

High Risk Flood Hazard Areas
Areas where flood risk due to surface water is high.

Nonconforming Flood Hazard Areas
Areas where flood risk due to surface water is moderate.

Other Flood or Drowning
Areas where flooding or drowning may occur.

Levee Zone or Protected

Levee zones or protected areas.

Levee Failure

Levee failure areas.

Levee Failure Points

Levee failure points.

Levee Failure Points (LFP)

Levee Failure Points (LFP) areas.

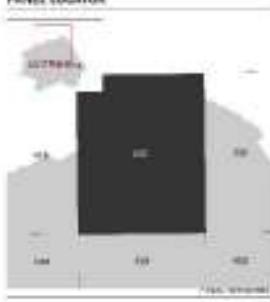
NOTES TO USERS

The data presented on this map are subject to change. Changes in the data are made to reflect new information and/or changes in the conditions that affect the data. The data are not intended to be used for surveying or engineering purposes. The data are provided for informational purposes only. The data are not intended to be used for surveying or engineering purposes. The data are provided for informational purposes only.

SCALE

Scale:
Elevation in feet above sea level
Scale 1:625000000
1 Kilometer
0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000 8500 9000 9500 10000

PANEL LOCATOR

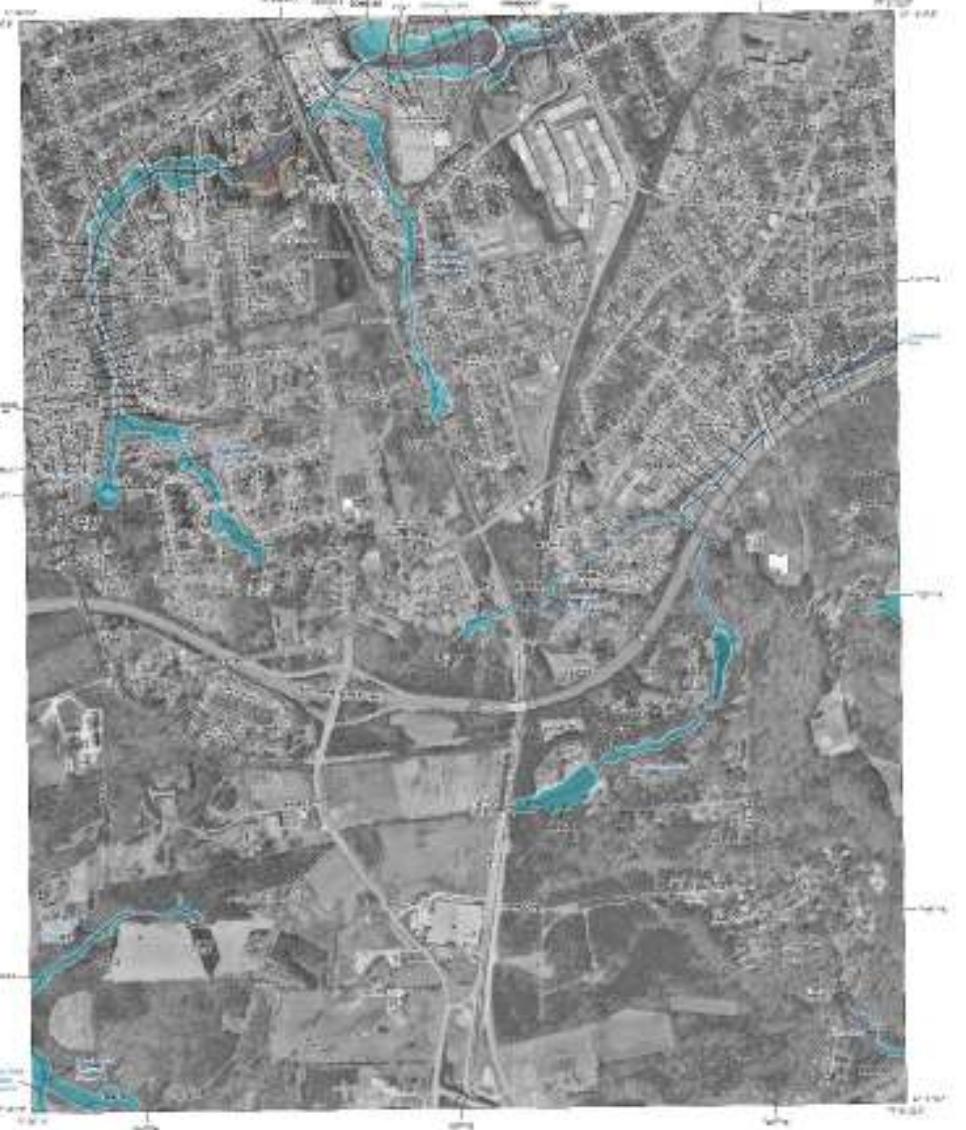


National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FEDERAL EMERGENCY MANAGEMENT AGENCY
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEBRUARY 2005



Map number: 100-100
Revision: B
Date: 02/05/2005
Last update: 02/05/2005
Source: 02/05/2005
Last update: 02/05/2005



FLOOD HAZARD INFORMATION

On May 1, 2019, the National Flood Insurance Program began insuring homes and businesses located within the following Flood Hazard Zones as defined in the Flood Insurance Rate Map (FIRMS) effective January 1, 2019:

	SPECIAL FLOOD HAZARD AREA (SFA) Flood Insurance Rate Map (FIRMS) Zone	NON-SPECIAL FLOOD HAZARD AREA FIRMS Zone	NON-SPECIAL FLOOD HAZARD AREA FIRMS Zone
LAND USE			
	Special Flood Hazard Area (SFHA)	Wetlands (W)	Wetlands (W)
		Residential (R)	Residential (R)
		Commercial (C)	Commercial (C)
		Industrial (I)	Industrial (I)
		Rural Residential (RR)	Rural Residential (RR)
		Rural Commercial (RC)	Rural Commercial (RC)
		Rural Industrial (RI)	Rural Industrial (RI)
		Barren Land	Barren Land
		Floodway (FW)	
FLOOD HAZARD			
	High Risk Flood Prone		
	Medium Risk Flood Prone		
	Low Risk Flood Prone		
	Very Low Risk Flood Prone		
	Unknown Flood Prone		

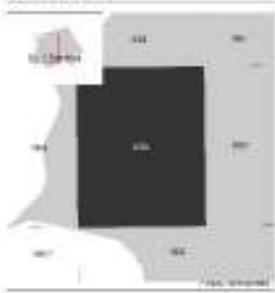
NOTES TO USERS

For more information on the National Flood Insurance Program and its products, go to www.fema.gov/nfip or call toll-free 1-800-362-2348. If you have any questions about your insurance coverage, contact your insurance agent or adjuster or call 1-800-427-4747. If you have any questions about your risk classification or the flood insurance rates, contact your insurance agent or adjuster.

SCALE



PANEL LOCATOR

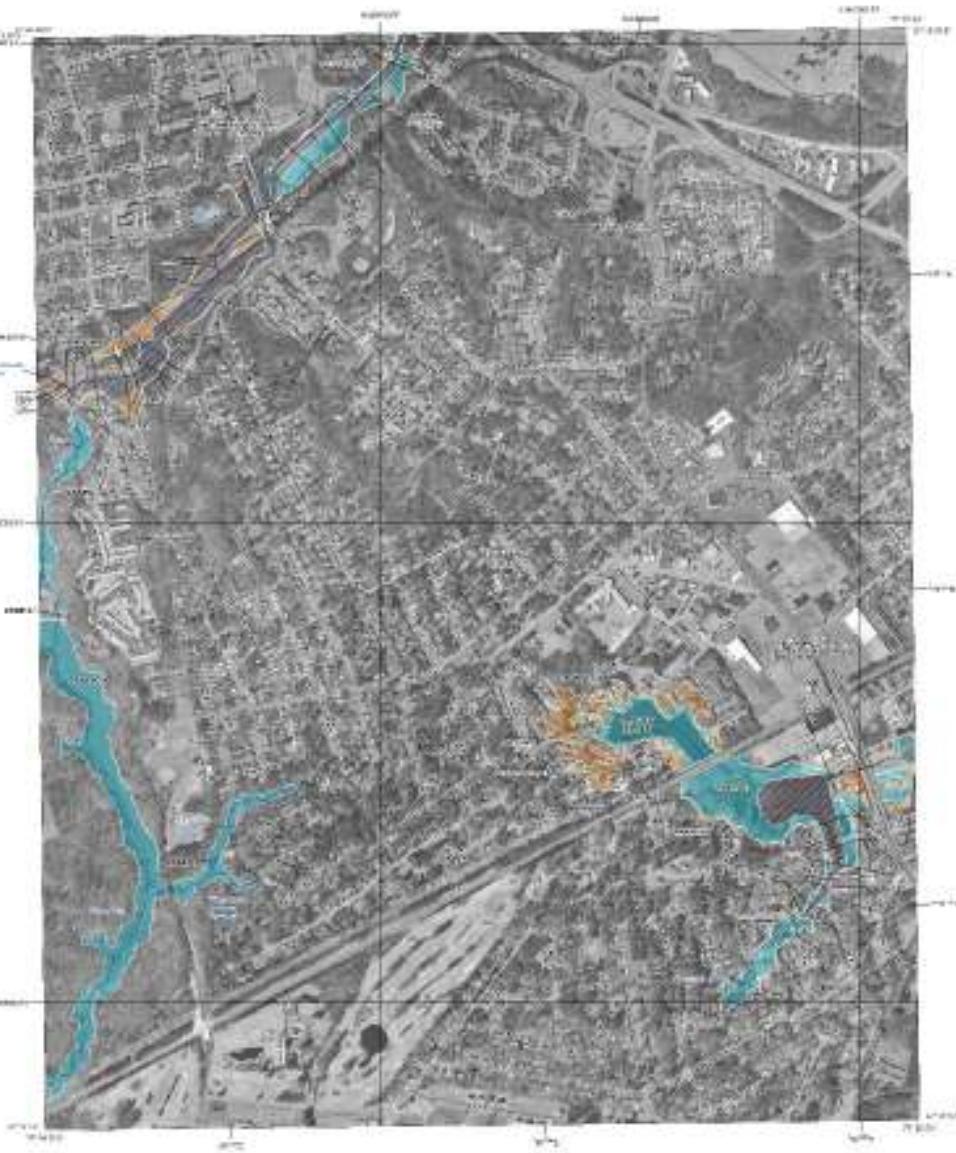


National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FEDERAL DISASTER RELIEF ACT
CITY OF WASHINGTON, D.C.
June 2019



PRINTED BY:
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PRINTING OFFICE
16-2019-000003
16-2019-000003
FEDERAL
EMERGENCY
MANAGEMENT
AGENCY
FEMA
DECEMBER 16, 2019



FLOOD HAZARD INFORMATION

For further information about your particular area, contact
the local government agency responsible for flood hazard
information. For more information on the NFIP and insurance,
please contact your local insurance agent or:
<http://www.fema.gov/nfip>

GENERAL FLOOD INSURANCE (GFI)
Flood Risk Rating
Flood Risk Area
Flood Hazard Boundary

DISASTER-RELATED FLOODS
Flood Related Hazard
Flood Related Hazard Area
Flood-Related Risk Area

UNIQUE LOCATORS
Flood Zone
Flood Risk Area
Flood-Related Risk Area

GENERAL LOCATORS
City, Town, or Village
County
Neighborhood

UNIQUE LOCATORS
Building
Lot
Address
Latitude
Longitude

GENERAL LOCATORS
Building
Lot
Address
Latitude
Longitude

UNIQUE LOCATORS
Building
Lot
Address
Latitude
Longitude

GENERAL LOCATORS
Building
Lot
Address
Latitude
Longitude

UNIQUE LOCATORS
Building
Lot
Address
Latitude
Longitude

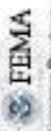
NOTES TO USERS

The map displays the flood hazard areas determined by the National Flood Insurance Program (NFIP) for the community. The map is based on the best available information and may not reflect all hazards or changes in the flood environment since the last survey. It is not a substitute for a professional engineering or hydrologic/hydrogeologic evaluation. If you have questions about the map or the NFIP, please contact your local insurance agent or the NFIP at 1-800-362-7348.

SCALE

Scale
0 1000 2000
0 1000 2000
0 1000 2000

PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY

1274 FEDERAL BUILDING
P.O. BOX 441



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

202-700-4646

TDD/TTY 1-800-462-7233

http://www.fema.gov/nfip

RECEIVED
DEPT. OF HOMELAND SECURITY
12/24/2009

PRINTED
12/24/2009

VERSION
2.0.0

2009-12-24

12/24/2009

2009-12-24

12/24/2009

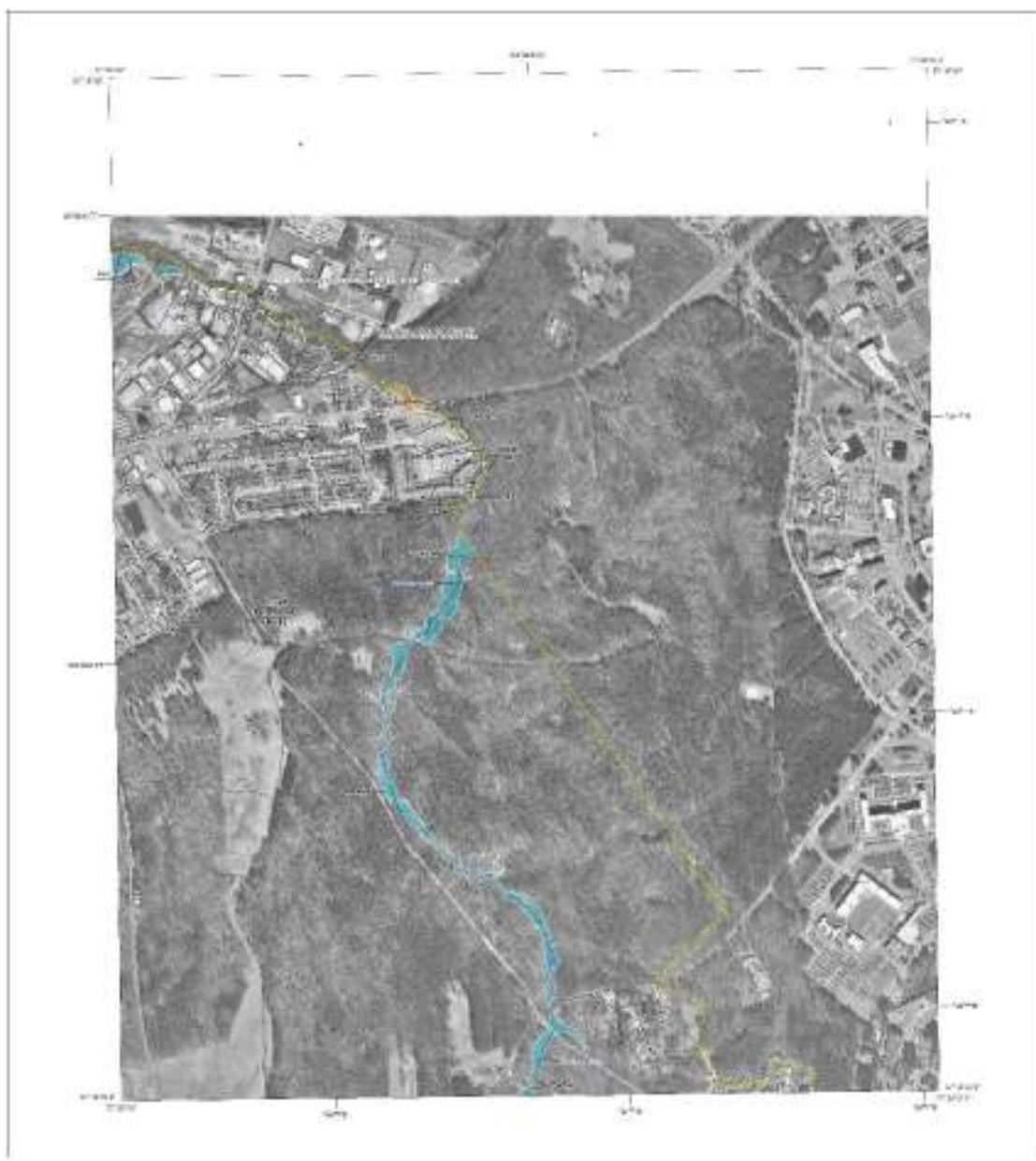
2009-12-24

12/24/2009

2009-12-24

12/24/2009

2009-12-24



FLOOD HAZARD INFORMATION

For further information on your particular area, contact your local Floodplain Manager, or your State Floodplain Manager. Additional information is available on the Web at www.floodsmart.gov.



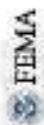
NOTES TO USERS

For further information on your particular area, contact your local Floodplain Manager, or your State Floodplain Manager. Additional information is available on the Web at www.floodsmart.gov.

SCALE



PANEL LOCATOR



National Flood Insurance Program

MAP NUMBER 00000000000000000000000000000000

CITY OF PENSACOLA, FLORIDA

scale 1:62500

DATE 12-2000

MAP NUMBER 00000000000000000000000000000000

PRINTED BY

U.S.G.S.

RECEIVED

12-2000

MAP NUMBER

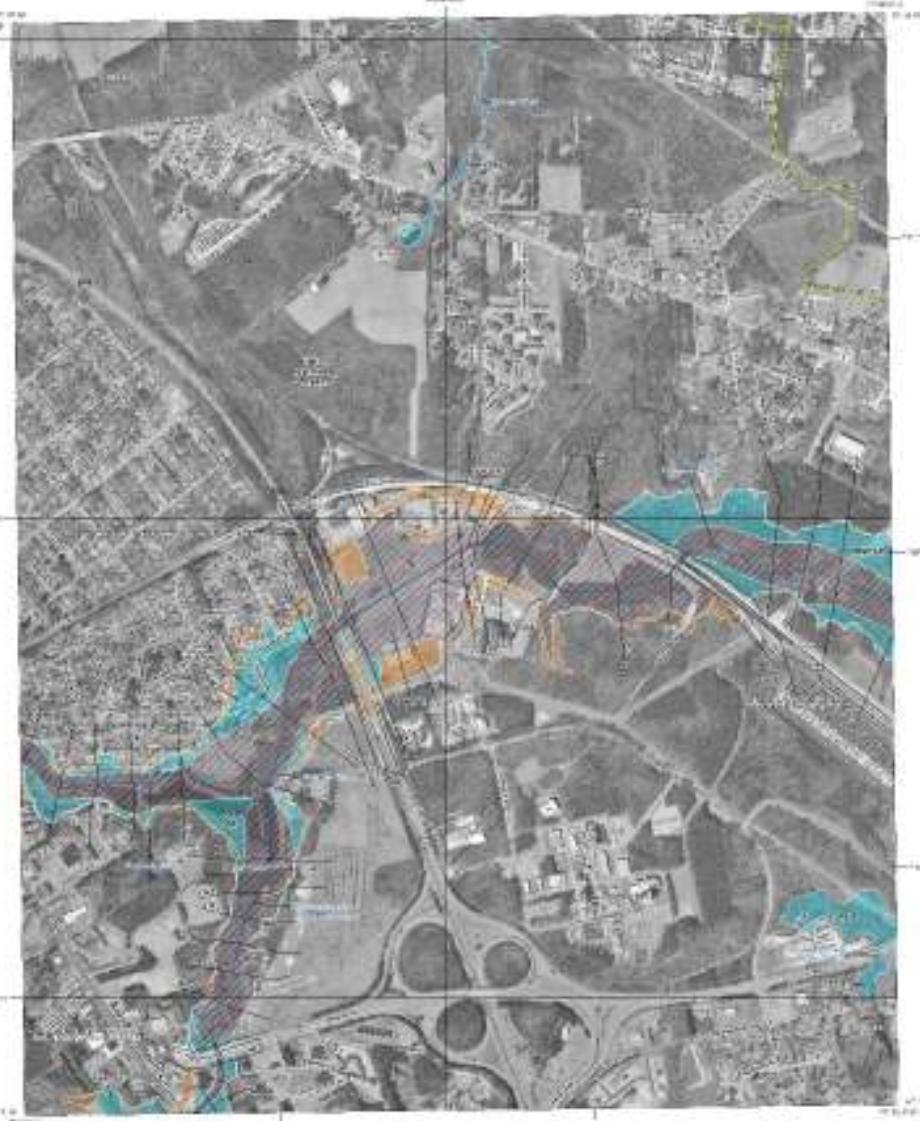
00000000000000000000000000000000

DATE 12-2000

MAP NUMBER 00000000000000000000000000000000

PRINTED BY

U.S.G.S.



FLOOD HAZARD INFORMATION

For more information about flood insurance rates, click here.



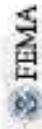
NOTES TO USERS

This map displays the flood hazard areas and elevation information developed by the Federal Emergency Management Agency's National Flood Insurance Program. The map is intended to provide general information about flood hazards and does not contain all hazard information required by law. It is not a substitute for the Flood Insurance Rate Maps or Flood Insurance Studies developed under the National Flood Insurance Program.

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FEDERAL EMERGENCY MANAGEMENT AGENCY
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

CITY OF STERLING, VIRGINIA



STATE OF VIRGINIA

REGULATORY PROGRAM

ENCLASURE

MAP

2000

2000

2000

2000

2000

2000

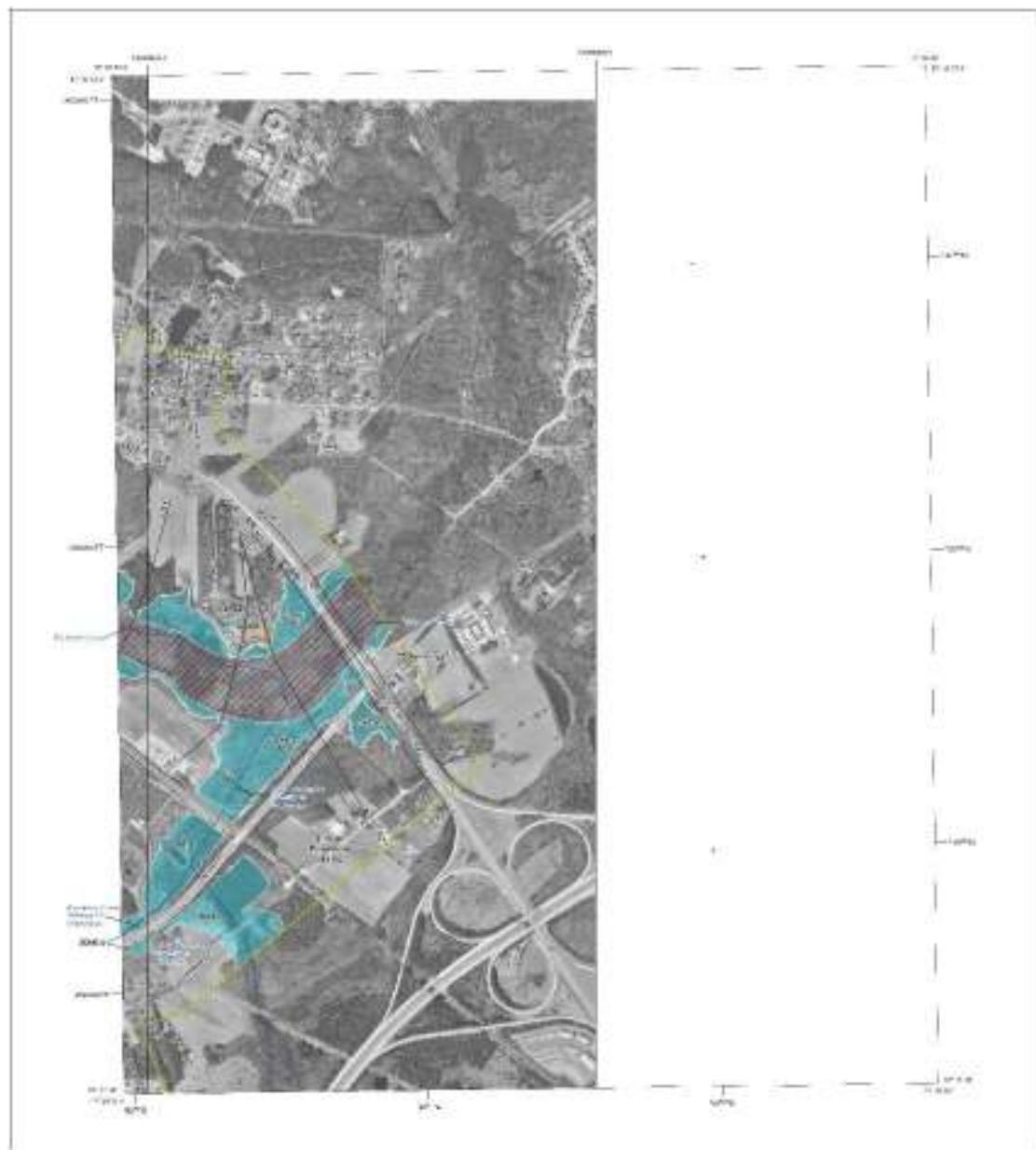
2000

2000

2000

2000

2000



FLOOD HAZARD INFORMATION

For further information about your particular area, including
flood insurance rates and information regarding
disaster assistance opportunities, contact your local
FEMA.RISK.MAP.GOV

LINES OF FLOOD INSURANCE	
Line 1: 0.500	General Flood Insurance Area
Line 2: 0.500	High Velocity Flood
Line 3: 0.500	A 1% Annual Chance Flood Hazard Area
Line 4: 0.500	Very High Risk Flood Hazard Area
Line 5: 0.500	High Risk Flood Hazard Area
Line 6: 0.500	Medium Risk Flood Hazard Area
Line 7: 0.500	Low Risk Flood Hazard Area
Line 8: 0.500	Very Low Risk Flood Hazard Area
Line 9: 0.500	Critical Area or Relocation
Line 10: 0.500	Levee, Dike, or Floodwall
Line 11: 0.500	Construction with Flood Protection
Line 12: 0.500	National Flood Insurance
Line 13: 0.500	Other Flood
Line 14: 0.500	Exclusion Boundary

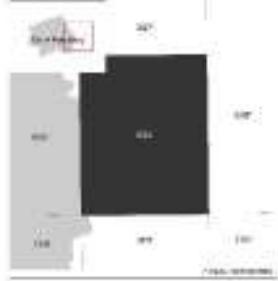
NOTES TO USERS

This map displays the areas affected by the 1% annual chance flooding event. It is not a detailed engineering map. It is intended to provide a general overview of flood hazard areas for planning and insurance purposes. It does not show specific structures or individual property boundaries. The map is not a substitute for a detailed engineering report or a professional assessment.

SCALE

Scale:
1 inch = 1 mile
1:625,000
1000' 1000' 1000'

PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

MAP NUMBER: 100-000000000000000

STATE: PENNSYLVANIA

ZIP CODE: 19061

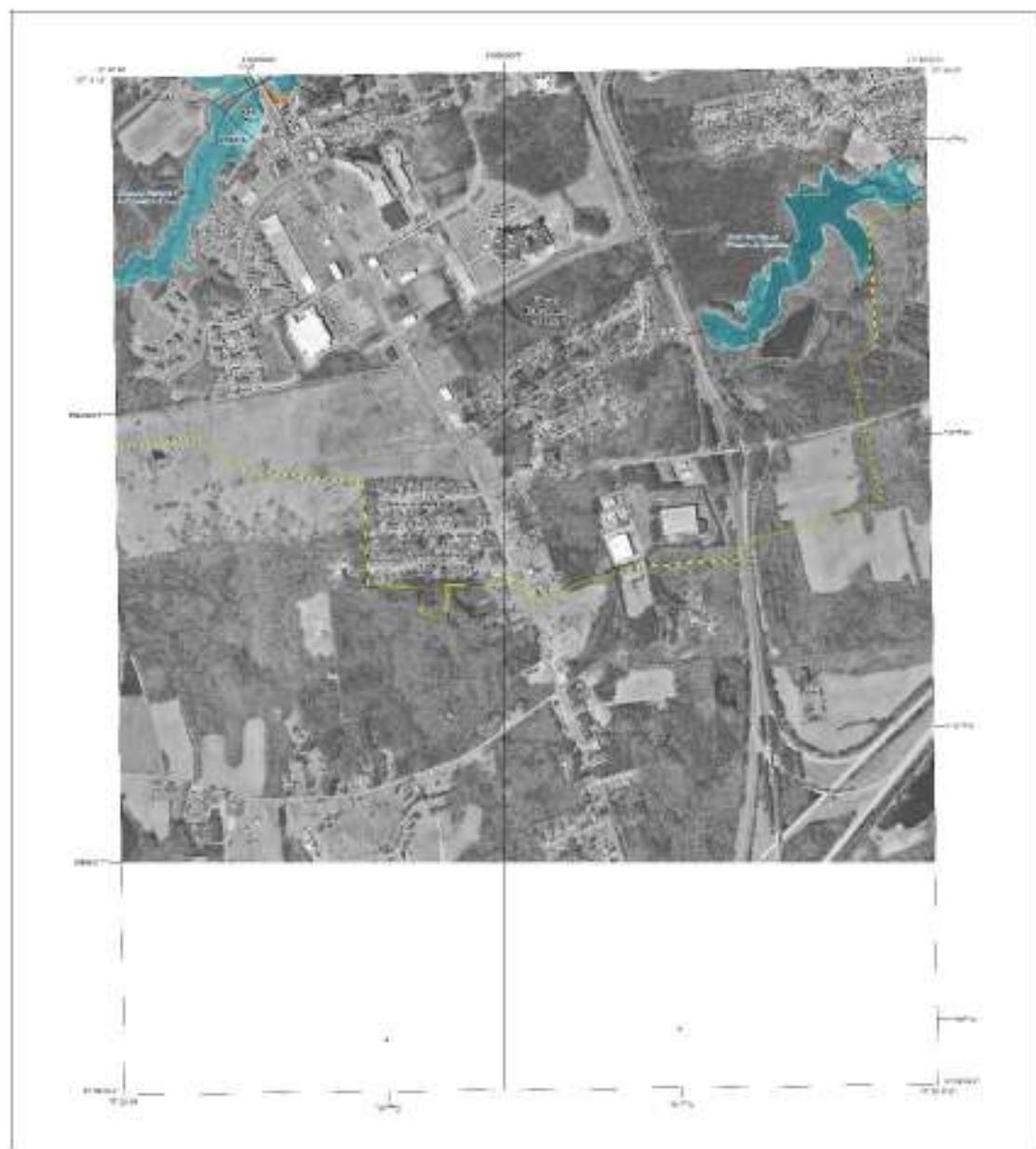
MAP SCALE: 1:625,000

MAP SIZE: 29" x 45"

MAP DATE: 12/20/2009

MAP NUMBER: 100-000000000000000

MAP DATE: 12/20/2009



FLOOD HAZARD INFORMATION

For further information contact your local floodplain manager. Additional information may be obtained from the National Flood Insurance Program, Dept. of Homeland Security, U.S. Army Corps of Engineers, or your state's emergency management agency. <http://FEMA.gov/floodinfo>



NOTES TO USERS

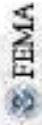
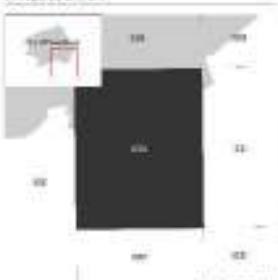
The following notes apply to the information presented on this map:

- DEM**: This DEM is derived from USGS 1:250,000-scale Digital Elevation Model (DEM) data. It is intended to show broad areas of elevation change and does not represent individual buildings or structures.
- DEM Points**: Points are locations where the DEM is discontinuous or has missing data. They are also used to represent the locations of buildings and structures.
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- DEM Points**: Points are locations where the DEM is discontinuous or has missing data. They are also used to represent the locations of buildings and structures.

SCALE

Scale:
Elevation: 0 to 200 ft above mean sea level
Distance: 0 to 10,000 ft
1:300,000
0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000

PANEL LOCATOR

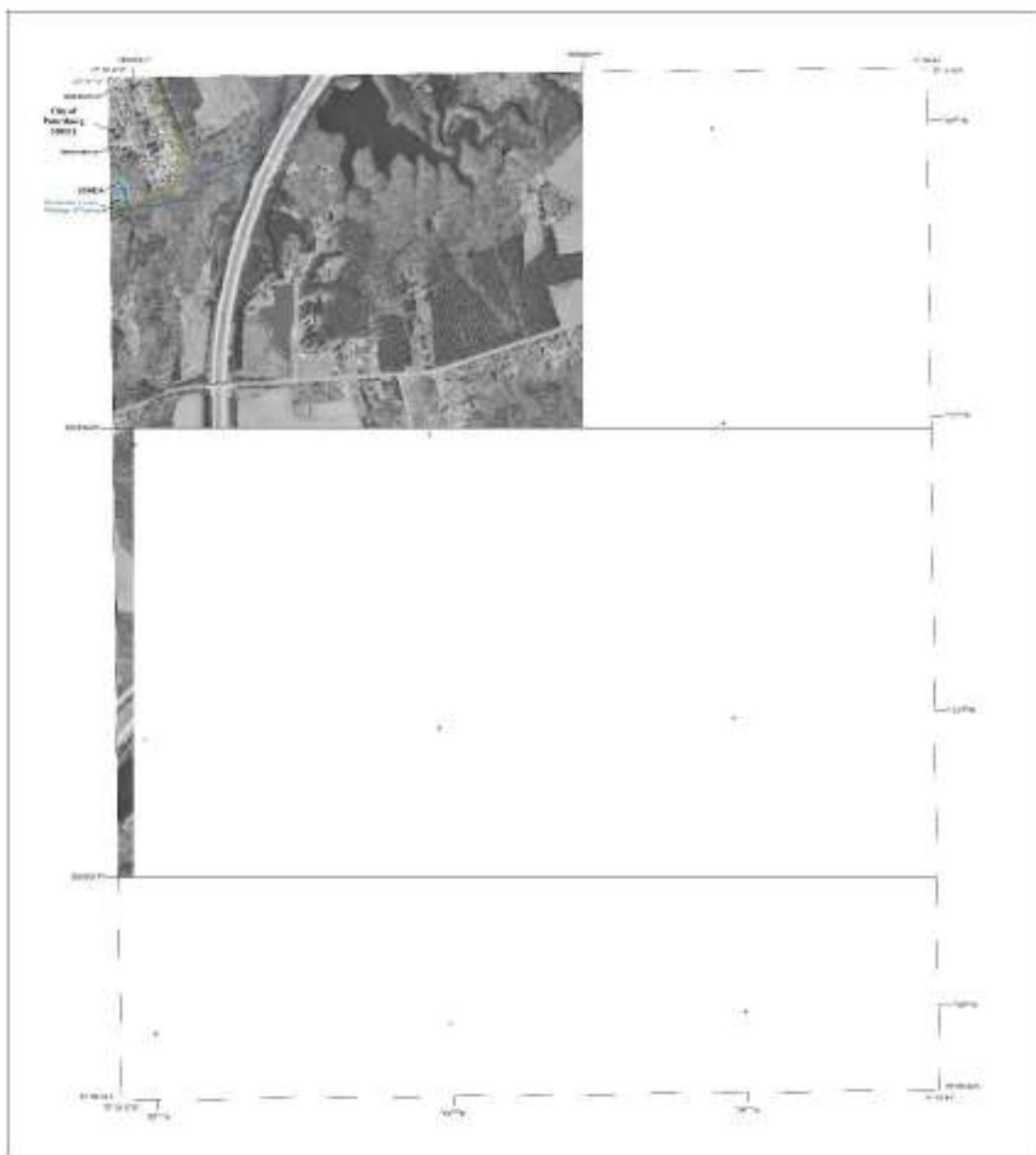


FEMA
National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FEDERAL EMERGENCY MANAGEMENT AGENCY
U.S. DEPARTMENT OF HOMELAND SECURITY
FEBRUARY 2003



PRINTED ON
03-04-2003
03-04-2003
03-04-2003
03-04-2003
03-04-2003



Chapter 58 - FLOODS

Footnotes:

--- (1) ---

Cross reference— *Buildings and building regulations, ch. 22; environment, ch. 50; health and sanitation, ch. 62; planning, ch. 82; streets, sidewalks and other public places, ch. 98; subdivisions, app. A; utilities, ch. 114; waterways, ch. 122; zoning, app. B.*

State Law reference— *Flood Damage Reduction Act, Code of Virginia, § 10.1-600 et seq.*

ARTICLE I. - IN GENERAL

Secs. 58-1—58-30. - Reserved.

ARTICLE II. - FLOODPLAIN MANAGEMENT

Footnotes:

--- (2) ---

Editor's note— *Ord. No. 11-09, adopted January 18, 2011, amended Article II in its entirety to read as herein set out. Former Article II, §§ 58-31—58-37, 58-56—58-59, 58-76, 58-77, 58-96—58-98, 58-116, 58-136—58-138, 58-156—58-158, 58-176 pertained to similar subject matter, and derived from Code 1981, §§ 13.5-1—13.5-7, 13.5-19—13.5-22, 13.5-34, 13.5-35, 13.5-41—13.5-43, 13.5-50, 13.5-67—13.5-73.*

DIVISION 1. - GENERALLY

Sec. 58-31. - Purpose.

This article is adopted pursuant to the authority granted to localities by chapter 6 of title 10.1 of the Code of Virginia Flood Protection and Dam Safety (Va. Code § 10.1-600 et. seq.) The purpose of these provisions is to prevent the loss of life and property, the creation of health and safety hazards, the disruption of commerce and governmental services, the extraordinary and unnecessary expenditure of public funds for flood protection and relief, and the impairment of the tax base by:

- (1) Regulating uses, activities and development which, acting alone or in combination with other existing or future uses, activities and development, will cause unacceptable increases in flood heights, velocities and frequencies.
- (2) Restricting or prohibiting certain uses, activities and development from locating within areas subject to flooding.
- (3) Requiring all those uses, activities and developments that do occur in floodprone areas to be protected and floodproofed against flooding and flood damage.

- (4) Protecting individuals from buying lands and structures which are unsuited for intended purposes, because of flood hazards.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-32. - Definitions.

Unless the context specifically indicates otherwise, the meaning of terms used in this article shall be as follows:

Base flood means a flood that, on the average, is likely to occur once every 100 years (i.e., that has a one percent chance of occurring each year, although such a flood may occur in any year).

Base flood elevation means the Federal Emergency Management Agency designated 100-year water surface elevation. The water surface elevation of the base flood in relation to the datum specified on the community's flood insurance rate map. For the purposes of this article, the 100-year flood or one percent annual chance flood.

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

Crater Regional Building Code Board of Appeals means the board appointed to review appeals made by individuals with regard to decisions of the building official and/or zoning administrator in the interpretation of this article.

Development means any manmade change to improved or unimproved real estate, including but not limited to, buildings or other structures, the placement of manufactured homes, streets and other paving, utilities, filling, grading, excavation, mining, dredging, drilling operations, or storage of equipment or materials.

Elevated building means a non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, or columns (posts and piers).

Encroachment means the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

Existing manufactured home park/subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before September 18, 1990.

Expansion to an existing manufactured home park/subdivision means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

Flood or flooding means:

- (1) A general or temporary condition of partial or complete inundation of normally dry land areas from:
 - (a) The overflow of inland or tidal waters; or,
 - (b) The unusual and rapid accumulation or runoff of surface waters from any source.
 - (c) Mudflows which are proximately caused by flooding as defined in paragraph (1)(b) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.
- (2) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph (1)(a) of this definition.

Flood insurance rate map (FIRM) means an official map of a community, on which the Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that has been made available digitally is called a digital flood insurance rate map (DFIRM).

Flood insurance study (FIS) means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudflow and/or flood-related erosion hazards.

Floodplain means:

- (1) A relatively flat or low land area adjoining a river, stream or watercourse which is subject to partial or complete inundation; or
- (2) An area subject to the unusual and rapid accumulation or runoff of surface water from any source.

Floodprone area means any land area susceptible to being inundated by water from any source.

Flood proofing means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Floodway means the designated area of the floodplain required to carry and discharge floodwaters of a given magnitude. For the purposes of this article, the floodway shall be capable of accommodating a flood of the 100-year magnitude.

Freeboard means a factor of safety usually expressed in feet above a flood level for purposes of floodplain management. Freeboard tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization in the watershed. When a freeboard is included in the height of a structure, the flood insurance premiums will be significantly cheaper.

Highest adjacent grade means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic structure means any structure that is:

- (1) Listed individually in the national register of historic places (a listing maintained by the department of interior) or preliminarily determined by the secretary of the interior as meeting the requirements for individual listing on the national register;
- (2) Certified or preliminarily determined by the secretary of the interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the secretary to qualify as a registered historic district;
- (3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the secretary of the interior; or
- (4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - (a) By an approved state program as determined by the secretary of the interior; or
 - (b) Directly by the secretary of the interior in states without approved programs.

Lowest floor means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of Federal Code 44CFR § 60.3.

Manufactured home means, for the purposes of this article, a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a recreational vehicle. For floodplain management purposes the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.

Manufactured home park/subdivision means a parcel (or contiguous parcels) of land divided into two or more lots for rent or sale for the placement of manufactured homes.

New construction means, for the purposes of determining insurance rates, structures for which the start of construction commenced on or after March 16, 1981 and includes any subsequent improvements to such structures. For floodplain management purposes, the term "new construction" means structures for which

the start of construction commenced on or after September 18, 1990, and includes any subsequent improvements to such structures.

New manufactured home park/subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after September 18, 1990.

Recreational vehicle means, for purposes of this article, a vehicle which is:

- (1) Built on a single chassis.
- (2) Four hundred square feet or less when measured at the largest horizontal projection.
- (3) Designed to be self-propelled or permanently towable by a light duty truck.
- (4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational camping, travel, or seasonal use.

Shallow flooding area means a special flood hazard area with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Special flood hazard area means the land in the floodplain subject to a one percent or greater chance of being flooded in any given year as determined in section 58-56 of this article.

Start of construction means, for other than new construction and substantial improvement, under the Coastal Barriers Resource Act (P.L. 97-384), the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration on any wall, ceiling, floor, or other structural part of a building, whether or not the alteration affects the external dimensions of the building.

Structure means for flood plain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

Substantial damage means damage of any origin 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.

Substantial improvement means 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 start of construction of the improvement. This term includes structures which have incurred substantial damage regardless of the actual repair work performed. The term does not, however, include either:

- (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to ensure safe living conditions; or
- (2) Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

Violation means the failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance as required in this article is presumed to be in violation until such time as that documentation is provided.

Watercourse means a lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

(Ord. No. 11-09, 1-18-2011)

Cross reference— Definitions generally, § 1-2.

Sec. 58-33. - General penalty for violation of article.

Any person who fails to comply with any of the requirements or provisions of this article or directions of the director of planning or any authorized employee of the City of Petersburg shall be guilty of a class 1 misdemeanor as provided in section 1-14 of the Code of the City of Petersburg and subject to the penalties therefore.

In addition to the above penalties, all other actions are hereby reserved, including an action in equity for the proper enforcement of this article. The imposition of a fine or penalty for any violation of, or noncompliance with, this article shall not excuse the violation or noncompliance or permit it to continue; and all such persons shall be required to correct or remedy such violations or noncompliances within a reasonable time. Any structure constructed, reconstructed, enlarged, altered or relocated in noncompliance with this article may be declared by the City of Petersburg to be a public nuisance and abatable as such. Flood insurance may be withheld from structures constructed in violation of this article.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-34. - City disclaimer of liability for flood damages.

The degree of flood protection required by this article is considered reasonable for regulatory purposes, and is based upon scientific and engineering considerations. Floods more severe than the regulatory 100-year flood can and will occur on rare occasions, as flood heights may be increased by natural or manmade causes. The provisions of this article are not intended to imply that lands outside the designated floodplain districts, or development permitted within such districts, will be free from flooding or flood damage. This article shall not create liability on the part of the city, or any officer or employee thereof, for any flood damages that may result under compliance with the provisions of this article or any administrative decision lawfully made pursuant thereto.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-35. - Applicability of article; compliance; abrogations; greater restrictions.

- (a) *Applicability.* The provisions of this article shall apply to all lands within the jurisdiction of the City of Petersburg and identified as being floodprone within this article.
- (b) *Compliance.* No land shall hereafter be developed, and no structure shall be located, relocated, constructed, reconstructed, enlarged, or structurally altered, except in full compliance with the terms and provisions of this article and any other applicable ordinances and regulations which apply to uses within the jurisdiction of this article.
- (c) *Abrogation and greater restrictions.* This article supersedes any article currently in effect in floodprone areas. However, any underlying article shall remain in full force and effect to the extent that the provisions of such article are more restrictive.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-36. - Administration and enforcement; duties of zoning administrator and building inspector.

It shall be the responsibility of the zoning administrator of the city to administer and enforce the provisions of this article; provided, however, that this section shall not be construed to abrogate the authority and responsibility of the building inspector of the city to administer and enforce the provisions of the Virginia Uniform Statewide Building Code, as it applies to development within designated floodplain districts.

(Ord. No. 11-09, 1-18-2011)

Cross reference— Administration, ch. 2.

Sec. 58-37. - Building permits required; applications; required information.

- (a) A building permit to erect, construct, reconstruct, enlarge, extend or structurally alter any building or structure within a floodplain district shall be required, as set forth in the Virginia Uniform Statewide Building Code. Applications for building permits shall be filed with the building inspector of the city; and no such permit shall be issued until the applicant has furnished satisfactory evidence that all necessary permits have been received from those governmental agencies from which approval is required by state and federal law and the zoning administrator has reviewed all sites to assure that they are reasonably safe from flooding. Under no circumstances shall any use, activity, and/or development adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system.
- (b) In addition to information required by the building code to be provided in conjunction with building permit applications, the following shall be included when the property involved is located, wholly or partially, within a floodplain district:
 - (1) The elevation of the 100-year flood, and delineation of the 100-year floodplain.
 - (2) The elevation of the lowest floor, including basement.
 - (3) The elevation to which a nonresidential structure is to be floodproofed.
 - (4) Topographic information showing existing and proposed ground elevations.

(Ord. No. 11-09, 1-18-2011)

Secs. 58-38—58-55. - Reserved.

DIVISION 2. - DISTRICT BOUNDARIES

Sec. 58-56. - Established; criteria.

- (a) *Areas included; basis for delineation.* The various floodplain districts shall include areas subject to inundation by waters of the 100-year flood. The basis for the delineation of these districts shall be the flood insurance study (FIS) and the flood insurance rate maps (FIRM) for the City of Petersburg prepared by the Federal Emergency Management Agency, Federal Insurance Administration, dated February 4, 2011, and any subsequent revisions or amendments thereto.
- (b) *Floodway district.* The floodway district is delineated for purposes of this article, using the criterion that a certain area within the floodplain must be capable of carrying the waters of the 100-year flood without increasing the water surface elevation of that flood more than one foot, at any point. The areas included in this district are specifically defined in table 5 of the flood insurance study referenced in subsection (a) of this section and shown on the accompanying flood boundary and floodway map.
- (c)

Special floodplain district. The special floodplain district shall be those areas identified as an AE zone on the maps accompanying the flood insurance study for which 100-year flood elevations have been provided.

- (d) *Approximated floodplain district.* The approximated floodplain district shall be those areas identified as an A or A99 zone on the maps accompanying the flood insurance study. In these zones, no detailed flood profiles or elevations are provided, but the 100-year floodplain boundary has been approximated. For these areas, the 100-year flood elevations and floodway information from federal, state, and other acceptable sources shall be used when available. Where the specific 100-year flood elevation cannot be determined for this area using other sources of data, such as the U.S. Army Corps of Engineers Floodplain Information Reports, U.S. Geological Survey Floodprone Quadrangles, etc., then the applicant for the proposed use, development or activity shall determine this elevation in accordance with hydrologic and hydraulic engineering techniques. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently accepted technical concepts. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough review by the zoning administrator.
- (e) *Shallow flooding district.* The shallow flooding district shall be those areas identified as zone AO or AH on the maps accompanying the flood insurance study.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-57. - Official floodplain map designated.

The boundaries of the floodplain districts are established, as shown on the flood insurance rate map, which is declared to be a part of this article and which shall be kept on file at the office of the clerk of the city council.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-58. - District boundary changes.

The delineation of any of the floodplain districts may be revised by the city council, where natural or manmade changes have occurred or where more detailed studies conducted or undertaken by the U.S. Army Corps of Engineers, or other qualified agency or individual, document the justification for such change. However, prior to any such change, approval must be obtained from the Federal Insurance Administration.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-59. - Interpretations of boundaries; disputes.

Initial interpretations of the boundaries of the floodplain districts shall be made by the zoning administrator. Should a dispute arise concerning the boundaries of any of the districts, the crater regional building code board of appeals shall make the necessary determination. The person questioning or

contesting the location of the district boundary shall be given a reasonable opportunity to present his case to the board of appeals and to submit his own technical evidence, if he so desires.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-60. - Submitting technical data.

A community's base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community shall notify the Federal Insurance Administrator of the changes by submitting technical or scientific data. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and flood plain management requirements will be based upon current data.

(Ord. No. 11-09, 1-18-2011)

Secs. 58-61—58-75. - Reserved.

DIVISION 3. - DISTRICT USES, ACTIVITIES AND DEVELOPMENT

Subdivision I. - In General

Sec. 58-76. - District provisions, generally.

- (a) All uses, activities and development occurring within any floodplain district shall be undertaken only upon the issuance of a building permit and requisite zoning approval. Such development shall be undertaken only in strict compliance with the provisions of this article, chapter 102 and all other applicable codes and articles, such as the Virginia Uniform Statewide Building Code. Prior to the issuance of any such permit, the zoning administrator shall require all applications to include evidence of compliance with all applicable state and federal laws.
- (b) Under no circumstances shall any use, activity or development adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system.
- (c) New construction and substantial improvements shall be according to the VA USBC, and anchored to prevent flotation, collapse or lateral movement of the structure.
- (d) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state anchoring requirements for resisting wind forces.
- (e)

New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

- (f) New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
- (g) Electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities, including duct work, shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- (h) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- (i) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
- (j) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

In addition to provisions (a)—(h) above, in all special flood hazard areas, the additional provisions shall apply:

- (k) Prior to any proposed alteration or relocation of any channels or of any watercourse, stream, etc., within this jurisdiction a permit shall be obtained from the U. S. Corps of Engineers, the Virginia Department of Environmental Quality, and the Virginia Marine Resources Commission (a joint permit application is available from any of these organizations). Furthermore, in riverine areas, notification of the proposal shall be given by the applicant to all affected adjacent jurisdictions, the department of conservation and recreation (division of dam safety and floodplain management) and the Federal Insurance Administrator.
- (l) The flood carrying capacity within an altered or relocated portion of any watercourse shall be maintained.

Sec. 58-77. - Specific standards.

In all special flood hazard areas where base flood elevations have been provided in the flood insurance study or generated according [to] article 4, section 4.6, the following provisions shall apply:

- (a) Residential construction:
 - (1) New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor, including basement, elevated to or above the base flood elevation (recommend \geq one foot freeboard).
- (b) Nonresidential construction:
 - (1)

New construction or substantial improvement of any commercial, industrial, or nonresidential building (or manufactured home) shall have the lowest floor, including basement, elevated to or above the base flood elevation (recommend \geq one foot freeboard). Buildings located in all A1-30, AE, and AH zones may be flood-proofed in lieu of being elevated provided that all areas of the building components below the elevation corresponding to the BFE plus one foot are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification, including the specific elevation (in relation to mean sea level) to which such structures are floodproofed, shall be maintained by (title of community administrator).

- (c) Elevated buildings: fully enclosed areas, of new construction or substantially improved structures, which are below the regulatory flood protection elevation shall:
 - (1) Not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator).
 - (2) Be constructed entirely of flood resistant materials below the regulatory flood protection elevation;
 - (3) Include, in zones A, AO, AE, and A1-30, measures to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet the following minimum design criteria:
 - a. Provide a minimum of two openings on different sides of each enclosed area subject to flooding.
 - b. The total net area of all openings must be at least one square inch for each square foot of enclosed area subject to flooding.
 - c. If a building has more than one enclosed area, each area must have openings to allow floodwaters to automatically enter and exit.
 - d. The bottom of all required openings shall be no higher than one foot above the adjacent grade.
 - e. Openings may be equipped with screens, louvers, or other opening coverings or devices, provided they permit the automatic flow of floodwaters in both directions.
 - f. Foundation enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires

openings as outlined above.

- (d) Manufactured homes, as defined in this article, that are placed or substantially improved on sites:
 - (1) Outside of a manufactured home park or subdivision;
 - (2) In a new manufactured home park or subdivision;
 - (3) In an expansion to an existing manufactured home park or subdivision; or
 - (4) In an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage, as the result of a flood;

shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to or above the base flood elevation and shall be securely anchored to an adequately anchored foundation system to resist floatation, collapse, and lateral movement.

- (e) Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the provisions of subsection (d) of this section shall be elevated so that either:
 - (1) The lowest floor of the manufactured home is at or above the base flood elevation; or
 - (2) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and is securely anchored to an adequately anchored foundation system to resist floatation, collapse, and lateral movement.
- (f) Recreational vehicles placed on sites shall:
 - (1) Be on the site for fewer than 180 consecutive days;
 - (2) Be fully licensed and ready for highway use; or
 - (3) Meet the permit requirements for placement and the elevation and anchoring requirements for manufactured homes in subsection (d) or (e) of this section as appropriate.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-78. - Design criteria for utilities and facilities.

- (a) *Sanitary sewer facilities.* All new or replacement sanitary sewer facilities and private package sewage treatment plants (including all pumping stations and collector systems) shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into the floodwaters. In addition, such facilities shall be located and constructed to minimize or eliminate flood damage or impairment.

- (b)

Water facilities. All new or replacement water facilities shall be designed to minimize or eliminate infiltration of floodwaters into the system, and shall be located and constructed to minimize or eliminate flood damages.

- (c) *Drainage facilities.* All storm drainage facilities shall be designed to convey the flow of surface water, without damage to persons or property. The systems shall ensure drainage away from buildings and on-site waste disposal sites. The city council may require a primarily underground system to accommodate frequent floods and a secondary surface system to accommodate larger, less frequent floods. Drainage facilities shall be designed to prevent the discharge of excess runoff onto adjacent properties.
- (d) *Utilities.* All utilities, such as gas lines and electrical and telephone systems, being placed in floodprone areas shall be located, elevated (where possible) and constructed to minimize the chance of impairment during an occurrence of flooding.
- (e) *Streets and sidewalks.* Streets and sidewalks shall be designed to minimize their potential for increasing and aggravating the levels of flood flow. Drainage openings shall be required to sufficiently discharge flood flows without unduly increasing flood heights.

(Ord. No. 11-09, 1-18-2011)

Secs. 58-79—58-95. - Reserved.

Subdivision II. - Floodway District

Sec. 58-96. - Improvements to offset development.

Encroachments, including fill, new construction, substantial improvements and other developments are prohibited unless certification such as hydrologic and hydraulic analyses (with supporting technical data) is provided to the zoning administrator demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently-accepted technical concepts. Such improvements also shall be approved by all appropriate local and state authorities, as required in section 58-76.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-97. - Manufactured homes, recreational vehicles.

The placement of any manufactured home or recreational vehicle within the floodway district is specifically prohibited.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-98. - Permitted activities; prerequisites.

In the floodway district the following activities are permitted, provided they are in compliance with the provisions of this article and are not prohibited by any other ordinance, and provided that they do not require structures, fill or storage of materials and equipment:

- (1) Agricultural uses, such as general farming, pasture, grazing, outdoor plant nurseries, horticulture, truck farming, forestry, sod farming, and wild crop harvesting.
- (2) Public and private recreational uses and activities, such as parks, day camps, picnic grounds, golf courses, boat launching, and swimming areas, hiking and horseback riding trails, wildlife and nature preserves, game farms, fish hatcheries, skeet game ranges, and hunting and fishing areas.
- (3) Accessory residential uses, such as yard areas, gardens, play areas, and pervious parking and loading areas.
- (4) Accessory industrial and commercial uses, such as yard areas, pervious parking and loading areas, airport landing strips, etc.

(Ord. No. 11-09, 1-18-2011)

Secs. 58-99—58-115. - Reserved.

Subdivision III. - Special Floodplain and Approximated Floodplain Districts

Sec. 58-116. - Standards for the special floodplain district and approximated floodplain district

Until a regulatory floodway is designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within the areas of special flood hazard, designated as zones A1-30 and AE on the flood insurance rate map, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the City of Petersburg.

Development activities in Zones A1-30, AE, and AH, on the City of Petersburg's Flood Insurance Rate Map which increase the water surface elevation of the base flood by more than one foot may be allowed, provided that the applicant first applies - with the City of Petersburg's endorsement - for a conditional flood insurance rate map revision, and receives the approval of the Federal Emergency Management Agency.

No structure shall be located within ten feet of the boundary of the special floodplain district and approximated floodplain district.

(Ord. No. 11-09, 1-18-2011)

Secs. 58-117—58-135. - Reserved.

DIVISION 4. - MODIFICATIONS, EXCEPTIONS; EXISTING STRUCTURES

Subdivision I. - In General

Sec. 58-136. - Conditions.

In accordance with applicable provisions of the Virginia Uniform Statewide Building Code, the crater regional building code board of appeals shall grant modifications to the provisions of the Virginia Uniform Statewide Building Code, pertaining to the manner of construction or materials to be used in the erection, alteration or repair of a building or structure in a floodplain district, only under the following conditions:

- (1) No modification shall be granted for any proposed development within a floodway district that will cause any increase in flood levels during the 100-year flood.
- (2) A modification shall only be granted upon the following:
 - (a) A showing of good and sufficient cause.
 - (b) A determination that failure to grant the modification would result in exceptional hardship to the applicant.
 - (c) A determination that the granting of the modification shall not result in unacceptable or prohibited flood heights, additional threats to public safety, or extraordinary public expense; and will not create nuisances, cause fraud on or victimization of the public, or conflict with existing codes or ordinances.
- (3) A modification shall only be granted upon a determination that the modification is the minimum necessary, considering the flood hazard, to afford relief.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-137. - Notification by board of appeals of increase in cost of flood insurance.

Upon granting a modification to construct a structure below the 100-year flood level, the crater regional building code board of appeals shall notify the applicant, in writing, that the cost of flood insurance will be commensurate with the increased risk resulting from such construction.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-138. - Board of appeals to maintain records.

Records shall be maintained, by the Crater Regional Building Code board of appeals, of all modifications granted, including the justification for each, and shall be included in any reports required by, and submitted to, the emergency management agency.

(Ord. No. 11-09, 1-18-2011)

Secs. 58-139—58-155. - Reserved.

Subdivision II. - Special Exceptions

Sec. 58-156. - Special exceptions to requirements of article; conditions; documentation of affecting factors; authority of building inspector.

- (1) The building inspector of the city shall have the authority to grant special exceptions to the provisions of this article, other than such provisions as pertain to the requirements of the Virginia Statewide Uniform Building Code; provided, that the applicant shall furnish sufficient information and documentation to satisfy the inspector as to the following factors:
 - (a) The danger to life and property due to increased flood heights or velocities caused by encroachments. No special exception shall be granted for any proposed use, development or activity within any floodway district that will cause any increase in the 100-year flood elevation.
 - (b) The danger that materials may be swept on to other lands, or downstream, to the injury of others.
 - (c) The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination, and unsanitary conditions.
 - (d) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners.
 - (e) The importance of the services provided by the proposed facility to the community.
 - (f) The requirements of the facility for a waterfront location.
 - (g) The availability of alternative locations, not subject to flooding, for the proposed use.
 - (h) The compatibility of the proposed use with existing development and development anticipated in the foreseeable future.
 - (i) The relationship of the proposed use to the comprehensive plan and floodplain management program for the area.
 - (j) The safety of access to the property, in time of flood, by ordinary and emergency vehicles.
 - (k) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters expected at the site.

- (l) The repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the special exception is the minimum necessary to preserve the historic character and design of the structure.
- (2) The building inspector may refer any application and accompanying documentation pertaining to any request for a special exception to any engineer or other qualified person or agency for technical assistance in evaluating the proposed project in relation to flood heights and velocities, and the adequacy of the plans for flood protection and other related matters.
- (3) Special exceptions shall be issued only after the building inspector has determined that the granting of such will not result in:
 - (a) Unacceptable or prohibited increases in flood heights;
 - (b) Additional threats to public safety;
 - (c) Extraordinary public expense; and will not
 - (d) Create nuisances;
 - (e) Cause fraud or victimization of the public; or
 - (f) Conflict with local laws or ordinances.

A special exception shall only be issued upon the determination that the special exception is the minimum required to provide relief from any hardship to the applicant.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-157. - Notification by building inspector of increase in cost of flood insurance.

Upon issuance of a special exception for any development or activity below the 100-year flood level, the building inspector shall notify the applicant, in writing, that the cost of flood insurance will be commensurate with the increased risk resulting from such development or activity.

(Ord. No. 11-09, 1-18-2011)

Sec. 58-158. - Records to be maintained by building inspector.

Records shall be maintained by the building inspector of all special exceptions granted, including the justification for each, and shall be included in any reports required by, and submitted to, the Federal Emergency Management Agency.

(Ord. No. 11-09, 1-18-2011)

Secs. 58-159—58-175. - Reserved.

Subdivision III. - Existing Structures

Sec. 58-176. - Existing structures in floodplain districts; conditions for continuation.

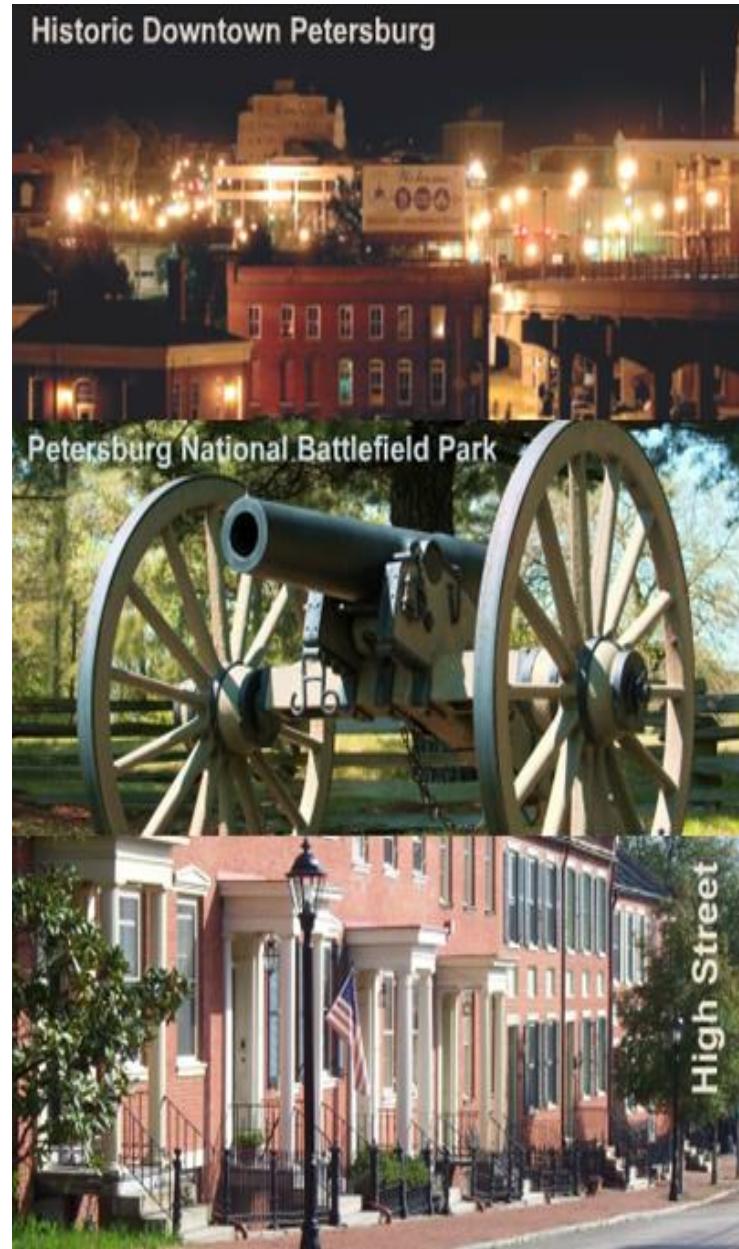
A structure or use of a structure or premises which lawfully existed before September 18, 1990, but which is not in conformity with these provisions may be continued, subject to the following conditions:

- (1) Existing structures or uses located in floodway districts shall not be expanded or enlarged unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the proposed expansion would not result in any increase in the base flood elevation.
- (2) Any modification, alteration, repair, reconstruction, or improvement of any kind to a structure and/or use located in any flood plain areas to an extent or amount of less than 50 percent of its market value shall conform to the VA USBC.
- (3) The modification, alteration, repair, reconstruction, or improvement of any kind to a structure and/or use, regardless of its location in a floodplain area to an extent or amount of 50 percent or more of its market value shall be undertaken only in full compliance with this article and shall require the entire structure to conform to the VA USBC.
- (4) Uses, or adjuncts thereof, which are, or become, nuisances shall not be permitted to continue.

(Ord. No. 11-09, 1-18-2011)



City of Petersburg 2014 Comprehensive Plan



DRAFT



Acknowledgments

Mayor and City Council

W. Howard Myers, Mayor	Ward 5
Councilman Samuel Parham, Vice-Mayor	Ward 3
Councilwoman Treska Wilson-Smith	Ward 1
Councilman Darrin Hill	Ward 2
Councilman Brian A. Moore	Ward 4
Councilman David Ray Coleman	Ward 6
Councilman John A. Hart, Sr.	Ward 7

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National Guard Armory

Oakhurst Playground/Park

Petersburg Sports Complex

West End Park Fairgrounds

Poplar Lawn (Central Park)



Content:

Education

- Enrollment
- Elementary Education
- Secondary Education
- Capital Improvements
- Post-Secondary Education
 - Virginia State University (VSU)
 - Richard Bland Community College (RBCC)
 - John Tyler Community College (JTCC)

Cultural Resources

- Petersburg National Battlefield

Cultural Affairs, Arts and Tourism

- Museums:
 - Blandford Church
 - Siege
 - Centre Hill

Programs and Special Events

- Tourism
- Performing and Creative Arts
- Film

Certified Historic Structures

Local, State and National Historic Districts

- Old Towne
- Poplar Lawn
- Folly Castle

Centre Hill

South Market Street

Courthouse

Battersea/West High Street

Atlantic Coast Line Railroad Commercial and Industrial

Historic Structures and Landmarks

Environmental Factors

- Chesapeake Bay Local Assistance Program
- Impaired Waterways
- Stormwater Management
- Brownfields
- Greenfields
- Harbor Initiative

Land Use

Economic Development

- Gateways
- Addressing Blight

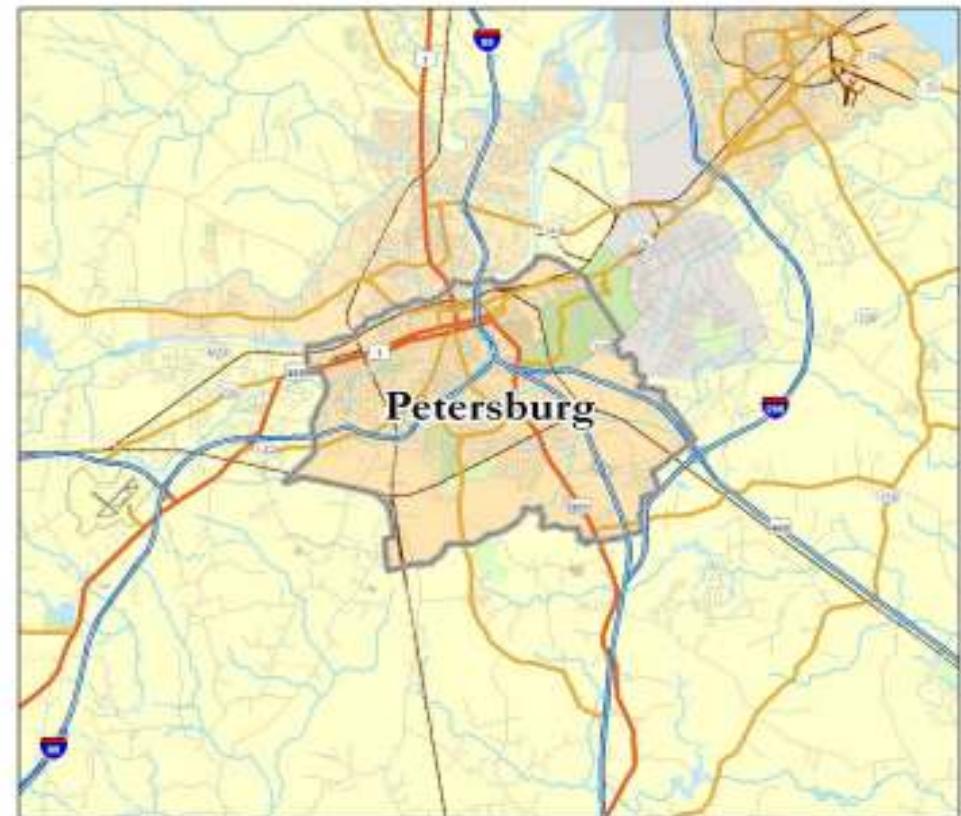
Opportunities, Goals and Objectives

Index of Plans



Petersburg's Regional Location

The historic City of Petersburg is located in South Central Virginia, twenty four miles south of the City of Richmond, 132 miles south of Washington D.C. and seventy three miles west of the Chesapeake Bay. Petersburg is situated at the Falls of the Appomattox, on the boundary between the Tidewater and the Piedmont, between the Chesapeake and Albemarle basins. Located along the eastern seaboard, and situated at the juncture of Interstates 95 and 85 with easy access to Interstate 295, US Route 460, 301 and 1. The City of Petersburg is 23.1 square miles in size and it is one of 13 jurisdictions that comprise the Richmond-Petersburg Metropolitan Statistical Area.



City of Petersburg



A Vision for Petersburg

CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014



In the year 2020, Petersburg Virginia has reinvented itself to be an economically, environmentally and socially vibrant community with a physically active, well educated, ethnically and culturally healthy citizenry. Continuing a legacy of a thriving faith filled City where there are private and public partnerships that enhance our heritage and promote the spiritual, physical and emotional health of all of our residents. There are a myriad of housing opportunities and options ranging from single family dwellings to urban apartments; retirement villages; assisted living facilities and live-work housing units. The City has a vast array of entertainment options including Community Theater, a symphony orchestra, a thriving arts community and numerous historical sites, museums and attractions. The many entertainment options coupled with unique architectural landscapes having been preserved and enhanced over time have resulted in a thriving tourism industry. There are numerous specialty restaurants and shopping options, state of the art health care facilities, recreational sports facilities, and green infrastructure improvements. The City possesses over acres of premier green Park and recreational space including an 18 hole public golf course.

The City has a well-organized transportation system including walking; cycling and fitness trails, as well, as local and regional mass transit facilities for air, rail, and water routes. There is a waterfront that is eclectic and vibrant promoting and bringing families, and visitors to an exciting array of activities. The infrastructure has been upgraded to facilitate planned growth and expansion as well as provide for the stability of our many neighborhoods. There are beautiful green spaces throughout the City allowing for a mix of urban and suburban parks, which forms a network of recreational uses for families and individuals to enjoy.

A School system revamped to be among the best in the State of Virginia and highly ranked in the Nation; boasting small class sizes; state of the art equipment; quality teachers, and gifted and talented students that are bright and eager to learn.

Our local government services and level of accessibility are unparalleled in the region. There is a healthy balance of industry, business, residences, and services resulting in stable, growing property values and an economically flourishing community. There are volunteer and professional opportunities for citizens of all walks of life and ability. There are new businesses including local entrepreneurs providing jobs and employment opportunities for the citizens of Petersburg. Petersburg, Virginia a wonderful place to live, work, and play.





History

Petersburg, Virginia, a “city rich in history that is dedicated to providing superior services while cultivating pride”.

Originally known as Peter’s Point, it received its charter in 1748 and became a City in 1850. Petersburg settled at its inland most navigable point, at the fall of the Appomattox River. Because of its location, it has a rich cultural, economic and social history. When settlers arrived in the early 1600s, Native Americans mounted fierce resistance before signing treaties that led to flourishing trade. The growth of the tobacco market in the early 1700s brought about the near simultaneous founding of Richmond and Petersburg. For the next hundred years, Petersburg appeared to dominate as the logistical center of Virginia. During several decades following the Revolution, Petersburg’s free black population grew quickly and Petersburg had one of the oldest free black settlements in the nation at Pocahontas Island.

In the 30 years leading up to the Civil War, Petersburg built its first railroads, and the manufacture of agricultural and industrial implements and tools flourished. In the spring of 1864, General Ulysses S. Grant surrounded Petersburg, affecting the longest siege in the history of the nation. After General Robert E. Lee and his Confederate forces abandoned Petersburg in April 1865, Lee surrendered, ending the Civil War. By the early part of the 20th century, the logistical and shipping center of Virginia had shifted to Richmond, leaving Petersburg the retail hub of Southside Virginia; several new industries were established in Petersburg. Founded in 1870, the Seward Luggage Company became one of the largest manufacturers of trunks and luggage in the country. Two other large companies formed during this era were Titmus Optical Company and Arnold Pen Company. These businesses contributed greatly to Petersburg’s thriving economy at the turn of the twentieth century. During this era department stores, grocers, specialty stores, and theatres lined Sycamore Street and adjoining

streets in Old Towne and sprung up around the Halifax Street triangle.



Sycamore Street 1903

As Petersburg’s economy weakened in the 20th century, its population declined. As upper and middle classes fled to the suburbs, the city was left with a high percentage of low income residents. The increase in demand for public services seriously strained limited financial resources.

Petersburg continues as a transportation hub with immediate access to Interstates 85, 95, and 295, and U.S. highways 1, 301, and 460, Petersburg is an attractive tourism and business location. Petersburg has several public and private industrial parks, several located within Enterprise Zones.

The City collaborates with State and regional economic development organizations to offer businesses assistance with site selection, permitting and workplace training.

History, geography and phenomenally intact historic districts make Petersburg a community that people and businesses from all over the globe are embracing. Visible reminders of Petersburg’s prominent role in the emergence of the country into a worldwide power are evident in the extensive architecture and streetscapes that remain. The City rises from the banks of the beautiful,

CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014



unspoiled Appomattox River where the City will create a Heritage Trail along its southern shore for the public to discover this rare asset. The majesty of the Appomattox continues to drive support and assistance from the U. S. Army Corps of Engineers for the re-establishment of the City's harbor as a navigable connection to the James River, the Inter-coastal Waterway, the Chesapeake Bay and the Atlantic Ocean. Petersburg is experiencing a true Renaissance.

On August 6, 1993, a destructive tornado touched down on the southwest side of Petersburg, and rapidly intensified as it struck the historic downtown area of the city. Several well-built, multi-story brick buildings were leveled. Pocahontas Island experienced major losses in the storm; to include 47 homes and a church. Although it has taken the City a while to bounce back from the devastation, we remained resilient.

Today, the City is alive with revitalization projects featuring premiere examples of architecture ranging from the 18th - early 20th centuries. Many of the damaged homes have been restored and occupied as private residence. The church on the Island is the place of worship to many families who have rebuilt their homes and remained island residents.

The city has also experienced a resurgence of development with many of the old warehouses converted into lofts and mixed-use developments. Petersburg has a vast array of entertainment options including a thriving arts community and numerous historical sites, museums and attractions coupled with a unique architectural landscape that has been preserved and enhanced over time resulting in a thriving tourism industry. There are numerous restaurants and shopping options located in Old Town and South Crater Road, and a state of the art health care facility. The City has an organized transportation system including walking and cycling trails.

The City of Petersburg in collaboration with our community health partners is providing a health and wellness program to enhance the citizen's quality of life. A non-profit citizen advisory

board known as Wilcox Watershed Conservancy (WWC) assists Parks and Recreation with educational programming, enhancing and maintaining signage, flowers and walking trails at Lee Park. City Council approved in 2004 a master plan for Lee Park. The Tennis and Basketball courts at Lee Park have been revitalized through funding provided from the Community Development Block Grant (CDBG). The friends of the Library have assisted the City's Library to offer a Healthy Living and Learning Center. The City recognizing a need for a better healthy way of living created along with its staff and community leaders, a Quality Circle and Heal Petersburg Taskforce. The Army has substantially expanded activities at nearby Fort Lee, home of the United States Army's Sustainment Center of Excellence, as well as the Army's Logistics Branch. Together, all these features deliver a desirable location for those looking for a strong sense of community.

As noted in our Vision Statement "we will provide ethical, dynamic and effective leadership, establish clear direction and priorities, and model the mission and values in support of our common vision."

There is a new optimism on the streets.



Introduction



The Comprehensive Plan for the City of Petersburg is intended to facilitate development and an Economic resurgence. This development and economic revival will come as we turn our challenges into opportunities and capitalize on our location, historical significance and rich history. The plan emphasizes the need for redevelopment in our Central Business District, revitalization and commercial corridors, while preserving the historic properties and neighborhoods that make the City unique.

Purpose of the Plan

The Comprehensive plan is a policy guide for how the community will be developed and managed. The existing conditions were examined in the City of Petersburg and the region. Developing the framework for this Plan was a process undertaken a few years ago and facilitated by Community Development Partners. The process involved recommendations and land use plans being developed from an analysis of existing conditions, public input, and meetings with community stakeholders. The plan has been updated to include development activities since the undertaking began. The resulting Comprehensive Plan is intended:

- To improve the quality of our environment as it relates to social, economic and physical realities;
- To guide future decisions of citizens, elected officials and staff as it relates to development;
- To provide for the well-being of all the community;
- To promote community goals, objectives and policies;
- To be the balance between technical and political aspects of community development in order to eliminate duplication of private and public projects; and
- To include citizen participation in community development; thus creating a sense of pride.

The Comprehensive Plan is not intended to be a binding, regulatory document. Rather, it is to guide elected officials and

City Staff when determining the appropriate regulatory, enforcement and/or changes necessary in order to meet the established goals and new challenges as they arise.

Legal Authority of the Plan

In the Commonwealth of Virginia all jurisdictions are required by law to prepare and adopt a plan for the physical development of their land and to review that plan at least once every five (5) years. The plan shall be developed in accordance with State Code sections 15.2-2223 through 15.2-2232, and shall be general in nature and designate the general location, character, and extent of growth. This plan is consistent with the provisions outlined in State code.

Plan Implementation

A Comprehensive Plan is only as useful as the ability of a City to implement its recommendations. The Comprehensive Plan will be implemented through a variety of tools available to the City:

- Regulatory measures (i.e. Code Enforcement, Zoning, Subdivision Ordinance)
- Financial Resources (i.e. Capital Improvement Program, Operating Budget, Grants, CDBG)
- Plans (i.e. Neighborhood Plans or Master Plans for specific areas of concentration)
- Partnerships (i.e. the Housing Authority, Cameron Foundation, Non-Profits, local Businesses, Churches, Homeowner's Associations, Public Schools, VSU)

Recommendations are made not just out of need, but consistent with the capacity of the City to bring about the necessary changes through available resources. This Plan seeks to concentrate efforts in areas that will provide maximum benefits to the residents of the City of Petersburg. Petersburg has the potential and opportunity for improvement in every neighborhood with citizen participation.



Citizen Participation in the Process

The framework for this plan began with citizen participation back in 2008, under the direction of K.W. Poore & Associates, Inc. Additional meetings have been held by the City of Petersburg Planning Department to hear the opinions and desires of the residents.

The major meetings were held at Union Station in Old Town. The evening began with introductions and a brief presentation by the consultants on the Comprehensive Plan process. Residents were then asked to provide their input. Stations were set up around the room addressing the topics of Economic Development, Public Services, City Image, Living Environment, Pedestrian Scale, Recreational Opportunities, Preservation, Health and Facilities. Residents wrote comments at each station, interacted with City Staff and each other, and provided check marks next to other comments with which they agreed strongly.

Citizen concerns ran the gamut of issues, the strongest emphasis, however was placed on the underutilized historic assets and the City's image. In more recent meetings, the concerns varied and included housing efforts, education and Economic Development.



Citizen Participation Meeting held at Union Train Station

Petersburg's Comprehensive Plan

The following Plan looks at the City's demographics, housing, economics, community facilities, infrastructure, amenities, and historic and cultural assets. Although Petersburg is a dynamic City, the background information provides a basis upon which to assess the City and plan for its future. The next section includes Transportation, Economic Development and Land Use Sections, along with planning factors to be considered as we continue to build stronger communities. The final section addresses the goals, objectives, and recommendations which will help guide the decisions of City staff and leaders over the next 5 years.



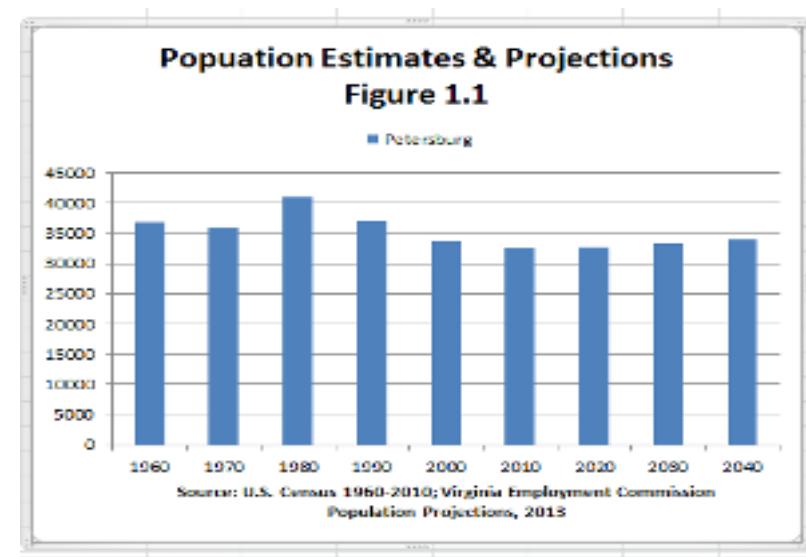
Population

Demographics and population trends are an important part of the Comprehensive Plan. They reveal unique characteristics that have implications for the economy, schools, land use patterns, housing needs, and public services. The first section offers a demographic snapshot of Petersburg with projections based on current trends.

Petersburg has experienced population fluctuations and demographic shifts associated with economic growth and social changes since its history began with the establishment of Fort Henry in 1646. Since the late 1970's the City has been dealing with the loss of population; Despite the population peak in the 1980 Census at 41,055, which was attributed largely to the 1972 annexation of land from Dinwiddie and Prince George Counties. This increase in population was short lived, and the outward flow of people continued with suburban growth in the region. Petersburg has shown steady population loss in the 1990, 2000, and 2010 Census. As shown in Figure 1.1. However, the same chart shows an increase in population between 2010 and 2020 with continued increases through 2040.

Understanding that population projections are merely estimates and City's declining population over the decades has definitely not predetermined the City's future. The slight increase in population between the last census reporting and today is due to proactive redevelopment and policy changes instituted by the City. There are many great examples that demonstrate the fact that the downward population trend is changing. Southside Regional Medical Center is one of the success stories. The new hospital location has spurred growth in the southern part of the City, and we can see a slight increase in population in Petersburg in 2007 and 2013. This trend is projected to continue to increase as residents are coming back to Petersburg. The redevelopment efforts cannot just encourage new development, but must also creatively encourage reinvestment in

the older neighborhoods of the city. Understanding the population trends and demographic characteristics, the City has -a means to measure its success at revitalizing and reinventing itself.



Regional Population Trends

Regionally, the five localities neighboring Petersburg have experienced modest population growth with the exception of Chesterfield, which has had relatively explosive growth attributed to the overall expansion of the Richmond metro area. Although the



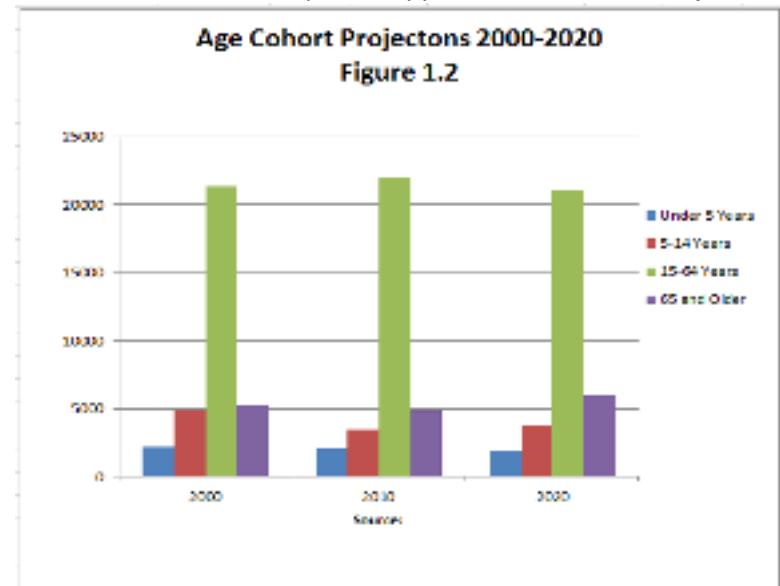
City of Hopewell also experienced population loss, Petersburg has the greatest decrease in population about 9% since 1970.

When we are looking at our population regionally there are several factors that attribute to a declining population. The lack of employment opportunities in the City may be the major factor, along with affordable housing options and a challenged education system. Despite the shrinking population the city has managed to deliver services and experience economic investment. In an effort to appeal to new residents, the City has strategically prioritized its efforts to address ways to stimulate the economy by attracting new development that creates jobs. While a seemingly monumental task, the strategy calls for prioritizing our resources to focus on our gateways, economic development from both public and private investment, infrastructure, housing and public facilities. This strategy encourages the City to leverage its endeavor with private investment to stabilize and revitalize the areas within the City with the greatest need and that will have the maximum impact.

It is also necessary to understand the dynamics of a shrinking population. Although, the City is riding the wave as the population has slightly increased and is projected to continue it is important for the City to address the issues that caused the decline for several decades. An aging population requires different services than a younger population. The new trend now of single young professionals known as SINKS (Single Income no kids) and two-person professional households with no kids known as DINKS (Dual income no kids) needs will be different from families with children. Similarly, financially challenged urban populations require different public investments than an affluent and growth oriented suburban area. The city will need to balance the different people who make up the communities while balancing services to all groups of persons. While Petersburg land use comprises rural, suburban, and urban landscapes; socioeconomic data suggests that there be policies focusing on the urban population. An understanding of the reasons why people move away from the City will be the first step in correcting the problem and making great strides to retain, at minimum, the current residents.

Demographics

For Petersburg, what appears to have been a challenge as shown in earlier census data as a decrease in population, we are seeing a small increase in the number of persons moving back to the City. The elderly population is remaining in their homes with their children moving back to care for them. Virginia State University graduates remain in the area, and the adaptive reuse of warehouses to lofts can all be considered reasons for this increase. As the chart below (Figure 1.2) indicates, people ages 15-64, which comprise the ages of majority of the workforce, are declining in absolute numbers, and also declining relative to the senior population (65 and older). By 2030, the senior population is expected to increase, while the work force age population is slightly decreasing which may result in a short and long term implication on the services provided and the economy. A declining workforce age population suggests that persons that will contribute to the economy are not living in Petersburg. This also suggests that the employment opportunities for the skills of that population are not located in the City of Petersburg. This further validates the efforts of the City to attract economic development opportunities that create jobs.

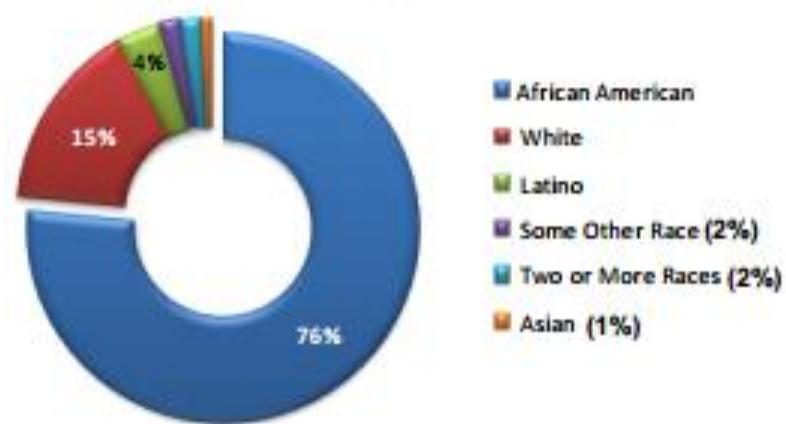




Race is a demographic characteristic which has changed overtime. Traditionally, the City has had nearly equal residents of whites and blacks, but since the 1960's the composition of the City has become primarily African American, with the white population majority shrinking to a minority. The 2010 Census shows African Americans make up 76% of the population and whites 15% with the remaining 9% made up by other races. The City of Petersburg experienced an increase in the Latino and Hispanic population between 2000 and 2010. In order to have greater diversity among the population, we need to see what industry and amenities entice such diversity, and seek to provide that culture and then market the City of Petersburg. Diversity in nationality and income levels will be a welcome change and essential in order to see a progressive impact on the local economy.

According to 2010 Census figures, gender ratios for the state show a general even split between male and female. In the City of Petersburg the percentage of females is slightly higher with about 53.3% of the population being female.

Population Composition 2010

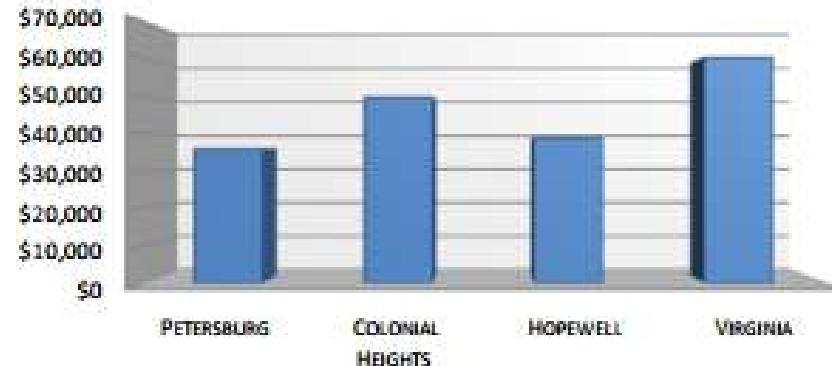


Income

Income and Poverty are socioeconomic characteristics which are indicative of economic circumstances. Income growth suggests that quality of life is improving. Stagnant incomes suggest a weak economic base. Income levels of the residents of Petersburg help to estimate the capacity within the City for economic growth. The quickest reference for income levels in a locality is the Median Household Income, with half of the households above that number, and half below.

Median household income (MHI) in Petersburg in 2005 was \$30,942. This was significantly lower than the state median income of \$55,476. However, the latest census data available shows level of growth. The States \$63,907 is a 9% increase since 2005. Encouragingly, The City of Petersburg, though well below the State median, has also shown a 9% increase in MHI. Today, latest census estimates show Petersburg's MHI at \$35,874. The increase of the MHI is positive, and shows growth; even though the percentage of the increase is small; it's not stagnant. Compared to adjacent cities in the region, Petersburg has the lowest MHI. Nevertheless, economic policies should positively impact the MHI to show over time a different picture.

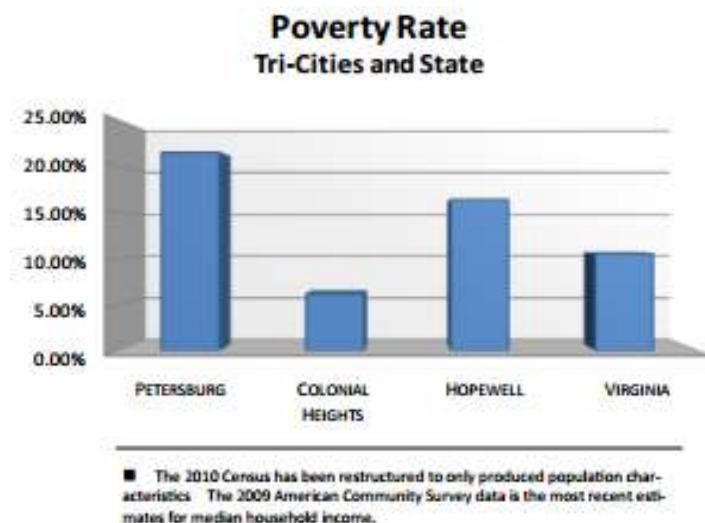
Median Household Income Tri-Cities Area and State





Poverty

Poverty levels are an indication of the well-being of a community. Poverty definitions used by the Census are determined at the federal level. Poverty status is determined for a family by comparing income with the federal income thresholds appropriate for a family size and compositions.



The poverty struggle is not isolated to the City of Petersburg, although the numbers may give a different impression. The well-being of a community is reflective in the number of persons and households below the poverty level. This national crisis has not occurred overnight and will not be solved overnight. However, the City of Petersburg is consciously working in collaboration with our community partners to have an impact through programs and services that will not burden the existing system. This out-of-the box method of moving forward is going to improve our socio-economic standing and empower people to help themselves. As seen in the income section, low median income levels are a sign of a weak economy. Combined with high poverty rates, this suggests many citizens in Petersburg are struggling to make ends meet. In 2013, Petersburg had 19.6% of the population living below poverty

according to the American Community Survey (ACS). This is a decrease since the 2010 Census as shown in the adjacent chart of about 21.3% of the population living below poverty. Addressing poverty is a challenge in the short and long term. These statistics must not be looked at merely as numbers to be lowered, but as evidence that there are Citizens of Petersburg in need of economic opportunity. The Departments of Social Service and Workforce Development have mobilized to assess the needs within the community. This assessment will be used to creatively partner with the community resources to deal with the crippling factors, and develop the programming and training that is necessary to see change. These solutions must also address the high percentage of children nationally below the age of 18 living in poverty and must include the academia community in developing and implementing results-driven strategies.

Housing

Housing affects the quality-of-life of a community. It is a basic human need as well as an indicator of economic vitality. Affordable, attractive housing retains residents and supports an environment for growth and stability. Diversity in the housing supply supports people in all stages of life. The private sector provides most of the housing within the City; yet, it is important for the City to inventory the condition of its housing supply and take appropriate measures to promote a healthy housing mix. This healthy housing mix is the catalyst to maintaining stable neighborhoods and supporting economic development. Petersburg is striving to overcome the challenges associated with its aging housing stock in order to provide vibrant neighborhoods, attract a diverse sustainable population which will include people of all ages, incomes, backgrounds and lifestyles.



The City has work to do in order to revitalize some of its neighborhoods. While its neighbors have had an increase in housing, Petersburg has experienced a decline in the total number of housing units. This implies the amount of new construction citywide has been below replacement rate of demolition or conversion of housing to other uses. In older parts of the City, vacant housing is a problem – threatening to shrink the housing stock further.



Currently Petersburg has neighborhoods which reflect the disparity of wealth within its borders. Restored neighborhoods and well-kept houses stand in stark contrast to some of the dilapidated housing which was at one time an asset to the City. The ability of the City to improve neighborhoods with public money is limited, but the city has retained vacant lots and houses over the years. The City has been working to sell these lots and houses to private entities for redevelopment and to add them back to the tax rolls. However, the lots that are still in the control of the City may allow the city to be able to leverage the property with developers and non-profit

housing partners, and to spark revitalization and change in these neighborhoods.

Several neighborhoods have been the subject of community plans such as Eastgate (a neighborhood plan for a portion of the eastern communities of the city), Pocahontas Island, University Boulevard (formerly known as Canal and Fleet Street), Battersea and the Halifax corridor. All of these plans recognize the aging housing stock or the vacant lots in the respective areas and encourage infill development. There are areas where there are contiguous lots that can be assembled to develop a small scale subdivision of single family residences. Residents need economic opportunity and mixed income neighborhoods to encourage investment and stabilization of deteriorating areas. Having affordable, safe, and attractive housing is a critical building block toward a better economy. The City is mindful that the time is now to promote, market, and attract private developers to take advantage of this opportunity, which will have an effect on improving the local economy and institutions. Furthermore, this is also a great time for residents to participate in these restoration and revitalization efforts and help to create a sense of place.

Housing Vacancies

The sprawling pattern of growth has left a concentration of vacant housing in neighborhoods north of Interstate 85. Between 1980 and 2006 Petersburg's housing stock remained unchanged, while its regional neighbors had grown. The outward growth from Petersburg since the 1960's has had negative consequences for the City. While population losses were temporarily reversed with the 1972 annexation of land from Dinwiddie and Prince George Counties. The neighborhoods in the oldest parts of the City continued to decline.

Petersburg has the largest share of vacant housing in the region, with 16% of units vacant according to the 2010 U.S. Census.



If public investment is to be more than a temporary patch on deteriorating conditions, it must find and support private investment as well. Investment in housing must be planned and combined with infrastructure improvements if it is to compete with the suburban growth that has a hollowing out effect on City neighborhoods. There are still neighborhoods with signs of life which should not be taken for granted.

Housing efforts by private investors and foundations need the City as a strategic partner. Investing in the hot spots downtown and in older neighborhoods can strengthen private sector investment and encourage it to spread outward from the nodes of activity that exist. Seeds of revitalization can grow and gain momentum. Public comments have stressed the desire to see the city invest in areas around revitalization; thereby strengthening already revitalized and stable neighborhoods and building on the momentum they have started. The decision makers have strategically prioritized areas that redevelopment traffic should be driven in order to have a greater impact on declining communities.

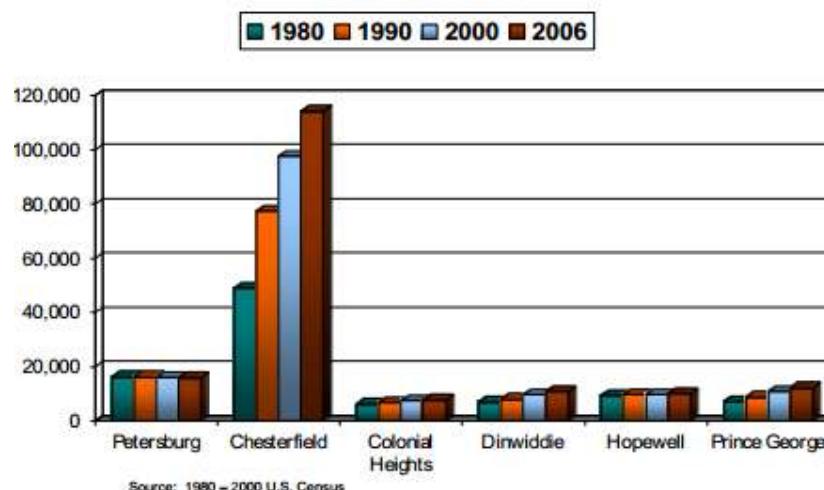
The City of Petersburg has intentionally designated growth areas that have been found to meet the intent of the Code of Virginia, section §15.2-2223.1. These areas in the City are identified on the future land use map as designated areas where the City is driving development of residential housing, commercial uses, infill and mixed use development. The City has ample vacant infill parcels and some undeveloped land that will permit redevelopment opportunities to accommodate the projected growth in the City.

To the extent possible, federal, state and local transportation, housing, water, and sewer facility, economic development and other public infrastructure funding for new and expanded facilities will be directed toward these areas to accommodate growth.

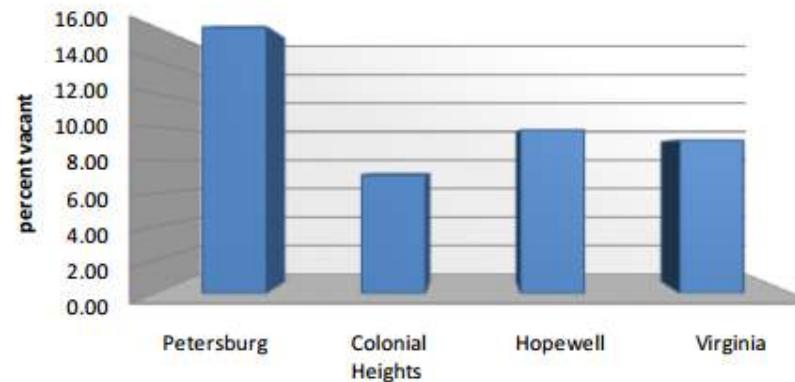
These areas will also be promoted to developers and have incentives for development that may include Enterprise Zone incentives, sale of city-owned land, reduction or elimination of

parking requirements, and expedited review times for site plan and building permits.

Regional change in housing units 1980-2006



Tri-City Area Housing Vacancy Rates 2010

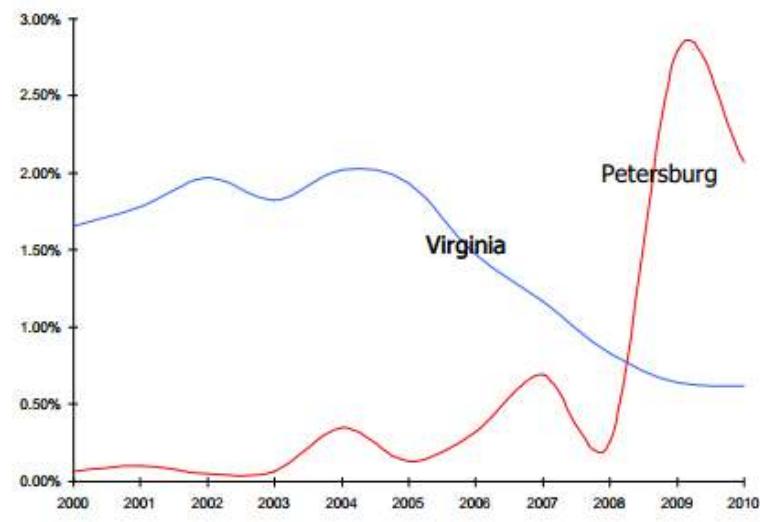




Housing growth from 2000-2010

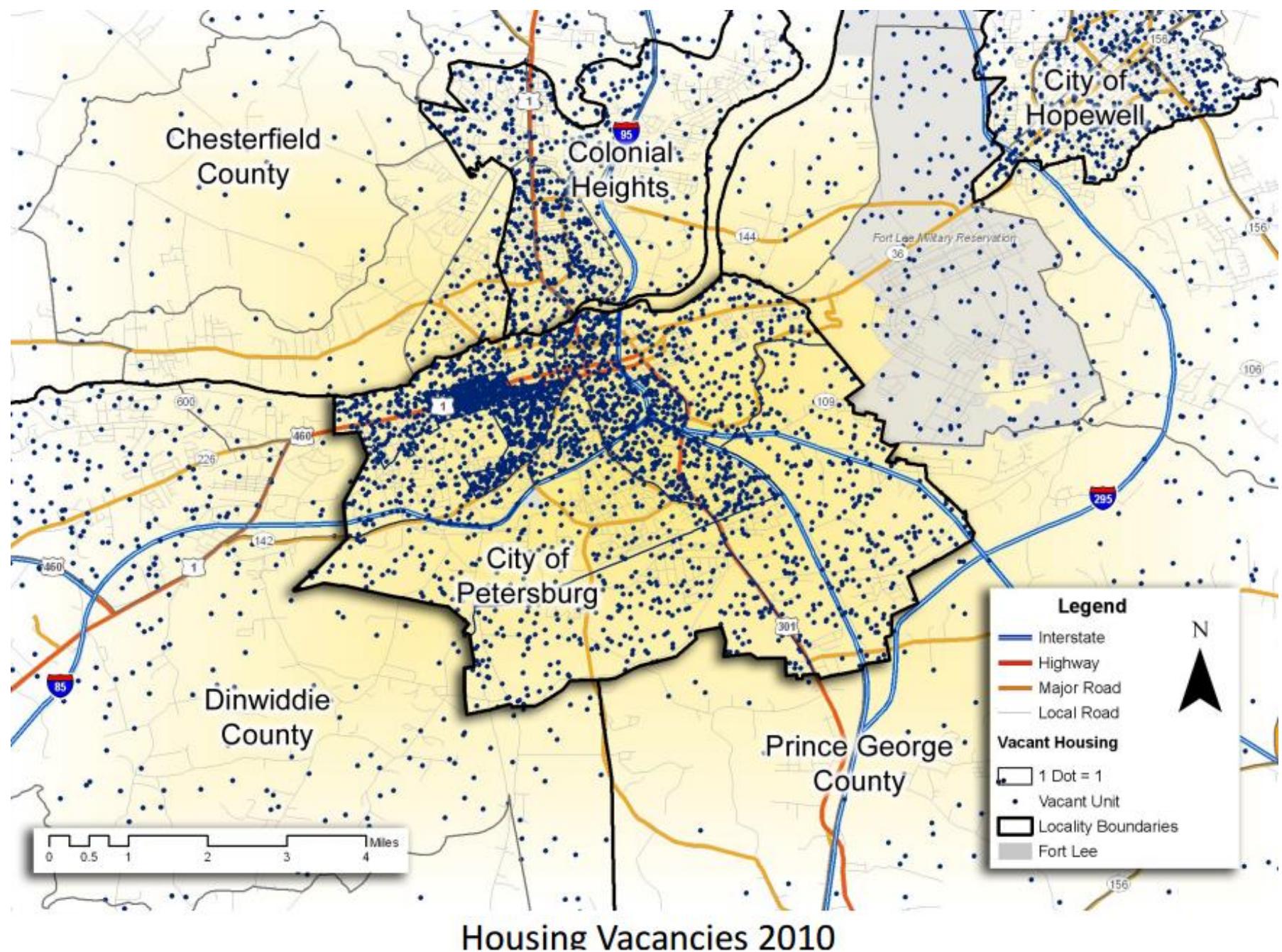
Housing permits fell sharply from 2006 to 2009 in the state overall. In Petersburg, however, the percentage of new housing permits compared to existing stock increased dramatically over the same period. The national housing collapse had a major impact on new construction development it's interesting to note that in the City of Petersburg it affected new construction of single-family residential dwelling units, but had no impact on multifamily residential units. In fact the City of Petersburg experienced major multifamily development during the years of 2006-2013. The demands of the Fort Lee expansion had a greater local impact and contributed to the overall increase in new units, while housing markets in the rest of the State were in decline. New units have been created primarily through the adaptive reuse of industrial buildings. This data suggests that the City seems to be attracting more renters and singles/young couples than families.

New Housing Units as a % of Total Housing



Source: 2010 U.S. Census

CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014





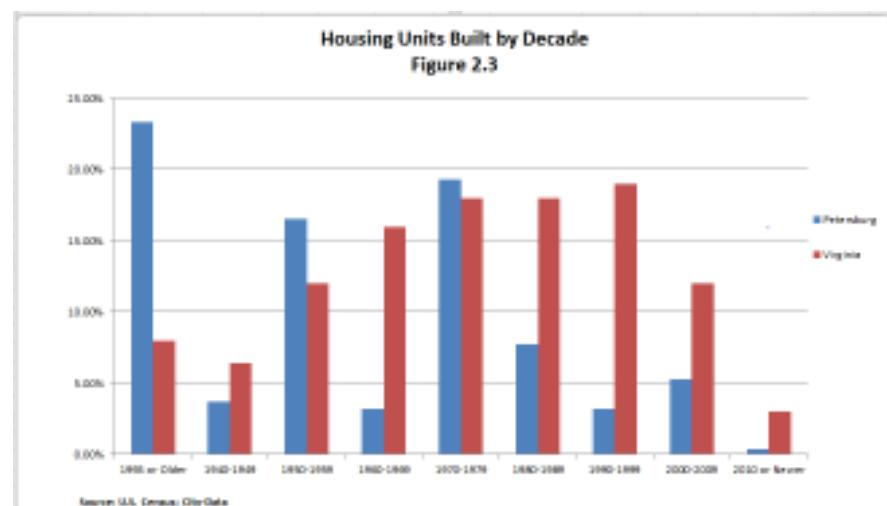
Age of Housing Stock

The age of housing in a City is an important characteristic in understanding how to promote neighborhood stability. Lack of new housing with significant amounts of older housing suggests the need for the city to invest in the revitalization of its housing stock to support economic vitality. Figure 2.3 shows the majority of housing was built between 1950 and 1980. Figure 2.4 shows how housing growth in Petersburg dropped off by 1980, reflecting the sprawling growth that has made its way into Colonial Heights, Prince George and Dinwiddie Counties.

Addressing housing issues is part of a comprehensive need to address the socioeconomic challenges facing the City. In order to bring residents back to the City and retain those still here, housing must be safe, affordable, and attractive. The condition of the housing in a number of neighborhoods in the city is inextricably linked to the number of vacancies and the decline in population that has happened in recent years.

The City can capitalize on its unique, varied in style, older, housing stock. Older housing is attractive to some and may win over new lower quality housing in the suburbs, but the city has to use it as a marketing edge in order to attract the individuals who would want to take on the renovation project or be a part of the revitalization efforts. Renovation of industrial buildings into lofts and restoration of Victorian style homes found in the Historic District also attract a varied demographic, which is just as important for the economy as retaining current residents and catering to families. There are amenities offered in newer homes that are nonexistent in an older urban home. However, outward growth of new housing to other localities need not be a recipe for sustained population loss in Petersburg's historic neighborhoods. The strategy for sustaining our older neighborhoods has to have a methodology of beginning with one house at a time but the goal is to improve the overall condition of the neighborhoods. This will require identifying resources to impact the entire neighborhood and not just randomly doing a house here and there.

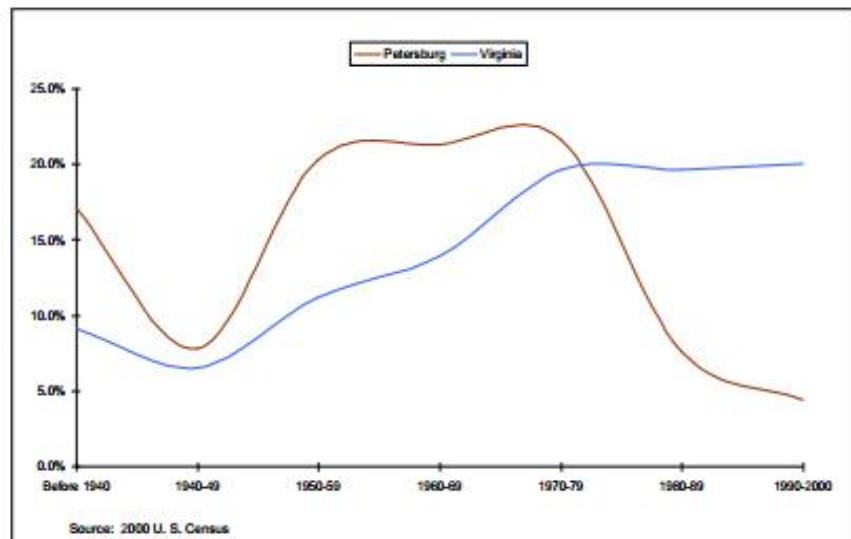
The age of the housing stock reflects the pattern of growth in Petersburg and the surrounding region. As is apparent in the graph pre-1940, the pattern of growth was clustered around existing transportation routes, namely the Appomattox River, rail roads and state roads. The post-World War II era saw an explosion of housing growth in Petersburg, but also throughout the region, especially in Colonial Heights and the City of Hopewell. Since 1980, as regional growth has leveled off, growth has been sporadic in Petersburg. The City has seen growth recently happening around the new hospital site on South Crater Road, the downtown area and south of 95. The progression of growth on the following three maps demonstrate where housing growth in the City was greatest in the 1950 up until 1980 and has since spread out and leveled off. With the economic development strategy and the new direction of the policy makers, the expectation is that Petersburg will begin to experience growth and be prepared for it.



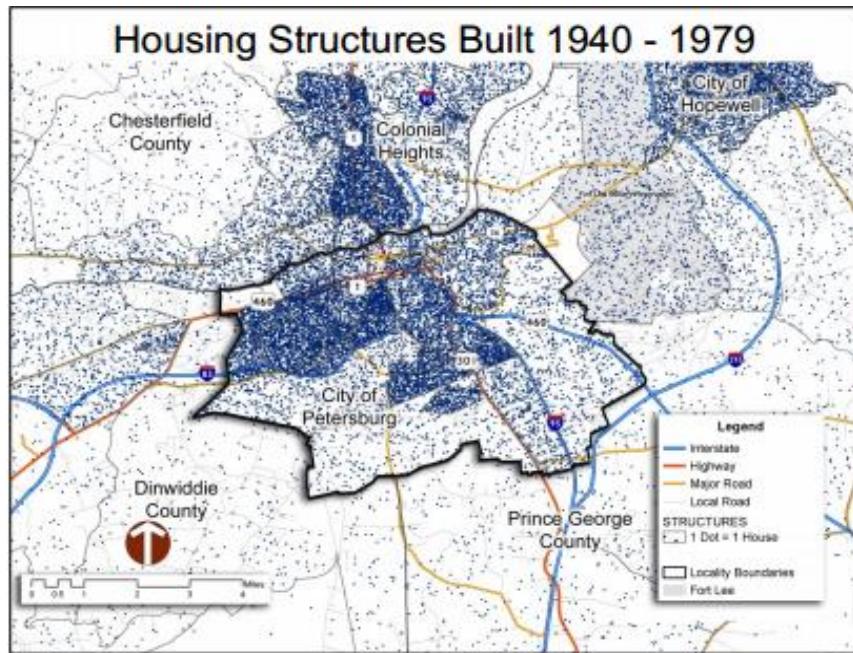
CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014



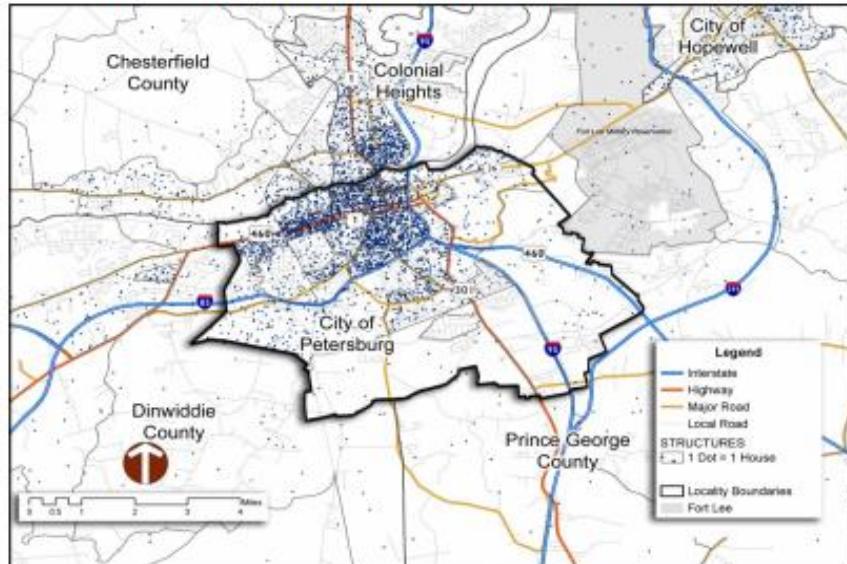
Housing Units Built 1940-2000



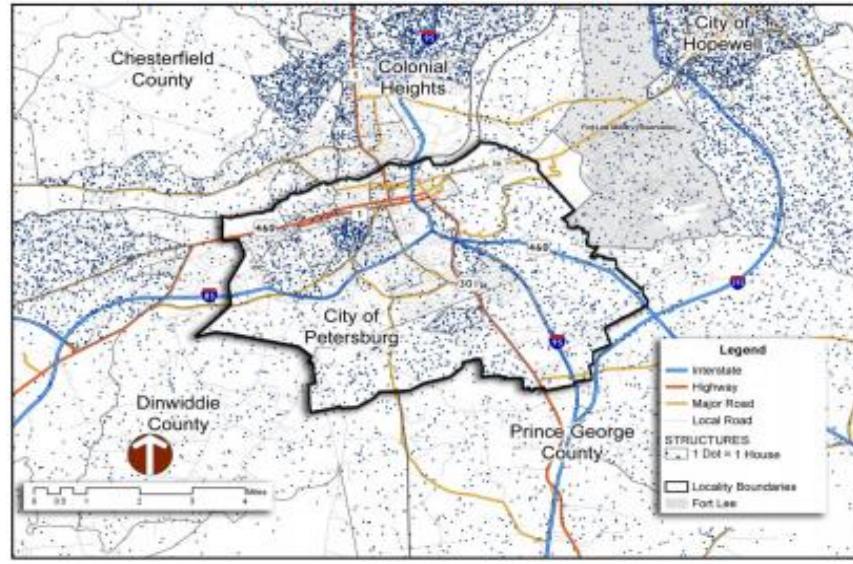
Housing Structures Built 1940 - 1979



Housing Structures Built Before 1940



Housing Structures Built 1980 - 2000



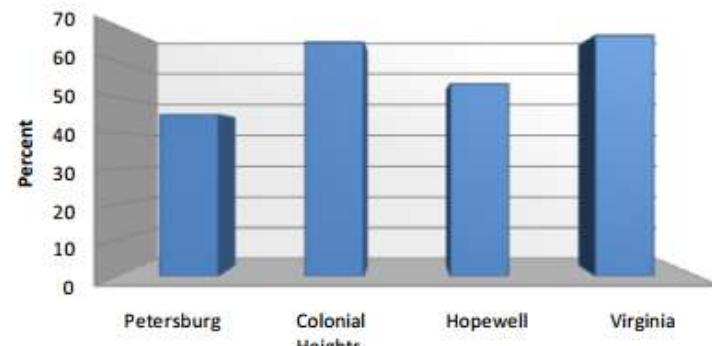


Occupancy and Housing Diversity

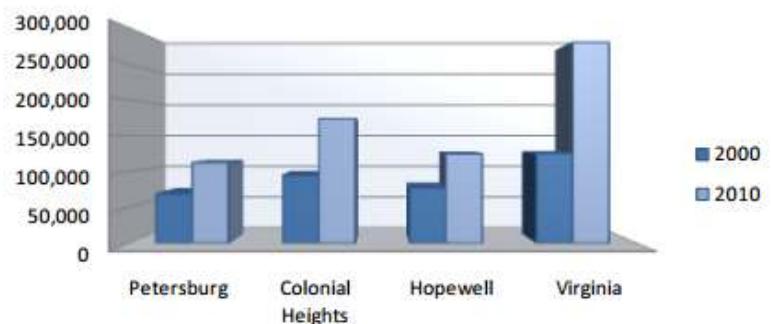
The United States has a high homeownership rate due to federal policies which have supported homeownership and single family home construction. In suburban and urban areas this has resulted in housing authorities promoting single family affordable housing, Multi-family housing, while a form of affordable housing is usually characteristic of urban neighborhoods and urbanizing areas. With national homeownership rates at 67%, high percentage of multi-family units in urban areas often appear out of step with the rest of the nation.

Homeownership rates in Petersburg are relatively low in comparison with the surrounding area and the statewide rate of 67.2%. When compared to the more suburban jurisdictions in the region, as well as the state, the three cities of Colonial Heights, Hopewell, and Petersburg have lower homeownership rates in the region. While these statistics suggest Petersburg does not match up with national and state trends, this is not necessarily cause for alarm. Homeownership is important for stable neighborhoods, and there are areas of the City which can cater to families desiring single family homeownership. But as discussed earlier, Petersburg as an urban center can appeal to homeownership in the form of multi-family units (duplexes, condos, etc.), as well as providing the market for multi-unit housing. Housing diversity is an asset for urban areas, and a policy Petersburg should encourage if it is to encourage growth and revitalization in all of its diverse neighborhoods.

Tri-Cities Home Ownership Rate 2010



Tri-Cities Median Household Value - 2000 and 2010



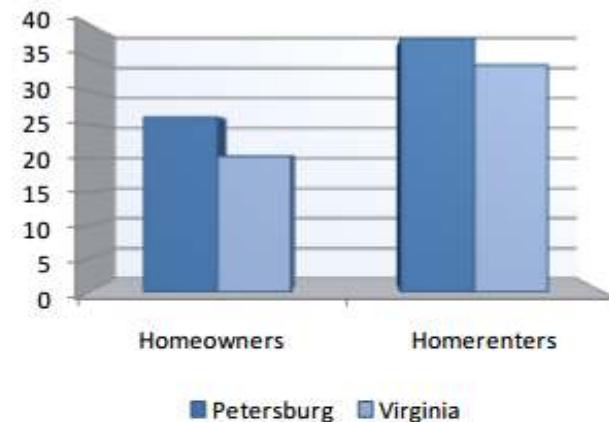


Housing Affordability & Housing Costs Burden

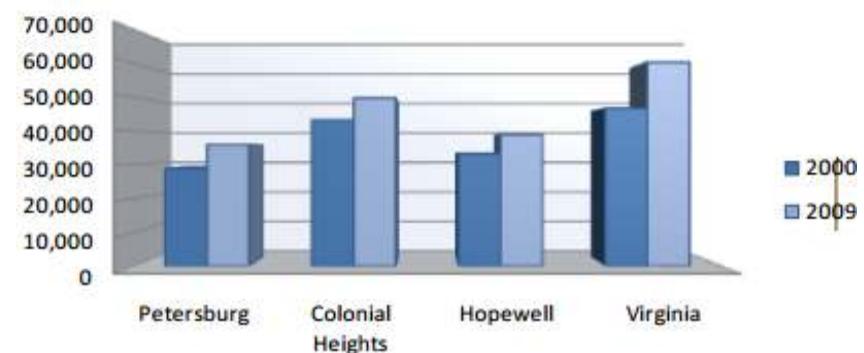
In addition to the age of housing, housing diversity and the overall quality-of-life the affordability of housing is important to the economic vitality of Petersburg. A relatively easy way to gauge affordability is to compare the change in median housing value from the 2000 Census and 2009 estimates with the change in the median household income over the same time period. Recent data shows how household incomes have increased during the 2000s. While the City's 24% increase in household income was the highest in the Tri-cities, the change in household value during that same period was much greater at 64%. This means for residents living and working in Petersburg, owner occupied housing, like that of renting became much less affordable. In order to address this deficiency and reduce the housing cost burden, the City has focused on supplying high quality rental housing option in an effort to reduce the cost burden.

An immediate concern is to address the fact that Petersburg has the lowest median household income in the Tri-cities area, and the State. The plan is to balance our communities with mixed-use, mixed incomes as well as newly constructed or rehabilitated single-family residential uses and multifamily residential options. Old Town and pockets of older neighborhoods have had visible success with revitalization efforts. Population growth from BRAC and Fort Lee could continue to be the driving force behind the momentum that is turning the trends in an upward direction. Although, we recognize that our aging housing stock is a major challenge ahead, we are also energized and mobilized to take advantage of the opportunities that will help us to overcome them, which are outlined in this plan.

Percent of Population Paying More Than 30% of Income on Housing Costs



Tri-Cities Median Household Income 2000 - 2009





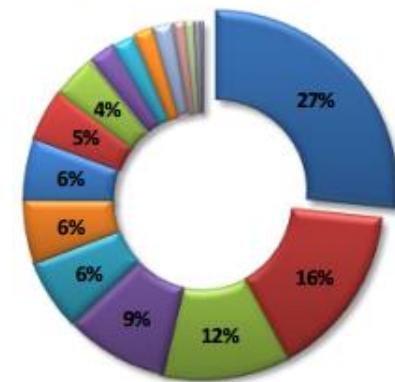
Economic Profile

Petersburg's 250 year history has experienced significant economic and demographic shifts. The location of the city has been important in determining its success as an employment center for the region. Its position as a port on the Appomattox River, a Rail Road Hub, convergence of Interstates 85 and 95, Routes 1 and 460 are all part of the transportation network that move people and goods and influence decisions made by industries in the City.

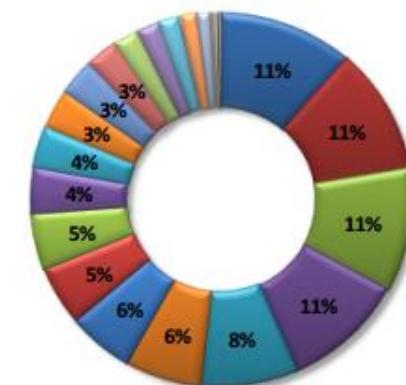
As with many Cities in the United States, interstate construction and federal housing policies opened up the countryside beyond the City limits to new retail and housing developments. The post-World War II era has presented many challenges to the Petersburg economy as manufacturing has declined and the rise of the suburbs are two major factors that stripped the City of its population and retail base. Yet, Petersburg is indeed still an employment center for the region, with a strong health care industry and the ability to revive its economic base.

As the graphs to the right indicate, the Petersburg economy, in comparison to the Commonwealth, shows specialization in Health Care, Government, and Retail Trade. The Retail and Healthcare industries have been a growing portion of the economy, while manufacturing has also been growing portion of the economy, while steady declining in other areas. In other industries, the City is on par with the rest of the State, with the exception of Scientific & Technical Service, which comprises only 2.1% of the economy in Petersburg, compared to 11% statewide.

**City of Petersburg
Primary Employment
by Industry - 2010**



**Virginia
Primary Employment
by Industry - 2010**



- Health Care and Social Assistance
- Local Government
- Retail Trade
- Manufacturing
- Food Services & Accomodations
- Waste Management
- Other Services
- Wholesale Trade
- Construction
- Warehousing 2%
- Finance 2%
- Scientific/Technical services 2%
- State Government 2%
- Federal Government 1% or less
- Educational Services 1% or less
- Information 1% or less
- Management 1% or less

- Retail Trade
- Professional, Scientific, Technical
- Local Government
- Health Care & Social Assistance
- Accommodation/food services
- Manufacturing
- Waste Management
- Construction
- Federal Government
- State Government
- Other Services
- Finance & Insurance
- Wholesale Trade
- Transportation / Warehousing
- Information 2%
- Management of Companies 2%
- Educational Services 2%
- Real Estate 2%
- Arts & Entertainment 1% or less
- Agriculture & Forestry 1% or less
- Utilities 1% or less
- Mining/Oil & Gas Extraction 1% or less



Unemployment & Income

While the Petersburg economy is diverse, the growth of lower wage jobs without commensurate growth in middle and high salaried employment is a concern. Therefore, it is important to understand the economic indicators such as unemployment and income to gain a comprehensive perspective on current economic conditions.

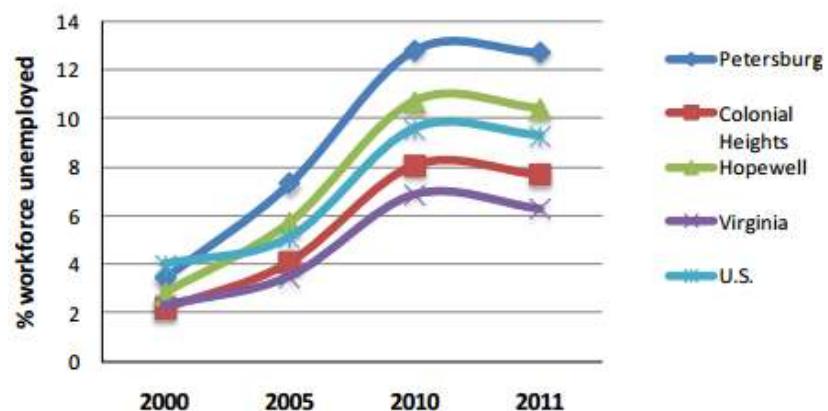
Petersburg's unemployment rate exceeds the rate for the region, the State, and the Nation. It has been consistently higher than the State's by a range of 1% to 4% in the past 10 years. Another factor of employment, which is harder to gage, is underemployment (persons working part-time desiring full time work, persons working multiple part-time jobs, etc.). The Virginia Economic Development Partnership estimated that in 2010 an additional 1,519 persons of the workforce in Petersburg was underemployed. This is reflected in the City's low median income.

Even though the regional economy is growing, it is apparent that growth has not been completely experienced by Petersburg. With too many neighborhoods at low income levels, it is difficult to attract business and industry that will revitalize a neighborhood or corridor. High unemployment, high underemployment, and low median household incomes are in part due to losing higher paying manufacturing jobs, which have been replaced partially by lower paying retail and fast food sector jobs.

Since job opportunities in the City are limited, it is imperative that access is available to jobs and this factor is being addressed on a regular basis by Petersburg Area Transit. Additional routes and assessments are done regularly to see which other markets offer employment opportunity and the ability to earn a higher wage. In addition to Transit creating solutions and implementing them; regional cooperation will be required to connect people to employment. For Petersburg, it is also meaningful to understand the commuting patterns for the city, how this relates to economic

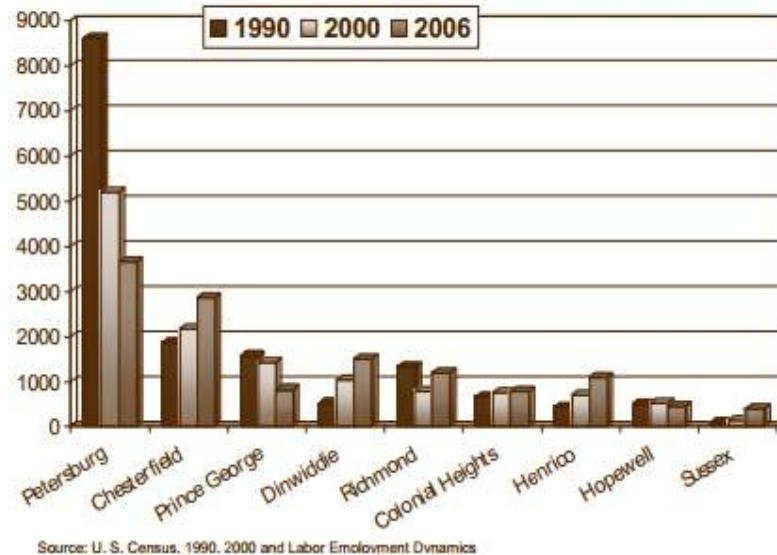
opportunity, and how the city relates to the region as an employment center.

Unemployment Rates 2000 -2011





Commuting Patterns 2006 Where Residents of Petersburg Work



Petersburg, the Employment Center

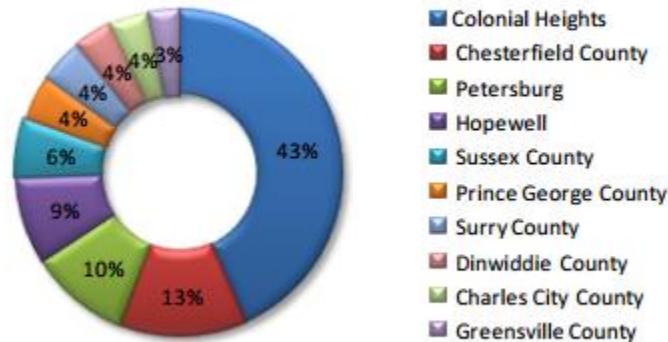
One way to examine the status of a locality as an employment center in the region is to look at commuting patterns. The City of Petersburg since the 2000 census has become a net Out-Commuting locality, meaning the number of workers traveling into the City for work is now less than the number of residents who commute out of the City 1990 to 2000, Petersburg increased its regional pull as a job center. In 1990, about 1,300 more people commuted into the City for work than left each day. By 2000 that number increased to about 2,500 more workers traveling into Petersburg than were leaving. But the most recent census figures for commuting patterns show as of 2006, 2,385 more workers leave the City for work each day than commute into Petersburg. The table shows the changing trend of Petersburg as numbers commuting out of the city have increased since 1990.

It is also apparent that a large portion of Petersburg's citizens work and live in Petersburg, although this number has been declining. In 1990 about 54% of Petersburg's 16,000 person labor force lived and worked within the City. In 2000 just 40% of the now 13,200 person labor force lived and worked in the City. By 2006 25% of the City's labor force lived and worked in Petersburg. This is a trend which may be explained by both population loss and employment opportunities.

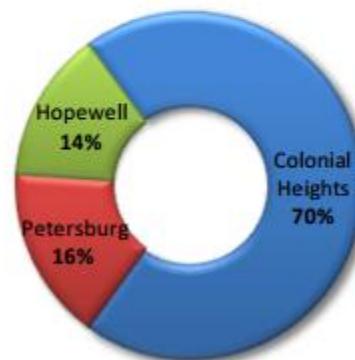
Petersburg has shown resiliency in retaining its status as an employment center in the region, yet this subject should be of concern to the City as uneven regional growth wears away at the City's economic base. Of principal concern are the extremely unbalanced revenue streams within the Tri-cities as revealed in the adjacent charts, although Petersburg shares the same level of transportation infrastructure, and has a larger population. Colonial Heights has successfully positioned itself as the regions' retail and commercial destination, controlling a staggering 70% of the Tri-cities retail. The City is actively pursuing commercial retail development for a broader market.



Crater District per capita sales revenue - 2010



Tri-cities per capita sales revenue - 2010



Petersburg is an employment center for the surrounding localities, but it is not the destination which attracts the most workers from any one of its neighboring localities. In relative terms, the City must consciously work to gain influence within the region since we are outpaced in population and economic growth. Working regionally when it is best suited with economic development efforts and agencies; Petersburg is poised and capable of reversing the recent trends. It can build off the success that it has experienced over the last few years, topped off by the assets, such as the strong presence of the healthcare industry and the decisions of long term industry and employers who opted to stay in the city.

PETERSBURG'S LARGEST EMPLOYERS		
2013		2014
Southside Regional Medical Center	1	Southside Regional Medical Center
City of Petersburg	2	City of Petersburg School Board
Amsted Rail company Inc.	3	City of Petersburg
City of Petersburg School Board	4	Amsted Rail Company, Inc.
Horizon Mental Health Management Inc.	5	Horizon Mental Health Management, Inc.
Wal-Mart	6	Walmart
Districts 19 Mental Health Services	7	Good Neighbor Homes, Inc.
Beverly Home Care	8	Beverly Home Care
Good Neighbor Homes Inc.	9	District 19 Mental Health Services
Virginia Linen Service Inc.	10	Quality Plus Services

Source: Virginia Employment Commission, Quarterly Census of Employment and Wages (QCEW), 4th Quarter (October, November, December) 2014.

Petersburg's Largest Employers

The City's large share of employment in the healthcare government/education, manufacturing, and retail industry is reflected in the list of largest employers from 2014 to the same list in 2013 offers insight into the stability of the economic base; however, there is also an opportunity to attract additional employers seeking a diverse skill set.



Southside Regional Medical Center and the complimentary healthcare services, which cluster around its location, is an important base for the economy. Walmart reflects the lower wage job in the chart of Petersburg largest employers.

Manufacturing still has a presence in the City of Petersburg; Unitao only operating a small segment of their operation with vitamin production, and Bremco, Inc. are among the manufacturing companies, who are not among the largest employer list but still contributing to the economy of the city.

Outside of the list of Petersburg's employers it is important to emphasize the importance of regionalism. While these employers are specific to the City limits of Petersburg, they attract workers from the region, and it is equally important for Petersburg to work in a regional capacity. In addition it is important for the citizens of Petersburg to have the necessary skills and training to be able to be competitive and apply for jobs within the region.

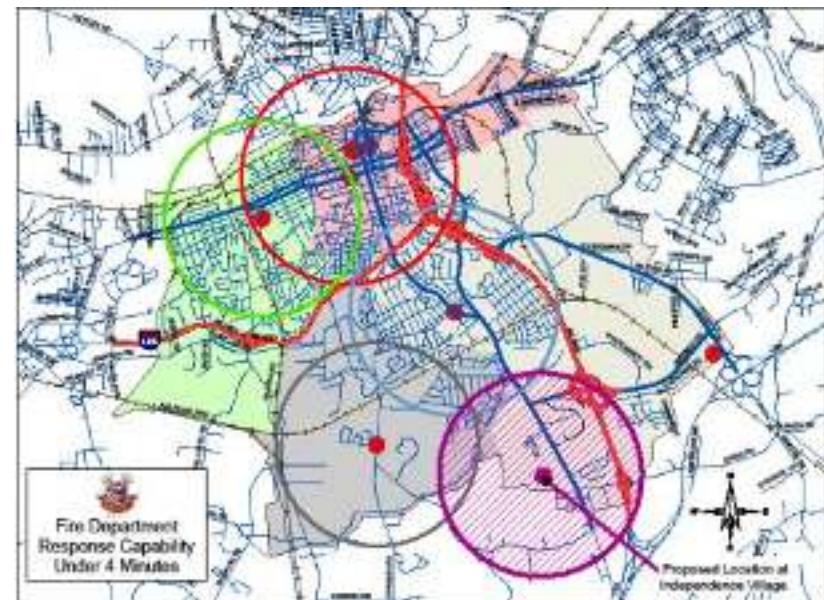


Community Facilities

Community Facilities are the public buildings and services that support the health, and safety of the community. These Facilities also represent the public investment in the City; accompanied with private investment and development. As a public investment it is the responsibility of the City of Petersburg to provide the services necessary for a healthy and safe community.

Police

The Petersburg Police Department has recognized several trends in the City that will affect the distribution and expansion of the Police Force. Although the City has experienced a decline in population over the past ten years, the demands for police service did not shrink with it. The population losses over the past years was could not be the percentage of those in Petersburg who were the heaviest users of Police services, because there was no decrease in the demand for police services. Likewise, as the population in Petersburg is aging, it creates additional strain on the Police force. Older residents are less capable of taking a more active partnership role in community policing, yet still require the same level of police service. This means that shrinking population in the northern sections of the City do not equate to greater flexibility and an excess of personnel to address the growing population in the southern portion of the City. The Police Department has addressed the concern of the growth in the Southern portion of the City and strategically plans and schedules the officers in order to maximize complete coverage of the City at all times. The City has already begun planning and allocating resources in order to make the appropriate public investment to have additional substations and facilities to meet the demands of the City.



Fire, Rescue & Emergency Services

The Petersburg Department of Fire, Rescue, and Emergency Services are a progressive, full-service fire department. Established in 1773, the department is rich in history tradition, and is proud to call itself one of the oldest organized fire departments in the country.

Services

The department provides and offers a variety of services which includes:

- Dive operations
- Emergency medical services that provide basic and advanced pre-hospital life support
- Fire, building, and housing code enforcement
- Fire prevention and public fire and safety education programs
- Fire suppression
- Rescue services



The Petersburg Department of Fire, Rescue, and Emergency Services are also a participating member in two regional specialized operation teams: Hazardous Materials and Heavy Tactical Rescue. In the event of a local or regional disaster, the department has been charged with the lead responsibility of Emergency Management for the City of Petersburg.



The Petersburg Fire Department operates 4 stations throughout the City of Petersburg. The National Fire Protection Association (NFPA) recommends a 6-minute maximum response time for professional fire departments to reach all locations in their jurisdiction. Most areas of Petersburg lie within a 6-minute response time and those sections of town that do not are being addressed through policies that will ensure compliance with NFPA required 6-minute response time. Outlying areas of the City receive less responsive services. These areas include the Route 36 Corridor, the Western edge of the City (South of I-85) and the Crater Rd and 460 Corridors in the southern portion of the City.

Fire zones should be realigned and one of the two northern fire stations should be realigned given the high level of overlap and crossover out of City boundaries. Two new stations are being planned through the Capital Improvement Program of the City to accommodate the influx of development along the South Crater Road and 460 Corridors. In anticipation of the growth in these areas, attention should also be given to the impact on water pressure and ensuring that levels are adequate for fire protection. In an effort to increase fire protection, the Fire Marshal's Office provides a minimum annual inspection of all moderate/high hazard structures.

Department of Social Services

The Petersburg Department of Social Services is the social support arm of the City. The Department's mission statement is to "deliver quality services to people in our community that will promote self-sufficiency, responsibility and safety." The stated goals are to assist persons to triumph over poverty, neglect and abuse. The programs and services that are in place to accomplish these goals are outlined below.

The benefits that the Department provides are a) food stamps, b) Medicaid, and c) TANF (temp assistance to needy families). The Department provides additional services that are not contingent upon financial need. They address a) child abuse, b) child care, c) foster care, and d) adoption for children. There are also services that help serve the needs of the City's elderly population. In an aim to reduce the poverty rate, the Department of Social Services is collaborating with other departments to creatively develop and fund with private resources programs that will link jobs created by new development and growth in the City to those who are currently unemployed or underemployed.

The Department of Social Services has added a Fatherhood initiative to its activities to support fathers and their families. In addition, social service advocates through education the ABC's in preventing infancy deaths.

The Petersburg Circuit Court

The Petersburg Circuit Court is a trial court that oversees civil and criminal court cases in Virginia's 11th district. While the function of the court is outside of the purview of this Plan, there are items that must be addressed in the Capital Improvements Plan. The court facilities are outdated and undersized. There are a series of capital improvements that need to be made, most of which were addressed in a plan to expand the court facilities. The Capital Improvement Plan is addressing improvements that are necessary for the protection and stabilization of the clock tower and the building.



Public Library

The City's Public Library System is here to serve the community of Petersburg. The library strives to provide all of the resources needed to progress in life. A wide range of services are offered to the residents of Petersburg.

Services Offered:

- **Computer Training Courses**
- **Meeting Rooms** available for study groups or meetings.
- **Research Room**
- **Copiers and Microfilms**
- **Interlibrary Loans**
- **Health Resource Center**
- **Financial Management and Resource Center**
- **Children and adult services**

The 42,000 square foot, two-story building is located in the heart of downtown Petersburg, on the corner of Market and Washington Streets. Sustainable design practices include 28% energy reduction, natural daylight, 40% water reduction and use of low emitting and sustainable materials. Natural materials such as wood, brick and stone, while sustainable, also complement the rich building fabric of Petersburg. The landscaping and irrigation systems have been designed to reduce irrigation water consumption by at least 50%.

The new Library achieved LEED certification by implementing practical and measurable strategies and solutions aimed at achieving high performance in: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. The Petersburg Public Library is proud to be the first building in Petersburg to receive this certification. The facility provides much needed resources and space for community needs.



Utilities

The Department of Public Utilities owns and maintains the lines which provide water and sewer services to houses, businesses and industries. These utility services are a vital function for the economic vitality and overall health of the residents of Petersburg. Reliable existing service to older neighborhoods is important to encourage revitalization efforts.

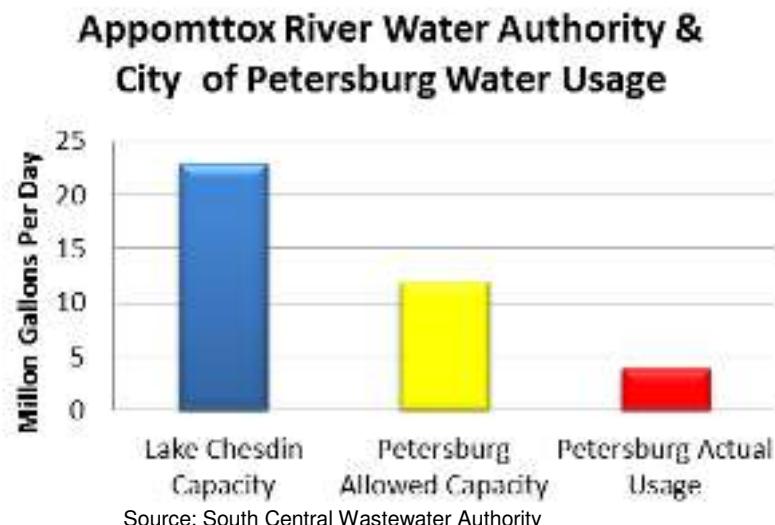
The Capital Improvement Program (CIP) acknowledges the maintenance needs and has earmarked for investment in the aging infrastructure to prevent failure in the system. In addition, Petersburg has emergency plans for water service to come from Prince George County in the event of a system failure. Several lines in the current system have undergone repair and others scheduled so that a failure in the system does not occur.



The management of water resources and the treatment of sewage are also important for the environment. Water service and sewage flows affect not just the water levels of Lake Chesdin and the water quality of the Appomattox River, but also the ecological health of the Chesapeake Bay

Water Service

Lake Chesdin, located west of Petersburg, is created by the damming of the Appomattox River at Brasfield Dam (also called Lake Chesdin Dam). It is the primary source of water for the City. In addition to providing recreation for boaters and fishermen, the reservoir provides the capacity for 96 million gallons per day (mgd) of water to Petersburg, Colonial Heights, Dinwiddie, Prince George, and portions of Chesterfield County. The Appomattox River Water Authority (ARWA) is the regional public body which administers the water supply and is jointly owned by the localities it serves. Petersburg is allocated 16.69% of the total 96 mgd capacity, which amounts to 16.02 mgd.



Petersburg has contracts with Fort Lee, Virginia State University, Fort Hayes, and customers along Johnson Road in Prince George County for usage of Petersburg's share of water purchased from ARWA. Together they comprise about 15% of the demand for Petersburg's share of the water. Currently Petersburg water usage is about 6 mgd and this represents service to about 12,000 customers, which includes the four users mentioned above who are not within the City limits. This is well below the 16.02 mgd allotment from ARWA. Even with the additional users and an independent engineer's projections for increased demand from population growth in Petersburg, the determination has been made in the most recent Regional Water Supply Plan that the City has sufficient water allowances from ARWA to last through the year 2060 and beyond.

ARWA and Petersburg Water Service Issues

Although Petersburg has enough water allotted to the City, the growth throughout the region will place strains on the regional water supply including Lake Chesdin and other regional water sources. According to supply and demand projections for the region, it is estimated that by 2033 there will be a shortfall in available supply. Part of the shortfall will be due to increased demands from population growth, while shrinking supply from sedimentation in Lake Chesdin will also play a role. The Regional Water Supply Plan names a variety of options for increasing the supply of water, including ways to increase reservoir capacities, finding other sources of water, and instituting demand control ordinances. In addition, the City shall make an effort to study the feasibility of accessing and/or creating a secondary source of water for emergency conditions in the region.

The Department of Public Works must address the age of the primary supply lines to the City. The 16 inch water supply line is about 100 years old and "highly tuberculate." This means over time as the pipe has become corroded; tubercles have accumulated from minerals in the water reducing flow capacity and wearing away at the reliability of water service through the pipeline. The planning of



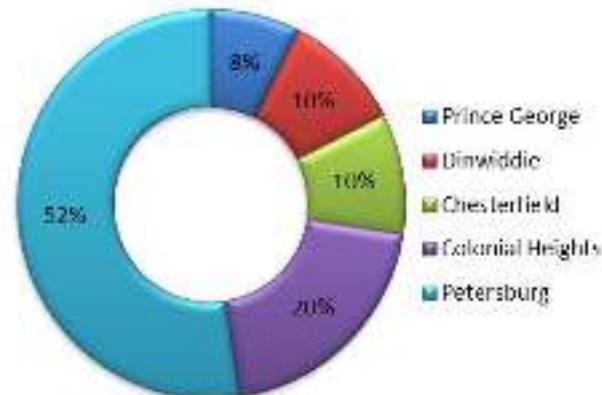
rehabilitation and replacement of these lines are being done through the Capital Improvement Program (CIP), as required by the plan created for the Appomattox River Water Authority (ARWA). The additional resources have been identified through general funds and the capital improvement program. These improvements will allow an efficient operation at ARWA and an efficient manner of water delivery.

Sewer Service

The South Central Wastewater Authority (SCWA) is a public entity jointly owned by the communities it serves: Petersburg, Colonial Heights, and portions of Chesterfield, Dinwiddie, and Prince George counties. Located in Petersburg on Pocahontas Island, SCWA's facility has the capacity to treat 23 million gallons per day (mgd) of sewage. It currently operates at half capacity. While SCWA administers the treatment of sewage flowing through its facilities, it is important to note that Petersburg is responsible for the maintenance of the collection system and sewage lines up to the gates of SCWA's treatment plant.

Each locality served by SCWA is allocated flows based on the percentage of ownership in SCWA. Petersburg owns the largest share at 52.5% of the 23 mgd capacity, as demonstrated by the graph.

South Central Wastewater Authority & City of Petersburg Capacity



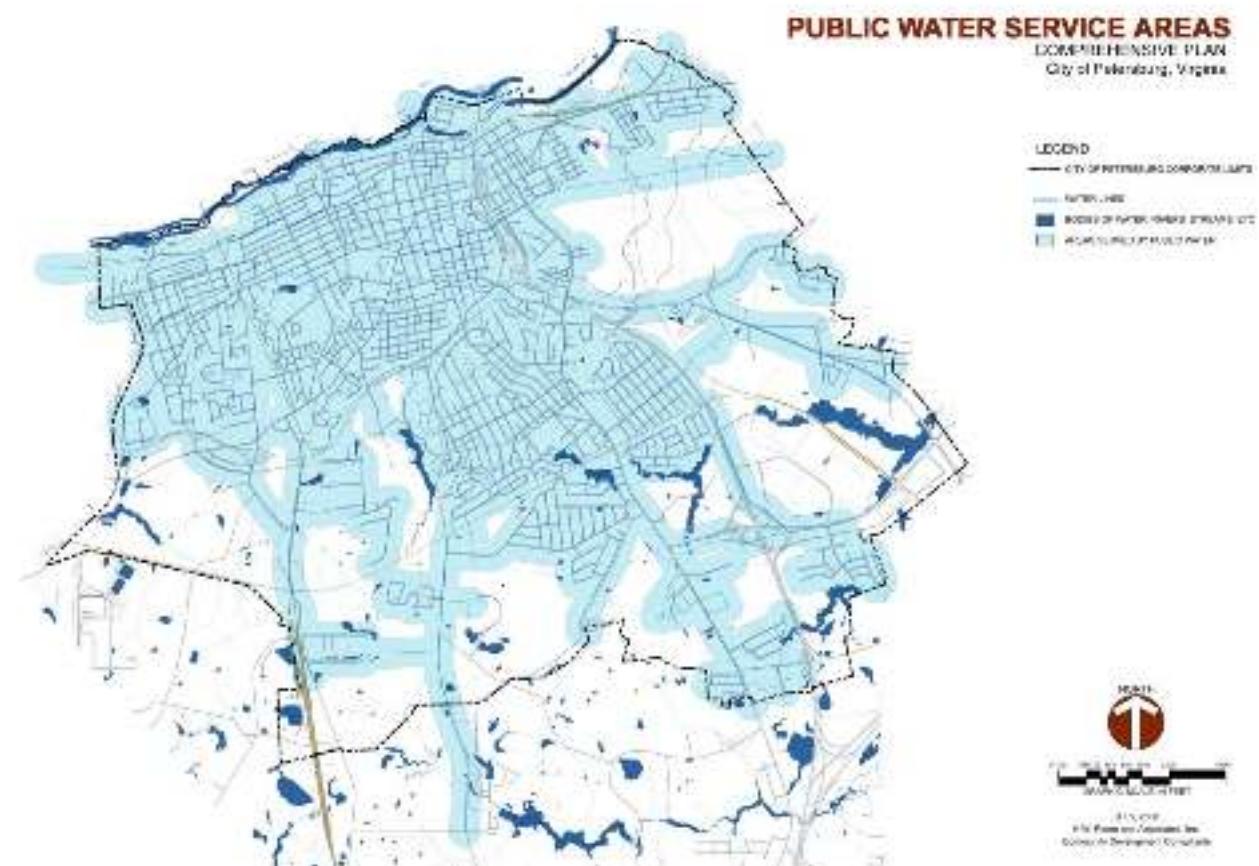
Source: South Central Wastewater Authority

SCWA and Petersburg Wastewater Services Issues

While Petersburg has the luxury of more than enough sewer treatment capacity, like other localities located in the Chesapeake Bay Water Shed. The SCWA is required under the Chesapeake Bay Preservation Act to comply with limits set on the amount of nitrogen and phosphorous nutrients discharged when treated water is released back into the Appomattox River. That regulatory process is governed by the issuance of a permit which requires periodic review; the current permit is scheduled for review in 2017. This review will determine what improvements may be necessary to the SCWA facilities to comply with the Chesapeake Bay Preservation Act. In addition, if improvements are necessary the timeline will be established for the expected completion date of such improvements. In anticipation of these improvements and the cost of such improvements the City of Petersburg has already began identifying the sources of funding. Petersburg and the other members of SCWA will have to bear the cost of purchasing credits from other water and sewer authorities who are already in compliance and selling credits if the SCWA during the review is deemed to be out of compliance.



If improvements are necessary it could cost an estimated \$68 million dollars to reduce nitrogen and phosphorous discharge in the Appomattox River. A grant from the Water Quality Improvement Fund will reduce the cost to member localities; nonetheless, Petersburg will be responsible for 52.5% of the final cost. Whether buying credits to stay compliant or financing the cost of the treatment upgrades, this project is a costly mandate to the City. It is an ongoing discussion as the City prepares for the future review and maintains the current level of water and sewer services while planning for future growth.





Transportation

The transportation plan is intended to complement the Land Use Plan. Transportation affects quality of life, economic development, and the environment. It is one of the defining characteristics for the citizens, and visitors who use the roads, highways, railways, busses, bike lanes, crosswalks, and trails each day. Investment in transportation has a significant impact on the community.

A well-designed and maintained transportation system is vital to the city's health. While many residents prefer the use of their own car to reach their destination, public transportation is the only feasible option for many residents. Access to jobs, homes, school, and other destinations depend on the timeliness and reliability of public transit as well as other transportation options. Understanding and addressing transportation needs requires the realization that land use and transportation planning are linked. As the city looks to the future, it aims to review its current transportation system, current land use, and develop the appropriate policies to address future growth.

The following principles are intended to guide transportation (and Land Use) decisions to benefit the citizens and visitors of Petersburg.

Plan, establish, and maintain a city-wide, interconnected transportation system.

1. Establish a transportation system which preserves and supports land use plans.
2. Encourage the reduction of traffic congestion.
3. Increase the mobility of the public through public transportation and regional cooperation.

Functional Classification of Roadways

The City of Petersburg has a street hierarchy system that contains five types of roadways that are each classified based on how they function and are currently designed. The Functional Classifications are:

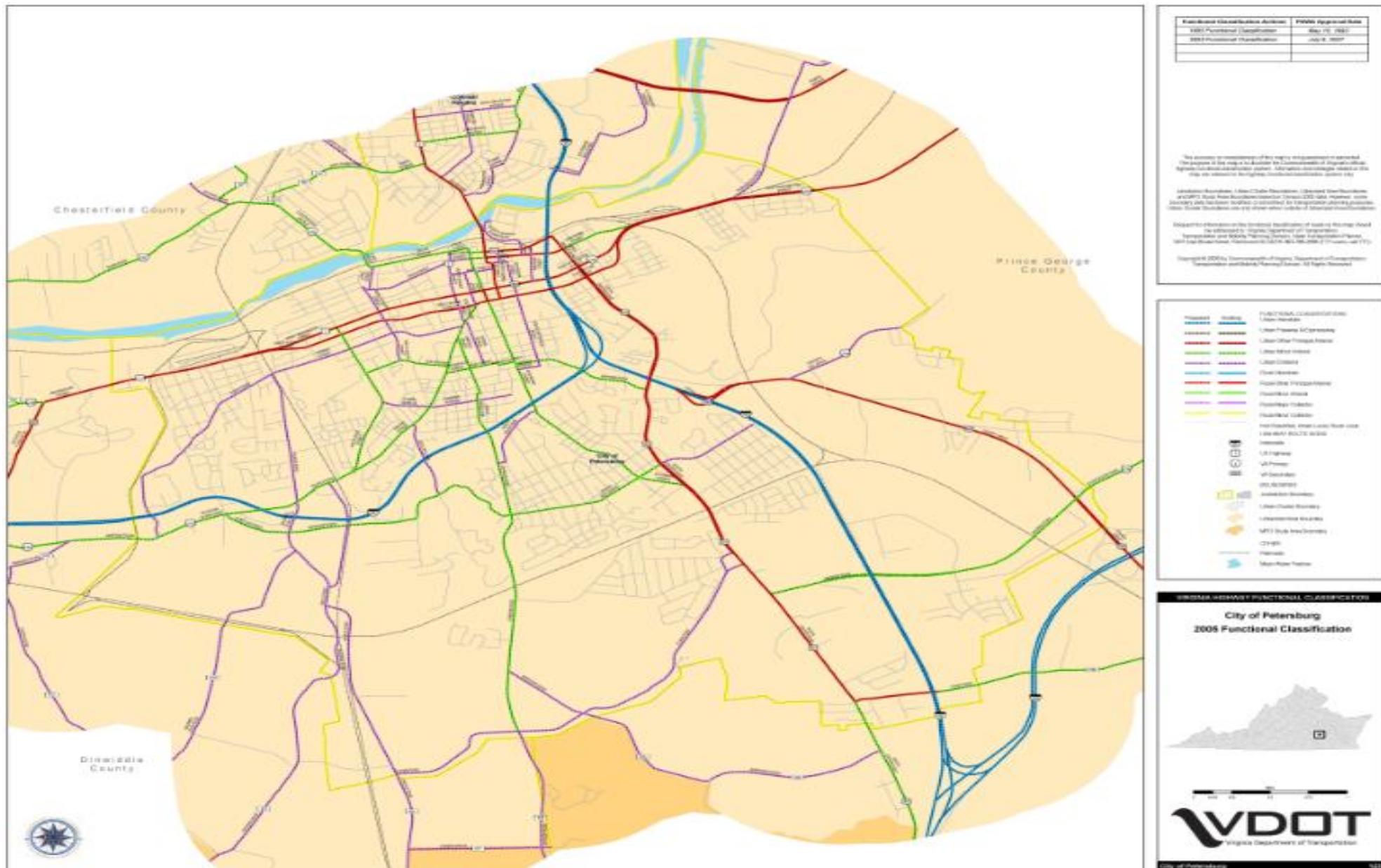
1. Interstate: Designed to be full access controlled, while serving the highest volumes of traffic traveling the long distances.
2. Principal Arterials: Provide a high degree of mobility for shorter distances of travel through urban centers and rural areas.
3. Minor Arterials: Interconnect larger arterials while carrying moderate trip travel at higher speeds than Collectors.
4. Collectors: Gather and funnel traffic from local roads to arterials. Collectors often serve large residential and shopping areas.
5. Local Road: Provide direct access to adjacent land uses and do not carry through-movement traffic.

Source: FHWA TOPR 33-01-11005: Highway Functional Classifications Concepts, Criteria and Procedures 2012 Edition, September 2012DTHF61-07-D-0013 Program Support for Highway Policy Analysis

Roads

If the roads are ineffective in moving people and freight in a timely manner, then all other activities suffer. Effective and smooth transportation is primary, yet consideration is given to how the roadway system contributes to the "livability" of Petersburg. The City's roads offer the opportunity to accommodate multiple forms of transportation. Future growth should include a roadway system that allows for multiple routes between destination points and alternative modes of transportation such as buses and bikes.

CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014



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Interstates: Petersburg sits at the intersection of two Interstate Highways, I-95 and I-85. These major routes are the modern rivers which connect commerce and residents of Petersburg with the entire East Coast. Within the region, I-95 is used as a major artery to connect Petersburg to Colonial Heights, and Southpark Mall specifically. I-95 is also used as a connector between the Southside of Petersburg and Downtown. US 460 run through the City and joins with I-85 to bypass the City Center. US 460 is a regional trucking route which connects Hampton Roads to South and Southwest Virginia. Interstate interchanges are both a challenge and an opportunity.

Access to Interstate 95 has made the vacant tracts of land along South Crater Road and Wagner Road attractive for new development. However, Interstate access is not the first form of transportation to change Petersburg's land use, economy, or landscape. Shipping on the Appomattox River and rail lines crossing the city have played important roles in the development of Downtown and industrial parks over the course of Petersburg's long history.

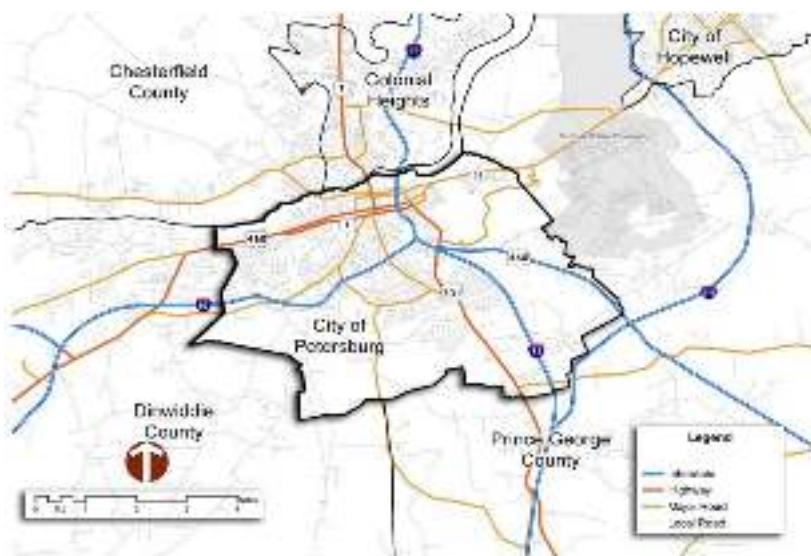
Highways: Interstate Highways function as a mover of non-local goods, people, and services, serving regional needs and avoiding any land uses which generate unnecessary local traffic on the Interstate Highways. US 301, Business 460, and Route 1 run through Downtown Petersburg and serve as the major corridors. US 301 run north-south and is the major commercial corridor on the Southside of the City. Additional development from Medical Park Boulevard and the southern part of the city will potentially add to traffic volume along this road. Any future development in this corridor must incorporate the appropriate transportation measures to prevent congestion. Business 460 is the major west-bound corridor that passes through the City Center.

Major Roads: Downtown remains the central point on which most of the City's major roads meet. University Boulevard (formerly Fleet Street) and Grove Avenue connect Downtown with Chesterfield County and Virginia State University. East Washington Street connects downtown with Fort Lee and Hopewell. Halifax Street and Boydton Plank Road run from Downtown to the neighborhoods and industry in southwest Petersburg and Dinwiddie County. Sycamore Street connects the Downtown and Halifax neighborhoods to the Walnut Hill neighborhood and the South Crater Road commercial corridor.

Connecting the Highways (Route 1, Business 460) that run through Downtown are the major roads of West Old Street, Bollingbrook, East Bank Street, North Market Street, 2nd and 4th Street.

Baylor's Lane, Defense Road and West South Boulevard create a mini-beltway that connects Halifax Road to Sycamore Street and Crater Road. Running South-bound out of the City is Johnson Road.

In the southern end of the City Rives Road has developed as a major road which crosses South Crater Road, I-95 and US 460. Likewise, Wagner Road connects these major corridors.





Truck Freight

Because Petersburg sits at a crossroads of regional and national highways, and major ports in Richmond and Norfolk, freight traffic is a major component of the transportation system. Freight trucking, warehouse distribution centers, and related industries greatly benefit the City by being a large source of employment. Truck Transportation in Petersburg accounted for 131 jobs in the 3rd Quarter, 2012 according to the Virginia Workforce Connection.

Rail

Petersburg is serviced by a local Amtrak station in Ettick, located immediately north of City limits in Chesterfield. Proposed shuttle connections from the station in Ettick would connect the Multi-Modal Transit Center in Downtown Petersburg with local bus services and taxis. The Amtrak station is served by the Carolinian and Palmetto lines. The Carolinian line runs between New York and Charlotte, NC with stops at all major cities in between. The Palmetto line runs from New York to Charleston, SC and then continues as the Silver Meteor line which runs to Miami, FL. A trip from Petersburg to Charlotte, NC takes 6 hours and 30 minutes; from Petersburg to Washington a trip takes between 3 and 4 hours. Freight lines in Petersburg run along the Norfolk Southern and CSX rail lines.

Development of the Collier Yard rail site would benefit long-term Tri-Cities commuting patterns and provides a Multi-Modal Rail Station location for future high-speed rail. Collier is currently a relatively undeveloped 140 acre site South of I-85. (The surrounding land use should allow zoning of the area surrounding the Collier site for transit-oriented development, higher density residential development, light industrial employment centers, or other uses that provide greater densities of residential and/or employment development. The site has good highway access to nearby I-85 and the multimodal station may be developed for "park and ride" rail users with secure parking and connections to the local transit system.) *Source: Pre-NEPA Evaluation Tri Cities Area Multimodal Station Study prepared for the Virginia Department of Rail & Public Transportation August 22, 2012 and Tri Cities Station Study PPT*

Air

Petersburg is served by two airports. The Dinwiddie County Airport is a regional airport located at the convergence of I-85 and 460 in Dinwiddie County approximately 3 miles west of Petersburg. The Richmond International Airport is located 30 miles to the north via I-295 or I-95 through the use of the Pocahontas Parkway.

Pedestrian Bicycle Circulation/Trails

There are currently no bike lanes in the City of Petersburg. The Tri-Cities Area Recommended Bikeways Improvement Map indicates a proposed on-street bike lane along Wythe and Washington Streets and along South Sycamore Street and South Crater Road. Along these busier routes, dedicated bike lanes would create the appropriate space for safe bicycle travel along Petersburg's central arterial routes.

The highest concentration of walkers in Petersburg is located in the neighborhoods that lie within an approximately 1.5 mile wide radius of Downtown. Despite a high concentration of Petersburg's workforce along the southern end of the City, the neighborhoods in this corridor have a relatively low percentage of pedestrians.

Park and Ride Lots

The Virginia Department of Transportation is currently studying locations for Park and Ride Lots. The following are being considered:

- Union and Washington Street near Petersburg Transit Station
- I-85 and Boydton Plank Road
- I-95 and Courtland Road near Parkdale Road
- I-295 and County Drive
- I-95 and Winfield Road near Crater Road
- Near S. Sycamore Street and E. Wythe Street



Mode of Transportation Used to Get to Work	
Walking	2%
Public Transportation	3%
Car Pool	19%
Drive alone	74%
Other	2%

Source: Analysis of Residential Market Potential, Zimmerman/Volk Associates, Inc.
February 2008

The Six-Year Improvement Plan

The Virginia Department of Transportation reviews annually six-year plans for localities. The Six-Year Plan prioritizes projects for funding and implementation. Over the next six years, the City will be pursuing various transportation projects that will alleviate congestion in various sections of the City and open the door for further growth. The following revisions to the Six-Year Plan for the Richmond District (which include Petersburg), for the 2014 – 2019 time period includes:

- (UPC 15832) Rives Road Widening to four lanes between South Crater Road and the I-95 interchange. Estimated cost of \$8,394,000.
- (UPC 103803) Route 460 PPTA Construction from the Intersection of I-295 in Prince George County to the intersection of Route 58 in the City of Suffolk. Estimated cost of \$1,396,045,000.
- (UPC 103754) Route 460 PPTA DEBT Service from the intersection with Route 58 in the City of Suffolk to the Intersection with I-295 in Prince George County. Estimated cost of \$860,910,000.
- (UPC 100432) Project Oversight (RT 460 Corridor Improvement Project) Service from the intersection with Route 58 in the City of Suffolk to the Intersection with I-295 in Prince George County. Estimated cost of \$89,127,000.
- (UPC 56638) Location and Environmental Study (PE Only) from the intersection with Route 58 in the City of Suffolk to

the Intersection with I-295 in Prince George County. Estimated cost of \$31,301,000.

- (UPC 104956) I95/I85 SB Interchange Safety Improvements (PE Only) from I85 to Wagner Road Estimated cost of \$200,000.
- Tri-Cities Multi-Modal Station Study is funded to start the Environmental Assessment as part of the NEPA requirements in the amount of \$250,000. The project is based on the DRPT Tri-Cities Multi-Modal Station Study (dated August 22, 2012 recommending that the NEPA be completed for the two potential station location, Ettrick located in Chesterfield County and the Collier Yard site located in Petersburg. The NEPA study will determine a site for a regional Multi-Modal Station.
- (UPC 101030) Puddledock Road & Route 36 Intersection Improvements. Estimated cost of \$1,226,000.
- (UPC 101289) Puddledock Road & Industrial Drive Intersection Improvements. Estimated cost of \$522,000.
- (UPC 78946) Construction of Hospital Road 4 Lanes. Estimated cost of \$6,589,000.
- (UPC 104868) Signal Upgrades – Various Locations, City of Petersburg. Estimated cost of \$1,600,000.
- (UPC 104869) Various Locations, City of Petersburg. Estimated cost of \$450,000.
- (UPC 101039) South Crater Road Area Signal Coordination. Estimated Cost of \$660,000.

The following projects are included in the SYIP 2014-2019 plan for CMAQ projects:

- Traffic Signal Timing City-Wide - \$180,000 FY18
- Extend Left Turn Lane on S. Crater Road and Morton - \$550,000 FY18
- Extend Turn Lanes S. Crater and Medical Park Blvd - \$335,000 FY18

The following projects are to be considered as part of the SYIP CMAQ process:

- S. Crater Road at S. Sycamore Street



- S. Crater Road at Wal-Mart entrance - LTL
- S. Crater Road at Flank Road
- S. Crater Road at Graham Road – RTL
- Johnson Road at South Boulevard
- Petersburg crash truck
- 6 PAT buses
- N. Normandy Drive at Wagner Road
- S. Crater Road at Wagner Road – RTL
- Petersburg Park & Ride lot

planning across the region. The following are some key excerpts from the Plan:

- The Tri-Cities area is an ozone non-attainment zone, so traffic delays and congestion need to be considered in light of emissions. Build-up along commercial corridors and the land-use designations that promote it should be reconsidered. (Effective June 18, 2007, the U.S. EPA approved a request by the Commonwealth that the Richmond area be reclassified to ozone maintenance area status.)
- The top three rated interstate projects recommended in the 2035 Plan are located in Petersburg. These projects include two series of recommended I-85/I-95/Rt.460 interchange projects and the reconstruction of the I-95 interchange at Rives Road.
- The Route 460 Public Private Partnership Act (PPTA) is a large project located within a major State transportation corridor linking South Hampton Roads and the Tri-Cities. The scope of the Route 460 PPTA involves the construction of a 55 mile long, limited access highway between Route 58 in Suffolk, Virginia and I-295 in Prince George, Virginia. This 4-lane divided highway is proposed to be constructed in a new location generally parallel to and approximately 1 mile south of the existing Route 460. Approximately 6.6 miles of the Route 460 PPTA project is proposed to be located within the Tri-Cities.

Multi-Modal Transit Center



2035 Tri-Cities Transportation Plan

The Tri-Cities Area 2035 Transportation Plan is an overarching document prepared by the Crater Planning District Commission in June, 2012. The Plan looked at a variety of factors influencing future transportation planning and highlighted the need for comprehensive planning to combine land-use and transportation

US Route-460, Interstate-85, and Interstate-95 Interchange Improvements.

This interchange serves as the nexus for three interstate-quality facilities. The Commonwealth's proposed investment in the Route 460 corridor to improve access to the Port and enhance economic development will add additional traffic pressure to this interchange. The Tri-Cities MPO has identified approximately \$80 million in



improvements to maintain the flow of people and goods at this location by the year 2035. Funding for the interstate improvement at I-95/I-85 and US 460 may be sought under the HB2 Commonwealth of Virginia project prioritization program. Whereby projects of statewide significance are selected for funding based on the cost-effectiveness of the projects to reduce congestion, improve land use efficiency among the Region, improve safety and promote economic development along the corridors adjacent to the project site.

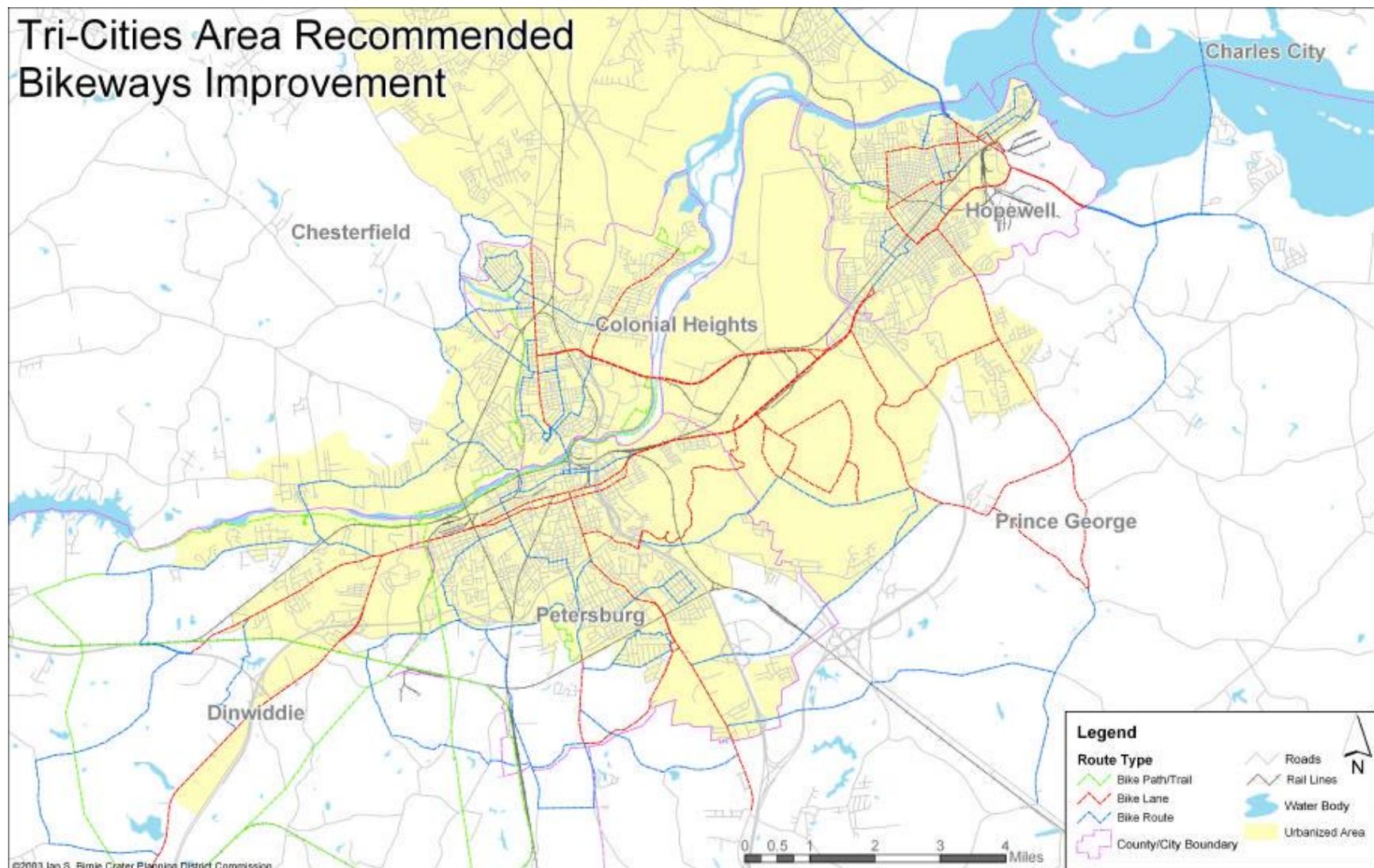
The improvements to the I-85, I-95 and 460 corridors will allow greater access to trucking and vehicular traffic. In addition, it will support the economic strategy of the City to attract additional retail and restaurant businesses along this end of Crater Road. The improvements would make it easy for trucks and vehicular traffic easy access on and off the interstate to the commercial and residential areas along this Southern end of the City. More importantly for the City of Petersburg it could provide an opportunity for Petersburg Area Transit to provide additional service routes to proposed park and ride lot identified in the SYIP.







Tri-Cities Area Recommended Bikeways Improvement



Recommendation: With the provision of a bike network map in the 2026 Transportation Plan, Petersburg has an opportunity to make a plan a reality by implementing the proposed bike lane improvements. The creation of new bike lanes should also be accompanied by a user-friendly City map that highlights bike lanes, bike routes, and other roads suitable for bike travel. A widely circulated bike map will encourage prospective cyclists and newcomers to Petersburg to utilize the new system and offer another mode of transportation to its citizens and tourist. In addition, the City should work toward connecting bike paths to all City parks that will allow cyclist to travel between parks with limited interaction with street traffic.



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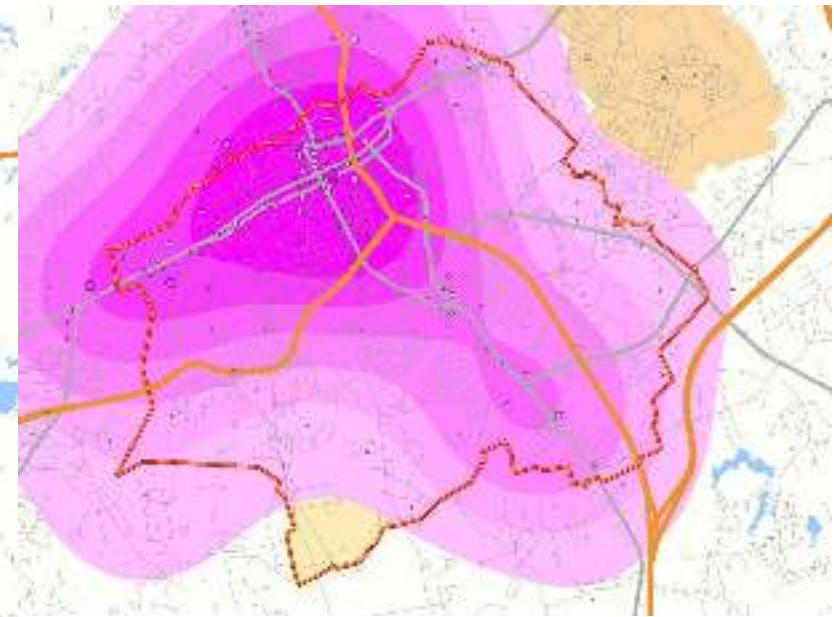
Commuting Patterns

For Petersburg residents, the major commuting thoroughfares out of the city run north along I-95, east to Hopewell along Rt. 36 and I-295 and west on I-85. The strongest core of employment remains in the northern section of the City and runs along the Washington/Wythe corridor, Downtown/Old Towne and the Sycamore Street corridor. Future shifts in employment concentration have occurred since Southside Regional Medical Center has moved to South Crater Road.

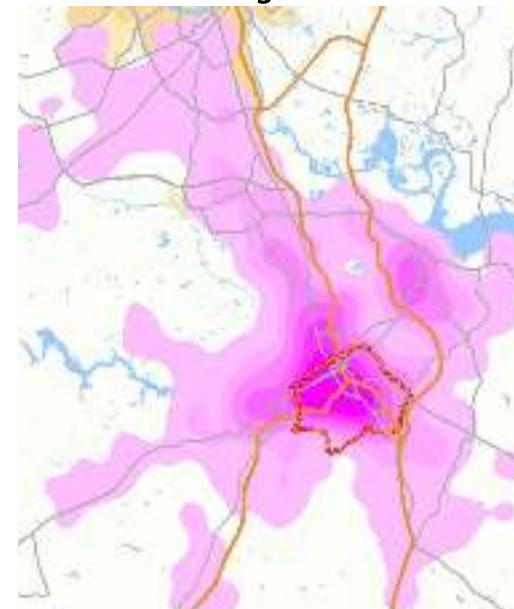
Commuting in and out of Petersburg is comparatively smooth with the interstates that run through the City. To take advantage of the interstate system, the City should work to expand its bus service to employment centers outside of city limits.



Where Petersburg Residents Work



Where Petersburg Workers Reside





High Speed Rail Service

In 2010, Amtrak announced a 30 year project to introduce high speed service along the East coast rail corridor. The plan examines several locations in various communities; the City of Petersburg is one of the sites being considered. Amtrak completed the Tier 1 Environmental Impact Study and started looking to complete the Tier II EIS in 2011. Passenger service, pending federal funding, is scheduled to begin by 2022.

The City of Petersburg has positioned itself by performing a feasibility study of the area known as Collier Yard. This 86 acre site is located off of I-85 in a rural and industrial environment with single-family residential communities adjacent to the site as well as the Battlefield. It is believed that the successful location will be development ready, not requiring any special approvals or rezoning. The site will be ready to go and support rail oriented development. In order for that to be the case for this site, the City will adopt the policies that will govern Transit Oriented Development, combined land use and transportation, promote the current transit service and facilities, and to encourage transit oriented development at the preferred location.

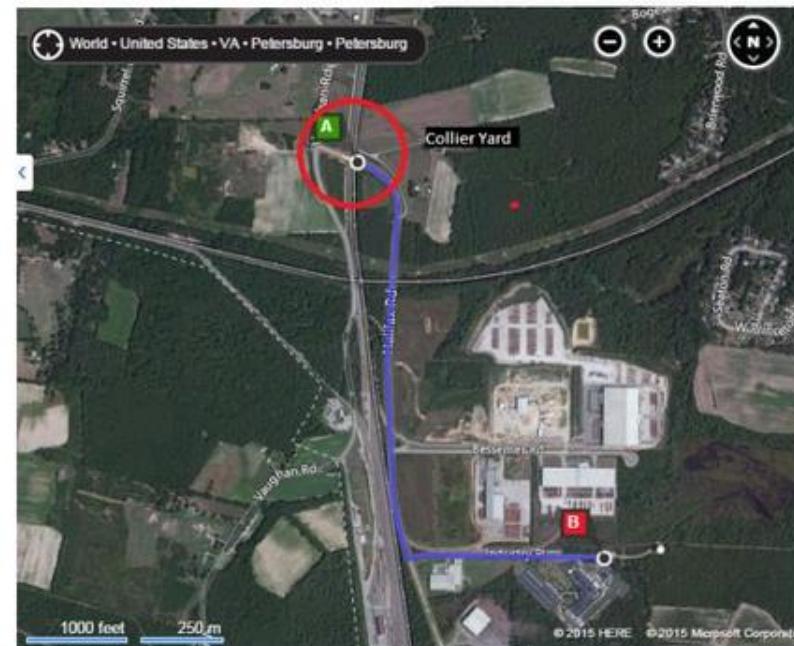
The City is in a good position because all the acreage at Colliers Yard is owned by the City of Petersburg.



Rendering of proposed Rail Station Town Center



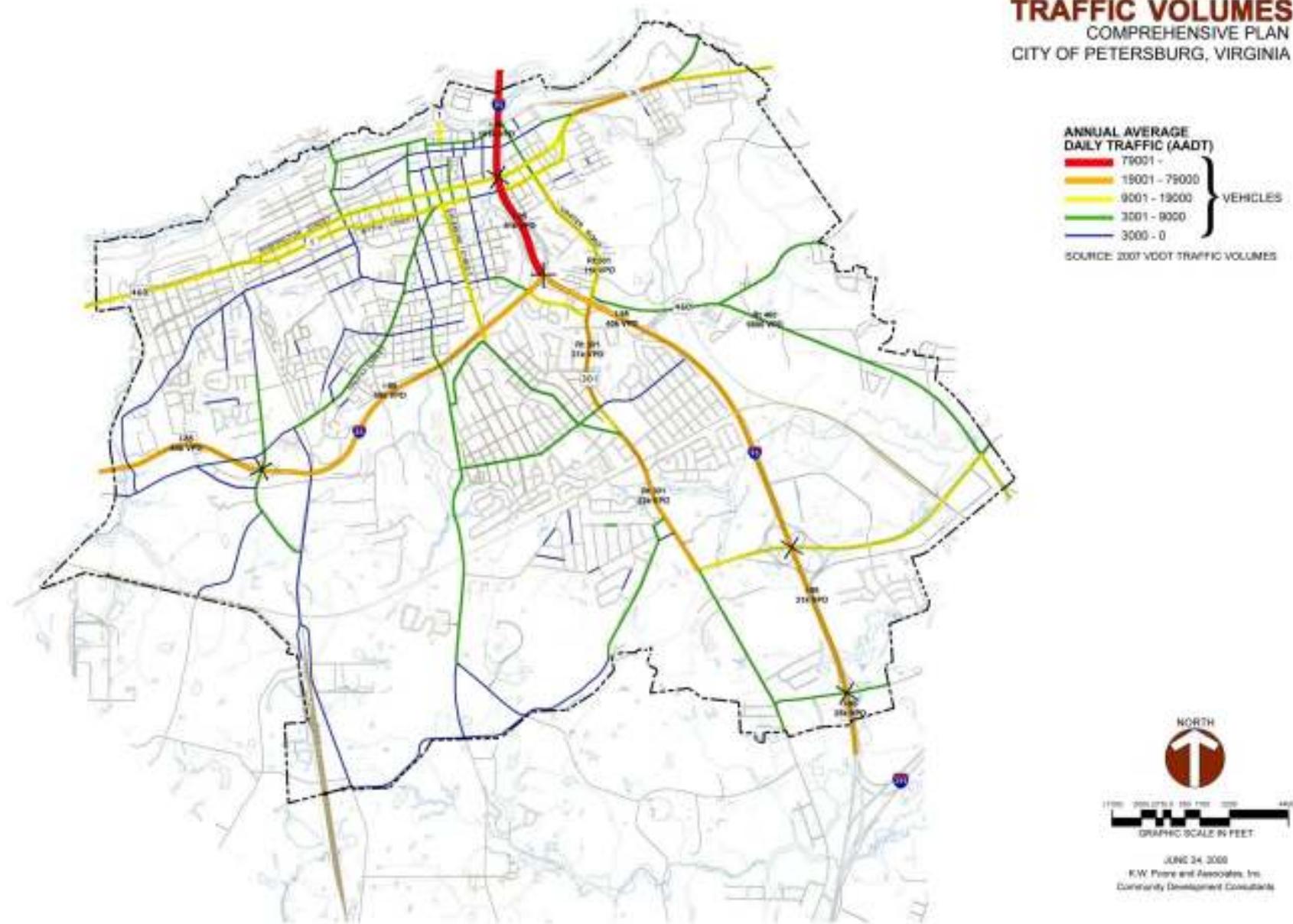
Amtrak's Acela currently operates high speed service from D.C to NYC



Location Map of Colliers Yard and Industrial Park



TRAFFIC VOLUMES
COMPREHENSIVE PLAN
CITY OF PETERSBURG, VIRGINIA





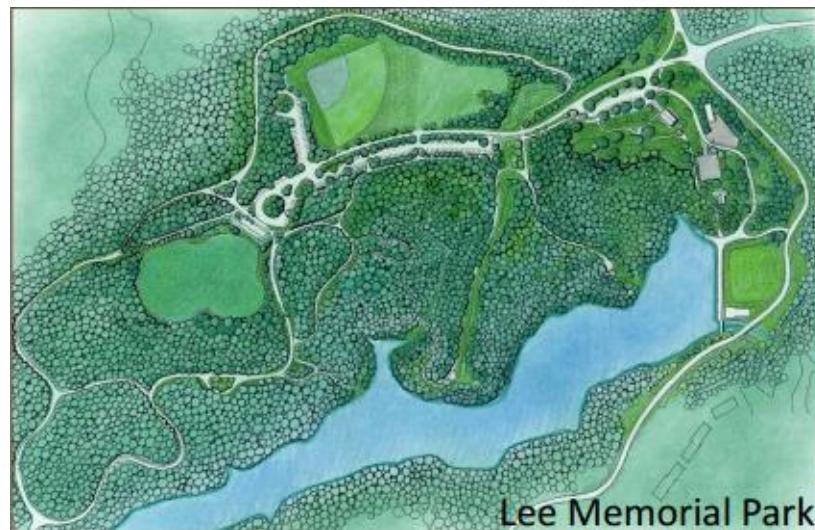
Parks and Recreation

For any community the availability of open park space, as well as enclosed meeting and activity spaces is essential. Petersburg has within its boundaries a diversity of public park spaces and recreation/meeting centers available. The land comprising the Petersburg National Battlefield Park and its related sites constitutes a large portion of open space within the City, which are federally owned and maintained. These areas are covered within the Cultural Resources section of the Comprehensive Plan. This section will focus on facilities owned and operated by the City of Petersburg.

Of the City's overall land area nearly 5% is dedicated to parks and recreational use. This includes both open park land and community centers. Of land dedicated to parks and recreational uses 95% is open space with a variety of uses, including baseball, basketball, tennis and soccer, a public golf course, tot-lots and space for walking and relaxation.

Parks and recreation associations recommend anywhere from seven acres to 10 acres of park land be provided for every 1000 residents. Using the highest recommendation of 10 acres per 1000 residents, and again, only considering City operated facilities, Petersburg provides just over 22 acres of public park space per 1000 residents.

The residents of Petersburg have available to them 16 parks and facilities. These include large urban parks, providing for league and organized athletic events to nature and walking trails, smaller neighborhood parks, providing for the informal recreational needs of the residents as well as space to relax and unwind, and community centers providing meeting spaces for community gatherings and city sponsored programs focused on the educational



and recreational needs of the City's residents. These facilities are as follows:

A.P. Hill Community Center

The A.P. Hill Community Center is one of three community centers within Petersburg. Centrally located within the City, the facility offers a range of recreation and community based activities. On the premises are a basketball court, a baseball field, a picnic shelter, a tot-lot, and an indoor community center which provides recreational programs for the community.

Appomattox River Park

Appomattox River Park is actually located just outside the borders of the City of Petersburg in Dinwiddie County along the south bank of the Appomattox River. The property was donated by Dominion Virginia Power and is now controlled by the City of Petersburg. Its 137 acres provide mostly undeveloped open wooded space containing hiking and biking trails, and access to the river for boating and fishing. The site also includes a half basketball court and a pavilion for group gatherings.



Berkeley Manor

Berkeley Manor is a subdivision which contains a small park that includes a baseball field and two basketball courts. Additionally, there is a picnic/event shelter on the site. The location of the subdivision, in the south-east corner of the City, is not only detached from most of the City by distance, but also physically. The barriers of Interstate 95 and Wagner Road make accessibility to the park convenient only to those who live in the subdivision.

Dogwood Trace Golf Course

Dogwood Trace Golf Course is an 18 hole, par 72 golf course. The course was originally leased and operated by a private company, but was purchased by the City after it was significantly damaged during Hurricane Isabel in 2003. The City completed planning for the renovation of the course and began its renovation in April 2008. The acclaimed golf course architect Thomas E. Clark was hired to design the renovated course. A clubhouse with a pro shop and small restaurant is currently in the planning process.

Players will find extensive bunkering lakes and ponds that come in to play on several holes and well-manicured and challenging greens. The state of the art practice facility includes a putting green, bunker chipping green and an expansive grass driving range. Our staff of PGA Professionals is available to assist citizens and visitors with instructional programs and professional fitting services.

In 2010, Dogwood Trace introduced its “Golf for Life Program” to the youth of Petersburg. This program teaches children the game of golf and a series of corresponding “Life Skills” in an effort to provide a more solid foundation for the challenges that life can bring.



Dogwood Trace serves host to several regional golf events throughout the year. These include both corporate and charitable golf outings, college tournaments and regional junior championships. It also serves as the home course for the Petersburg High School and Virginia State University golf teams.

The City of Petersburg's Dogwood Trace Golf Course opened for play in the spring of 2007. In that time it has quickly gained recognition as one of the finest golf courses in central Virginia. It was ranked in the Top 100 courses to play in the Mid Atlantic by the Washington Golf Monthly and was dubbed “Petersburg's Hidden Gem” by the Virginia Gold Report.

The City is boasting on the newly constructed 3,330 sq. ft. clubhouse featuring a main dining lounge and bar, a private conference room, a full-service kitchen, a pro-shop and an outdoor dining patio. This latest city owned facility will open September, 2015.

Farmer Street Park

The Farmer Street Pool is a community operated pool open between Memorial Day and Labor Day. It offers open swimming to the public during weekdays and weekends and has a set aside time on Saturday for a water aerobics class for the elderly. In addition to the pool, the facility also offers two full length basketball courts, three tennis courts, a tot-lot, restroom facilities and a picnic/activity shelter.

Historic Cameron Field

Cameron Field provides a football field and track. The City is planning to provide additional lighting structures, so that the park can be used once again for night games and events.



Harding Street Community Center

Harding Street Community Center is located adjacent to the Poplar Lawn neighborhood. This community facility provides a basketball court and a picnic/activity area outside, as well as an indoor hydroponics and aquaponics laboratory and education center operated by Virginia State University.

Jefferson/Clinton Street Park

Located adjacent to the Poplar Lawn Park neighborhood the Jefferson/Clinton Street Park provides a youth oriented activity area. Included on the site are a tot-lot for the very young, a playground for other kids, and a picnic shelter large enough for a group function.

Lee Memorial Park

Lee Memorial Park is a 330 acre park with a rich history, but had been neglected for years until about ten (10) years ago when a master plan was adopted by City Council to preserve the park by incorporating public improvements and interpretive and educational programs.

Among the 330 acres, 18 acres are developed with the remaining acres offering a more natural undeveloped park. The park offers several amenities, including Wilcox Lake, picnic shelters, walking trails, Cooper Memorial Baseball Field, a bath house, and wildflower sanctuaries. Under the leadership of WWC, trails have recently been updated; an outlook with interpretive signage has been added, infrastructure upgrades facilitated the addition of restrooms. The stairs have been repaired and several annual events occur at the park. Proposed under the master plan are extended walking trails, gardens, environmental education center, and various public improvements that will enhance the park experience.

Wilcox Watershed Conservancy (WWC) is a strong partner with the City on these projects.



Low Street Park

Low Street Park is a neighborhood park that has been upgraded with play equipment and plans underway for a picnic shelter at this location. Located on Low Street near the intersection with Cross Street, the park contains a comfort station and the remnants of a basketball field. The City has currently completed the improvements so the park can be a neighborhood park.

McKenzie Street Park

McKenzie Street Park is a six and a half acre park, located within the Battersea neighborhood on the northern edge of the City. The park contains a lit baseball field and restroom facilities.



National Guard Armory

The National Guard Armory is located adjacent to Lee Memorial Park, and serves as a community center for the City in addition to its role as a station for the areas National Guard. The building contains a gymnasium and classroom space, and the City sponsors educational recreation at this location.

Oakhurst Playground/Park

Oakhurst Park is located at the end of Blackwater Drive, tucked away in the Oakhurst subdivision. The park is a great amenity for the neighborhood providing a baseball field, a basketball court, a tot-lot, and a restroom and concession facilities.

Petersburg Sports Complex

The Petersburg Sports Complex contains over 100 acres dedicated to baseball and softball. On the site are four (4) softball fields and one (1) baseball field with each field having its own press box and offices, P/A system and electronic score board. Integrated into the complex are public restrooms and a concessions building.

The Petersburg Sports Complex is home to the Petersburg Generals, a summer league made up of the best college baseball players across the nation. Additionally the Sports Complex hosts several United States Specialty Sports Association (U.S.S.S.A) events including national and world tournaments and World Series events.

The Petersburg Sports Complex is located adjacent to Petersburg High School, which offers a football field, track and gymnasium, and adjacent to the Dogwood Trace Golf Course, expanding the sporting opportunities available to the complex.

West End Park Fairgrounds

West End Park Fairgrounds consists of 22 acres of mostly open space for public events. The site also provides a basketball court, a football field and walking trails for public enjoyment.

Poplar Lawn (Central Park)

Poplar Lawn Park, formally known as Central Park, is a very pleasant park. Located within the Poplar Lawn neighborhood, a nationally registered historic neighborhood, the park has been witness to much history. In 1812 The Petersburg Volunteers camped on the site before leaving for the Canadian border, and in 1842 General Lafayette was greeted with much fanfare. At the beginning of the Civil War volunteers enlisted for service in the Confederate Army, and then at the end of the war a hospital were erected on the site during the Siege of Petersburg.

The park currently contains about four (4) square blocks of land which is landscaped and contains a radial path network. The park provides a comfortable gathering space central to the park consisting of ornate concrete tables and benches set around a raised landscape feature. Central Park is a planned park that serves as a venue for weddings, and other recreational events and activities.



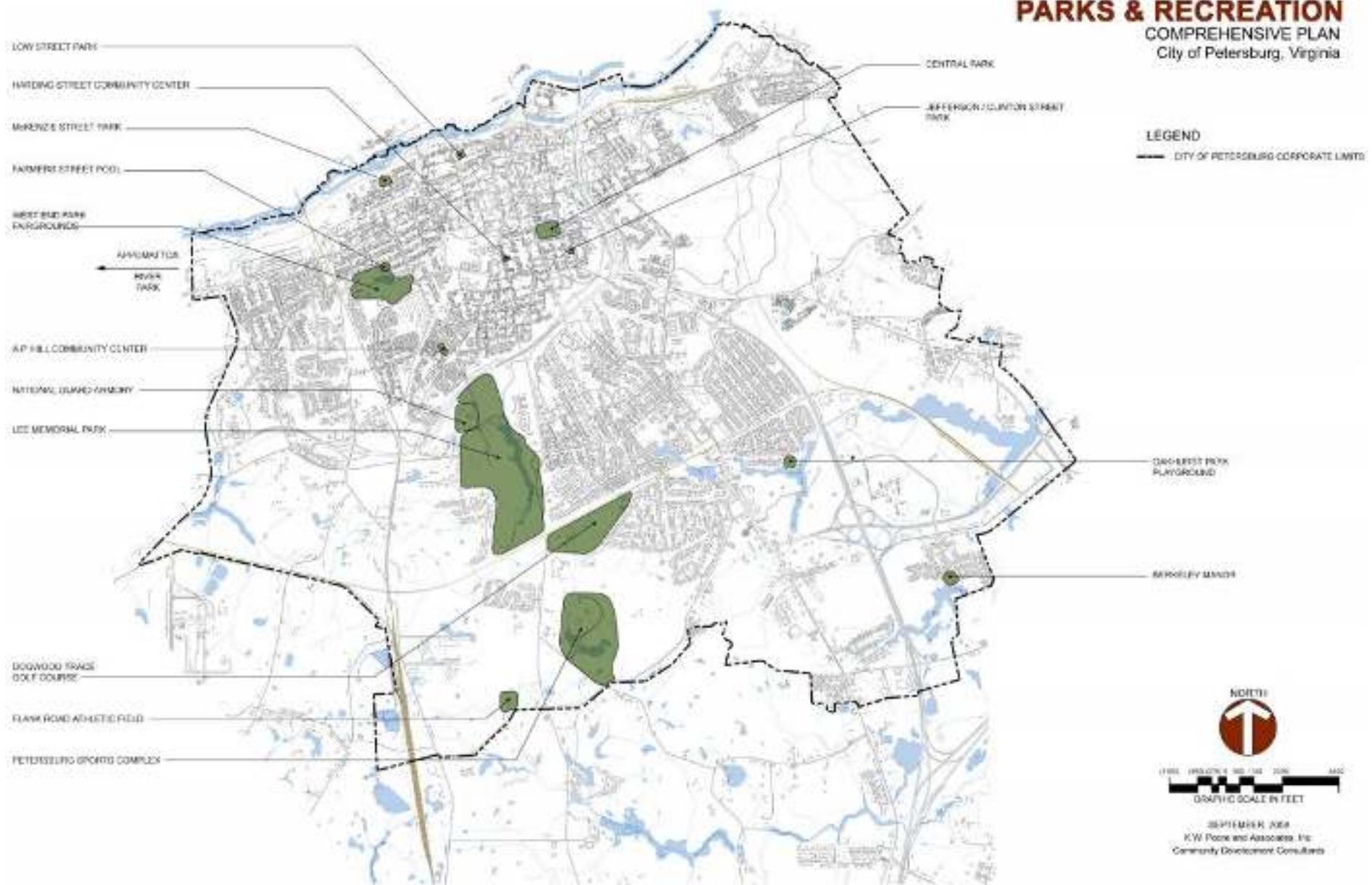
Poplar Lawn Park

CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014



PARKS & RECREATION

COMPREHENSIVE PLAN
City of Petersburg, Virginia



SEPTEMBER 2004
KW Poole and Associates, Inc.
Community Development Consultants



Education

A healthy city has a good school system where children are educated to be competitive and well versed in science, reading and mathematics, professional fields where higher wages are earned. This can be a great tool for attracting and maintaining families in the community. Often times the school system is the reason people locate in a particular location and the schools are what make it a desirable place to live. Post-secondary education opportunities are equally important to the economy for training an educated and competitive workforce. The long term benefits of a good school system and well educated work force make education an investment all localities must afford. However, the City must continue to support and collaborate with the school system to maintain families and school age children in our communities.

The reduction in school aged children does not necessitate a definite cause for alarm as the quantity of children in the system rarely correlates to educational or neighborhood quality. Reduced family size as well as a diverse population can be framed as additional resources and smaller class sizes.

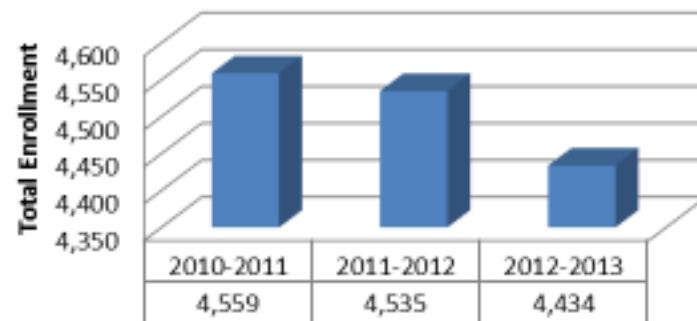
The Petersburg City Public School System is committed to providing a quality education to all students. The division will provide experiences for students to become life- long learners and contributing members in a global society. Petersburg City School Board hired Dr. Joseph C. Melvin to begin as the new superintendent of Petersburg City Schools on January 2, 2013.

Enrollment

The total enrollment of Petersburg City Public Schools (PCPS) for the 2012-13 school year is 4,434 students which is indicative of a decline from 2011-12 of 101 students (4,535).

The Petersburg City Public School System is comprised of seven (7) comprehensive schools, one (1) alternative school and one (1) early childhood center

Petersburg School Enrollment Levels 2011-2013



Source: VDOE Report Cards 2013

Elementary Education

There are four (4) comprehensive K-5 elementary schools consisting of A.P. Hill Elementary, J.E.B. Stuart Elementary, Robert E. Lee Elementary School, and Walnut Hill Elementary School. The division also provides services for three and four year old students at the Westview Early Childhood Education Center. Schools utilize a variety of educational practices and strategies to put forth instruction to develop the 21st Century learner. The Response to Intervention (RTI) model allows for the individualization of instruction for the students of Petersburg. Year round schooling has been implemented in one (1) of the four elementary schools to guarantee success of these students.

Secondary Education

The Petersburg City Public Schools (PCPS) system has both successes and challenges on the horizon. As the graph on the top of

CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014



the page indicates, the declining population is reflected in the declining enrollment levels in the public school system. Declining enrollment allows reductions in staffing which opens up funds for other programs, and it enables the school system to maintain low student teacher ratios. But the real problem has to do with limited financial resources and the educational results associated with declining population.

There are three (3) comprehensive secondary schools which consist of Peabody Middle School, Vernon Johns Junior High School, and Petersburg High School. The division also affords non-traditional learning opportunities to students at the secondary level at Blandford Academy. One of the middle schools is currently operating on a year round basis to guarantee success at this level for our students.

Schools utilize a variety of educational practices and strategies to put forth instruction to develop the 21st Century learner. Opportunities are afforded to our secondary students that include, but are not limited, to the following: Dual Enrollment opportunities with various universities and colleges in the tri-cities area, Middle College High School Program at Richard Bland College that allows students to graduate from high school with an Associate Degree, and a Career and Technical Education (CTE) program that results in the acquisition of industry certification in Business and Information Technology, Family and Consumer Sciences, Health and Medical Sciences, Marketing, Technology Education, and Trade and Industrial Education.

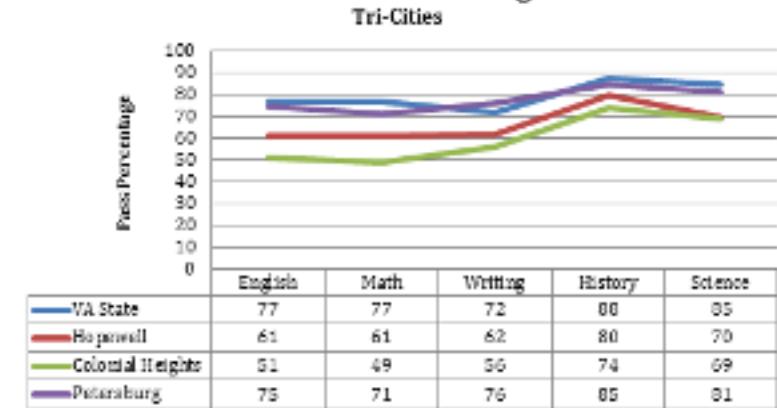
Students at the secondary level also have the opportunity to apply for acceptance into the Regional Governor's Schools Programs for grade 9-12. These programs include Appomattox Regional Governor's School for the Arts and Maggie L. Walker Governor's School for Governor's School for Government & International Studies.

Currently all of Petersburg public schools are accredited with the exception of A.P. Hill Elementary School and Peabody Middle

School. The school has made progress, but the subject of math and science has been not only a challenge for Peabody and A.P. Hill, but throughout the State. The Petersburg Public School system remains committed to helping every student reach their full potential and set a goal to have one-hundred percent accreditation in the near future.

As a city of regional importance, Petersburg is fortunate to be home to the Appomattox River Governor's School which serves fourteen school districts in Central and Southern Virginia. The school hosts 330 students from grades 9 through 12 and offers them diverse opportunities ranging from acting to literary arts, and computer programming to ballet.

2013 Standards of Learning Pass Rate



Source: VDOE Report Cards 2013

Petersburg Public Schools held a School Division Efficiency Review In the fall of 2006, where a six-member team of consultants conducted an efficiency study of the school division. The efficiency review produced findings in all eight operational areas which resulted in 98 individual recommendations, 55 of which had a fiscal impact. The following areas were successfully addressed by the school division: Division Organizational Administration, Financial Management, Personnel and Human Resources, Cost of Instructional Services Delivery, Transportation, Technology,

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Facilities and Food Services. PCPS was required to implement 50% of the savings within 24 months of the end of the study. By 2009, the division had fully or partially implemented 92% of the recommendations put forth by the six-member team of consultants.

To date, the remaining recommendations are either in process or have been realigned to provide greater results.

Capital Improvements

There have been additions to A.P. Hill Elementary, J.E.B. Stuart Elementary, and Robert E. Lee Elementary schools within the last four years. Additions to the elementary schools have resulted in increased classroom space for core classes, fine arts, and physical fitness. Construction is currently underway at Walnut Hill Elementary School. Once the addition at Walnut Hill Elementary School is complete, all elementary schools within the division will be equipped with gyms for physical fitness and extracurricular events. During the summer of 2011, a new Operations Center was opened for the School Nutrition, Transportation, and Warehouse Departments. The new center allows for the Department of Operations to operate in one location versus multiple locations through-out the city. The Petersburg Public School teams up with the City of Petersburg and together create the program for capital projects.

Post-Secondary Education

The City of Petersburg has three institutions of higher learning in its immediate vicinity:

Virginia State University is a four-year university with graduate and undergraduate degree offerings including Agriculture, Business, Engineering, Science & Technology, and Liberal Arts.

Richard Bland College is a two-year, State supported branch of the College of William and Mary. It offers liberal arts and science

programs for associate's degrees. Students are able to transfer to four year institutions as juniors or go directly into the workforce.

John Tyler Community College is a two-year State supported community college with campuses in Richmond and Petersburg, as well as distance learning services. It offers associates degrees and practical skills, so students may go directly into the work force or transfer into a four-year college.



Petersburg High School Graduating Class of 2014





Cultural Resources

Petersburg National Battlefield

The Petersburg National Battlefield is not just one location, but a series of sites that spread over 2,659 (battlefield) acres in Petersburg, Hopewell, Dinwiddie County and Prince George County. The National Battlefield has brought over 175,000 visitors to the Petersburg area over the past ten years. Not only does the battlefield attract visitors to the area, but it plays an important role in preserving and presenting one of the most influential events in the history of Petersburg and the entire Civil War, the 10 month Siege of Petersburg by the Union Army in 1864-1865.

The presence of the National Battlefield in Petersburg is one of the City's most renowned and important cultural assets. The City has established a great relationship with the National Park Service and kept abreast of all management plans for future development.

General Management Plan- The Petersburg National Battlefield General Management Plan, completed in 2004, was the first time the original 1965 General Management plan was revised. The Plan noted incompatible residential, commercial and industrial land use along park borders and an outdated method of historical interpretation that did not reflect advances in scholarship and changing public values. Four alternatives were proposed for the future of the Battlefield. The final alternative (D) was chosen because it was deemed the best choice for showcasing history through the cultural landscapes and preserving historical sites. The plan includes a larger focus on the role of women and African-Americans in the Civil War and the Siege at Petersburg.



Plan Specifics

The Management Plan included new programs and facilities at several of the Park's multiple locations, including the home Front unit in Old Towne, Petersburg. The City and the National Park Service is collaborating on the renovation and opening of a Visitor Center at the Southside Freight Depot on River Street. This is especially significant for the City as it brings more Battlefield visitors to the downtown and provides further incentive for the development and preservation of Old Towne as a historical backdrop for the story of the Siege of Petersburg.

In addition, the Management Plan calls for the Battlefield to expand by 7,238 acres. While most of this expansion is occurring in and around the Five Forks site in Dinwiddie County, the Plan does call for expansion at the main Battlefield site and a battlefield site on Flank Road across from Fort Wadsworth in the southwest corner of the City. The site across from Ford Wadsworth is the location of a Civil War battle that has remained virtually untouched.



Currently there are two principal tour routes that run through the City. Along the southern edge is Flank Road, which parallels the line of earthworks that made the Western Front. Running through the middle of the City is a tour route along Defense road, which follows the Defensive line of earthworks. Both roads are protected from encroaching development along certain stretches.

Both the City and the Battlefield are seeking ways to strengthen the ongoing and effective relationship between both parties. The Battlefield has plans on incorporating historic Petersburg into their overall presentation of the events that took place in and around the City during the Civil War. In response, the City is improving gateway corridors between battlefield sites and downtown. Both of these efforts will improve the overall visitor experience of Petersburg and attract more people to the Battlefield and downtown Petersburg.

The City is also a vital member of Petersburg Area Regional Tourism. This non-profit promotes the cultural and hospitality offering in the Petersburg region.

Recommendations

In conjunction with the Petersburg National Battlefield's effort to improve and expand the visitors experience at the Battlefield, the City is proud of the efforts made to focus on preserving and improving its connections with the Battlefield. This includes addressing issues of blight along the Route 36 corridor and maintaining and protecting tour routes along Defense and Flank Road from blight and incompatible development. It is the goal of the City to protect and preserve the Civil War era fortifications that run along Defense and Flank roads.





Cultural Affairs, Arts and Tourism



City Council had a vision to create a more significant place for arts and culture in Petersburg. And so the journey began. Through the strategic use of resources and creative ingenuity, the Department of Cultural Affairs was born. Today, it is dedicated to enriching Petersburg's artistic vitality and cultural vibrancy.

MUSEUMS

The Blandford church is a church building dating from the 18th Century that was converted to a Memorial Chapel and Confederate Shrine to honor the many soldiers who are buried in the surrounding Blandford Cemetery. The museum is noteworthy for its 15 Tiffany stain



glass windows that were funded through donations by former confederate states at the turn of the 20th century.

The Siege Museum is dedicated to presenting daily life as it was before, during and after the Civil War. Particular emphasis is placed on the 10-month Siege in Petersburg in 1864-1865.



The Centre Hill Museum is an historic Petersburg mansion built in 1836. The home showcases Greek Revival, Colonial Revival and Federal architecture as well as decorative arts from the 18th-20th Centuries.





PROGRAMS AND SPECIAL EVENTS

The City's cultural efforts have allowed us to forge partnerships with many community groups. The Department of Cultural Affairs, Arts and Tourism has worked with Public Arts Petersburg, Battersea Foundation, Southside Virginia Council for the Arts, The National Park Service, Virginia State University, The Petersburg Area Art League, The Petersburg Ballet, Virginia Tourism Corporation, and Legacy Media Institute.

The Rev. War Reenactment is an annual event that happens at Battersea every spring and draws many history enthusiasts.

Several commemorations and events happen throughout the year at the cemetery and historic chapel.



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TOURISM

As of last fall, the department of Cultural Affairs, Arts & Tourism began engaging in tourism as it recently took on the role of recognizing and developing more tourism opportunities for the familiar and unfamiliar traveler. Current trends in sports tourism, agritourist and food tourist are now being more thoroughly explored. Wayfinding systems are being discussed to determine best practices and current trends and there has been a shift to further explore other contemporary and cultural assets within Petersburg that might draw a broader, more diverse audience.



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PERFORMING & CREATIVE ARTS

The City is seeking to develop more creative arts activities within Petersburg. Driving Miss Daisy was performed at the Petersburg High School Theater and the City is expecting to have many more performing and creative arts success.





FILM

Petersburg's film scene is booming! Whether it's AMC's TURN, PBS Mercy Street, or Meg Ryan's ITHACA, Petersburg is on the grow!

Tim Reid, Ken Roy and Daphne Reid led the International Film Festival to the city's doorstep and it generated much enthusiasm and notoriety from the community and region.

In March of 2015, the City was recognized by the National League of Cities for its efforts in acknowledging creativity and diverse communities through the partnership it had formed with the Legacy Media Institute.





Certified Historic Structures

The Virginia Department of Historic Resources (VDHR) oversees the register of all historic districts and historic landmarks present on the State and National inventory. The Department receives applicants for the addition of structures, sites or districts to be registered as historic in the eyes of the state and National Registers (which overlap in their classifications) it must be 50 years or older and meet at least one or a combination of the following criteria:

1. Property is associated with events that have made a significant contribution to the broad patterns of our history.
2. Property is associated with lives of person significant in our past.
3. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
4. Property had yielded, or is likely to yield information important in prehistory of history.

Any structure or site that meets some combination of the above criteria and is over 50 years old is eligible for nomination. VDHR administers both State and Federal Registers. Further information about The State and National historic Registers and the programs described below is available on the VDHR website at www.dhr.virginia.gov.

Petersburg residents have begun to utilize and realize the benefits of Historic Tax Credits, and examples of successful projects are found in the quaint historic areas of Old Town, High Street, Poplar Lawn and other revitalizing areas. This is a tool that is being used more and more in Petersburg, as a great way to revitalize and have an impact on a community.

Programs

Along with cataloging and management of registered landmarks, the Department of Historic Resources also provides programs intended to facilitate the preservation and protection of Virginia's historic resources.

State Historic Preservation Grants

These grants are made available to nonprofit groups (museums, foundations, historical societies) and local governments who have historic structures that are open to the public. Funds can be used to maintain museum collections, subsidize operating costs of make minor renovations and repairs. Grants must be matched by equal investment (whether monetary, or goods and services) from the applicant.

Historic Preservation Easement

The historic easement is a perpetual easement, meaning it will still apply to the property even if it is sold. In receiving a historic easement the property owner is allowing certain restrictions to be placed on the property (e.g. one cannot dramatically alter a home so that it no longer reflects its historic character). In return for donating the land as an easement, the property owner may receive tax deductions for the charitable donation. Inheritance and property taxes are lowered by negating the development rights that are usually factored into a properties valuation. The easement does place restrictions on alterations on the home, and basic upkeep and preservation of the property is required. Some alterations are acceptable, like remodeling a kitchen or bathroom, though all alterations are subject to review by the Department of Historic Resources.



This program is best suited for property owners who have a historic property that they have restored and wish to secure its protection (and their investment) from major alteration beyond their own tenure as owners.

Rehabilitation Tax Credits

State and Federal tax credits are available for those who are seeking to rehabilitate buildings that are considered historically significant and income-producing. Up to 20% (Federal) and 25% (State) of the total rehabilitation expenses can be used as a dollar-for-dollar reduction in income tax liability from Federal and State taxes.

Most rehabilitation costs like structural improvements and architectural restoration are eligible, however landscaping or additions do not qualify. A comprehensive overview of rehabilitation work that is eligible as a "rehabilitation expense" is outlined in the Secretary of the Interior's Standards for Rehabilitation.

Petersburg residents have begun to utilize and benefit from the Historic Tax Credits, an examples of successful projects are found in the quaint historic areas of Old Town, High Street, Poplar Lawn and other revitalizing areas.

Local Historic Districts

Old Towne: Old Towne encompasses the oldest portions of the city and contain buildings dating back to the late 17th century. The district sits along the Appomattox River with vacant industrial warehouses lining Pike and Old Street. Further from the river, Old Towne has been rejuvenated with commercial and retail uses mixed with restored residences. The district is unique in that it contains historic residential, commercial and industrial buildings and virtually every style of architecture in the US from 1800 to 1910 to present.

Poplar Lawn: Centered on a 2 –blocked open green at its center, the poplar lawn historic district is primarily an example of an upper-middle class late- 19th century residential neighborhood south of the City center.

Folly Castle: The Folly Castle Historic district is located south of Old Towne and west of Downtown. It is predominantly high density residential from the turn of the 20th century. Most are frame homes with little stylistic detail, though there are some Italianate, Queen Anne and Colonial Revival styles around Washington Street. There is a commercial node that developed on West Washington Street in the 1920s-1930s as well.

Center Hill: The Centre Hill historic district is located directly to the east and southeast of Downtown Petersburg. The Center Hill Estate, a historic, early 19th century Federal Style brick dwelling was the initial central structure and focal point of the area until the land was bought and subdivided. Now the Estate is surrounded by examples of early 20th century residential architecture.

South Market Street: The South Market Street historic district contains a number of residential structures that were built in the mid to late 19th century. Once the home to Petersburg's elite, these homes demonstrate ornate, high-style examples of 19th century architecture.



Courthouse: The Courthouse historic district encompasses some of the City's major institutional buildings, the Courthouse, City Hall, Tabb Street Presbyterian church and St. Paul's Episcopal Church. Surrounding these historic buildings is a traditional 19th century commercial grid with Federal and Italianate commercial rows. Despite numerous commercial renovations the downtown district along Sycamore Street has retained its traditional architectural design.

Battersea/ West High St.: The Battersea/ West High St. historic district is a locally defined district that centers on the early 19th century suburban neighborhood of West High St. and the Battersea Mansion, which dates back to the mid-18th century.

State and National Historic Districts

Pocahontas Island District: Listed on the National Register of Historic Places, Pocahontas Island is the historic home of freed slaves in the Anti-Bellum period. The neighborhood contains traditional shotgun shack style homes built for African-American factory workers in the early 19th century and a few notable brick dwellings as well. The tightly packed, mixed – use characters of the neighborhood with industrial uses immediately adjoining.



Commerce Street Industrial District: The District is comprised of four early- 19th century brick industrial buildings. The style of architecture and availability of space makes these buildings suitable for rehabilitation as residential lofts.

Atlantic Coast Line Railroad Commercial and Industrial: The area began to take on its present industrial character beginning in the mid-to- late nineteenth century with the construction of the Cameron Tobacco Company building at the corner of Brown and Perry Streets and several lumber yards that no longer exist. The location of the Atlantic Coastline Railroad (ACL), which cut through the district en route to its terminal at Washington and Union Streets, not only promoted industrial growth with spurs that provided access to the industrial buildings but created an open swath through the district. The railroad bed of the former Atlantic Coast Line Railroad (originally the Petersburg Railroad) is still visible as it cuts diagonally across the district. Stone and concrete abutments are still visible where a railroad trestle crossed Guarantee Street on the western edge of the district. Spurs from this railroad served all of the industrial buildings in this area.



Historic Structures & Landmarks

The City of Petersburg has one of the richest collections of historic assets in Virginia. Throughout the city there are reminders of battles fought, industries come and gone, ornate architecture and skilled craftsmanship that is irreplaceable. There are also painful reminders of slavery and injustice, both before and after the Civil War. Nevertheless, Petersburg's history defines the City that it is today. Through the preservation of its buildings, visitors and residents can be proud of the dramatic and unique role the city has played in American history.

Cultural Tourism, defined as an authentic presentation of place's people and history, has become a growing segment of the tourism industry. With a range of historic sites, cultural tourism is an area where the city can benefit from the preservation and restoration of its buildings and landmarks.

In order for the City of Petersburg to capitalize on cultural and historical assets, an effort should be made to distinguish, restore and preserve those sites and buildings that contribute to Petersburg's character. The establishment of historic districts and the addition of the City's buildings to National and State Historic Registers is one way residents have already undertaken the preservation of the City's history and created economic opportunity.



Siege Museum-15 West Bank Street ca. 1841

The Exchange Building is a two-story, five bays by five bays, Greek Revival style building with a hipped roof.



Centre Hill – 1 Centre Hill Court ca. 1820s

Built in the Greek Revival, Centre Hill was originally situated in the middle of a park. The home was built for the influential Bolling family in Petersburg. The house becomes the headquarters of Union Major General G. L. Hartsuff in 1865 after the siege of Petersburg. Then President Lincoln also visited him at the site in the same year. Centre Hill is open to the public as a museum.



Blandford Cemetery -111 Rochelle Lane ca. 1702

The Blandford Cemetery has over 30,000 gravestones dating from as far back as 1702. The cemetery has a variety of historic funerary styles and materials used across 189 acres.

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Blandford Church -309 South Crater Road ca. 1736

Blandford Church is an example of 18th century Anglican Church architecture. The building was restored at the turn of the 20th century and modeled to look like Merchant's Hope Church in Prince George County (c. 1657).



Lee Memorial Park- 1832 Johnson Road ca. 1921

Lee Memorial Park was commissioned as a 462-acre park with roads, trails, a swimming area, bathhouse, picnic tables and baseball fields. During the Depression a 25 acre wildflower preserve was created under a WPA program focused on employing women of female-headed households. In the 1950s the lake was closed to avoid integration.



City Market- 9 East Old Street ca. 1879

This octagonal building was built in 1879 on land given to the City for a market. This structure is an example of ornate, urban architecture. It has lasted through to the current renaissance of the local farmers market and has begun to serve as a city market location once again. The City Market is also the site of the Petersburg Visitors Center.



People's Memorial Cemetery-334 South Crater Road ca. 1840

People's Cemetery is a historic African American burial ground. The Cemetery traces its roots back almost 200 years. Named to the National Register of Historic Places in 2008, and named a stop on the Network to Freedom, in recognition of its connection to the Underground Railroad, People's Cemetery is the final resting place of abolitionists, Civil War soldiers, slaves, escaped slaves and free men of color.



Jarratt House-808-810 Logan Street ca. 1820

This is the oldest standing structure on Pocahontas Island and also the only brick residence still standing. Residents say this was once a hospital and a school in the 19th century.

Environmental Factors

A healthy environment impacts the health of the citizens and providers recreational opportunities in parks and along the Appomattox River. Opportunities for redevelopment along the Appomattox River and the harbor will require that Petersburg mitigate the environmental neglect which has caused pollution problems in the past. It is therefore important to understand how protecting the environment has implication for the health of citizens and economic development of the City.

Protecting Petersburg's environment affects the quality of life of residents, attracts new investment, and can encourage redevelopment. Environmental stewardship is also important for the region and the localities that rely on environmental factors which cross Petersburg's City limits, but reach beyond its political borders. Just as the water quality in Lake Chesdin affects the drinking water in Petersburg, so does the water quality of the Appomattox River affect the localities downstream along the James River and eventually the industries and residents of the Chesapeake Bay. Water quality is an important environmental factor which is a

challenge for Petersburg and under regulation by federal and state agencies.

Chesapeake Bay Local Assistance Program

In the 1970s the Chesapeake Bay reached a critical state of pollution, caused largely by runoff from industrialized areas that lie in its watershed. Much has been done in an attempt to correct this trend, including the passing of legislation intended to minimize the negative impact local communities have on the Bay.





The Chesapeake Bay local Assistance (CLBA) program seeks to establish cooperative programs that allow local governments to establish ordinances and conservation planning that follows basic criteria established through the Chesapeake Bay Preservation Act but can be tailored to suit the specific locality. Petersburg is among the localities which discharge water to Chesapeake Bay and is an active participant in the CBLA program. To date the City has met all requirements under Phases I and II of the program. Now in its third phase, the Chesapeake Bay Preservation Act requires the City of Petersburg review land development ordinances and to ensure that "1) land disturbance is minimized, 2) indigenous vegetation is preserved and, 3) impervious cover is minimized."

The City will review ordinances for consistency with phase III especially those pertaining to stormwater management and erosion control. Steps to improve stormwater management and erosion control include:

- Remove streams from underground pipes wherever possible in order to increase aquatic habitat, groundwater infiltration and flow rates, reduce water stagnation and improve environmental aesthetics.
- Pronounce a moratorium on underground piping of streams.
- Restore degraded stream buffers by utilizing neighborhood organizations in planting programs, removal of pollution sources and invasive plants.
- Utilize Water Quality Improvement Funds (WIQF) to enhance or develop Best Management Practices (BMP) when addressing stormwater runoff in highly impervious areas of the City (Downtown, South Crater Road).





Stormwater & Stormwater Management

Stormwater runoff is the water that flows off roofs, driveways, parking lots, streets and other hard surfaces during rain storms. Stormwater runoff is also the rain that flows off grass surfaces and wooded areas that is not absorbed into the soil. The runoff that is not absorbed into the ground pours into ditches, culverts, catch basins and storm sewers. It does not receive any treatment before entering the streams and lakes.

Water from rain or melting snow either seeps into the ground or “runs off” to lower areas, making its way into streams, lakes, and other water bodies. On its way, runoff water can pick up and carry many substances that pollute water. Examples of common pollutants include fertilizers, pesticides, pet wastes, sediments, oils, salts, trace metals, grass clippings, leaves and litter. Stormwater polluted runoff can be generated anywhere people use or alter the land, such as farms, yards, roofs, driveways, construction sites, and roadways.

As precipitation falls on agricultural and undeveloped areas, it is primarily absorbed into the ground or slowly runs off into streams, rivers or other water bodies. However, development resulting in rooftops and paved areas prevent water from being absorbed and create a faster rate of runoff. This development often causes localized flooding or other water quantity or quality issues. In addition, stormwater can carry harmful pollutants, cause flooding, erode topsoil and stream banks and destroy habitats.

The Federal and State government has mandated that cities the size of Petersburg develop and implement a series of programs to improve the quality of stormwater runoff. Stormwater runoff needs to be managed just as any other natural resource. It is needed to maintain the quality of our natural watercourses as drinking water supplies and for recreational activities such as swimming, fishing, water skiing, etc. Stormwater also needs to be managed to minimize damages that may occur when stormwater runoff exceeds

the capacity of the pipes and open channels used to carry stormwater to our rivers and streams.

The City of Petersburg is responsible for managing all aspects of stormwater within its jurisdiction. The City operates and maintains drainage facilities that are located within the public right-of-way or public easements, and is also responsible for the water quality of natural streams within its jurisdiction as designed by the State and EPA; however it does not maintain facilities that are located on private property or that fall under the jurisdiction of other governmental jurisdictions.

Historically, Petersburg has performed maintenance of the stormwater collection system, which includes cleaning, repair and replacement of the City's stormwater infrastructure. As a result of Federal and State mandates, the City also regulates the effects of stormwater runoff from new development. The following illustrations show some planned initiatives that will continue to enhance the City's stormwater management program.

The City of Petersburg has been designated by the VA Department of Environmental Quality (DEQ) as a Phase II Municipal Separate Storm Sewer System (MS4). This designation is also given to other Virginia localities of similar size having a storm sewer system that discharges – directly or indirectly – to a protected river, bay, or other body of water. As a Phase II MS4, the City is responsible for stormwater discharges to receiving waters through an MS4 (VPDES) General Permit administered by DEQ. The permit requirements are very extensive, generally covering six (6) areas called Minimum Control Measures:

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 in new development and Development on Prior Developed Lands



6. Pollution Prevention/Good Housekeeping for Municipal Operations.

Impaired Waterways

For a stream, pond or river to be classified as “impaired” it does not sustain the types of communities of fish and insects that it would otherwise naturally support if there were no pollution present. According to this definition, the Appomattox River and the swamps in the south-eastern portion of the City are impaired.

One of the most significant impacts to the Appomattox within Petersburg’s borders is related to the Chesapeake Bay Act and the mandate for localities in the Chesapeake Bay Watershed, to reduce pollutants that flow into the Bay and damage the ecosystem. The South Central Wastewater Authority (SCWA), located in Petersburg, but serving the region as well as the City, is a point source for treated water flowing into the Appomattox River and eventually the Chesapeake Bay. Accordingly, SCWA is under a state mandate to reduce the amount of nitrates and phosphorous that it releases into the Appomattox River by December 2010. In order to accomplish this, improvements to the treatment facility must be made. Water Quality Improvement Funds will likely subsidize the cost of this project, but even with assistance, cost estimates could be about 50 million dollars more. If improvements are not made by 2010, SCWA will have to purchase credits from compliant localities, passing cost onto Petersburg and other member localities in the region. While the treatment facility is located within Petersburg’s borders, this will be a regional effort addressing the impacts the region has on shared waterways and the environmental effects down river.

The Blackwater Swamp, which stretches from the eastern City boundary to South Crater Rd and Oak Hill Rd, has also been identified as impaired due to a high bacteria count and is therefore not recommended for recreational use. Possible sources of contamination are aging, leaking sewer lines, and runoff from commercial or industrial development in the vicinity of the swamp.

A progressive Capital Improvement Program is necessary to address not only current failures in the system, but foresees future development needs and potential failures. Additionally it will be important for the City to do its part for environmental stewardship and protecting the health of its citizens by enacting ordinances that mitigate the impact of development of the swamps and waterways through improved stormwater management.

Brownfields

A brownfield is defined as a site that has actual or perceived contamination and potential for redevelopment or reuse. In 2000, the EPA conducted a brownfield assessment of City-owned brownfields on Commerce Street, High Street, and along the Appomattox River. Since the Initial announcement of this study in 2000, former industrial sites along Commerce Street and High Street have been adaptively reused for loft apartments in concert with the revitalization of Downtown Petersburg. The redevelopment of brownfields along the Appomattox and environmentally responsible dredging of the river would improve the economic viability of the downtown and improve the environmental quality of the currently impaired Appomattox River.

Greenfields

In juxtaposition to brownfields, greenfields are undeveloped tracts of land used for agriculture or preserved as open space. Most of Petersburg’s greenfields are found along the southern boundary that borders the rural counties of Prince George and Dinwiddie. Petersburg’s Greenfields provide environmental benefits for the whole City by providing pervious land that will filter and absorb stormwater, tree cover that absorbs CO₂ emissions, and habitats for local wildlife. In addition to environmental benefits, Greenfields add natural beauty to the City and preserve the City’s Civil War history, such as the 750+ acre Petersburg National Battlefield Park.



The value of these Greenfields can also be seen in terms of economic progress and expansion for the City. Petersburg was able to retain the Southside Regional Medical Center with in its limits and benefit from the developing markets that surround it by providing open land. Smart packaging of open parcels in the City's Enterprise Zones has the potential to attract new industry and more jobs.

Not all open space is right for development, and not all open space should be preserved. Some remaining open space may have low-lying areas that sit near swamps and/ or wetlands and are susceptible to flooding. Examining zoning codes to better protect the environment and open spaces is an opportunity for Petersburg to address the Chesapeake Bay Act and better manage its remaining open spaces. Greenfields are a precious commodity in urban areas, and Petersburg must plan proactively for new development, preservation of open space, recreation, and environmental protection in ways that best suit the need of residents of Petersburg.



Harbor Initiative



The City has long pursued the recreation of a navigable harbor on the Appomattox. The process of dredging the river has uncovered hazardous materials that have halted the finished product of a harbor for many years. The Army Corps of Engineers are finalizing the Comprehensive Agreement between the City and Container First Services. CFS has expanded their license with the State Department of Environmental Quality to be able to accept dredged material. This is a major step closer to the realization of the dredged Appomattox River. Once this process is complete this will open up an array of economic development opportunities with waterfront benefits.

The discovery of contaminated materials during Appomattox River dredging had created an environmental obstacle to the re-creation of the Petersburg Harbor and the process has been slow. However, the support from the federal government to date has been consistently supportive, and the City can be reasonably confident that the dredging will occur in the not so far future.

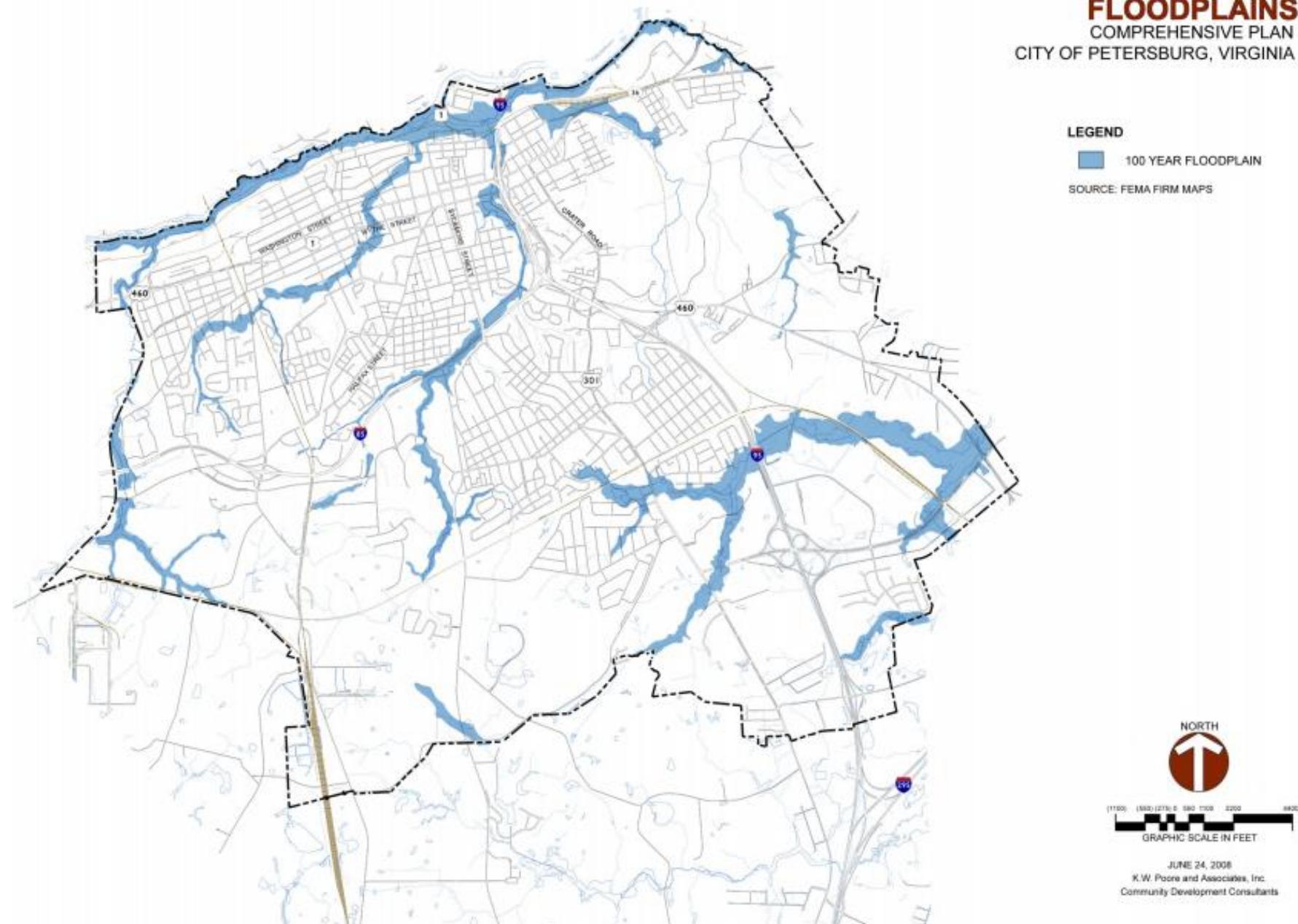
The Pocahontas Island Neighborhood Plan completed recently showed a number of ideas for reuse of the old Roper Brothers site to stimulate development on the Island. The plan further explores infill single family development as well as expanding an existing trail through the neighborhood to continue to tell the story of the City of Petersburg. Interpretive signage will tell

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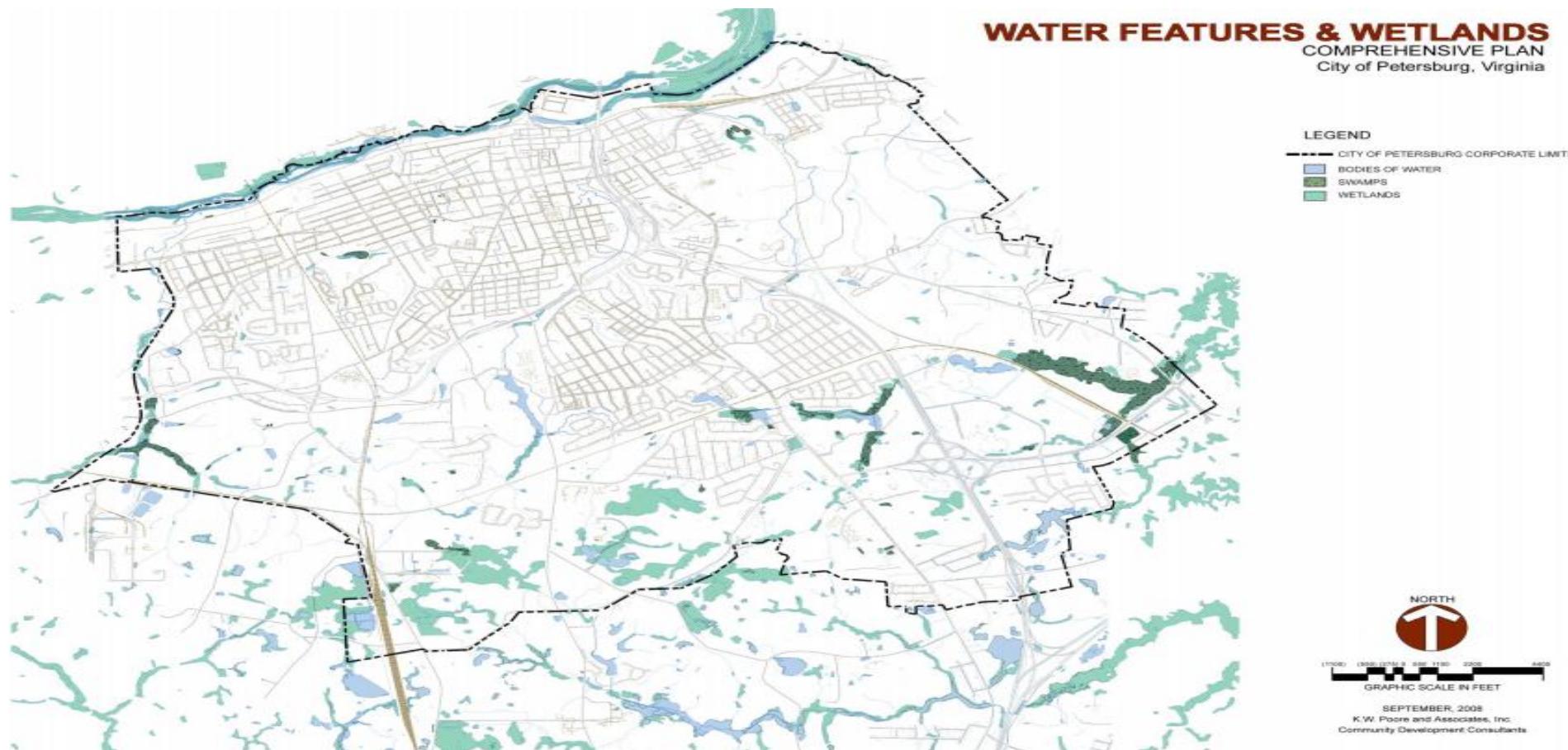


the story of the Free Black Community that existed amidst the racial turmoil going on in the Nation and other parts of the City of Petersburg. The dredging project is the direct link to the success of the other recommendations found in the plan.

FLOODPLAINS COMPREHENSIVE PLAN CITY OF PETERSBURG, VIRGINIA



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STEEP SLOPES ANALYSIS

COMPREHENSIVE PLAN

City of Petersburg, Virginia



MAY 20, 2008
K.W. Poore and Associates, Inc.
Community Development Consultants



Existing Land Use

Existing land use in Petersburg has a large impact on the location and type of future development, since established land use patterns are not easily changed. Understanding existing land use patterns is therefore essential to planning for desired future growth. The existing land use map for Petersburg is shown on the following page. The present use of all property was compiled from field surveys in May 2008. Graph 15.1 shows the percentage and acreage for each land use which totals 22.9 square miles.

The major categories of land use are as follows:

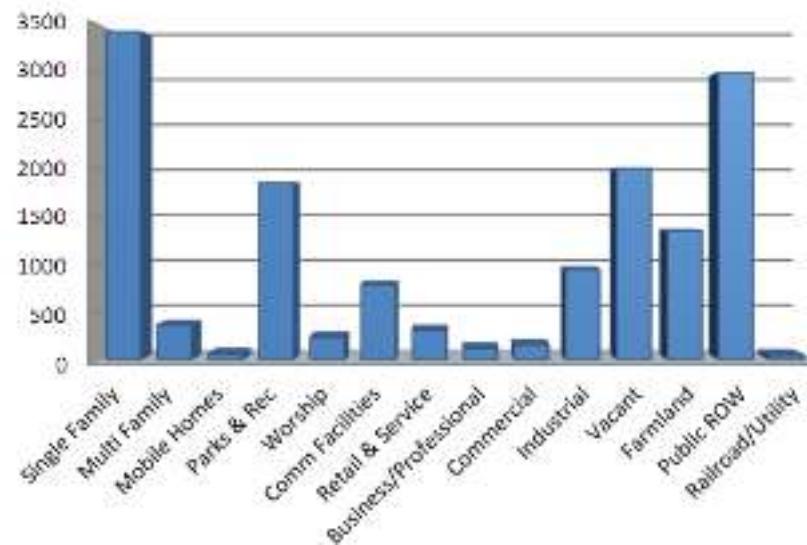
Low Density: Conventional single-family homes, row houses, single building duplexes (two-family) which are generally located on individual lots.

Medium to High Density: Apartment complexes and condominium style living. Generally includes any type of clustered housing as part of a larger complex.

Mobile Homes: Includes individual manufactured and mobile homes and mobile home/trailer parks.

Retail & Service: Includes all types of retail outlets such as shops, convenience stores, clothing shops, and restaurants. General Commercial can include auto repair shops, bulk storage, gas stations. Service also includes personal service (beauty and barber shops, nails salons, fitness, and dance studios. Service may also include appliance servicing but not manufacturing.

Existing Uses by Acreage - 2008



Business/Professional Services: Includes general offices, dentists, doctors, law firms, insurance agencies and other such professional services and offices.

Industrial: Includes both low-intensity industrial uses such as light manufacturing or processing of goods. Also includes heavy manufacturing of goods including processing packaging, treatment of products and materials.

Community Facilities: This includes all municipal buildings, land and stations, water storage, and schools. Places of Worship (churches, synagogues, temples, storefront, cathedrals, halls), Cemeteries, community centers (not for profit) and lodges.

Parks & Recreation: Includes public parks, small neighborhood parks, recreational facilities, sports complexes, sports fields and other recreational areas.



Vacant: All undeveloped land including vacant lots, open space, and forest lands.

Existing Land Uses Map

As is visually apparent, from the existing land use map on the following page, the City of Petersburg has a considerable amount of land devoted to residential use including single-family, multi-family, and mobile homes. Residential uses make up about 30% of all land uses in the City. Commercial uses only make up about 15% of the acreage used in the City of Petersburg and are primarily concentrated in downtown/Old Towne Petersburg, along Crater Road, and along Route 36/Washington Street. The acreage devoted to Industrial land uses have changed over the years as the old warehouses have been converted to residential uses or rezoned for other commercial uses. Approximately 5%, Industrial uses are scattered throughout the older portions of the city and the outskirts of the City. The remaining acreage is devoted to Community Facilities to include churches, cemeteries, and parks. Vacant land throughout the City has increased in recent years as we have demolished homes as a part of the blight removal policies. The remaining land uses comprise of 4.5 square miles of dedicated roads, rail, and transportation right of way.

Development Trends

Although land use today is determined by planning and zoning, Petersburg's early growth followed the various transportation corridors which cross it. This is evident in the Street patterns and land uses shown on the existing land use map. Transportation and land use have been linked since the City's beginnings as Fort Henry in 1646. Situated at the falls of the Appomattox River, Petersburg's early growth depended on the river front for trade in tobacco and other goods. Industrial development along the river and the clustered mixture of uses on the street grid of Old Towne reflect the days before the automobile. The 19th century rail began to affect Petersburg's growth and shook the foundation of its center for

industry and trade. The land dedicated to industrial use today is still found along the numerous railways which cross Petersburg. The railroad corridors along the river front continued to supply the industries located along the river and strengthened Petersburg's economic importance as a center for manufacturing. Rail continues to be an important part of the existing land use pattern. Industrial areas line the CSX and Norfolk Southern lines shipping coal, mixed freight, and even automobile.

The rise of the automobile began to change the pattern of land use nationwide by the mid-20th Century. Neighborhoods north of interstate 85 and 95 as seen on the Current Land Use map, reflect the evolving patterns of land use as residential, commercial and industrial uses were increasingly kept separate. Zoning and increased automobile traffic became a part of everyday life. The pattern of land use south of interstate 85 is classic suburban growth which flowed from the construction of interstates across the nation. While older residential neighborhoods in Petersburg show occasional neighborhood commercial uses, the explosion of growth in the 60's, 70's and 80's south of Interstate 85 shows almost a complete separation of land uses. Commercial growth occurred primarily along South Crater Road, with large amounts of land dedicated to parking lots and widened roads in stark contrast to the narrow streets of Old Town.

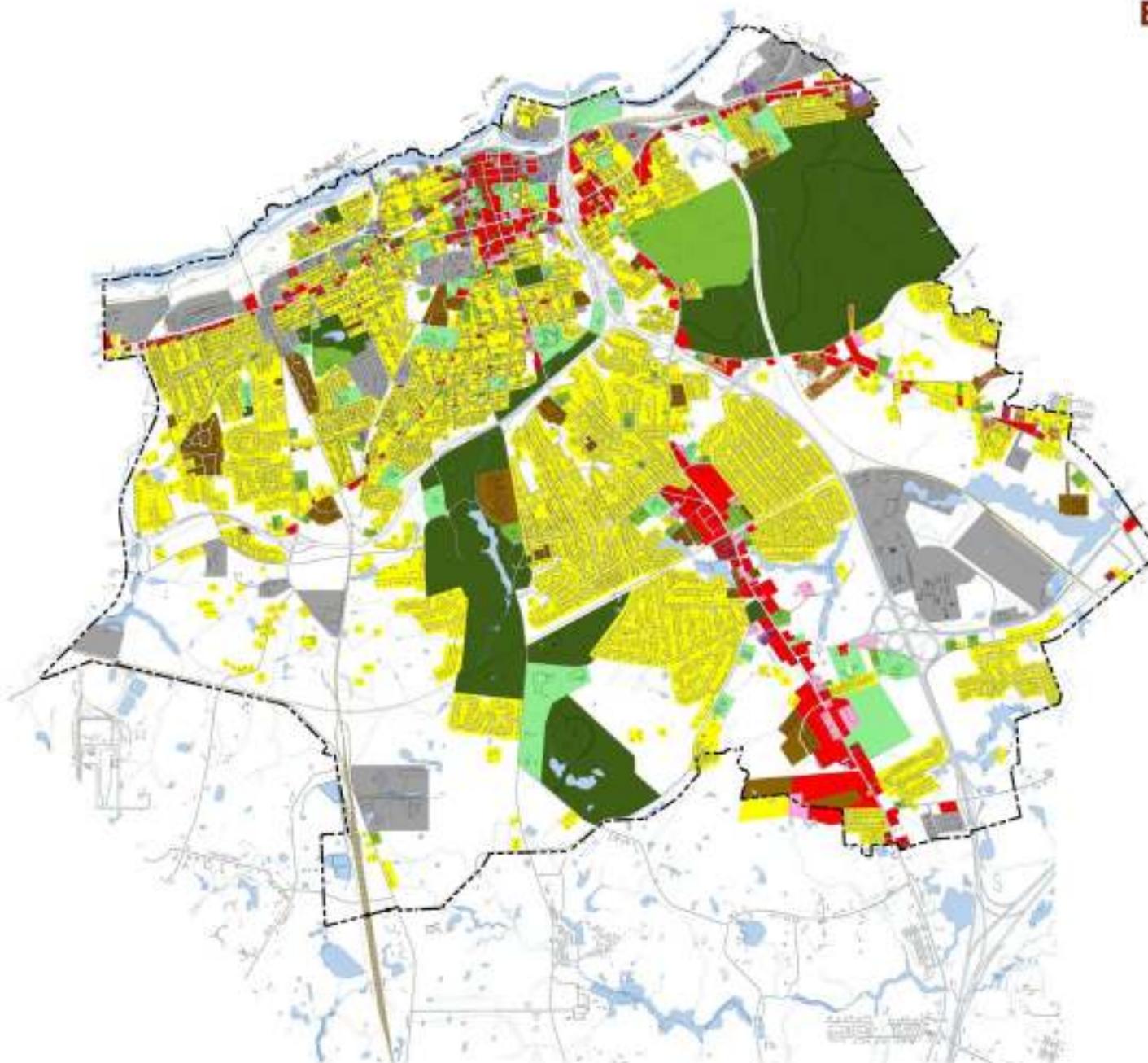
CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014



EXISTING LAND USE

COMPREHENSIVE PLAN

City of Petersburg, Virginia



LEGEND

Land Use Classifications

Residential

- SINGLE FAMILY
- MOBILE HOME
- MULTI-FAMILY

Commercial

- RETAIL & SERVICE
- GENERAL COMMERCIAL
- BUSINESS / PROFESSIONAL SERVICE

Industrial

- INDUSTRIAL
- WAREHOUSING

Public & Semi-Public

- COMMUNITY FACILITIES
- PLACES OF WORSHIP, CEMETERIES
- LOGGIES
- PARKS & RECREATION

VACANT

NORTH



1000 2000 3000 4000
GRAPHIC SCALE IN FEET

MAY 20, 2008
K.W. Poole and Associates, Inc.
Community Development Consultants

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As the automobile brought changes in land use patterns, the Interstate interchanges have also brought clustered hotel and highway commercial land uses, especially at the Washington Street interchange. The interchange at Wagner Road has recently proven to be vital for industrial growth east of Interstate 95 in the southern portions of Petersburg around the new Southside Regional Medical Center.

Park and recreation land uses are found throughout the City. Some of the largest areas dedicated to a single use in Petersburg fall under the category of parks and recreation. Although also considered a cultural resource, the Petersburg National Battlefield is a park area of 750 + acres, where residents and visitors can experience Petersburg's role in the Civil War as well as hike or ride bikes. Lee Memorial Park, the Dogwood Trace Golf Course, and the Petersburg Sports Complex are found in the southern part of the City, surrounding Petersburg high School. Together they create a large tract of recreational and park land use similar in size to the Petersburg National battle Field.

With the exception of the Old Town area, the land uses in Petersburg are largely separated from one another. Commercial zones are clustered along major arterial roads with residential areas comprising most of the land use throughout the city.

As noted in the Population section, the percentage of elderly residents in Petersburg is expected to increase over the next 20 years. It is important for people to have the option to remain connected to their communities, remain as independent as their health will allow and have access to a full range of local services (educational, cultural recreational) as they grow older. This concept is known as "aging in place." Appropriate land use policies are key to ensuring that this can occur. Future land use policies should encourage growth in inner city neighborhoods which have shown the greatest decline over the year. Future land use policies should also encourage development that results in a sustainable pattern of land use which creates neighborhood centers and allow for multi-modal transportation options. This will involve working with developers and redevelopment to move away from the suburban

separation of uses and create neighborhoods with mixed amenities that will create mixed-income neighborhoods.

Pre WWII commercial



Post WWII commercial



Pre WWII residential



Post-WWII residential



Perry Street Lofts



Van Buren Estates



Dunlop Street



Multifamily Apartments

CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014



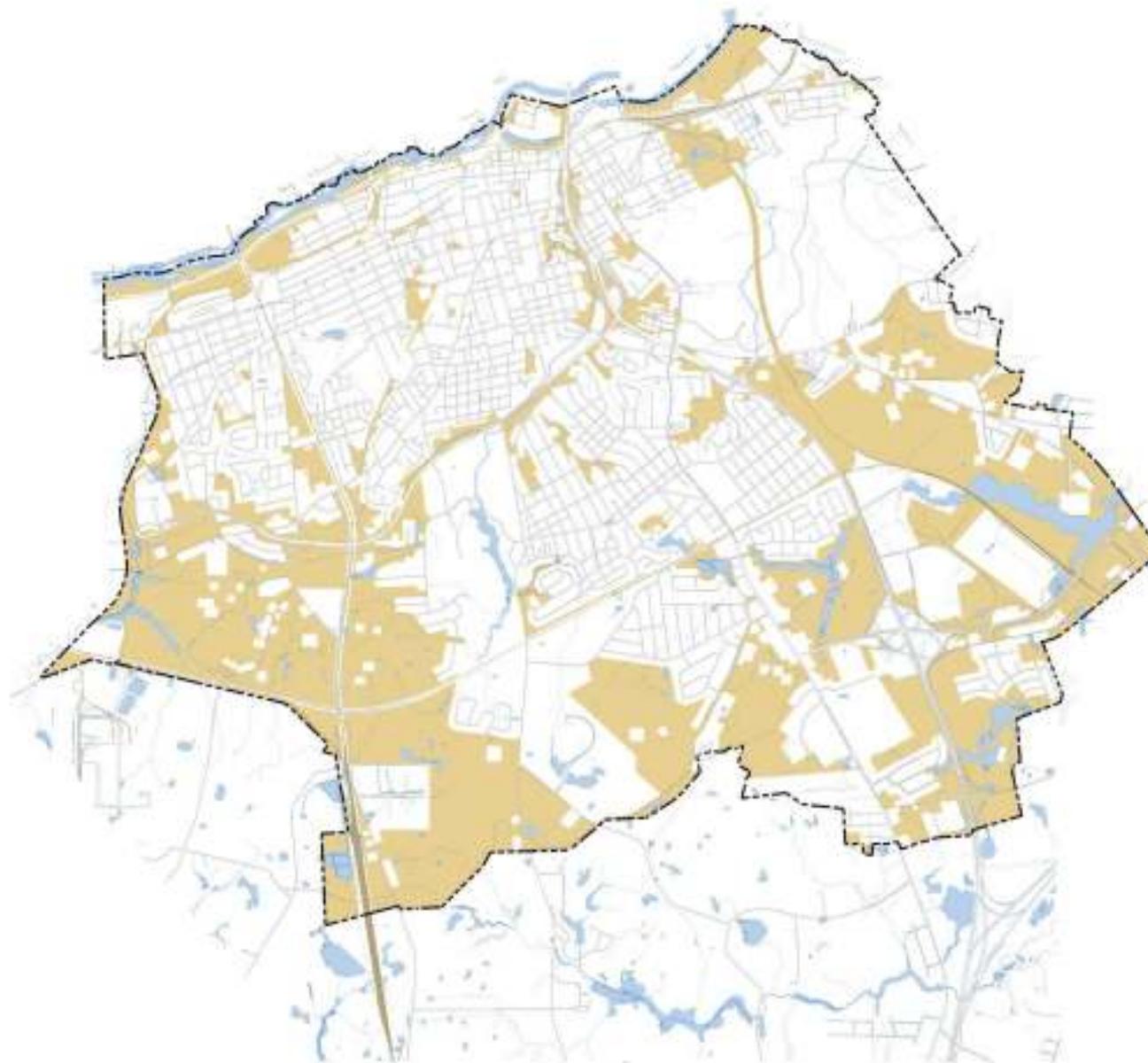
VACANT LAND

COMPREHENSIVE PLAN

City of Petersburg, Virginia

LEGEND

- CITY OF PETERSBURG CORPORATE LIMITS
- VACANT LAND



SEPTEMBER, 2008
K.W. Poore and Associate, Inc.
Community Development Consultants



Planning Factors (The Current Situation)

Planning Factors are items which are influential in the current and future development of the City of Petersburg. The identification of these Planning Factors are intended to bring to the attention of the policy makers areas of consideration so that the City of Petersburg will be prepared for how these issues may impact the community as well as surrounding communities.

Fort Lee/BRAC -The expansion of Ft. Lee has doubled the size of the base population and has brought in approximately 11,000 new residents to the region. The close proximity of the City to the military installation presents a myriad of challenges and opportunities. The City is constantly looking for opportunities to offer a variety of housing options for those families looking for housing. Land uses closest to Ft. Lee along Route 36 are in the process of being evaluated to make sure the appropriate zoning district is mapped. Transportation needs must be considered and Petersburg Area Transit has implemented additional route to connect the military base to the City. Additional routes and service lines are always considered when we consider mobility and connectivity options. The current public school system may not have us in the best position to attract families, but the school administration and school board are making great strides. A military initiated program- the Army Community Heritage Partnership (ACHP) was extended to Fort Lee in Petersburg, Virginia in 2006. It provides joint support from the U.S Army and the National Trust for Historic Preservation Main Street Center working with the City of Petersburg. The Mission of the program was to help Petersburg understand how to better serve the Fort Lee army population. The research resulted in the military's desire for the City to enhance its historic downtown by creating residential options in the downtown area, increase shopping, and dining opportunities and to focus on the city's gateways; specifically, the Route 36 corridor which connects Fort Lee to Petersburg.

Associated Fort Lee Growth along Route 460 –Fort Lee's expansion has also resulted in opportunities for the 460 corridor where civilians may wish to locate industries in close proximity to the base. Route 460 is advantageously poised to handle industrial, residential, and mixed use businesses. As the City continue to manage its growth it may become necessary in the future to initiate a city-wide rezoning to change the zoning to facilitate this growth.

Blighted Entry Corridors – There are two highly visible and traveled entry corridors in the City that are ripe for redevelopment:

- Route 36 from Fort Lee – this is a gateway for residents, tourists, soldiers which are currently underutilized. Outdated suburban strip development lacks a sense of place and is not very welcoming.
- Interstate 95 at Washington Street (Exit 52) - this is the primary entrance into the City of Petersburg to go to Old Town, the Central Business District and Petersburg's historic neighborhoods. The welcoming committee for this entry into the city consists of run-down and vacant motel developments as well as highway oriented strip development which create an old and abandoned environment not conducive for business.





Underutilized Water Front- the Harbor Project has been discussed for years and the environmental barriers to redevelopment are still in the works. Continual effort at addressing environmental issues will open the door for redevelopment possibilities. This is an underutilized asset.

Neighborhood Revitalization- planning for neighborhood revitalization should seek to nurture investment and the signs of life emerging from three areas:

- Ross Court – Virginia LISC, Elder Homes, and Trinity Capital Development have undertaken the first of many planned revitalization efforts. In total, 14 houses have been discussed and planned to be renovated or constructed with improvements to street, water, and sewer infrastructure.
- Halifax- this area has recently seen the expansion of the Poplar Lawn Historic District, the relocation of the Petersburg Redevelopment and Housing Authority offices to the neighborhood, and the construction of a new multi-modal transit center.
- High Street- conversion of the Seward's Luggage factory into apartment lofts and the restoration of Victorian homes along High Street have brought a diverse mix of housing extending from Old Towne.

Virginia State University & Expansion – the master plan for VSU calls for the significant expansion and construction, primarily oriented toward the entrance from East River Road. Petersburg can engage VSU for future partnerships and better town and gown relations.

Parkway Easement Issues – There was pressure from development to access Defense and Flank roads. The City of Petersburg will need to actively plan and engage stakeholders if they intend to act as stewards of historical resources dating back to the Civil War.

Battlefield / Viewshed Preservation – the National Park Service and other preservationists have voiced concern over encroaching development around the battlefield site on Flank Road across from Fort Wadsworth in the south-west corner of the city. The city and National Park Service need a good working relationship to protect these unique resources.



Former Southside Regional Medical Center – The former hospital site is an opportunity for redevelopment. There is a master plan down through funding from the Cameron Foundation. The hospital was an important part of this portion of Sycamore Street and close attention should be given to its stability.

New Southside Regional Medical Center – the new hospital has spurred commercial, retail and residential growth along South Crater Road. The new location provides momentum for job growth in the fastest growing part of the city and is an example of successful and proactive planning to keep the new hospital within the city limits.

South Crater Road Growth Corridor – the growth along South Crater Road is a welcome economic boost for the city. The progression and pattern of development should be of concern to the city, however, because it shows a progression for growth to go beyond city limits. Sprawling development to neighboring localities



has been problematic for Petersburg in the past, and the continued progression of low density strip development along South Crater Road could bring about these same problems in the future if growth is not managed responsibly.

Chesapeake Bay Act Sewer Plant Upgrades – the Chesapeake Bay Act requires upgrades to the sewer treatment plant by 2010 to reduce nitrates released into the Chesapeake Bay. While this deadline is unlikely to be met, it will require purchase of credits until the plant is brought into compliance. This will be a considerable expense for the City of Petersburg and other member local governments in the near term.

Water/Sewer Service – the area south of Defense Road and west of the rail road in the western portion of the city lacks water and sewer services. This will need to be addressed if development is to be encouraged.

City-wide Planning Factors– Several factors are city-wide issues which cannot easily be pinpointed to one spot on a map. They are nonetheless important for planning Petersburg's future:

Aging water / sewer lines – many of the water and sewer lines are in need of replacement and repair. The city's infrastructure is about 100 years old and significant investment is required to avoid failure in the system.

Riparian/wetland protection and setbacks – new development along South Crater Road is often adjacent to sensitive wetlands. Riparian buffers are needed to protect the Chesapeake Bay and the Appomattox River in preparation for any development to occur along the river front. This can be achieved through our zoning regulations.

Shortage of Large Industrial Parcels – the economic development of Petersburg has been largely dependent on attracting new industrial jobs. With a shortage of available large tracts of land, there will need to be efforts to assemble smaller parcels, purchase

underutilized land for redevelopment, or a shift in economic development strategy.

Focused Issues

1. Economic Development

Economic development efforts require a multi-faceted approach to best serve the current workforce, train the next generation, and position the City to adapt to regional, national, and international economic trends. Petersburg's economic development efforts are served by a number of partnerships and agencies at the state, regional, and local levels who have the resources to address these areas. Table III-A displays the broad spectrum of services provided by multiple agencies vital to Petersburg's economic development efforts and have an active role in creating partnerships and business friendly environments:

The Petersburg Economic Development Office maintains a listing of industrial sites and facilities for potential employers looking to expand or relocate operations. They also manage the two Enterprise Zones in Petersburg, which allows the City to offer state and local incentives to industries which locate new operations to these designated areas. The Industrial Development Authority (IDA) is part of this office. The Economic Development Office seeks to maintain communication with current industries in Petersburg and help with their needs for expansion, recruitment and relocation of associated suppliers to Petersburg. See Incentives Charts in the Appendix section of this plan for all the tools that can be utilized to retain, attract and revitalize our community.

Crater Planning District Commission is involved with economic development by offering loan packages to companies in Petersburg. The intent is to lessen the financial burden of starting or expanding



business in the area. A revolving loan fund has a maximum of \$250,000 in loans and has funded 19 total loans, 16 of which have been businesses in Petersburg.

Virginia's Gateway Region markets the region and goes after specific industries looking to relocate or expand. Specific to Petersburg, the VGR markets industrial properties, the cultural, commercial and quality life assets, and has sponsored several tours for developers and real estate professionals to showcase redevelopment and commercial opportunities in the region's urban areas. VGR has also partnered with the Cameron Foundation to prepare a plan for the redevelopment of the former Southside Regional Medical Center site.

The Petersburg Chamber of Commerce works to build the business of its members by making referrals and respond to inquiries, by mail or telephone that come in through their website. Members are supported and promoted through advertising, sponsorship, and referrals.

The Cameron Foundation is a not-for-profit organization which provides grant and philanthropic contributions to support programs and activities in the City of Petersburg, Colonial Heights, Hopewell, and the counties of Dinwiddie, Prince George, Sussex and the portion of the county of Chesterfield South of Route 10. The grants are to further education and services in the fields of healthcare, human services, civic affairs, community and economic development, education, conservation and historic preservation, and cultural enrichment.

Virginia LISC arrived in Petersburg in 2005 with the support of the Cameron Foundation. A grass roots organization has been very successful in bridging the gap between local government and local community development corporations. In cooperation with the community, a Strategic Investment Plan in conjuncture with Urban Design Associates was done for several struggling communities in Petersburg. The plan focuses on revitalizing Petersburg's

neighborhoods by building quality affordable housing partnering with a non-profit. In addition to jumpstarting revitalization though improving the housing stock, they have provided consultant services to local nonprofit groups (Pathways and Restoration of Petersburg Community Development Corporation) in order to build capacity within Petersburg for a sustained revitalization and redevelopment of neglected neighborhoods.

The Department of Cultural Affairs, Arts and Tourism introduces Petersburg to visitors from all over the world who are interested in hearing about and seeing the rich, 400-year history of Petersburg. At the City's three museums (Blandford Church & Cemetery, Centre Hill Museum, and the Siege Museum) and the Visitor Centers both in Old Towne Petersburg at the historic, 1817 Farmers Bank and on I-95 at the Carson, Virginia. The Department showcases the unique features and qualities which make Petersburg such a colorful City. The Department promotes both the historical attributes of the City as well as the contemporary features such as dining, shopping, residential, and recreation. The aforementioned all aid in creating a more attractive, livable City.





Education and Economic Development

The presence of higher education institutions in a community are an opportunity to build partnerships for economic development. In addition to being a resource for job training, community initiatives, volunteers, and internships, colleges, and universities can provide strong support for the local market. Virginia State University, Richard Bland College and John Tyler Community College are relatively untapped resources for the City of Petersburg. Engaging these Universities to identify areas where the City and Institution can work together will open doors for redevelopment efforts and attracting companies who can benefit from this skilled and trained population of graduates.

Virginia State University has formulated a Master Plan and 20/20 plan in which they included representatives of the City of Petersburg in the planning process. Both plans present opportunities for the City of Petersburg to partner and capitalize on the expansion of programs and the university. However, the existing Master Plan calls for the majority of University improvements to orient the primary gateway and campus life to the Chesterfield and Colonial Heights entrance with minimal connections and improvements associated with the City of Petersburg. The main entrance to the University is no longer considered to be the historic entrance neighboring Petersburg along the Appomattox River.



The plan is being revisited and the City of Petersburg has been invited to the table to be a part of the process. Cultivating the relationship between the current administration and city officials is proving to be the first step in order to regain access and benefit from the university traction of the students and family.

The Economy and Quality of Life

Economic development improves the quality of life, but economic development is also dependent on the quality of life to recruit and retain business. We are seeing a change in the quality of life found in the City of Petersburg, although we face competition from adjacent localities people are looking for what we have to offer. We boast on affordable housing, a variety of housing options, smaller classrooms, small quaint restaurants, and shops. There is a short commute to major employment opportunities; there is little to no traffic in traveling to and from work, weekend events and activities, cultural arts and museums, and many other assets.

Improving the quality of life is the responsibility of the City government and a task that has not been taken lightly. City government work very closely with our school administration to provide financial and program support. The City takes pride in maintaining a clean city, safe neighborhoods and dealing with issues head on in neighborhoods that experience a threat to safety, attractive housing, retail amenities, parks and recreation opportunities. The City of Petersburg is utilizing its resources as well as seeking grant funds to better address issues that impend our health and stability. It can't all be addressed at once, but policies are in place to prioritize the issues and tackle them one at a time. There is always the opportunity to do more, so the City must continue to foster the relationships with people who can partner to offer initiatives and incentives that will help us in attracting and retaining business in the City.



Petersburg's Economic Standing

There is still undeveloped land within the city limits. Rural and vacant land within the City is an attractive asset for industrial, retail, and residential developers. The revenue and synergy from new developments must be balanced with efforts to revitalize declining areas if the City is to comprehensively support economic vitality. Interviews with various economic development partners and agencies in Petersburg and factors that have come from previous revitalization strategies which reveal valuable input on common themes listed below: An updated status to the input has also been provided so that we can see the issue mirrored by the plan of action.

- Petersburg has the opportunity and potential to revitalize and turn itself around, but the failure of the City to have a sustained and focused strategic vision is an obstacle to overcome.

The City is capitalizing on their ability to revitalize and turn it around and currently have strategic goals and a vision for moving forward. This is no longer an obstacle to overcome.

- Economic development partners are frustrated with the reactive nature of the City

The City is doing a better job in working with the development partners to anticipate changes and to identify the plan ahead of the change. The City work every day to be proactive and not reactive.

- While always eager when a prospective employer shows up, the City does not actively market itself with a strategic message linked to strategic redevelopment efforts.

The policy makers have a strategic plan and the City is doing a better job in linking the message to the initiative. The City is also consistent with the message that we are a business friendly community and the processes and timing of processing applications are reflective of the message.

- The City's priorities are too often placed before decision makers, and no greater vision dictates the decision making process on development and revitalization. This prevents the City from taking a proactive role.

The updating of the comprehensive plan making the vision Clear that we want a clean, vibrant, safe, city committed to customer service and superior services is the step in the right direction to show that a proactive role is being taken in advance of the development.

Addressing Blight

"Blighted area" means any area that endangers the public health, safety or welfare; or any area that is detrimental to the public health, safety, or welfare because of commercial, industrial, or residential structures or improvements are dilapidated, or deteriorated or because such structures or improvements violate minimum health and safety standard. – Virginia Code SS 36-49.1:1

Tackling the obstacle of urban blight in Petersburg is paramount in revitalizing the City. The 2000 Comprehensive Plan recommended neighborhood redevelopment through selective demolition, infill development, and the use of financial incentives. The City is not alone in its determination of blight as a high priority. Strategic partners like the Cameron Foundation and Virginia LISC have brought expertise and capital to bear on revitalization efforts.

In 2007, a Strategic Investment Plan was developed through partnership with Virginia LISC, funded by the Cameron Foundation and studied by Urban Design Associates (UDA). Public support for

CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014



the UDA plan reflects a demand in the community for active redevelopment. The City has begun addressing blight and revitalization in Petersburg by utilization of the power given by the Code of Virginia to address this issue.

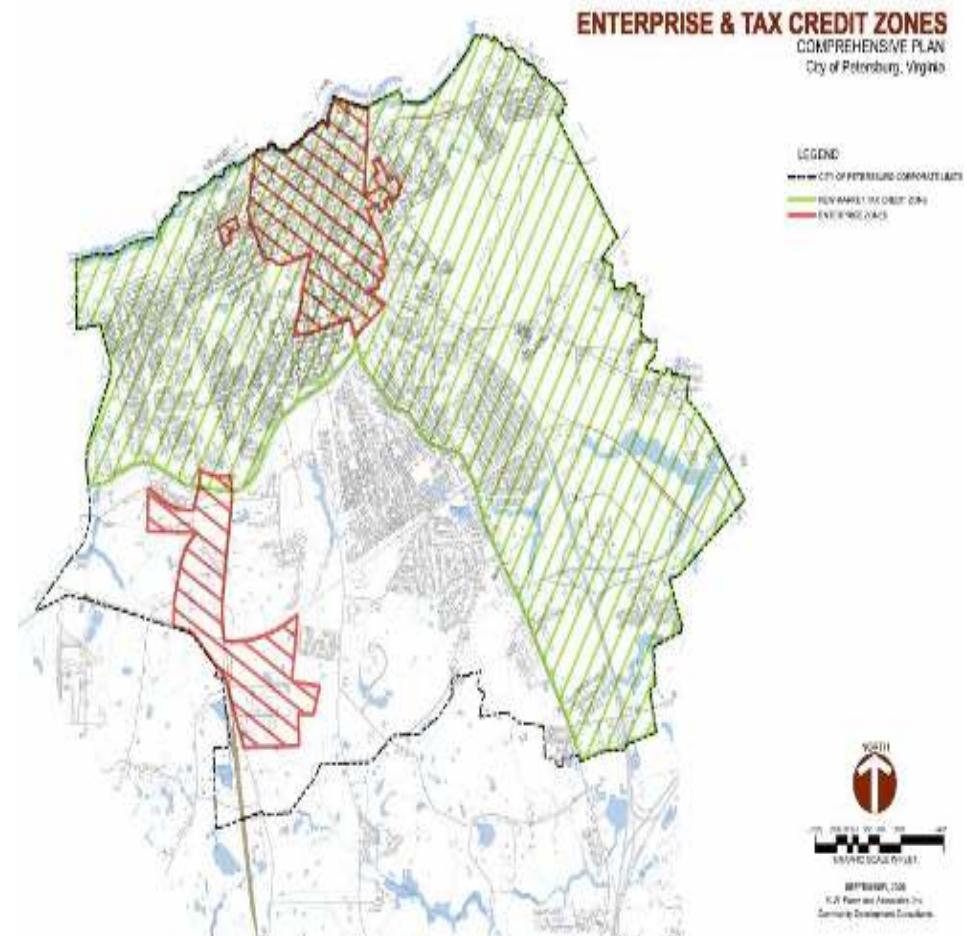
Spot Blight Abatement – The Code of Virginia allows for localities to identify blighted structures and take affirmative steps to bring them up to safe and sanitary standards. The City of Petersburg has updated its Code and ordinances to institute this tool used to empower us and encourage revitalization.

Blighted properties that lie within Historic Districts are reviewed by the City's Architectural Review Board (ARB) to assure that improvements on the property are in accordance with the architectural character of the district. If the property owner is unwilling to make the appropriate improvements on the structure, the City may acquire the property to make the improvements.

Demolition projects should be the last result in dealing with blight. The goal is to restore the homes to a compliant contributing structure to the neighborhood. In the event where demolition becomes necessary it is the goal of the City to be good stewards and have a strategic approach to demolition. We want to be sure to protect our Historic communities and structures. Once demolished a community loses a piece of its history. The City is interested in preservation and restoration where possible.

Enterprise Zones

The location of two enterprise zones in the City of Petersburg creates incentives for industries and businesses to locate in the City. Specifically, the enterprise zone located in the Central Business District matches local tax breaks with state grants according to number of jobs created or per number of buildings constructed or rehabilitated. The Enterprise Zones are an incentive actively marketed to prospective businesses.





City-Owned Property

The city has acquired over the years a number of lots some are vacant and others have improvements. The city in cooperation with a real estate team is aggressively marketing these parcels to developers and/or investors. In some cases it requires the consolidation of one or two lots to build new single-family residential dwellings. In addition, there are a few commercial properties that are owned by the City and currently being marketed. The property is sold for redevelopment and/ or revitalization with a timeframe for development attached to the sale.

Reinvestment Opportunities

There are numerous plans on the shelf of the city all talking about reinvestment and investment opportunities. It is interesting how all of the plans had the same focus areas. As such, this plan highlights the corridors and areas of town that have been identified in the many plans, particularly, the Strategic Investment Plan prepared by LISC and UDA, and the Regional Urban Design Assistance Team (R/UDAT) study. These areas are the focus of the future land use map, as they are identified on the map as corridors where the city seek to encourage development of mixed-use, mixed-income communities.

University Boulevard/High Street

Principle 1 of the Strategic Investment Plan is to focus on gateways. This is essential in revitalizing the greater Battersea neighborhood. The intersection of University Boulevard (formerly known as Canal Street), High Street, and N. South Street has potential as an important central commercial and retail corner for a) Battersea Neighborhood, b) the revitalized High Street Corridor, and c) Virginia State students.

The High Street/University Boulevard (formerly known as Canal Street)/N. South Street intersection will boast of a mixed-use

development with multifamily residential units on the upper floors and commercial tenants on the first floor. This will be another project along this corridor that serves as a catalyst for other revitalization efforts.

Halifax Street Triangle and Community

This commercial district sits around the intersection of Harrison and Sycamore Streets at the southern gateway into the downtown. This commercial district has a unique history as an African American center of commerce and culture. It also sit around a unique triangle shaped street pattern as Halifax runs southwesterly out of the downtown and Harrison runs southerly.

The 2006 redevelopment plan for the Triangle targeted three concurrent efforts that were either in the planning stages or already underway doing that time. Since 2006, this community has seen the construction and completion of the multi-modal transit center. The community is currently being reviewed for inclusion in a state and national historic district. The Petersburg Redevelopment and Housing Authority (PRHA) is currently located in this community. Recent years of decay has left the neighborhood full of many vacant lots and structures. While many churches remain in the area, there is little cultural amenities left. There are several development partners doing work in this corridor and have been successful with a few phases of development. In addition, there is new commercial construction planned for this corridor. The city recognizes that it must continue to partner and collaborate with its partners to bring about a major impact in the community.

Ross Court Redevelopment is another example of concentrated redevelopment efforts that aim to improve particular areas in the hopes that it will be a catalyst for reinvestment in the surrounding area.



Stainback/West Street

The Stainback/West Street Neighborhood is another example of a community where reinvestment should occur. There is evidence of minor restoration, but nothing that impact the neighborhood as a whole. This is also a community with incompatible land uses and this will be addressed in the future land use map as we establish the appropriate land use designation for the different areas of the city.

Rome Street, Westview and Birdville

A community located west of downtown which offers a variety of housing types while enjoying a close proximity to a large park. Unfortunately, use of the park is not maximized and it is a great amenity. Vacant lots are prevalent in this community and understanding the current fabric will aid in the renovation projects.

Possible funding sources for neighborhood redevelopment are Community Development Block Grants, which provide annual funds to Cities like Petersburg for the revitalizing of neighborhoods. Eligible activities include acquisition of real property; relocation and demolition; and rehabilitation of residential structures.

Pocahontas Island

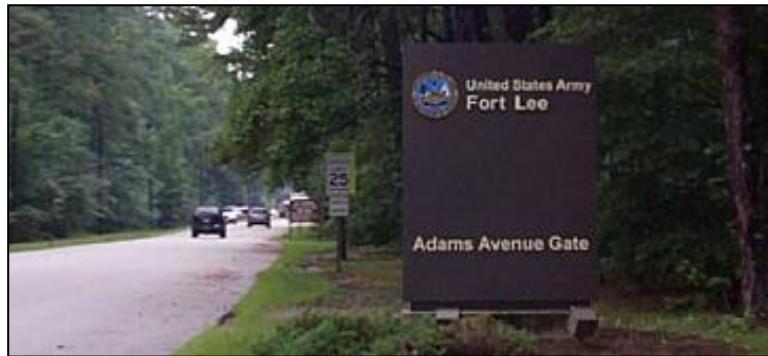
Pocahontas Island neighborhood plan recognizes this community as a diamond in the rough rich in history, but has faced many challenges over the years. Hit by two major storms that destroyed half of the houses make this a prime location for redevelopment. There are a lot of vacant lots for single family residential development. The community is bordered by the river and the highway which make it highly visible. The City goal is to encourage private investment on the island to provide infill housing development and commercial and recreational uses along the river. It is the goal of the city to protect the residents of the island from incompatible encroaching development. The

neighborhood plan encourages the city to capitalize on the rich heritage and history of the island and to connect the cultural resources to the existing trail system. The Jarratt House, the only surviving brick structure on the island is one of the city's cultural resources.





Ft. Lee & BRAC

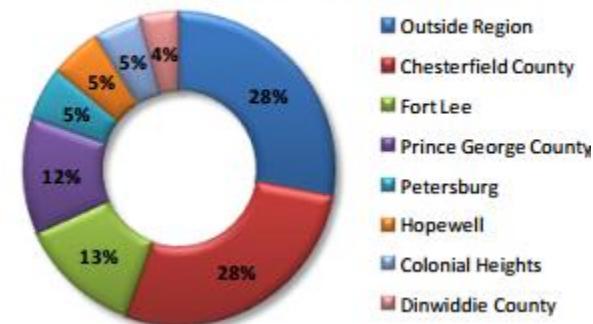


On November 9, 2005, recommendations by the Base Realignment and Closure Commission (BRAC) became law and began a process to relocate seven military functions from five states (including Virginia) to Ft. Lee. This process was completed in 2011. Both military and civilian personnel have relocated to the region, and the City of Petersburg has benefitted by this influx of persons.

Many studies have been undertaken to help the region prepare for the effects of such a large increase in population over a short period of time. The population on Ft. Lee has doubled from about 16,000 to about 32,000 people. As shown by the graph, the City of Petersburg did not see the population growth as other jurisdictions.

The military and civilian personnel have been located throughout the region while students and trainees were expected primarily to live and work on base. According to the report done for the Crater Planning district by RKG, Inc., the demographic, housing, and economic impacts associated with BRAC has distributed unevenly throughout the region. Chesterfield absorbed the largest percentage of growth. According to the study prepared by RKG, 5.5% of the increase in population from Ft. Lee has come to the city which equates to about 2,500 people. While this may not be a significant number of persons there is still an opportunity for the city to capitalize on this influx of people.

Regional Population Distribution of Fort Lee Growth



Population Projections

Although Petersburg has experienced a steady loss of population since the 1980's the population projections provided by the Virginia Employment Commission suggest population loss will begin to level off. Without including the impact of the Ft. Lee expansion on the City, population projections level off around 33,900 by 2040. With as many as 2,500 people that have moved to Petersburg from the Ft. Lee expansion, the City might expect a leveling off of the population even sooner.

Education

Ft. Lee expansion has brought about 1,700 kids to public schools in the region, the bulk of which attend Chesterfield County according to RKG, Petersburg received an additional 175 children, with a majority of them below high school age. This presented a 3.5% increase in enrollment, which was a manageable and gradual increase, especially considering the overall Petersburg school enrollment has been declining.



Housing Impacts

BRAC had an impact not just on population projections, but also the size and number of households coming to the region. RKG, Inc. stated an additional 1,800 households have come to the region from the Ft. Lee expansion. Petersburg's share of the housing impact was about an additional 217 households. The size of these households is about 2.8 persons, compared to the 2.38 persons per households in Petersburg. Overall the impact has increased the number of households who can afford, and who favor, homeownership. The average household that military personnel and contractors' can afford is between \$200,000 to \$300,000. While 217 households is a modest number, developments throughout the southern part of the City do create the opportunity to attract more than just families associated with BRAC.



266th Quarter Masters Battalion at Petersburg High School

Transportation

The rapid growth of Fort Lee provided an opportunity for Petersburg, but also put new stress on entranceways in and out of the base. It was important that the City address issues of current and projected road capacity that would allow for smooth access between the base and City.

The Fort Lee Expansion Traffic Study proposed a series of road improvements that were made in and around Fort Lee. The project includes;

- Additional lane on Hickory Hill Rd into the base and intersection improvements where Hickory Hill intersects with Rt. 460;
- Modification of the traffic signal at the intersection of County Drive (460) and Courthouse RD (106) and the intersection of Washington Street and Puddledock Road.
- Installation of traffic signals along Baxter Rd at its intersections with Courthouse RD (106) and County Drive (469)



In addition to road improvements, the City must address corridor issues leading from Fort Lee into Petersburg. Route 36 Corridor that runs through this corridor to Downtown is the primary entrance corridor from the base into the City and is flanked by vacant and low-end commercial strip development, industrial uses, freight rail and a landfill. Attractive way finding signage should direct motorists to available amenities found exclusively in Petersburg.





Employment & Economy

It was difficult to assess the specific and full impact Ft. Lee's expansion had on the City of Petersburg. Regionally, however, it is clear that the increase in operations and personnel brought more money to circulate within the economy. The single largest economic impact on the region stems from the salaries and wages paid to Fort Lee personnel, which in FY 2011 were 11,690 employees with employees circulated money in the regional economy enough to support an additional 10,043 jobs. This means a total of 21,733 jobs are supported by the expenditures and output generated by Ft. Lee.

As the table indicates, the 8,400 employees are their associated economic impact support jobs across a wide range of industries. The industries with the most employment created by Ft. Lee demand are the Health & Social Services, Accommodation & Food Services, and Retail Trade Industries. These three have a large presence in the Petersburg economy and suggest there will be local economic benefits for Petersburg.

As full effects BRAC begin to reverberate through the entire economy, the impacts from the expansion of Ft. Lee will continue to accumulate. Region wide, the Virginia Employment Commission estimates that the direct and indirect benefits on job creation will increase employment levels from the 7,500 jobs supported by Ft. Lee expenditures in 2006 to 14,000. By 2013, combined with the 11,690 of jobs in the region supported by Ft. Lee expenditures, salaries, and wages will total about 25,700 jobs.

Gateways

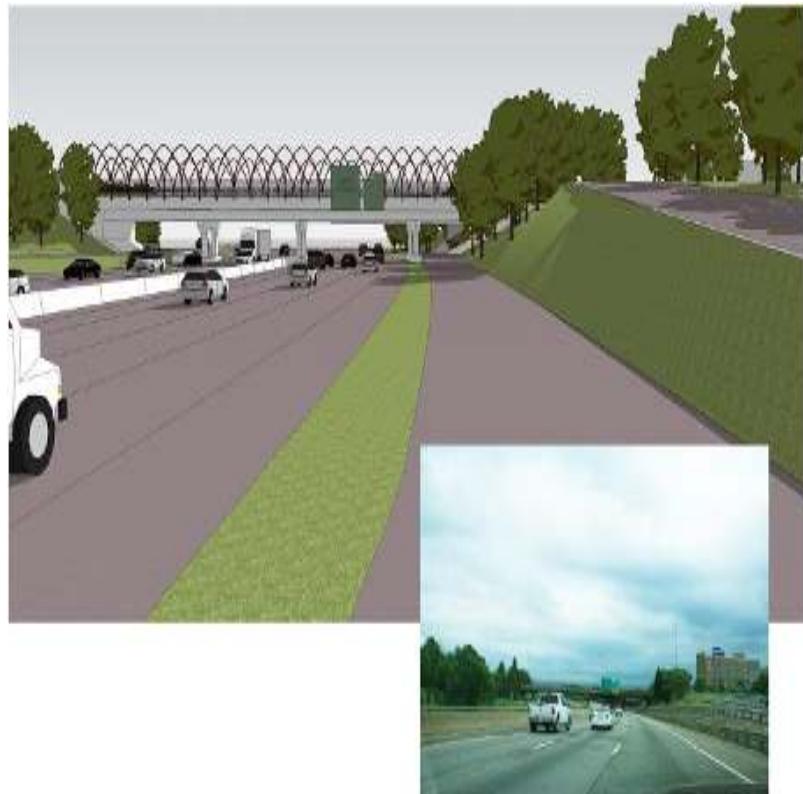
First impressions are important. The impressions one receives as they approach and enter a City can impact ones desire to visit or live there. First impressions of a City are experienced when one passes through the gateways that lead into the City. These gateways vary in purpose and importance as they include a broad view of the City as one approaches small orienting entryways into specific areas.

The City of Petersburg must show its vitality and unique features at its gateways. The City of Petersburg has interstates 95 passing though it providing the greatest opportunity for the city to showcase its uniqueness and richness. The City's edge provides the potential for gateway enhancements that will show those entering the City our uniqueness and warmth by an enhances gateway that expresses the sentiment that you have arrived in the great City of Petersburg and that you are welcome to find the time to shop, eat, and play. Internally, gateways to specific districts and neighborhoods must be installed to orient visitors and encourage them to explore.

Interstate 95

As it passes through the City of Petersburg, Interstate 95 is the most significant gateway. The interstate is elevated as it passes the heart of Petersburg, and provides views into the City on either side. For travelers headed north, Petersburg is the first urbanized area that is encountered from North Carolina. Unfortunately, most of what travelers currently see consists of industrial sites, old, dilapidated warehouses, and uninviting hotels.

The configuration of Interstate 95 as it passes through the City can provide Petersburg with opportunities to attract visitors. Views will be enhanced and seen from the interstate as one will be taken in by the creative use of fencing and lighting. A visitor will get the feeling that they are welcome to our great city and want to see more.



Exit 52 Washington Street coming into the City

Traveling Interstate 95 there are three (4) Primary gateways introducing and inviting guest to stop. These are Wagner Road, Crater Road, Washington Street and University Boulevard. Currently these gateways provide only a sense of place, not very hospitable.

Wagner Road, while not a primary gateway leading into the heart of Petersburg, terminates into Crater Road providing comfort needs to those traveling I-95. At this interchange are found gasoline, convenience stores, and restaurants. A Wal-Mart is also available near this interchange. Wagner Road is experiencing interstate oriented development, increasing the volume of visitors passing through this gateway. The City of Petersburg can capitalize on this opportunity to present itself strongly and positively to those passing through.

Crater Road provides access to The Petersburg National Battlefield, which is a destination for thousands annually. Indirectly, Crater Road provides access to downtown Petersburg. This important gateway can be accentuated to welcome visitors to the City and encourage visitors to the battlefield to explore.

Possibly the most important gateway along the I-95 corridor is Washington Street. This is the gateway to the heart of Petersburg, and from this point several destinations are available. Currently, this entrance to the City does not present a welcoming introduction. Visitors are dumped onto a four lane, one way road with little indication that one has arrived in the City of Petersburg. Furthermore, there is a lack of clear way-finding signage to direct visitors to the various destinations.



Washington Street (East)

The Washington Street Corridor is the main east-west corridor that transverses the City of Petersburg. Those traveling from Fort Lee, Hopewell, and areas east of the City will most likely enter Petersburg by way of Washington Street (State Route 36). This gateway has the potential to be a dramatic introduction to the City.

Currently, as one approaches from the east they emerge from a heavily tree-lined corridor into a deteriorating suburban landscape. The juxtaposition of the two scenarios is a clear indicator that you are leaving one locality and entering another, but the gateway is not inviting. Refinement of the landscape as one crosses the City line can provide the most enticing approach into the City. Given the population potential east of the City, this gateway may be important in attracting patrons to local businesses from Fort Lee, Hopewell, and beyond.



Existing sign as you enter the City from the East on Route 36

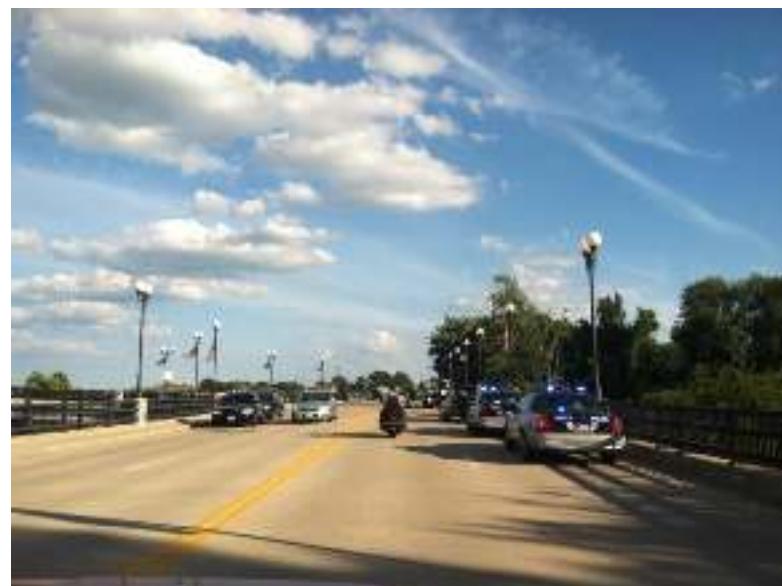
Washington Street (West)

The major gateway into Petersburg from Dinwiddie is by way of the west end of Washington Street. Just as it does on the east end, Washington Street changes character as it crosses the border of the City. The width of the road changes from two lanes to four lanes, while the development on either side transitions from a more rural feel to a suburban strip. This gateway, though, is not developed at all as a gateway, and visitors have no sense of place. This entrance to Petersburg is not as significant and widely traveled; it should still offer a welcome to visitors and residents.



Martin Luther King, Jr. Bridge

This gateway has great potential to draw visitors into the City and provides Petersburg an opportunity to really showcase itself. This approach into the City is elevated providing views first of the Appomattox River and then Old Towne. Once in the City, the street becomes Adam Street which provides a central corridor taking visitors to other destinations. Some effort has been invested to refine this entrance into the City through continuation of the street lighting that is incorporated on the bridge into the city and other visual infrastructure improvements. There is still ample opportunity to develop this gateway into a pleasant entrance for residents, visitors, and commuters.



Martin Luther King, Jr. Bridge coming from Colonial Heights into the City

I-85 & Squirrel Level Road

The only exit into Petersburg from Interstate 85 is Squirrel Level Road. There is little reason for visitors passing along I-85 to need to

use this exit, except for refueling at the gas station at this exit. Any visitor taking this exit would not have any indication of where they are, and would most likely return to the highway and continue on.

As this is a possible location for land uses of greater intensity in the future, a coordinated effort must be placed upon this important interchange.

University Boulevard (Formerly Canal Street)

This street name was recently changed to reflect the close proximity to Virginia State University and is highly used by Students and parents coming through the city to gain access to the university. A private development that will be developed on the western side of the street will be a mixed-use development with commercial uses on the first floor. The City is anticipating a lot more vehicular and pedestrian traffic through this corridor and gateway. The city is currently developing the concept for this neighborhood and as a part of that plan a park is being proposed. Just as one enters the City, University Boulevard intersects at a triangle with Grove Avenue and Canal Street. This triangle offers great potential for development as an introduction into the City. This location is also an excellent starting point to access various parts of the City, including the Old Towne district. The Configuration of the intersections of Fleet Street, Grove Avenue, and University Boulevard offers a great opportunity for a gateway into the City geared towards the Virginia State and Southern Chesterfield population.

University Boulevard is a corridor of interest for redevelopment. The City of Petersburg would like to see this corridor become a more pedestrian friendly environment that accents the waterfront and historic nature of Old Towne. This corridor has been identified as a redevelopment corridor to encourage mixed-use.

The city has partnered with the Cameron Foundation to improve this gateway. The project is in the design phase and is represented in the illustration below.

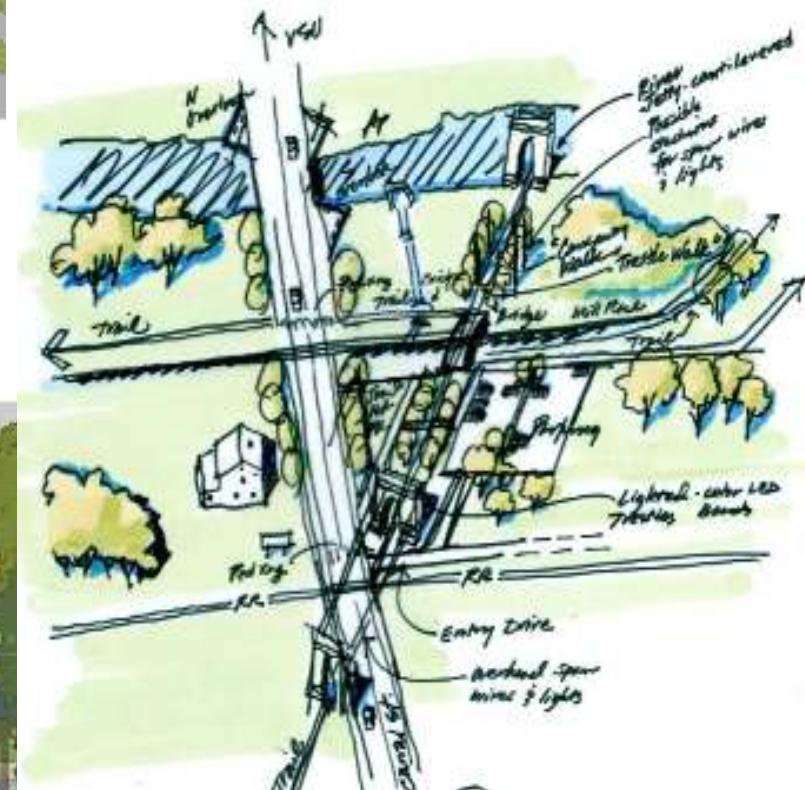
CITY OF PETERSBURG, VIRGINIA-COMPREHENSIVE PLAN 2014



Proposed University Boulevard Gateway northview



University Boulevard Gateway



University Boulevard gateway rendering prepared by Doug Lamson



Goals and Objectives

Issues, Policy Goals, Objectives

The purpose of the Comprehensive Plan is to set the relevant policies which will help carry out Vision of the City. The intent of the Plan and its recommendations is to improve and protect the health, safety, and welfare of the citizens of Petersburg.

Issues

Issues identified through background reports, public input and consultation with community stakeholders are the foundation for formulating policy goals and objectives. It is important to note the identified issues are usually connected to other issues, and solutions may require a comprehensive approach which incorporates innovative and out of the box initiatives. Housing issues may be influenced by the economy while the economy is affected by land use and transportation.

Policy Goals

A policy sets forth the principles and values which will guide the actions to be taken by the City of Petersburg to solve identified public issues. In this document policies were formulated through input from the public and community stakeholders.

Objectives

Objectives are intended to be the beginning steps to overcome identified issues, and the means to carrying out adopted policies. Objectives are measureable tasks for which specific city departments and managers are responsible and held accountable.

Housing Issues

- Older city neighborhoods have a concentration of deteriorating, vacant, and blighted housing.
- Renovated or new affordable, safe housing is in short supply.
- Homeownership rates are low. Renters currently have a greater Housing Cost Burden than home owners.
- The City of Petersburg owns a lot of property that is currently vacant land. Reinvestment in housing is not targeted or done at a scale large enough to impact the neighborhoods in decline.
- Historic Districts have a high concentration of blighted and derelict properties.
- Historic Property Owners doing work without the appropriate approvals.

Housing Policies

Policy Goal I: Encourage the renovation or new construction of housing in older neighborhoods in a manner which provides a critical mass to investment and revitalization efforts.

Objective 1: Partner with the PRHA or a non-profit CDC to aggressively target priority revitalization and redevelopment efforts.

“Housing Cost Burden” is a standard HUD formula that calculates household income to housing costs. Generally, households who are paying greater than 30% of their income on housing are seen as “burdened” by those costs.



Policy Goal II: Act as an equal partner in public/private ventures to revitalize historic, older and downtown neighborhoods and improve the housing stock.

Objective 1: Review and identify city-owned properties for redevelopment opportunities in partnership with nonprofit housing agencies and developers.

Objective 2: Prioritize infrastructure improvements and CDBG funds to maximize the impact of redevelopment efforts with non-profit housing partners and developers.

Objective 3: Utilize local community plans, such as the Battersea Quality of Life Plan, as a guide for City revitalization in neighborhoods identified in the future land use plan.

Policy Goal III: Promote a variety of affordable housing types to meet the needs of owners and renters of varying levels of income through partnerships with nonprofits and developers.

Objective 1: Prioritize revitalization activities and efforts according to the Comprehensive Plan.

Objective 2: Update and take to Planning Commission and Council for action a revised zoning ordinance which includes policies toward allowing for diversity in neighborhood, design standards and varied housing types, and increased densities.

Policy Goal IV: Continue to do an inventory in all the Historic Districts to understand where the most critical need exist.

Objective 1: Procure the services of Preservation Virginia to complete an inventory for the remaining historic districts not inventoried.

Objective 2: Create a Community Land Trust with the assistance of LISC using the Detroit Model. This

Objective 3: Continue to seek out educational and financing opportunities for residents owning homes in a historic district or potential homeowners in a historic district.

Land Use & Transportation Issues

- Vibrant/alternative land uses are needed at Gateways and main neighborhood entrance corridors to improve the city's image.
- Large industrial parcels are not available for the expansion or relocation of manufacturing to Petersburg.
- Land Use and zoning are inconsistent in certain areas of the city.
- Contiguous parcels are not readily available for redevelopment and investment in new/renovated housing.
- No policies or master plan exists for parking in Old Towne and the Central Business District.
- Infrastructure improvements for cars, pedestrians, and bikes are needed in historic neighborhoods as well as new growth areas.
- Public Transit has limited hours and service to/from neighborhoods to regional employment centers.
- Directional sign improvements are needed along entrance corridors and interstates.
- Congestion/lack of road interconnectivity on South Crater Road around the new Southside Regional Medical Center



Land Use & Transportation Policies

Policy Goal I: Promote redevelopment of gateway corridors to have a vibrant mixed-use component.

Objective 1: Include in the Zoning Ordinance overlay district guidelines for the Halifax Corridor, Route 36 Corridor, West Washington Street Corridor, University Boulevard Corridor, Commerce Street Corridor and Gateways.

Policy Goal II: Promote redevelopment of blighted areas comprehensively through both the Petersburg Housing Authority and the Industrial Development Authority.

Objective 1: Overhaul the zoning ordinance to coincide with the Land Use Plan and allow for by-right mixed-use developments on an urban/pedestrian scale incorporating transit oriented and new urbanism principles and design standards.

Objective 2: Create an urban design ordinance using the R/UDAT Plan as the guide and tie it to the City's zoning ordinance

Objective 3: Coordinate with public works infrastructure and utility improvements based on revitalization and redevelopment initiatives.

Objective 4: Continue to utilize CDBG resources within a land use and transportation framework that creates collaboration between City departments and primary stakeholders.

Policy Goal III: Promote an efficient, well-marked, and convenient parking network in the central business district and Old Town without compromising aesthetics but accommodating pedestrian and multi-modal transit activity.

Objective 1: Undertake a master plan and management effort for parking in the Central Business District.

Objective 2: Study the benefit and cost versus expense of maintaining parking meters or a pay parking system.

Objective 3: Consider a private/public initiative to construct a parking deck in a strategic location convenient to businesses, entertainment and recreational uses.

Policy Goal IV: Provide efficient, frequent, reliable transit service to employment centers.

Objective 1: Continue to study and identify route and service improvements to better connect Petersburg residents with employment centers throughout the region.

Objective 2: Continue to seek grants to offset the expansion of service cost.

Policy V: Promote interconnected pedestrian and road network to reduce "bottle-neck" congestion on major thoroughfares.

Objective 1: Identify roadway connections to improve the street grid to reduce "bottle-neck" congestion, such as on South Crater Road and Exit 52.

Objective 2: Install traffic lights at the appropriate intersections to manage the traffic flow during peak hours.

Economic Issues

- A disproportionate number of residents of Petersburg residents go to other localities to shop.
- Petersburg must continue to capitalize on partnerships, such as Fort Lee.



- Petersburg has a shortage of available, marketable industrial land above 50 acres.
- Challenges with the public schools and perception of high crime make attracting investors and developers problematic.
- Perception of the City from current residents.

Economic Policies

Policy Goal I: Assess the skills needed for the industries the City is working to attract, as well as the industries that are currently in the City.

Objective 1: Build and strengthen partnerships with regional and local organizations to create meaningful workforce development programs.

Objective 2: Design training programs that meet the future and current employer's needs.

Policy Goal II: Build partnerships with private sector players, regional and community stakeholder groups to capitalize on significant development opportunities.

Objective 1: Continue to work with Virginia's Gateway Region to promote the City's many assets to potential investors.

Objective 2: Continue hosting the Executive Roundtable Discussions; expand to include institutions of higher learning and private schools as well as smaller family owned businesses.

Objective 3: Review and become familiar with the Strategic Economic Development Plan.

Objective 4: Continue to promote the Vision of the City.

Objective 5: Create a Vision for the Office of Economic Development.

Objective 6: Continue to build significant partnerships with regional agencies such as the Virginia Gateway Region, Ft. Lee and the Cameron Foundation and City businesses.

Objective 7: Educate City leaders and staff on redevelopment projects eligible for New Market Tax Credit, and other federal, state and local incentives (see incentives in Appendices).

Objective 8: Leverage CDBG monies and stakeholder efforts in specified revitalization areas as identified in the Future Land Use Map.

Objective 9: Creatively capitalize on development opportunities at the old hospital site, Titmus and Roper Brothers.

Policy Goal III: Promote the assembly of smaller tracts of land through the IDA to create marketable industrial or technology development sites.

Objective 1: Work closely with the Assessor's Office and the Office of Planning and Community Development to assemble contiguous parcels of underutilized land for large marketable industrial or development sites.

Policy Goal IV: Consider the benefit of expanding the Enterprise Zones to other districts and areas of the City.

Objective 1: Apply for an expansion of our current Enterprise Zones and consider adding two additional zones.

Objective 2: Create a Business Improvement District for Downtown

Policy Goal V: Increase revenue by working with the Planning Department to permit nightclubs and other cultural and



recreational uses by-right in the Zoning Ordinance with the appropriate management and safety contingency plans.

Objective 1: promote the Enterprise Zone program.

Objective 2: create special tax districts that incentivize cultural arts, and recreational uses in designated areas.

Objective 3: Work closely with Cultural Affairs, Arts and Museum Department to establish a Petersburg annual “Film Festival” and other Festivals/events.

Objective 4: Reestablish the Petersburg Main Street Program and identify a non-profit to administer the program.

Objective 5: In cooperation with the Cultural Affairs, Planning and Community Development, Public Works, and the Police Departments and Petersburg Area Transit to create a plan for a pedestrian street downtown within the Cultural Arts District.

Objective 6: Update the zoning ordinance to include this street within the Cultural Arts District detailing by-right uses.

Parks & Recreation Issues

- Access to the amenities along the Appomattox River.
- No pedestrian trail networks connecting the parks and surrounding communities.
- No level of service standards exist under a current Park & Recreation Master Plan.
- Limited conveniently located neighborhood parks.

Parks & Recreation Policies

Policy Goal I: Upgrade existing park and recreation infrastructure to modern standards and improve natural areas.

Objective 1: Create a Park & Recreation Master Plan which a) Identifies priority improvements; b) Evaluates park productivity; c) Recommends action for underperforming parks; d) Furnishes a plan for greenways and trails to connect parks to the surrounding community using existing greenways and space.

Objective 2: Add Community/Recreation Centers at strategic north, south, east, and west locations of the City.

Objective 3: Expand the ecological education beyond Lee Park and include other locations where programming will allow kids, citizens and visitors to learn about urban ecology, urban agriculture,

Policy Goal II: Adopt customized park and recreation facility standards for livable communities and perform regular maintenance on all park and recreation facilities.

Objective 1: Develop and apply system-wide design standards for wayfinding, parks and recreation facilities.

Objective 2: Develop trails connecting parks and the surrounding community which are mindful of environmental systems, cultural assets, and historic resources.

Objective 3: Improve aesthetics through new signage, resource efficient landscaping, storm-water sensitive parking areas, trash and recycling receptacles.

Community Facility and Infrastructure Issues

- Improved level of services is needed for police in the South Crater Road area around the new Southside Regional Medical Center.



- Areas of the city remain outside the National Fire Protection Associations recommended 6 minute maximum response time.
- There is a lack of sufficient fire protection for Route 460 and the South Crater Road Corridor.
- Community services and partnerships are needed to provide improved employment services to the citizens of Petersburg.
- Some Petersburg public schools are not accredited.
- Much of the City's infrastructure is in disrepair and needs improving
- Petersburg Circuit Court facilities are outdated and undersized to best meet the needs of the City.

Community Facility and Infrastructure Policies

Policy Goal I: Secure adequate facility space, equipment, and staff for the courts and police department to provide safety and protection for all areas of the city.

Objective 1: Build an additional police station to service the expanding South Crater Road and Route 460 corridors.

Objective 2: Implement recommendations from the facilities plan that address the changes needed for circuit court facilities.

Policy Goal II: Secure adequate fire coverage for all of Petersburg.

Objective 1: Redistrict fire zones and build an additional station in the City's southern and eastern sections of the City to allow for optimum fire response time of 6 minutes.

Objective 2: Hire an Emergency Planner to enhance the Office of Emergency Management. The planner will be responsible for NIMS

(National Incident Management System) compliance and submitting grants for public safety.

Objective 3: Relocate Farmer Street Station to reduce response time.

Objective 4: Create a Department capacity analysis to improve all aspects of public safety delivery

Policy Goal III: Improve the school system to have all Petersburg public schools accredited.

Objective 1: Continue to work with the State Department of Education and other educational entities to improve schools.
Objective 2: Include the School Administration in the poverty, housing and economic development initiatives.

Policy Goal IV: Create an infrastructure regional model for efficient and ecologically sound infrastructure.

Objective 1: Develop a plan for the City's current and future "green" infrastructure.

Objective 2: Identify resources for creating open and creative spaces.

Objective 3: Create a Citywide master plan for greenways; utilizing resources such as the "rails to trails" initiative.



Future Land Use

The Future Land Use map is more general in nature than a zoning map and guides future land use decisions, rezoning and special use permits. The Future Land Use categories are similar to those of the Existing Land Use map. However, the future land use categories have been created to address areas determined to be corridors of interest for revitalization efforts, as well as corridors that would be a good match for mixed-use development and uses.

Mixed Uses are intended to accommodate office, institutional, commercial and residential uses in vertical and horizontal developments. It is also ideal for areas which are targeted for redevelopment and revitalization. The intention is to maintain street facades with commercial and professional uses while allowing residential uses to also exist in the development. This will allow flexibility in large scaled development as well as planned unit developments (PUD). This will also allow for the incorporation of New Urbanism principles and neighborhood models as well as Transit Oriented Development types. This mixed-use concept will also incorporate ideas for place-making.

Future Land Use Map designations:

Low Density Neighborhood-Conventional single-family homes, row houses, single building duplexes, which are located on individual lots. Low density neighborhoods may also support small-scale neighborhood retail, community facilities and institutions. Uses other than dwellings should be strategically placed and regulated through the zoning ordinance.

Medium to High Density Neighborhood- Multifamily (Apartment complexes, condominiums), Mobile Home Parks. Generally includes any types of clustered housing as a part of a larger complex.

Mixed Use Corridor-Includes uses such as commercial, retail, professional offices, retail, restaurants, service industry, and personal service uses. Mixed Use Corridors are intended for master planned development with a mixture of housing and commercial uses in the same building or following a new urbanism design scheme.

Industrial- Includes both light industrial uses such as light manufacturing or processing of goods. Also includes heavy manufacturing of goods including processing, packaging, treatment of products and materials.

Active Parks- Includes large public parks, small neighborhood parks, recreational facilities, sports complexes, sports fields and other recreational areas.

Passive Park and Urban Agriculture- Includes constructed greenways, urban trails, and forests, wildlife corridors, conservation easements, as well as productive farms and other facilities that maintain agricultural products or livestock.

Mixed Use/High Density-This includes and allows compatible commercial, office, institutional, and residential to be densely mixed horizontally or vertically within a building or community. Areas designated as Mixed-Use High Density shall be adequately planned so as to facilitate architectural cohesion and transportation efficient.



Development/Revitalization Corridors:

These corridors are focus areas for revitalization, planned future growth, and development opportunities. These areas include a range of housing types with a network of well-connected streets and blocks, public facilities and amenities of a traditional neighborhood of churches, stores, schools all within walking distance. Many of these areas have available vacant land that can be used for infilled development. These focus areas are in close proximity to public transportation and are accessible to our highways and interstates.

The following areas are identified as Development Corridors:

Battersea

University Boulevard

West Washington Street

Halifax Street

Pocahontas Island

Future Land Use Areas of Interest

Petersburg's future is bright with many opportunities for growth, revitalization, redevelopment and new construction making it a destination city where people are excited to live, work and play.

□ There are several areas designated mixed-use corridors to allow for the appropriate urban scaled development which is transit ready.

□ Due to the close proximity to Fort Lee along US 460 there has been land designated for mixed-use to accommodate appropriate residential and commercial growth. Areas along this corridor remain Industrial to accommodate small manufacturing seeking access along the highway.

□ At Flank Road and Church Road bordering Dinwiddie County there is a Civil War Battlefield (designated as Park and Open Space) which should be preserved, further enriching Petersburg's unique collection of sites important to Civil War history.

□ Route 36 at the entrance to Fort Lee is ideal for redevelopment. The mixed-use designation here is intended to facilitate reinvestment through development and redevelopment in this area creating an attractive and vibrant gateway to Petersburg from the East.

□ Washington Street at I-95 has been designated as a mixed-use area within a revitalization corridor to facilitate redevelopment that provides a pleasant and welcoming introduction to the city for guest passing by on the interstate.

□ University Boulevard very much like Washington Street at I-95 is located in both a mixed-use and revitalization corridor as the City seeks to serve the surrounding neighborhood and serve as the link to Virginia State University. The city aims to have pedestrian and vehicular movement from the University through this corridor as faculty, staff, parents and students come to Petersburg to live and shop.

□ Downtown has a mix of existing uses and historic buildings which are examples of successful mixed-use development that can serve as the advocate for the rest of the city. As the core business hub, this area should continue to foster a healthy mix of retail, professional services, business and residential uses. The downtown mixed-use area encompasses the harbor initiative. The downtown is also a part of the study area for the R/UDAT plan.

□ A specific area of interest has developed in the wake of Federal plans to extend high speed rail service that would connect the Hampton Roads region with current Amtrak service through Petersburg along CSX lines. In the future, this area should have more intensive transit oriented development for areas in and around South Halifax Road, Squirrel Level Road, and Wells Road.



Future Land Use Map



Map of Central Business District



Appendices

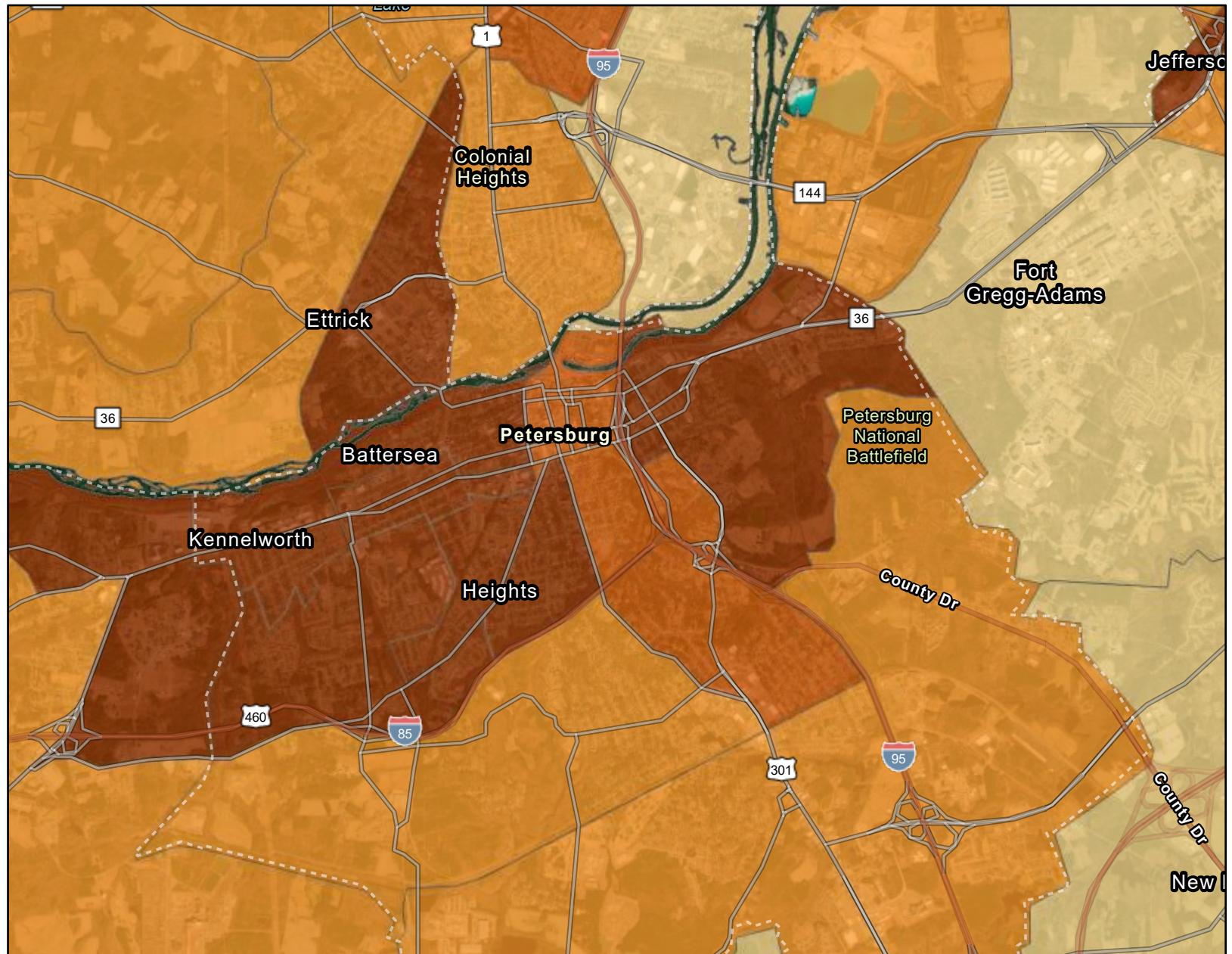
Plans

Definitions

Petersburg SVI 2023

Social Vulnerability Index

- Low Social Vulnerability
- Moderate Social Vulnerability
- High Social Vulnerability
- Very High Social Vulnerability



October 25, 2023

Scale: 1:77,513
0 0.75 1.5 1.9 mi
0 0.47 0.95

Earthstar Geographics
William & Mary, Center for Coastal Resources Management (CCRM) at Virginia Institute of
Marine Science (VIMS)
VGIN, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA,
NPS, USDA



Richmond – Crater Multi-Regional Hazard Mitigation Plan (2017 Update)

Executive Summary for the City of Petersburg



1. Introduction

Disasters have the potential to devastate a community's economic, social, and environmental well-being. Hazard mitigation is the effort to reduce loss of life and property by lessening the potential impact of future disasters. Mitigation planning is a key process to break the cycle of disaster damage, reconstruction, and repeated damage.

The 26 localities of the Richmond and Crater regions of Virginia have worked together to update the *Richmond-Crater Multi-Regional Hazard Mitigation Plan* to identify vulnerabilities associated with natural disasters and develop long-term strategies to reduce or eliminate long-term risks. The effort was guided by the Hazard Mitigation Technical Advisory Committee (HMTAC) consisting of emergency management staff from each of the 26 localities (appointed by each locality's chief administrative official).

While the full plan is an exhaustive review of hazard mitigation within the multi-regional planning area, this executive summary highlights key information specific to City of Petersburg with emphasis on the results from the Hazard Identification and Risk Assessment (HIRA). Additional information on the region, analysis methodologies, and mitigation actions can be found in the full plan posted on the RRPDC website (www.richmondregional.org)

2. Hazard Mitigation Planning in City of Petersburg

2.1 Demographic Characteristics

Population (2014):	32,439
Population projection (2040):	28,613
Land Area (2010):	22.93 sq. miles
Density (2014):	1414.70 persons per sq. mile
Median household income (2014):	\$33,927
Percent below poverty level (2014):	27.50%
Housing units (2014):	16,475
% of housing units in multi-unit structures (2014):	33.50%
Homeownership rate (2014):	52.00%
Median value owner occupied housing unit (2014):	\$109,800

Source: 2014 American Community Survey, 2010 Decennial Census, U.S. Census Bureau

2.2 About City of Petersburg

The City of Petersburg has a finite amount of land for growth as annexation of county land is not an option. Developable land is limited by Chesapeake Bay Preservation Act requirements and other physical site constraints. About 3,586 acres are available for future development (about 70% of the vacant land). Land use fragmentation is a major issue in Petersburg with incompatible uses often located side by side. Petersburg has shown steady population loss in the 1990, 2000, and 2010 Census. However, the same chart shows an increase in population between 2010 and 2020 with continued increases through 2040.

The city has two distinct residential patterns. The first is found in the “Old City,” north of I-85. A mix of residential types (e.g., single family, multi-family, and duplexes) is found here. Newer developments, mainly suburban subdivisions, have sprung up south of I-85. Some infill of single-family homes and duplexes has also been seen.

Commercial development has occurred along the major thoroughfares leading from the central business district. There has been commercial infill development, and a new shopping center has been built on U.S. Route 301. A marina is planned for the area between the I-95 Bridge and the U.S. Route 1/301 bridge.

Industrial uses can be found along the Appomattox River in the central business district. New industrial parks have also been built in the southwest (near I-85 and U.S. Route 604) and southeast (I-95 and Route 632) parts of the city.

2.3 Critical Facilities

A critical facility is defined as a facility in either the public or private sector that provides essential products and services to the public; is otherwise necessary to preserve the health, welfare, and quality of life in the community; or fulfills important public safety, emergency response, and/or disaster recovery functions. In some instances, one or more critical facility is located within the identified hazard area and is so noted. For this update, critical facilities are defined as follows:

- **Public Safety:** Police, Emergency Operations Centers, Sheriff, Fire, Correctional Facilities, and Emergency Management
- **Infrastructure:** Cell towers, fuel storage, pumping stations, water and wastewater treatment facilities, and transportation structures
- **Government Facilities:** Courthouses and judicial facilities, government offices and facilities
- **Medical Facilities:** Hospitals, nursing facilities, rehabilitation centers and outpatient centers
- **Education:** K – 12 public schools, colleges and universities, and technical schools

2.4 Identified Hazards

A solid fact base is a key component of any plan. The Hazard Identification and Risk Assessment (HIRA) serves as the fact base for the regional hazard mitigation plan and evaluates the region’s vulnerability to natural hazards so that mitigation strategies, activities, and projects can be developed to minimize hazard risks. It includes the

identification of natural hazards and risks that are likely to impact the region based on historical experience, an estimate of the frequency and magnitude of potential disasters, and an assessment of potential loss to life and property. Emphasis is on hazards with a high likelihood of occurring, a significant level of impact, or both.

The information below summarizes the effects on City of Petersburg of the hazards identified for the multi-regional plan area. The statistics come from a National Climatic Data Center (NCDC) database. For some hazards, no data was available.

(1) Flooding (Moderate Threat)

Repetitive Loss Structures:	0
Severe Repetitive Loss Structures:	0
RL/SRL Claims:	0
RL/SRL Building and Contents Payments:	0
Critical Facilities within Identified Floodplain Areas:	2
Annualized Flood Damages:	\$50,761
NFIP Policies:	137
NFIP Policy Coverage:	\$38,183,500
NFIP Claims Since 1978:	76
NFIP Payments Since 1978:	\$481,948

Significant Events:

- **8/27/2011:** Hurricane Irene impacted the area with heavy rainfall and gusty winds which knocked power out to millions of people in the area. It took electrical crews several days to fully restore power in the planning area. Irene originated east of the Lesser Antilles and tracked north and northwest into the western Atlantic. The hurricane reached Category 3 intensity with maximum sustained winds of near 120 mph at its strongest point. The hurricane made an initial U.S. landfall in the eastern portions of the North Carolina Outer Banks on August 27, 2011 as a Category 1 hurricane. The storm then tracked north/northeast along the coast slowly weakening before making its final landfall in Brooklyn, New York on August 28 as a high-end tropical storm. Rainfall totals with the hurricane ranged from around two inches in western sections of the planning region to 5 to 9 inches in eastern sections closest to the coast. At its closest pass, Irene brought sustained winds of 30 to 45 mph with gusts of 60 to nearly 70 mph to the planning area. The winds downed power lines and trees throughout the area. A man was killed when a tree fell on his home near Colonial Heights.
- **9/4/2011:** Tropical Storm Lee moved inland along the Mississippi/Louisiana Gulf Coast on September 4, 2011. The remnants of the weakening storm tracked northeast, producing rainfall over a wide swath extending from the Gulf Coast to New England. Rainfall totals generally ranged from 4 to 8 inches in the planning area with the heaviest totals falling just east of Interstate 95. The rain fell on soils saturated only days earlier with Hurricane Irene's passage. The result was

widespread flooding, particularly over the eastern sections of the planning region. Gusty winds in thunderstorms knocked down trees that had already been weakened from the hurricane resulting in thousands of power outages.

(2) *Wind (Limited Threat), including winds from Hurricanes and Thunderstorms*

- **Annualized wind damages including thunderstorm winds:** \$0
- **Annualized hurricane wind damages:** \$0

Significant Events:

- **8/27/2011:** Hurricane Irene – See full description in Flood section
- **9/4/2011:** Hurricane Lee – See full description in Flood section.
- **6/29/2012:** A devastating line of thunderstorms known as a derecho moved east-southeast at 60 miles per hour (mph) from Indiana in the early afternoon to the Mid-Atlantic region around midnight. Winds were commonly above 60 mph with numerous reports of winds exceeding 80 mph. Some areas reported isolated pockets of winds greater than 100 mph. Nearly every county impacted by this convective system suffered damages and power outages. To make matters worse, the area affected was in the midst of a prolonged heat wave. Unlike many major tornado outbreaks in the recent past, this event was not forecast well in advance. Warm-season derechos, in particular, are often difficult to forecast and frequently result from subtle, small-scale forcing mechanisms that are difficult to resolve more than 12-24 hours in advance.
- **10/26/2012:** Hurricane Sandy made landfall along the southern New Jersey shore on October 29, 2012, causing historic devastation and substantial loss of life. The National Hurricane Center (NHC) Tropical Cyclone Report estimated the death count from Sandy at 147 direct deaths. In the United States, the storm was associated with 72 direct deaths in eight states: 2 in Virginia. The storm also resulted in at least 75 indirect deaths (i.e., related to unsafe or unhealthy conditions that existed during the evacuation phase, occurrence of the hurricane, or during the post-hurricane/clean-up phase). These numbers make Sandy the deadliest hurricane to hit the U.S. mainland since Hurricane Katrina in 2005, as well as the deadliest hurricane/post-tropical cyclone to hit the U.S. East Coast since Hurricane Agnes in 1972.

(3) *Tornado (Significant Threat)*

- **Total tornado touchdowns since 1950:** 11
- **Annualized tornado damages:** \$891,490

(4) *Thunderstorm, including Hail and Lightning (Moderate Threat)*

- **Annualized Thunderstorm Events, 1956 – 2016:** 0.82
- **Annualized Thunderstorm damages:** \$3,764

Significant Events:

- **6/29/2012:** The June 2012 Mid-Atlantic and Midwest derecho was one of the most destructive and deadly fast-moving severe thunderstorm complexes in North American history. The progressive derecho tracked across a large section of the Midwestern United States and across the central Appalachians into the mid-Atlantic states on the afternoon and evening of June 29, 2012, and into the early morning of June 30, 2012. It resulted in 20 deaths, widespread damage and millions of power outages across the study region.
- **6/13/2013:** On the morning of the 13, another linear complex of severe storms developed along a line near the southern border of Ohio. The storms eventually strengthened into a powerful derecho and raced to the south and east. Fatalities and injuries occurred as a result of falling trees and power lines as the storms ripped through Virginia, along with numerous reports of damaging winds and power outages. The derecho downed numerous trees and damaged structures winds up to 80 mph (130 km/h) in some areas.
- **5/22/2014:** A large Hail and Thunderstorm event came through the region. Some hail was reported to be as large as ping pong balls. Several areas were affected from fallen electric lines. The NCDC data reports that 12 direct deaths in the study region resulted from this event.
- **2/24/2016:** This storm started in the north eastern states and traveled down through Virginia and south. During the thunderstorm, hail in some parts of the region were as large as 3 inches in diameter.

(5) Winter Weather (Moderate Threat)

- **National Weather Service Alerts (1986-2016):** 0
- **Annualized winter weather damages:** \$0

Significant Events:

- **12/25/2010:** A 4- to 10-inch snowfall blanketed the region with the heaviest amounts falling over the south and eastern sections. Amounts ranged from 4 inches northwest of the City of Richmond, 6 to 7 inches in the Cities of Petersburg and Emporia, and around a foot near the Town of Wakefield.
- **2/10/2014:** This was a major ice and snow storm that affected the entire region and elsewhere in the Eastern United States. This event produced devastating amounts of freezing rain and snow along and east of Interstate 95 all the way down to the coast. Overall temperatures throughout the winter were much colder in 2014. This was rated as 3 (Major) on the NESIS scale. A Presidential Disaster event was declared in Chesterfield.
- **1/22/2016:** What transpired was reasonably close to what was forecast, with a major snowstorm for our entire region, which also included a mix of some sleet across portions of the area as well as small amounts of freezing rain. NOAA ranks Northeast U.S. storms according to overall impact, part of which is dependent on societal and economic factors, thus population density is a key component. This particular storm was ranked as a 4 (crippling) on the NESIS scale of 1-5. It is now 4th on the list of historic storms that have been ranked on the NESIS scale, with

only two storms ever ranked as a 5 (extreme). Presidential Disasters for this study region were declared for Sussex and Henrico Counties.

(6) *Drought (Limited Threat)*

- **Annualized drought damages:** \$0

Significant Events:

- **November 1976 – September 1977:** The region experienced ten months of below average precipitation. The drought began in November 1976 when rainfall totaled only 50% to 75% of normal. During the rest of the winter, storms tracked across the Gulf. During the spring and summer storms tracked across the Great Lakes. These weather patterns created significant droughts throughout most of Virginia.
- **June – November 1998:** A heat wave over the Southeast produced warm and dry conditions over much of Virginia. Unusually dry conditions persisted through much of the fall. The drought produced approximately \$38.8 million in crop damages over portions of central and south-central Virginia.
- **December 2001 – November 2004:** Beginning in the winter of 2001, the Mid-Atlantic began to show long-term drought conditions. The NWS issued reports of moisture-starved cold fronts that would continue throughout the winter. Stream levels were below normal with record lows observed at gauges for the York, James, and Roanoke River basins. By November 2002, the U.S. Secretary of Agriculture had approved 45 counties for primary disaster designation, while 36 requests remained pending.
- **2007:** Unusually dry conditions persisted through a significant portion of the year through much of southern and central Virginia. Virginia as a whole experienced its tenth driest year on record.
- **7/21/2011:** This was one of the hottest July's in the last 75 years, breaking records for multiple. According to the NCDC data, all counties were recorded as having excessive heat waves and drought throughout the entire month.
- **7/5/2012:** Another year of record setting highs and ties throughout the states. These high were accompanied with droughts and heat waves.

(7) *Mass Evacuation (Limited Threat)*

- Mass evacuations from urban areas can strain a community's resources and cause gridlock on major transportation routes, overcrowding of hospitals and shelters, and increased load on local utility infrastructures leading to potential failure.

(8) Wildfire (Limited Threat)

Annualized wildfire damages:	\$0
Total acres burned (1995-2008):	26.4
Total dollar damage (1995-2008):	\$0
Annualized number of wildfire events:	0.31
High fire risk woodland communities:	4
Number of homes in high fire risk woodland communities:	271
Critical facilities within high risk wildfire areas:	13

(9) Landslide/Shoreline Erosion (Limited Threat)

- The greatest landslide hazards are found in the higher elevations of western and southwestern Virginia. Analysis of the hazard here is limited by the availability of data. There is no comprehensive database documenting all landslide occurrences within the Commonwealth.

(10) Land Subsidence/Karst/Sinkholes (Limited Threat)

- According to the Virginia State Hazard Mitigation Plan, there have been no Federal Declared Disasters or NCDC recorded events for karst related events in the Commonwealth. Land subsidence is very site-specific. There is no comprehensive long-term record of past events in Virginia.

(11) Earthquake (Limited Threat)

- Annualized earthquake losses:** \$78,970

Significant Events:

- Significant earthquakes were first recorded in Virginia in 1774. Virginia has had more than 160 earthquakes since 1977, of which 16% were felt. This averages to approximately one earthquake every month, with two felt each year. There have been four significant earthquakes centered in the region. There is quaternary faulting in the Central Virginia Seismic Zone, running through Powhatan, Goochland, Fluvanna, and Cumberland Counties. Quaternary faults and folds are believed to be sources of earthquakes greater than magnitude 6 in the past 1,600,000 years; however, the USGS reports that only liquefaction features are evidence of strong shaking and that individual faults in the Central Virginia Seismic Zone remain unidentified.
- 8/23/2011:** A 5.8 magnitude quake centered near Mineral, VA occurred at 1:51 pm EDT on August 23, 2011. The earthquake was reportedly felt as far north as Boston, as far south as Georgia and as far west as Chicago. Effects of the earthquake were reported to the USGS through its online survey from over 8,434 zip codes, and ranged from weak intensity to very strong. In terms of damage, particularly hard-hit were brick and unreinforced structures and infrastructure near the quake's epicenter. In addition to cracks and buckling, some buildings were knocked off of their foundations. Minor injuries were reported as a result of the damage and

debris. The earthquake forced the North Anna Power Station nuclear power plant offline pending an all-clear from a Nuclear Regulatory Commission review.

Aftershocks of a lesser magnitude continued to plague the area for several weeks after the event. The strongest aftershock measured 4.5 and occurred on August 25 at 1:08 am EDT.

2.5 2017 – 2022 Mitigation Actions identified by City of Petersburg

City of Petersburg 2017 - 2022 Mitigation Actions							
Number	Strategy	Responsible Department	Priority	Goals Supported	Hazards Addressed	Timeframe	Resources
Petersburg - 1	Continue to enforce zoning and building codes, with emphasis on floodplain management.	Building Department	High	1, 2	Flooding	Ongoing	Staff
Petersburg - 2	Partner with parent-teacher associations and local schools to implement existing curriculum related to natural hazards (e.g., Masters of Disaster, Risk Watch).	Emergency Management	Low	2	All	Ongoing	Staff
Petersburg - 3	Complete application for StormReady Program.	Emergency Management	Low	1, 2, 3, 5	All	2018	Staff
Petersburg - 4	Consider participating in FEMA's CRS.	Public Works	Medium	1, 2	Flooding	Ongoing	Staff
Petersburg - 5	Inspect and clear debris (or encourage VDOT to) from stormwater drainage system.	Public Works	High	4	Flooding	Ongoing	Staff, VDOT
Petersburg - 6	Finish implementation of Reverse 911 system.	Emergency Management	Medium	1, 3, 5, 6, 7	All	Ongoing	City budget, grants
Petersburg - 7	Establish flood-level markers along bridges and other structures to indicate the rise of water levels along creeks and rivers in potential flood-prone areas.	Public Works	Medium	1, 2, 3	Flooding	Ongoing	Grants
Petersburg - 8	Investigate all public utility lines to evaluate their resistance to flood, wind, and winter storm hazards.	Public Works	Medium	7	Flood, wind, winter storm,	Ongoing	Staff

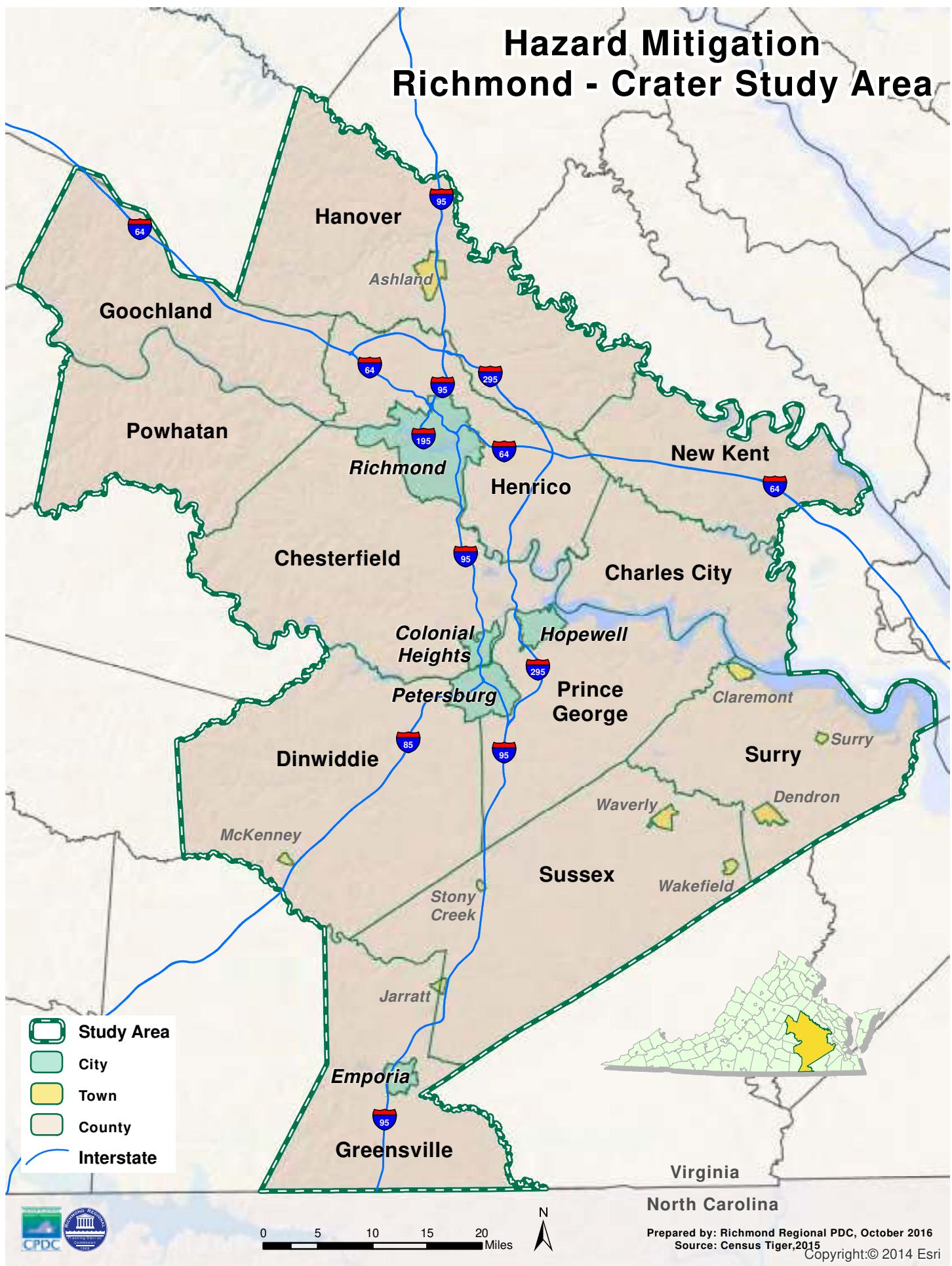
City of Petersburg 2017 - 2022 Mitigation Actions							
Number	Strategy	Responsible Department	Priority	Goals Supported	Hazards Addressed	Timeframe	Resources
					severe storm		
Petersburg - 9	Work with VDOT, private utilities, and/or private homeowners to trim or remove trees that could down power lines.	Public Works	Low	7	Flood, wind, winter storm, severe storm	Ongoing	Staff, VDOT
Petersburg - 10	Distribute brochures and use other means to educate the public regarding preparedness and mitigation.	Emergency Management	Medium	1, 2, 3	All	Ongoing	Staff
Petersburg - 11	Request list from VDEM or VA DCR and conduct annual review of RL and SRL property list to ensure accuracy. Review will include verification of the geographic location of each RL property and determination if mitigated and by what means. Provide corrections if needed by filing form FEMA AW-501.	Planning/ Assessor	Low	1, 2	Flooding	Annually	Staff
Petersburg - 12	Review locality's compliance with the NFIP with an annual review of the floodplain ordinances and any newly permitted activities in the 100-year floodplain.	Emergency Management	Medium	1, 2	Flooding	Annually	Staff
Petersburg - 13	Install quick connects for generators at critical facilities.	Emergency Management	Medium	1, 7	All	Ongoing	Grants

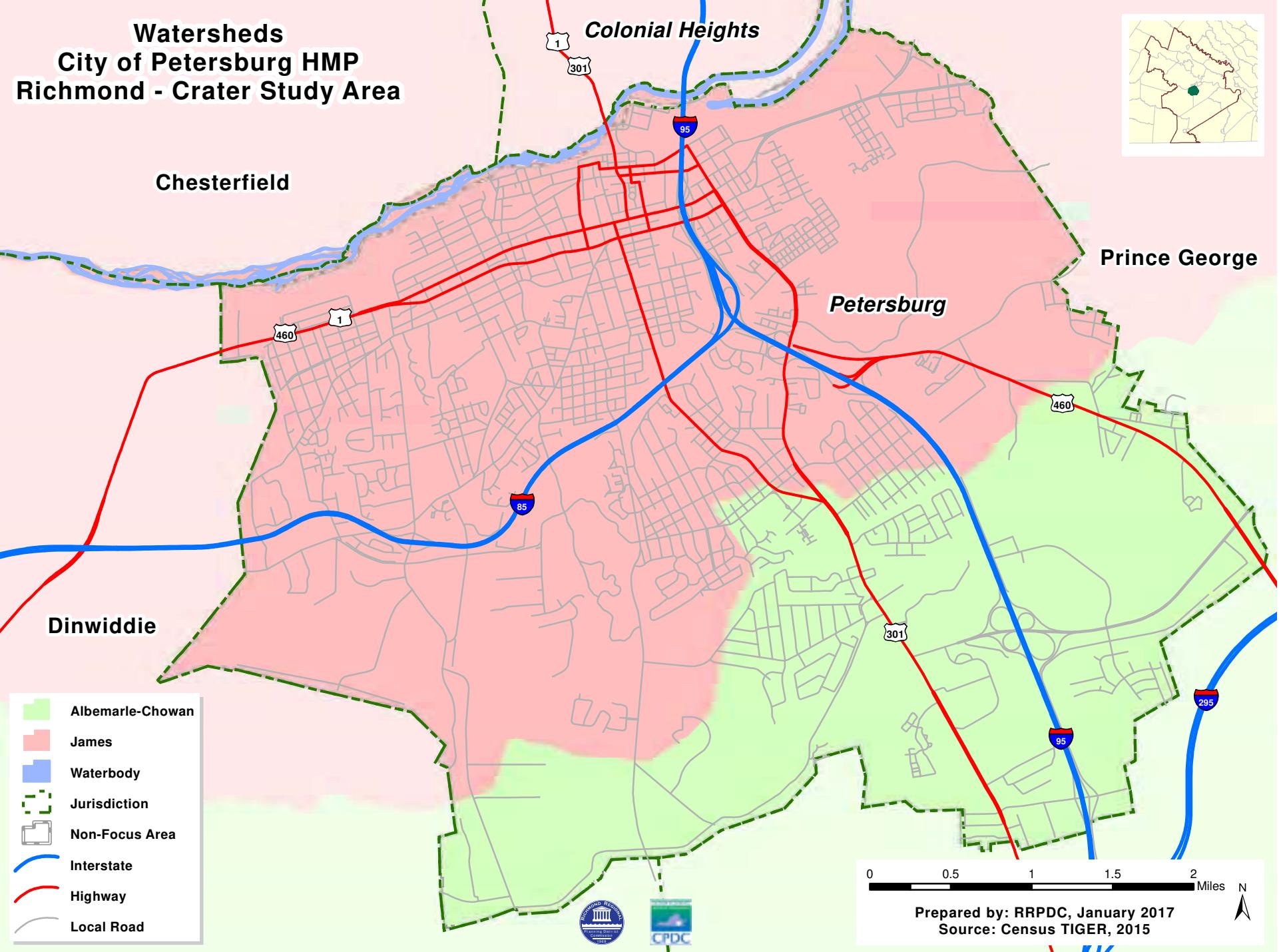
City of Petersburg 2017 - 2022 Mitigation Actions							
Number	Strategy	Responsible Department	Priority	Goals Supported	Hazards Addressed	Timeframe	Resources
Petersburg - 14	Work with state partners and neighboring localities to monitor and implement Next Generation 911 GIS data standards.	GIS Manager, PDC	High	1, 7	All	Ongoing	Staff
Petersburg - 15	Support mitigation projects that will result in protection of public or private property from natural hazards. Eligible projects include but are not limited to: 1. acquisition of flood prone property 2. elevation of flood prone structures 3. minor structural flood control projects 4. relocation of structures from hazard prone areas 5. retrofitting of existing buildings, facilities and infrastructure 6. retrofitting of existing buildings and facilities for shelters 7. critical infrastructure protection measures 8. stormwater management improvements 9. advanced warning systems and hazard gauging systems (weather radios, reverse-911, stream gauges, I-flows) 10. targeted hazard education 11. wastewater and water supply system hardening and mitigation	Community did not respond to status update request.	Community did not respond to status update request.	1, 2, 4, 5, 7	All	Ongoing	FEMA Grants
Petersburg - 16	Integrate mitigation plan requirements and actions into other appropriate planning mechanisms such as comprehensive plans and capital improvement plans.	Community did not respond to status update request.	Community did not respond to status update request.	1, 2	All	Ongoing	Staff

The Richmond-Crater Multi-Regional Hazard Mitigation Plan 2017 was developed by the Richmond Regional and Crater Planning District Commissions with the assistance and support of local planning, emergency management, and other local staff from the participating localities, as well as from Dewberry Consultants, LLC.

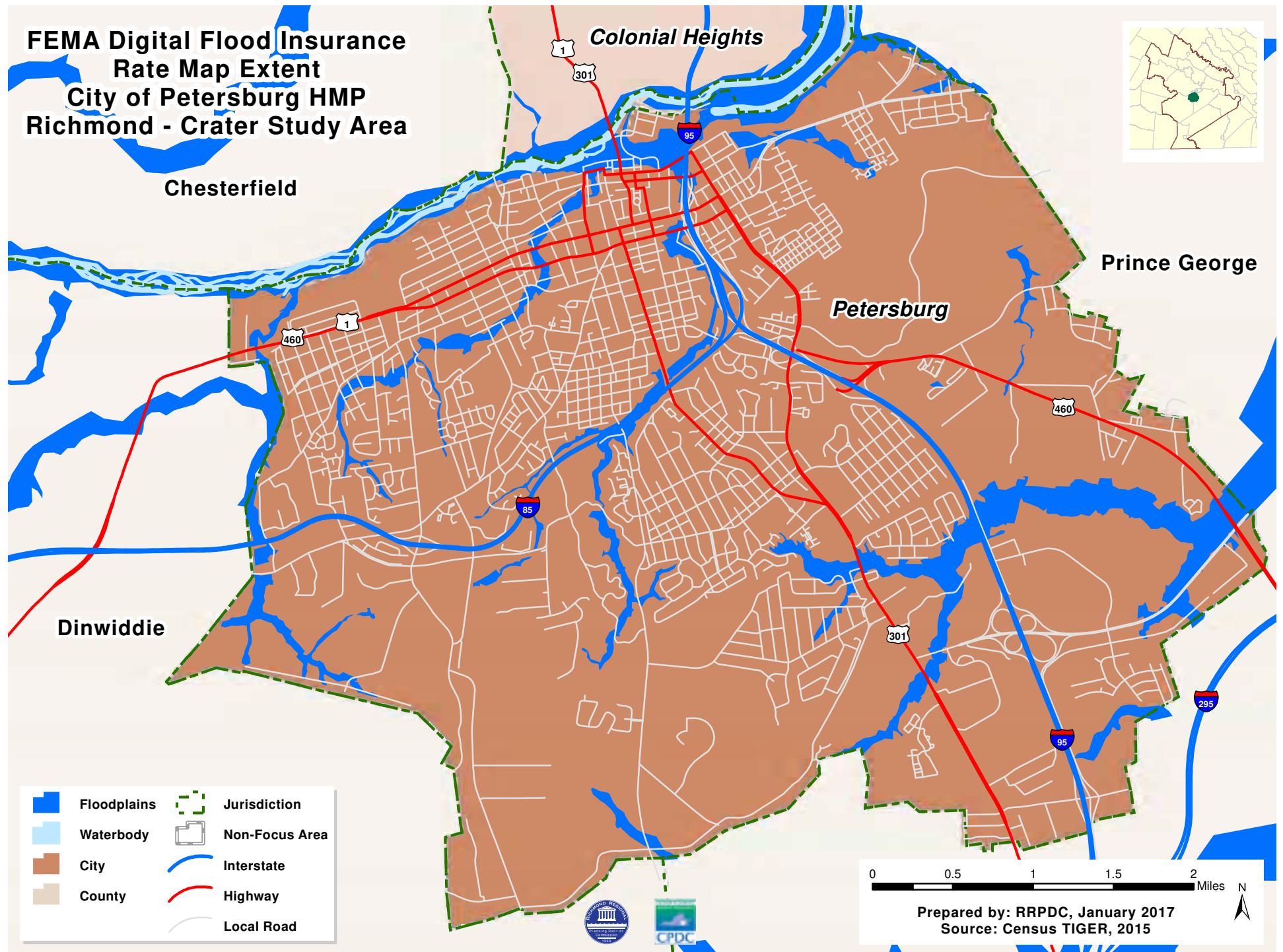
This document and the full plan on which it is based were prepared under a grant from FEMA's Grant Programs Directorate, U.S. Department of Homeland Security. Points of view or opinions expressed in this document are those of the authors and do not necessarily represent the official position or policies of FEMA's Grant Programs Directorate or the U.S. Department of Homeland Security.

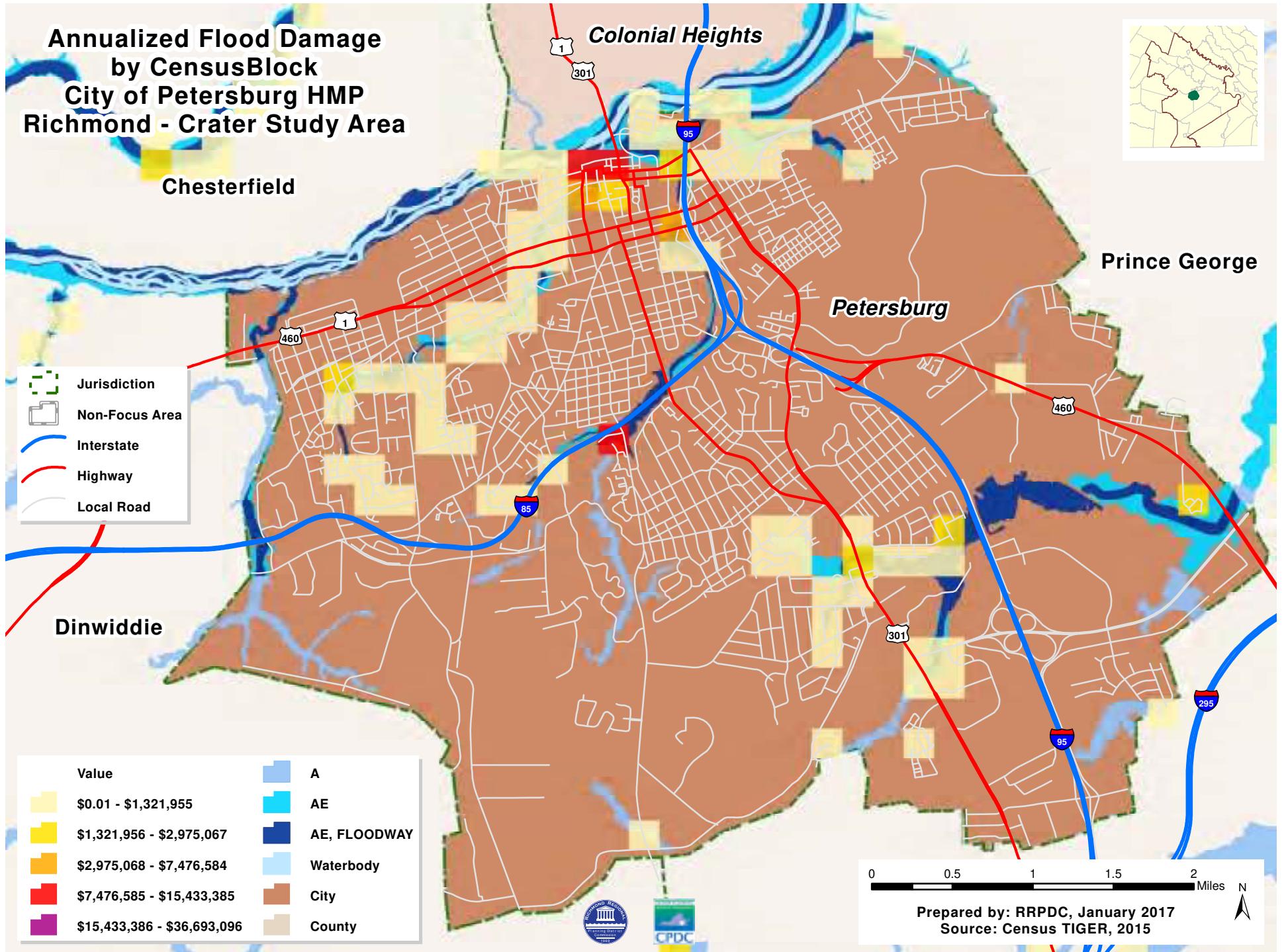
Hazard Mitigation Richmond - Crater Study Area

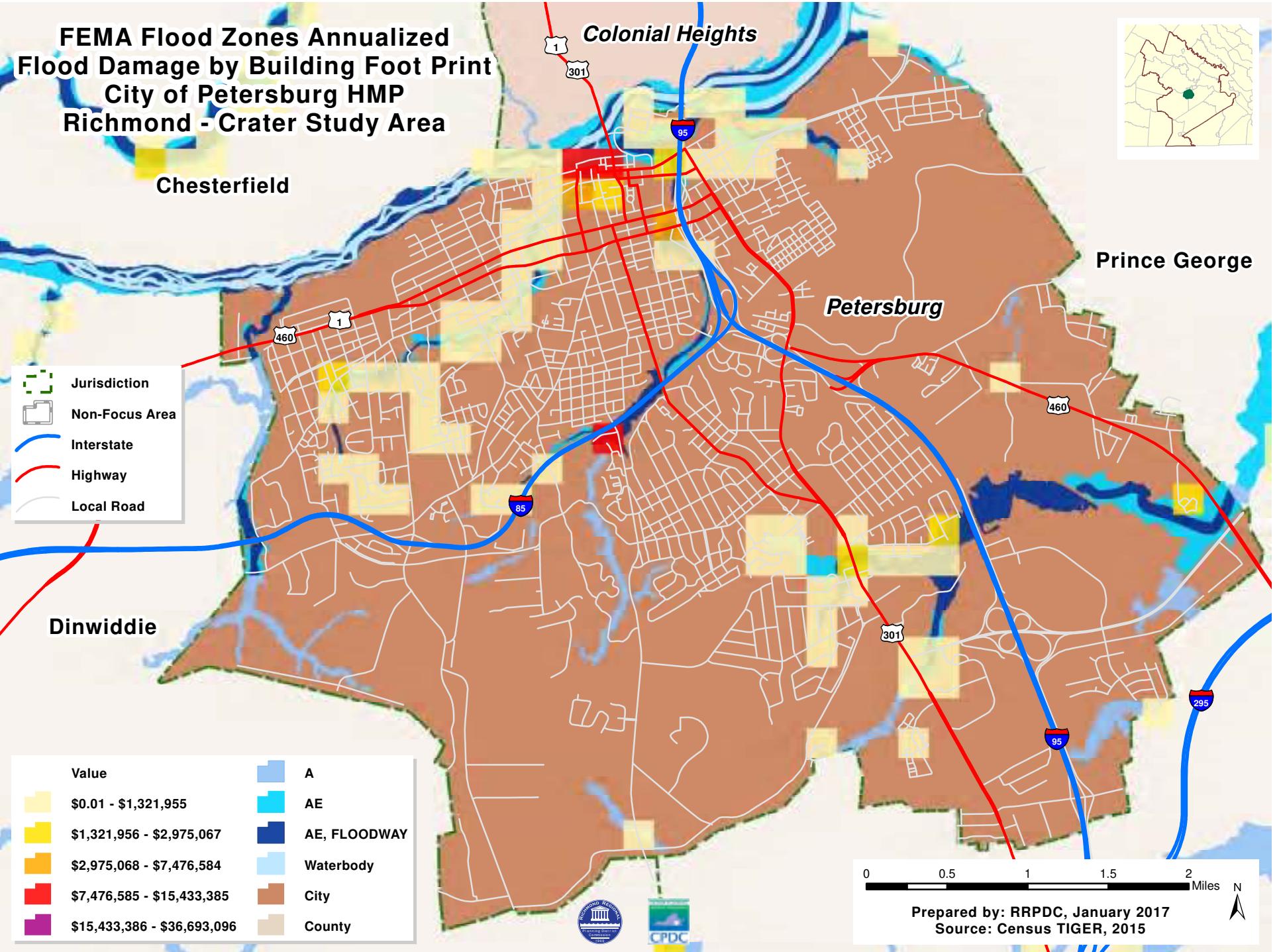




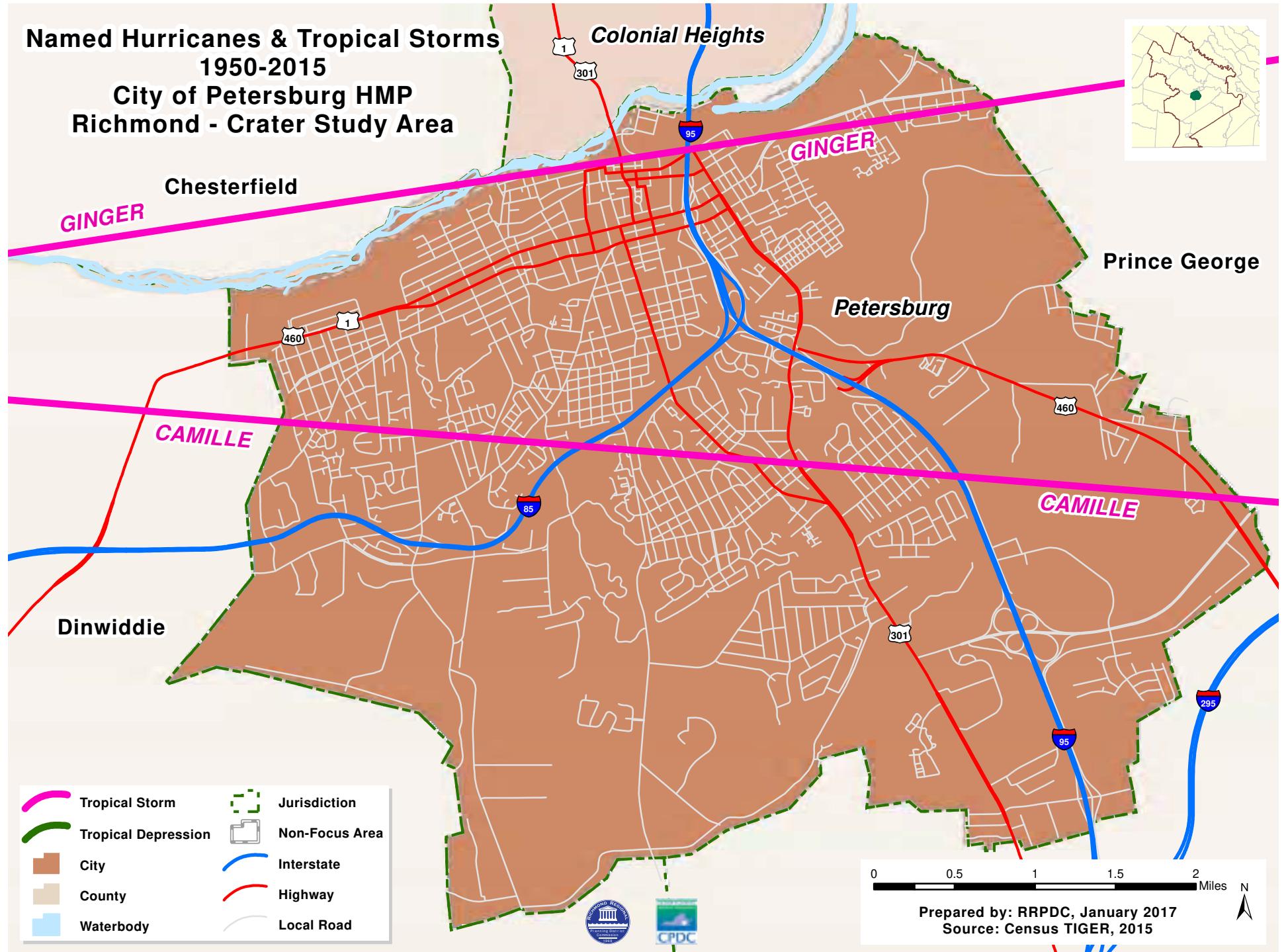
**FEMA Digital Flood Insurance
Rate Map Extent**
City of Petersburg HMP
Richmond - Crater Study Area



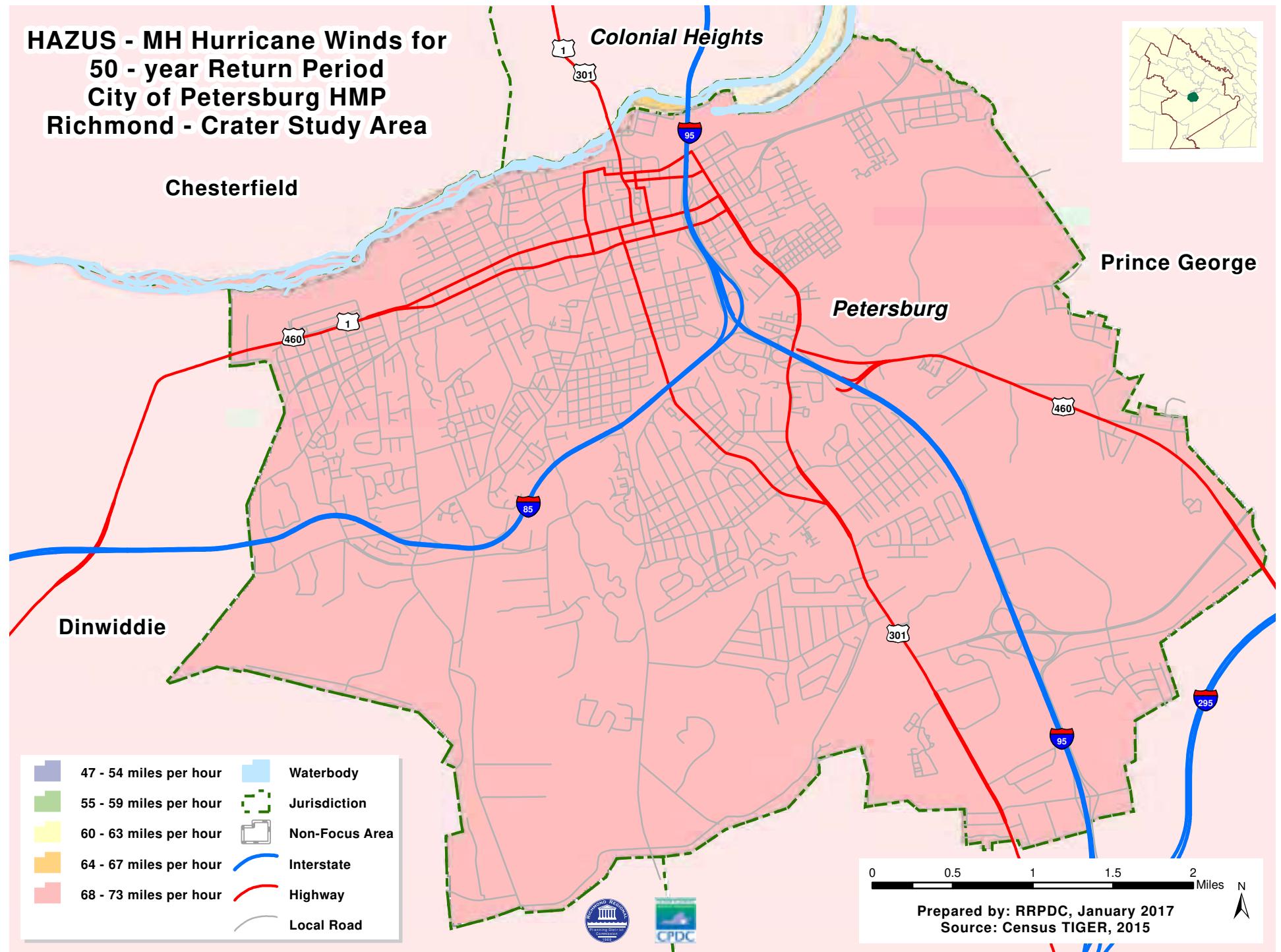


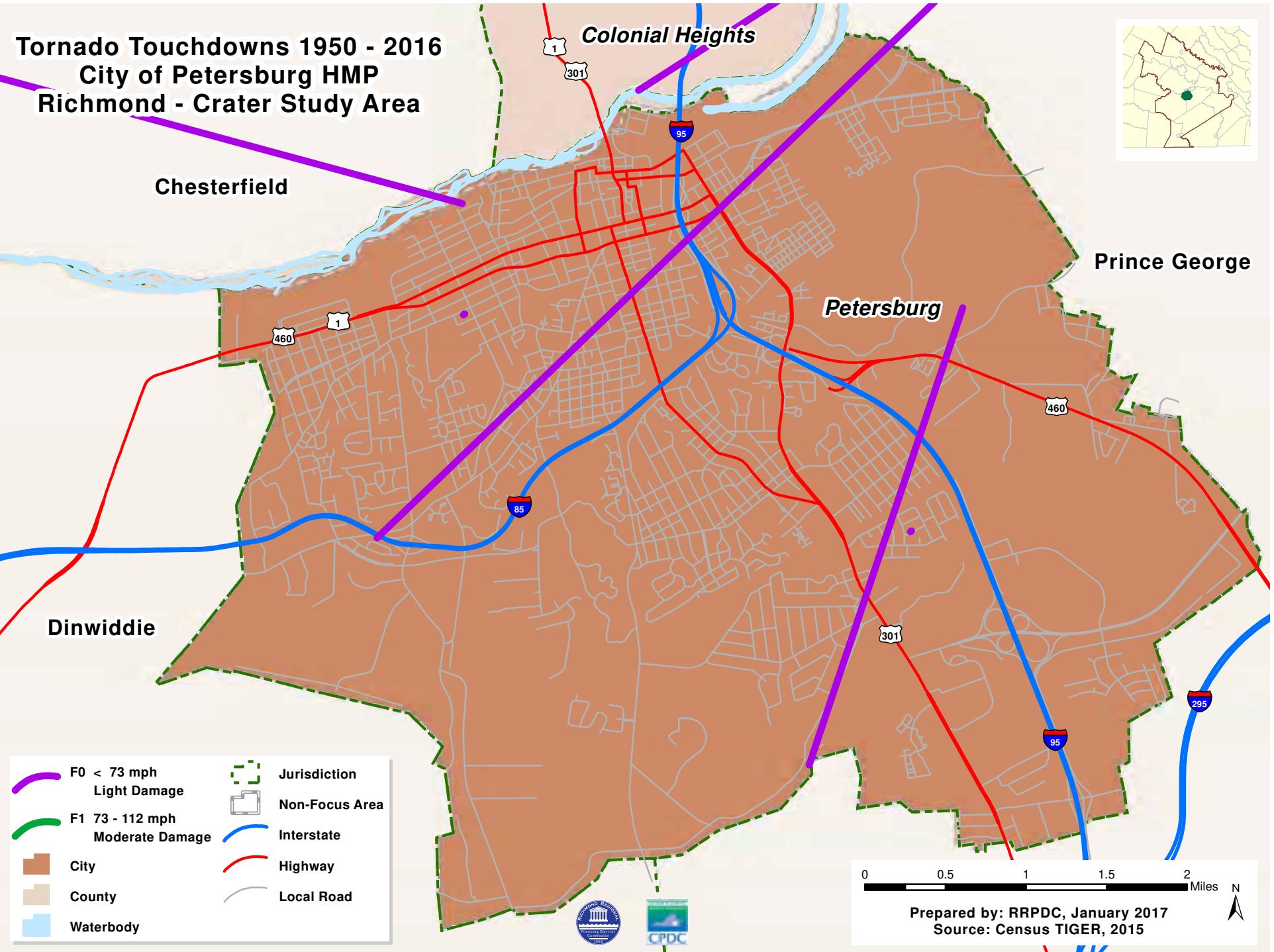


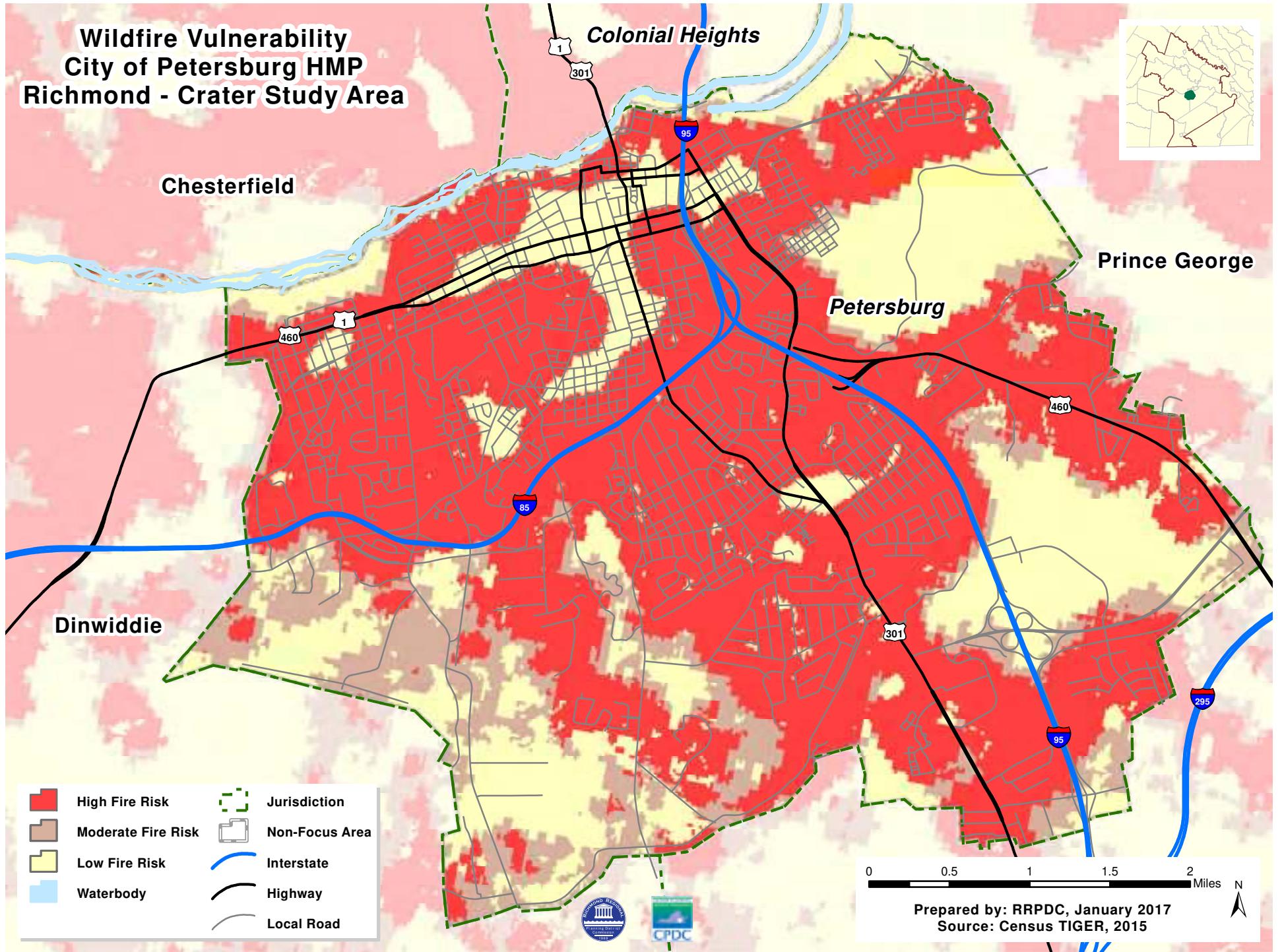
**Named Hurricanes & Tropical Storms
1950-2015**
City of Petersburg HMP
Richmond - Crater Study Area



**HAZUS - MH Hurricane Winds for
50 - year Return Period
City of Petersburg HMP
Richmond - Crater Study Area**







Virginia's Coastal Zone



- HMP Study Area
- Coastal Zone County
- Virginia

BOUNDARY DESCRIPTION

Virginia's coastal zone encompasses 29 counties, 15 cities, and 42 incorporated towns in "Tidewater" region of the state. Virginia's coastal one includes 5,000 miles of shoreline, four tidal rivers reaching as far as 100 miles inland – the Potomac, Rappahannock, York, and James Rivers and all of the waters therein, and out to, the three nautical mile Territorial Sea Boundary, including all of the Chesapeake Bay and Albemarle – Pamlico Sound watersheds.

FEDERAL CONSISTENCY

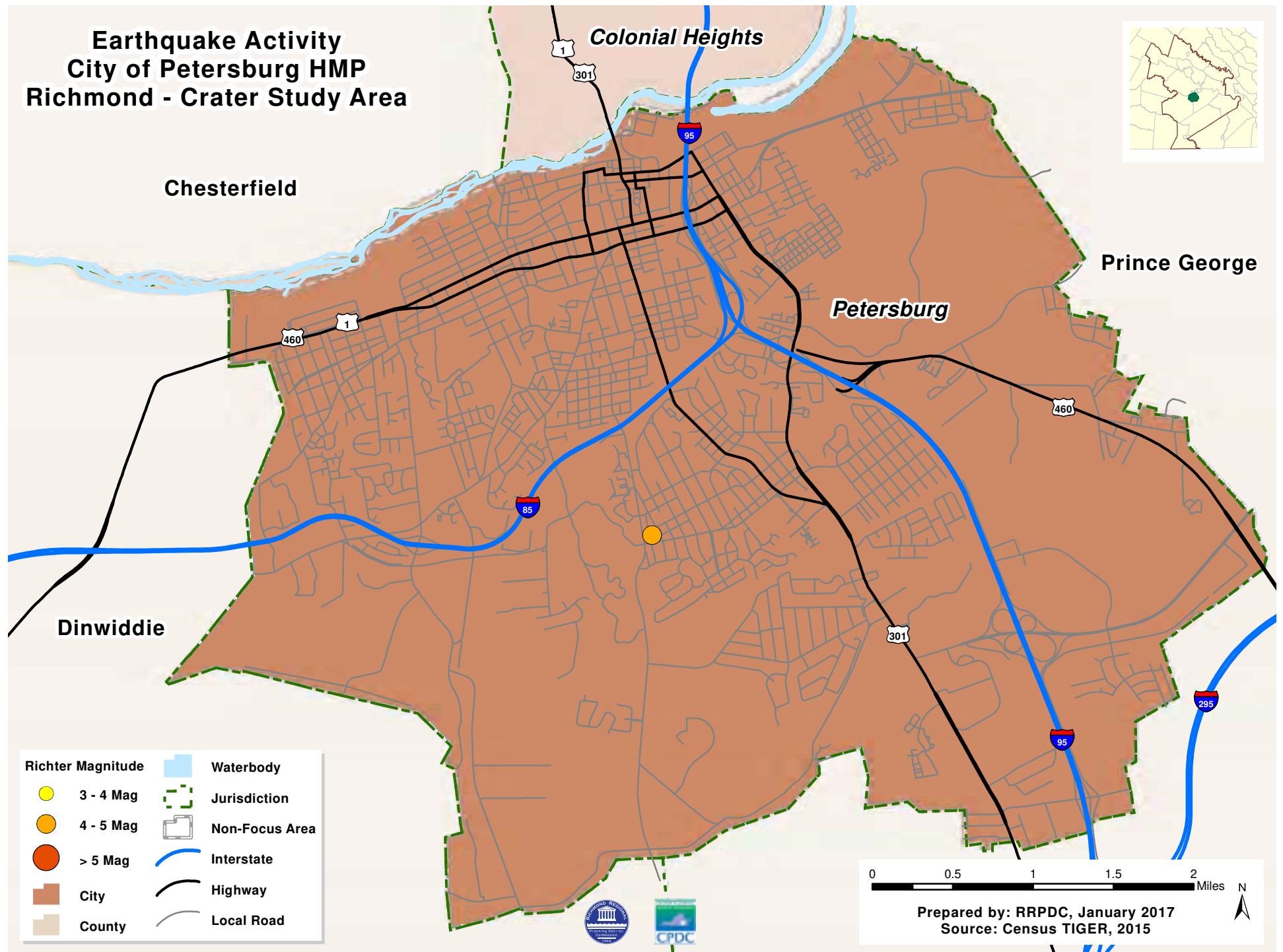
Federal consistency is the CZMA requirement where Federal agency activities, Federal license or permit activities, and Federal financial assistance activities located inside or outside the state's coastal zone that have reasonable foreseeable effects on the coastal use or resource must be consistent with the enforceable policies of the state's coastal zone management program.



**Virginia Coastal Zone
MANAGEMENT PROGRAM**

0 5 10 20 30 40 Miles

Earthquake Activity City of Petersburg HMP Richmond - Crater Study Area



Prepared by: RRPDC, January 2017
Source: Census TIGER, 2015

<https://www.msn.com/en-us/news/us/petersburg-neighborhood-sees-environmentally-friendly-way-to-reduce-stormwater-runoff/ar-BB1gzpEn>

[Petersburg neighborhood sees environmentally friendly way to reduce stormwater runoff \(msn.com\)](#)

Petersburg neighborhood sees environmentally friendly way to reduce stormwater runoff

Bill Atkinson, The Progress-Index - May 10

PETERSBURG — A non-profit organization has announced plans to help an eastern Petersburg neighborhood by extending storm sewers and installing equipment that will remove debris, therefore eliminating issues with storm-drain back-ups and spot-flooding.



© James River Association. Construction equipment will be a common sight along Brunswick Street as crews install two sections of reinforced concrete pipe and a filter station to reduce problems with stormwater runoff.

Two sections of concrete pipe — one 175 feet and the other 50 feet — will be put in along Brunswick Street between Culpeper and Slagle avenues in the city's Lakemont area near East Washington Street. A hydrodynamic separator will also be put in place to filter trash, sediment and hydrocarbons out of the water flowing through the drain that will prevent backwash from ponding across the street.



© James River Association. Pipe

The Culpeper Avenue Storm Sewer Extension Project, as it is being called, is spearheaded by the James River Association, in association with the city of Petersburg, Lakemont Neighborhood Watch, the Timmons Group and the Petersburg Healthy Opportunities Partnership.

The JRA said traditional post-storm conditions in that section of Lakemont made it a prime candidate for the project

"Two local consequences of global climate change are rainier years and high intensity rain events that contribute to localized flooding in communities like Lakemont," Justin Doyle, JRA's community conservation manager, said. "Areas of Lakemont are prone to flooding after rain events, and we are hopeful that this project will begin to alleviate flooding that occurs at the intersection of Brunswick Street and Slagle Avenue, and promote community resilience."

CONCEPT PLAN



On-Street Opportunities

- Sidewalks and Natural Drainage
 - Primary Route
 - Secondary Route
- Safe Crossing
 - Intersection Retrofit
- Natural Drainage Retrofit
- Swales
- Existing Infrastructure
 - Stormwater Infrastructure Improvements

A Specific Recommendations.

Off-Street Opportunities

- Natural Drainage Retrofit
 - Planted Buffer and Improved Swale
 - Rain Garden
- Trails
 - Connect to Existing Trails
 - On-Street Route
 - Trailhead Access
- Existing Sidewalks
- Existing Trails



Grassy Swale Example:

Grassy swales along streets without sidewalks could address street flooding by providing holding space for stormwater during rain events – swales are designed to drain after rain event to avoid standing water. Swales can also be designed for ease of maintenance and to minimize trash collection.

The announcement caps a six-year project to improve drainage along Brunswick Street.

In 2016, JRA and the city created a walkable watershed concept plan, a policy for fixing not only drainage issues but also improving access to local walking trails, including the Petersburg National Battlefield that neighbors Lakemont. Two years later, an absorbent walkway was put in to create a cleaner path to Lakemont Elementary School and the battlefield.

The Timmons Group then did a drainage study of the area and had residents rank seven potential stormwater mitigation projects in importance. The Culpeper Avenue project was the top choice.

The project is being funded by the city, the National Fish and Wildlife Foundation and the U.S. Environmental Protection Agency. Southern Construction Utilities Inc. will do the work.

Bill Atkinson (he/him/his) is the news director of The Progress-Index, located in his hometown of Petersburg, Va. He is also the breaking-news coordinator and has been known to "nerd out" over political news coverage and history. Contact Bill at batkinson@progress-index.com, and follow him on Twitter at @BAtkinson_PI, and subscribe to us at progress-index.com.

This article originally appeared on The Progress-Index: [Petersburg neighborhood sees environmentally friendly way to reduce stormwater runoff](#)

<https://www.nbc12.com/2021/07/09/petersburg-workers-rescued-after-becoming-trapped-floodwaters-70-roads-closed/>

[Petersburg workers rescued after becoming trapped in floodwaters \(nbc12.com\)](#)

Petersburg workers rescued after becoming trapped in floodwaters

By NBC12 Newsroom

Published: Jul. 8, 2021 at 7:27 PM EDT|Updated: Jul. 9, 2021 at 6:14 PM EDT

PETERSBURG, Va. (WWBT) - Rain from Tropical Storm Elsa caused flash flooding in Petersburg, which quickly caused city workers to become trapped in floodwaters.

[Heavy rain, isolated tornado threat from Elsa Thursday](#)

Crews rescued two public works employees from the roofs of vehicles on Thursday night.

Officials said the crews were out on Madison and Bollingbrook streets putting up signage when the water rapidly rose, causing them to get stuck.

The two were rescued and are now safe.

A spokesperson said that 70 percent of roadways in Petersburg were closed due to flooding on Thursday. Residents are asked to stay home and off the roadways.

“It is dangerous. It’s quite dangerous. Even roads that may not be blocked off, which is 30% of them, there could be lots of ponding that you might not see that could cause an accident,” Petersburg spokesperson Joanne Williams said.

A Ford Mustang also became stuck in high water on Wythe Street. NBC12's Brent Solomon reports that the driver tried to push the car out after it stalled.

Petersburg police said the following roads, as of 5 p.m. on July 9, are closed due to high water:

- Franklin Street - tree down
- Roylart Road - tree down

Across Central Virginia, anywhere from 2-5 inches of rain is possible.

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<https://www.msn.com/en-us/weather/topstories/flash-flooding-causes-road-closures-in-petersburg/ar-AAMAk3a>

[Flash flooding causes road closures in Petersburg \(msn.com\)](#)



Richmond-Petersburg WWBT

Flash flooding causes road closures in Petersburg

NBC12 Newsroom - Jul 26

PETERSBURG, Va. (WWBT) - Flash flooding has caused several road closures in Petersburg as storms move through Central Virginia.



© Provided by Richmond-Petersburg WWBTRain (Source: Pixabay/stock image)

As of 6 p.m., between three and three-and-a-half inches of rain have already fallen, and more rain is expected Monday evening.

The following roads in Petersburg are closed:

- Bank Street between Crater Road and Madison Street
- Joseph Jenkins Robert's Parkway between Third Street and Fourth Street
- Bollingbrook Street between Crater Road and Madison Street

Officials said there is also ponding on many streets and drivers should be cautious.

"We are prepared and expect that some low areas in the city may flood during heavy downpours," says City Manager Stuart Turille earlier on Monday before the storms. "City crews will close roadways with high water and will continuously monitor all street conditions."

The Petersburg Department of Public Works has been cleaning drains following recent flash flooding from Tropical Storm Elsa.

According to Turille, infrastructure in the city is more than 150 years old and needs upgrading.

"Engineering consultants are working on a storm drainage management plan," Turille said. "Once a plan is finalized and costs determined, the City will apply for grants from state and federal agencies to pay for the needed upgrades."

Residents are asked to be cautious during heavy rain and flash flood situations:

- Don't walk, swim or drive through floodwater. Six inches of fast-flowing water can knock you over and two feet will float a car. Never drive through barricades.
- If caught on a flooded road with rapidly rising waters, get out of the car quickly and move to higher ground. Most flood fatalities occur in vehicles.
- Don't walk along streams or riverbanks.
- Don't allow children or pets to play in or near flood water.
- Avoid any contact with floodwater. It may be contaminated with harmful chemicals and debris that are not visible from the surface.

- Stay out of areas subject to flooding. Underpasses, dips, low spots, etc. can become rapidly filled with water.

If residents see clogged drains or fallen trees, please call Street Operations at 804-733-2415 from 8 a.m. to 5 p.m. To report any flooded areas after 5 p.m., call the Petersburg Police Department's non-emergency number at 804-732-4222.

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<https://www.wric.com/news/local-news/the-tri-cities/petersburg-to-use-federal-dollars-to-upgrade-stormwater-management-system/>

[Petersburg to use federal dollars to upgrade stormwater management system | 8News \(wric.com\)](#)

Petersburg to use federal dollars to upgrade stormwater management system

THE TRI-CITIES

by: [Sabrina Shutters](#)

Posted: Sep 1, 2021 / 03:48 PM EDT / Updated: Sep 1, 2021 / 08:52 PM EDT

PETERSBURG, Va. (WRIC) – Heavy winds, dark skies and rain hit Petersburg as the remnants of Hurricane Ida passed through Central Virginia Wednesday.

Flooding has been a long time issue in Petersburg, but the city said they were prepared for the worst Wednesday.

Ominous clouds moved over Petersburg Wednesday afternoon, bringing on and off rain showers to the city. Rain water could be seen rushing into storm drains near city hall.





City Manager Stuart Turille said the city's fire and police departments were on standby Wednesday, prepared to close streets as needed and help keep vehicles and people away from areas in the city that flood during hard downpours.

On Tuesday, the Petersburg Department of Public Works cleaned storm drains throughout the city to prepare for Wednesday's storm.

"My basement is a pool": Petersburg man frustrated with city after home floods again

Turille said the city is working on hiring a contractor to come in and perform a study to replace some of the old infrastructure causing flooding issues, using funding from the American Recovery Act.

"We're going to fix these problem areas," Turille said in an interview with 8News Wednesday.

He said Wednesday's storm brought in by Ida was just a test of the city's drainage system. The city is using the storm to collect data.

"These events just point out, highlight the urgency of the need for long term planning," he said.

The data is part of a new study that will help the city figure out where infrastructure needs to be replaced the most to minimize flooding when severe storms occur.

"We have the money now to actually put in culverts, construct more ditches, interconnect more pipes, replace the old pipes that were laid here in 1820 and fix the system," Turille said.

Petersburg received \$21 million dollars from the American Recovery Act funding, and Turille said part of that money will go towards the project. A press release sent out by the city on Tuesday said the city will also apply for grants from state and federal agencies.

PHOTOS: Severe weather wreaks havoc on Southwest Virginia as state prepares for remnants of Hurricane Ida Wednesday

For now, Petersburg Police Chief Travis Christian reminds the public, it's still important to remember your own safety during severe weather.

"If you see high water, don't drive through the water. If you see downed power lines, don't attempt to go near the power lines, don't attempt to go near wet areas where you see power lines, and by all means, try to stay inside the residence if at all possible and don't come out in the weather," Christian said.

The city is still looking for a contractor for the planned study.

If citizens see clogged drains or fallen trees, they're asked to call street operations at (804) 733-2415 during normal working hours (8 a.m. – 5 p.m.).

To report any flooded areas or other concerns after 5 p.m., residents can call the Petersburg Police Department's non-emergency number, (804) 732-4222. Call 9-1-1 for emergencies, including any emergencies where you must exit your home due to flooding.

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<https://www.wric.com/news/taking-action/homeowner-fed-up-with-flooding-and-damage-to-his-home-blames-petersburg/>

[Homeowner fed up with flooding and damage to his home, blames Petersburg | 8News \(wric.com\)](#)

Homeowner fed up with flooding and damage to his home, blames Petersburg

TAKING ACTION

by: [Kerri O'Brien](#)

Posted: Sep 16, 2021 / 09:27 PM EDT / Updated: Sep 17, 2021 / 08:25 AM EDT

Petersburg, VA (WRIC-TV) — A Petersburg homeowner claims the city has failed to maintain its storm water system and it's causing his property to flood.

"When it rained, I had almost three feet of water come across the back year," said Alonzo Saunders.

Saunders told 8News every time it rains, the Brickhouse Run Stream that runs next to his Washington Street home, backs up and floods his home. Saunders showed us sand, sticks and other debris left in his backyard. He said, "This is debris that has actually washed up to the house."

The water is damaging his home. The foundation is shifting. Saunders said, "All this washed out. So, this is my foundation right here and there's nothing here."

Heavy rains causing flash flooding, dangerous driving conditions in Richmond

The Petersburg homeowner believes debris and overgrowth, in what is supposed to be part of the city's storm water drainage system, is clogging the stream. He said, "It's got so much debris, so much trash, so many obstacles."

He even showed us what appears to be the remnants of a bridge that collapsed years ago.

"The city never cleaned it up," said Saunders.

8News has learned the state has told the city it needs to clear the stream. In an email shared with 8News, Virginia's Director of Dam Safety and Floodplain Management Wendy Howard-Cooper writes: "My team has been working with the city on this and I am waiting on confirmation that the debris was actually removed this week as required."

Howard-Cooper told 8News the [State Department of Conservation and Recreation](#) sent someone out to look at the waterway. She says they found tires and trash and told the city it's got to go.

StormTracker8: Flooding to abate this evening: more scattered showers Friday

"The city has neglected to clean it," said Saunders. In an email, Joanne Williams, a spokesperson [for Petersburg](#) said the city and state department have "discussed a plan to move forward with next steps in solving any possible flooding issues."

Saunders says the other problem is, there's no retaining wall on his side of the stream. It crumbled into the water. He said, "You can still see down here where the retaining wall is." He told us he asked Petersburg to put a new but was told it's not their responsibility.



Photo: Kerri O'Brien/8News

The homeowner tells us he's been complaining to the city for two years now. He even filed a claim with the city but it was denied. Petersburg's insurance provider found "no liability on the part of the City of Petersburg."

However, an independent engineer hired by Saunders disagrees. The professional engineering company found "The abandoned debris in the creek, the large impervious areas that drain into the creek, the lack of a storm water management system and the City of Petersburg's failure to maintain the retaining walls, have all contributed to the flooding of the crawl space and damage to the home's structural members."

I-95 southbound lanes near Belvidere Street reopen after flooding

"I feel like I have been done an injustice," said Saunders. He says he bought the property as an investment and is now losing money on it. He said, "Can't sell it. I don't want to rent it because it's a danger. You got stagnant water out here, mosquitoes."

Williams says that report from the engineer was never shared with the city. We're told it has now been forwarded. Since 8News started asking questions about Saunders' flooding problems we've been told public works is sending an engineer to the site next week.

Williams also told us, "The City is going to work with the property owner in trying to determine what may be causing any water issues, as well as continue to work with DCR."

Petersburg officials have publicly acknowledged in the past the city has storm water management issues and we're told Petersburg is working on a plan.

UPDATE: Petersburg water main break repairs complete Sunday afternoon

Saunders had a plan for them. He said, "First and foremost fix the drainage problem, after that, fix my house."

In the meantime, The state's Director for Safety and Floodplain Management told 8News Saunders home is sitting in a floodplain. She said, "that's a recipe for disaster."

She said there's no quick fix and some of the structures in the area may need to be removed. They told us the department (DCR) knows Petersburg is aware it

has a flooding problem and is aware it needs to build a solid plan with funding to fix it. Howard-Cooper said there is federal FEMA funding they city could apply

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<https://www.wric.com/news/local-news/the-tri-cities/it-floods-every-major-rain-petersburg-sets-aside-over-2-million-to-repair-storm-drainage-system/>

[‘It floods every major rain’: Petersburg sets aside over \\$2 million to repair storm drainage system | 8News \(wric.com\)](#)

‘It floods every major rain’: Petersburg sets aside over \$2 million to repair storm drainage system

THE TRI-CITIES

by: [Tyler Thrasher](#)

Posted: Oct 1, 2021 / 07:09 AM EDT / Updated: Oct 1, 2021 / 05:23 PM EDT

PETERSBURG, Va. (WRIC) — With the addition of over \$9 million from the American Rescue Plan Act federal, Petersburg City Council determined **storm drainage system repairs are one of their top priorities** for utilizing the grant funding.

The city has committed to using **around \$2.1 million** from the funding to repair Petersburg’s aging infrastructure that results in regular flooding in the area.

“My basement is a pool”: Petersburg man frustrated with city after home floods again

Petersburg City Manager Stuart Turille attributed the changing climate and lack of infrastructure evaluation as the reason the flooding has become a more significant challenge for the city.

“It happens every major rain. The storm drainage system has had no comprehensive evaluation study likely in over 60 years,” Turille explained. “There is aging infrastructure laying in the ground that is nearly 200 to 300 years old. There are even more impervious surfaces in the city. It is not suitable for the city and stormwater runoff.”

Turille said the city has seen storms of greater intensity and frequency over the last several years, which has created even more flooding.

“We have shovel-ready projects mapped out for the worst areas in the city for flooding. We know those and are ready to get going on them,” he said. “A storm drainage study will be happening soon to determine the worst flooded areas, but

we know from on the ground experience that we can't wait for a map to be done for certain areas."

He noted Claremont Street, North Whitehill Drive and Bank Street as three of the first areas the city will handle when construction is ready to begin in the near future.



Flooding on Claremont Street in Petersburg

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6 Weather Alerts In Effect

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<https://www.nbc12.com/2022/06/27/multiple-roads-petersburg-closed-due-flooding/>

Multiple roads closed in Petersburg and Chesterfield due to flooding



Flooding on Bank Street in Petersburg (City of Petersburg)

By NBC12 Newsroom

Published: Jun. 27, 2022 at 5:33 PM EDT

PETERSBURG, Va. (WWBT) - Petersburg officials say multiple roads are closed due to flooding.

The city says several roadways are closed because of high water levels in the Old Towne area.

[Watch Live](#) [News](#) [Politics](#) [National](#) [On Your Side](#)

Flooding on Bollingbrook Street in Petersburg (City of Petersburg)

Petersburg police, fire and public works are monitoring roadways throughout the evening.

ADVERTISEMENT

Anyone can report flooded roads or fallen trees blocking roads to the Public Works Street Operations Division at 804-733-2415 or the non-emergency police at 804-732-422.

In Chesterfield, Ware Bottom Spring Road is closed between Old Stage Road and Ramblewood Road due to high waters.

Chesterfield Fire and Emergency Medical Services 
@CFEMSPPIO · [Follow](#)

Ware Bottom Spring Rd is closed between Old Stage Rd and Ramblewood Rd due to high water. Please plan your evening travel accordingly.

5:25 PM · Jun 27, 2022 

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[Chesterfield Fire and Emergency Medical Services](#) say drivers should plan evening travel accordingly.

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A LEGO Fest Is Coming To Chicago, Tons Of Fun For All Ages!



How Petersburg prepares for potential Ophelia flooding



As Tropical Storm Ophelia moved closer to Virginia on Friday, city crews and business owners in Petersburg, Virginia, worked to prepare for the heavy rain the storm might bring.



By: Wayne Covil

Posted at 3:40 PM, Sep 22, 2023 and last updated 4:53 PM, Sep 22, 2023

PETERSBURG, Va. -- As Tropical Storm Ophelia moved closer to Virginia on Friday, city crews and business owners in Petersburg, Virginia, worked to prepare for the heavy rain the storm might bring.

"If we get one inch of rain, hopefully in an hour and a half, I'll be ok," Bank Street business owner Matt Carden said. "But when I have trouble is when we have an inch of rain in 30 minutes."

Having experienced flooding on Bank Street before, Carden has a plan in place.

Courtesy photo by Emily Swope

"All my books will be in here and my battery charger and floor jacks and stuff like that," he said about a safe container he planned to put in his truck. "[Then] I'll lift the truck up."

Because East Bank Street is well known for flooding, Petersburg Public Works responded Friday when a business owner reported a clogged drainage pipe.

Cleaning out pipes and storm drains in flood-prone areas was a top priority this week for city work crews.

"It's crucial to keep these streets from flooding," Petersburg Public Works Director Jerry Byerly said. "We've checked all the vehicles that will be used this weekend."

He said the city had barricades at the ready in case the roads became impassible.

"We're going to be out with barricades in places, that historically flood, pre-positioning some barricades so we can close roads if need be," he said. "If we get a heavy downpour, couple inches an hour, there probably will be some road closed."

Petersburg is currently using a \$2 million grant to identify flood-prone areas and to find solutions for stormwater management while dealing with a 100-year-old infrastructure that has to be upgraded and expanded.

Virginia Governor Glenn Youngking declared a state of emergency on Friday and the intensifying weather system has forced schools to close early and canceled weekend events. Ophelia has maximum sustained winds of 60 miles per hour, and storm surges between 3 and 5 feet are forecast for parts of North Carolina and Virginia. Rainfall up to 7 inches is also expected in some areas.

Petersburg leaders urged neighbors to stay home during the height of the storm.

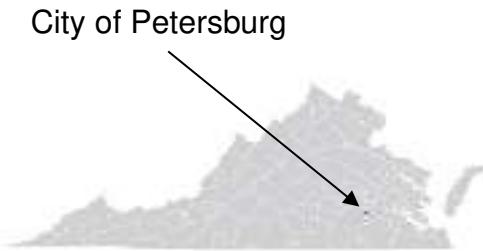
"The City team is prepared to address storm and flooding issues tonight and on Saturday," City Manager March Altman said. "Our main concern is to keep Petersburg citizens safe and secure during emergency situations."

Depend on CBS 6 News and WTVR.com for in-depth coverage of this important local story. Anyone with more information can [email newstips@wtvr.com](mailto:newstips@wtvr.com) to send a tip.

FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 1



CITY OF PETERSBURG, VIRGINIA

INDEPENDENT CITY

COMMUNITY NAME	COMMUNITY NUMBER
PETERSBURG, CITY OF	510112



FEMA

Reprinted with corrections on June 8, 2023

REVISED:

December 15, 2022

FLOOD INSURANCE STUDY NUMBER
510112V000B
Version Number 2.6.4.6

brief description of the basin, and its drainage area.

Table 4: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Appomattox	02080207	Appomattox River	Drains the northwestern two-thirds of the City of Petersburg.	1,610
Blackwater	03010202	Blackwater River	Drains the southeastern third of the City of Petersburg.	740
Nottoway	03010201	Nottoway River	Drains a small southwestern portion of the City of Petersburg.	1,723

4.2 Principal Flood Problems

Table 5 contains a description of the principal flood problems that have been noted for the City of Petersburg by flooding source.

Table 5: Principal Flood Problems

Flooding Source	Description of Flood Problems
Appomattox River	The Appomattox River is the source of most major flood problems in the City of Petersburg. The Appomattox River can flood any time of the year, typically from prolonged winter and spring storms or tropical storms that pass over the area in late summer and fall. Due to the hydrologic nature of the Appomattox River drainage basin, flood events typically last for several days. Three of the five largest floods in Petersburg were recorded between October 1971- 1972. Petersburg recorded highest peaks (cfs) of 40,800,28,000,22,800,21,100,18,800 in 1972,1940,1971,1970,1937 with recurrence intervals of 110,40,25,20 and 15 years respectively (FIS 2011)
Blackwater Swamp	Major flooding along Blackwater Swamp has been the result of summer thunderstorms, hurricanes, and snowmelt. (FIS 2011)
Brickhouse Run, Harrison Creek, Lieutenant Run, Poor Creek, and Rohoic Creek	Downstream sections of these reaches are impacted by the backwater from Appomattox river and susceptible to flooding. Brickhouse and Lieutenant Run flow through highly urban areas, while Harrison Poor and Rohoic Creek flow through commercial/industrial development and many of their structures are inadequate and creating ponding. (FIS 2011)

Table 6 contains information about historic flood elevations in the communities within the City of Petersburg.

Table 6: Historic Flooding Elevations

[Not applicable to this Flood Risk Project.]

4.3 Non-Levee Flood Protection Measures

Table 7 contains information about non-levee flood protection measures within the City of Petersburg such as dams, jetties, and or dikes. Levees are addressed in Section 4.4 of this FIS Report.

Table 7: Non-Levee Flood Protection Measures

[Not applicable to this Flood Risk Project.]

4.4 Levees

This section is not applicable to this Flood Risk Project.

Table 8: Levees

[Not applicable to this Flood Risk Project.]

SECTION 5.0 – ENGINEERING METHODS

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance, respectively, of being equaled or exceeded during any year.

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

In addition to these flood events, the “1-percent-plus”, or “1%+”, annual chance flood elevation has been modeled and included on the flood profile for certain flooding sources in this FIS Report. While not used for regulatory or insurance purposes, this flood event has been calculated to help illustrate the variability range that exists between the regulatory 1-percent-annual-chance flood elevation and a 1-percent-annual-chance elevation that has taken into account an additional amount of uncertainty in the flood discharges (thus, the 1% “plus”). For flooding sources whose discharges were estimated using regression equations, the 1%+ flood elevations are derived by taking the 1-percent-annual-chance flood discharges and increasing the modeled discharges by a percentage equal to the average predictive error for the regression equation. For flooding sources with

gage- or rainfall-runoff-based discharge estimates, the upper 84-percent confidence limit of the discharges is used to compute the 1%+ flood elevations.

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 12. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 9. Note: Discharges for flooding sources designated as Zone A on the FIRM are not shown in Table 9 of this FIS report, however, discharge values are included in the FIRM database in the S_NODES and L_SUMMARY_DISCHARGES feature classes. Stream gage information is provided in Table 11.

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Appomattox River	Upstream of the confluence with Brickhouse Run	1,357	19,707	26,101	31,503	37,462	53,881
Appomattox River	Upstream of the confluence with Fleets Branch	1,356	19,690	26,078	31,475	37,429	53,834
Appomattox River	Upstream of the confluence with Rohoic Creek	1,345	19,525	25,859	31,212	37,115	53,382
Blackwater Swamp	Approximately 1,000 feet upstream of County Road	4.8	590	809	831	1,172	1,616
Blackwater Swamp	Approximately 1,800 feet downstream of Country Drive	2.9	850	1,231	1,246	1,880	2,723
Blackwater Swamp	Upstream of Wagner Road	1.8	492	717	722	1,094	1,580
Brickhouse Run	At the confluence with Appomattox River	2.3	1,711	2,328	2,910	3,536	5,186
Brickhouse Run	Approximately 700 feet upstream of S West St	1.2	638	847	1,035	1,242	1,804
Brickhouse Run	Approximately 550 feet upstream of Elm Street	0.4	336	477	567	709	1,092
Harrison Creek	At the confluence with Appomattox River	2.9	782	1,119	1,368	1,634	2,228
Harrison Creek	Upstream of Norfolk Southern Railroad	1.8	332	562	770	1,004	1,504
Harrison Creek	Downstream of Hickory Hill Road	0.6	226	354	464	586	898

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Lieutenant Run	At the confluence with Appomattox River Navigation Channel	5.6	2,525	3,197	3,637	4,079	5,091
Lieutenant Run	Upstream of Johnson Road	3.3	1,046	1,495	1,919	2,407	3,711
Lieutenant Run	Downstream of East Washington Street	5.3	2,252	2,874	3,281	3,662	4,367
Poor Creek	At the confluence with Appomattox River Navigation Channel	2.6	1,075	1,189	1,276	1,449	1,863
Poor Creek	At East Washington Street	2.4	1,572	2,266	2,912	3,635	5,194
Poor Creek	Approximately 5,000 feet upstream of East Washington Street	1.9	1,643	2,378	3,040	3,750	4,907
Rohoic Creek	At the confluence with Appomattox River	9.6	1,792	2,636	3,383	4,267	8,571
Rohoic Creek	Upstream of Cattail Creek	4.9	990	1,475	1,929	2,405	4,550
Rohoic Creek	Upstream of Route 142	3.9	805	1,208	1,591	1,974	3,688

Figure 7: Frequency Discharge-Drainage Area Curves

[Not applicable to this Flood Risk Project.]

Table 10: Summary of Non-Coastal Stillwater Elevations

Flooding Source	Location	Elevations (feet NAVD 88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Unnamed tributary 2 to Blackwater Swamp	Upstream of Norfolk Southern Railroad	140.1	140.5	140.5	141.2	142

Table 11: Stream Gage Information used to Determine Discharges

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
Appomattox River	02041650	USGS	Appomattox River at Matoaca	1,342	04/04/1970	12/26/2015

5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Base flood elevations on the FIRM represent the elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed in Table 23, "Floodway Data."

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 12. Roughness coefficients are provided in Table 13. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
All Zone A Streams and Tributaries in HUC 02080207	Various	Various	Regression Equations	HEC-RAS 5.0.5	07/31/2019	A	Effects of hydraulic structures were not considered in the model.
All Zone A Streams and Tributaries in HUC 03010202	Various	Various	Regression Equations	HEC-RAS 5.0.5	07/31/2019	A	Effects of hydraulic structures were not considered in the model.
Appomattox River	Approximately 3,000 feet downstream of confluence with Interstate 95	Approximately 0.5 miles upstream of confluence with Rohoic Creek	Regression Equations	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Gage No. 02041650 was used in hydrologic analysis. Hydraulic models incorporated field measured bridge and culvert data. Modeling incorporates split flow through Interstate 95.
Appomattox River Navigation Channel	Convergence with the Appomattox River approximately 0.7 miles downstream of Interstate 95	Divergence from the Appomattox River approximately 200 feet downstream of U.S. Route 1	Regression Equations	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Gage No. 02041650 was used in hydrologic analysis. Hydraulic models incorporated field measured bridge and culvert data. Modeling incorporates split flow through Interstate 95.
Blackwater Swamp	Approximately 500 feet downstream of U.S. Highway 460	Approximately 250 feet downstream of Retnag Road	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.
Brickhouse Run	At confluence with Appomattox River	Approximately 370 feet downstream of Darby Drive	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulics models incorporated field measured bridge and culvert data. A culvert extends from S. South Street to Brown Street. The overland flow for this reach has been modeled separately.
Brickhouse Run Overland	At Brown Street	Approximately 150 feet upstream of S. South Street	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	A culvert extends from S. South Street to Brown Street. The overland flow for this reach has been modeled separately.
Harrison Creek	At confluence with Appomattox River	Approximately 1,640 feet upstream of East Washington Street	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Lieutenant Run	At confluence with Appomattox River Navigation Channel	Approximately 1,300 feet upstream of Baylors Lane	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.
Poor Creek	At confluence with Appomattox River Navigation Channel	Approximately 320 feet upstream of Pine Oak Drive	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.
Rohoic Creek	At confluence with Appomattox River	Approximately 60 feet upstream of Boydton Plank Road	Regression Equations	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.
Unnamed Tributary 1 to Blackwater Swamp	At confluence with Blackwater Swamp	Approximately 500 feet upstream of U.S. Highway 301	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.
Unnamed Tributary 2 to Blackwater Swamp	At Norfolk Southern Railroad	Approximately 1,200 feet upstream of Norfolk Southern Railroad	HEC-HMS 4.3	N/A	03/25/2020	AE	Static elevation mapped based on the hydrologic analysis of the storage area.



City of Petersburg

Office of the City Manager
135 North Union Street
Petersburg, Virginia 23803

(804) 733-2301
Fax 732-9212
TDD 733-8003

November 12, 2023

Mr. Matthew Wells
Director of Dam Safety and Floodplain Management
Virginia Department of Conservation and Recreation
600 East Main Street, 24th Floor
Richmond, VA 23219

RE: Authorization of City of Petersburg CFPF Project Application ID 1941

Dear Mr. Wells and Members of the CFPF Review Team:

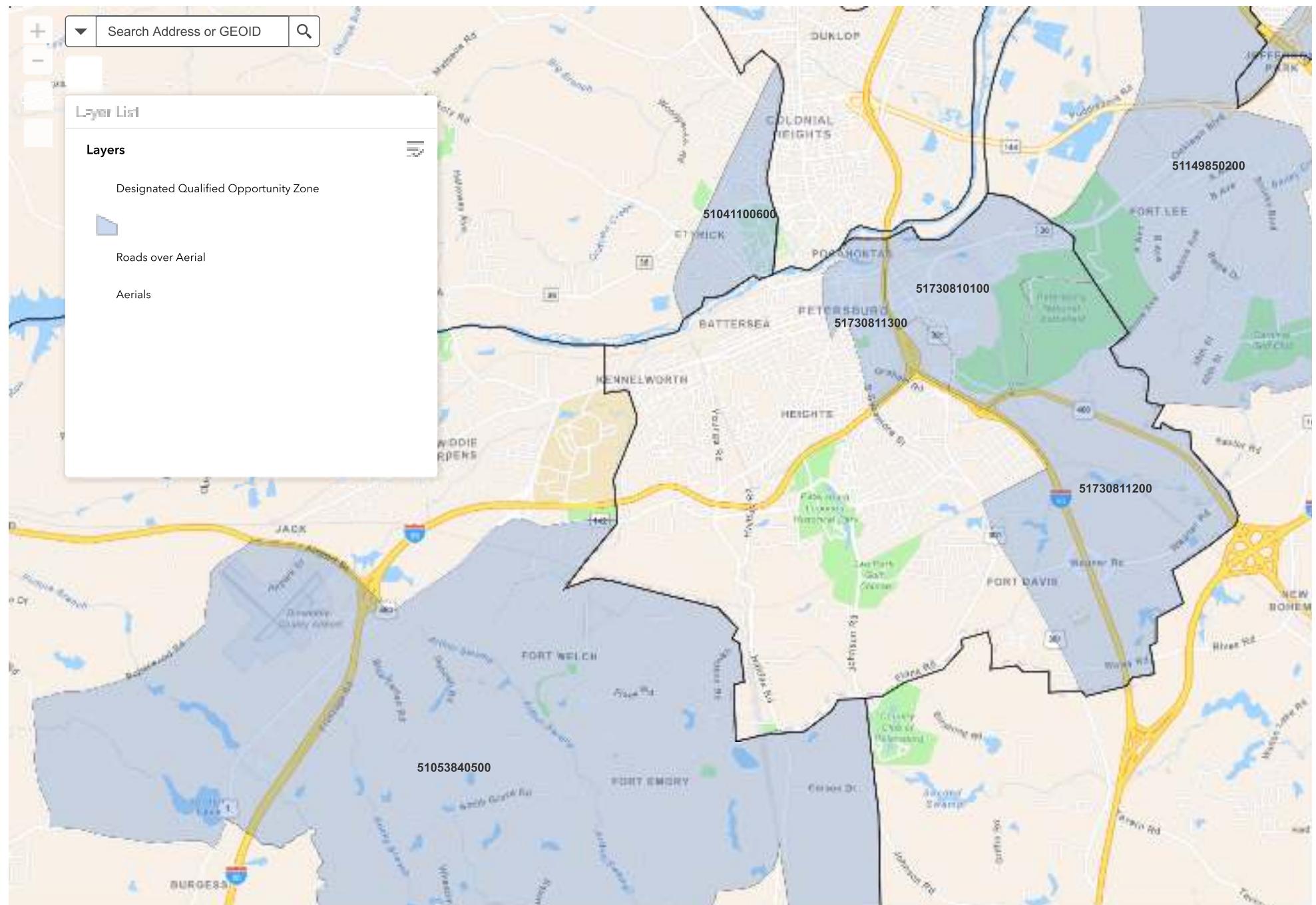
The City of Petersburg has assembled the attached Project grant application to request Community Flood Preparedness Fund assistance for a project to address the function of the City's structural conveyances, resulting in the beneficial reuse of dredged materials for flood mitigation purposes. The multi-faceted project will result in immediate improvement of the City's ability to convey storm events and minimize the impacts of localized flooding. Further, the project will include tasks to identify projects for future stormwater system upgrades and a study to evaluate the impacts of dredging the historic Petersburg Harbor and Appomattox River channel on the floodplain to mitigate flooding in the Old Towne area of Petersburg.

As Petersburg is a documented low-income geographic area, and the project site is within a designated Qualified Opportunity Zone with a high social vulnerability index score, the City respectfully requests full funding and a waiver to match funds for this project. Please accept this letter as my authorization of the request for CFPF assistance to enable Petersburg to make significant progress toward Resilience and the equitable management of our floodplains.

Sincerely,

A handwritten signature in blue ink, appearing to read "John M. Altman, Jr." followed by a stylized surname.

John M. Altman, Jr.
City Manager



City of Petersburg: Qualified Opportunity Zones



Friends of the Lower Appomattox River

November 8, 2023

Mr. Matthew Wells
Director of Dam Safety and Floodplain Management
Virginia Department of Conservation and Recreation
600 Eat Main Street, 24th Floor
Richmond, VA 23219

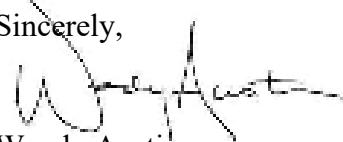
Dear Mr. Wells and Members of the CFPF Review Team:

As Executive Director of the Friends of the Lower Appomattox (FOLAR), I am pleased to write in support of the City of Petersburg's Community Flood Preparedness Fund assistance. FOLAR works in partnership with the community to conserve, protect, and promote the Appomattox River for all to enjoy, which includes floodplain restoration along the river, particularly when it includes removal of potentially contaminated sediment. This project will result in structure recovery and outfall rehabilitation for the City's existing storm sewer system, including removal of sediment and nutrients, as well as a study to identify future critical areas for dredging along the Appomattox River.

Preserving the water quality of the Appomattox River through removal of potentially contaminated sediment deposition is a concept that aligns with our mission and will aid Petersburg residents the ability to enjoy a healthy and sustainable relationship with the Appomattox for years to come.

FOLAR supports studies which conserve appropriate acres from future development and protects water quality, like this project. The completion of this project will help to generate new opportunities for partnership between FOLAR and the City of Petersburg to coordinate the implementation and planning of trail plans, to improve riparian forest health along the river's corridor, and to provide opportunities for community service.

Thank you for your consideration in supporting the City of Petersburg's request for Community Flood Preparedness Fund assistance.

Sincerely,

Wendy Austin
Executive Director, FOLAR

Maintenance and Management Plan

June 2023 – June 2033

The City of Petersburg will use funds from the CFPF to enable the completion of the comprehensive inventory and modeling of storm structures in the City, the cleanout of identified inaccessible structures, the dredging and retrofitting of three (3) vital outfalls into the Harbor to restore outfall functionality, and the study of sediment and flood transport within the city's Harbor and other areas determined to be critical. Throughout the life cycle of the stormwater assets identified and maintained through these projects, the City will continue to fund ongoing cleanout and recovery of structures to ensure continued functionality of the storm sewer system. The City is committed to regularly funding maintenance and improvements to continue to reduce flooding efforts and ensure consistent functionality through the Stormwater Utility program and partnerships. The study of sediment transport will provide a framework for the City to work within to reduce maintenance associated with sediment deposition in waterways.



November 12, 2023

Mr. Matthew Wells
Director of Dam Safety and Floodplain Management
Virginia Department of Conservation and Recreation
600 Eat Main Street, 24th Floor
Richmond, VA 23219

Dear Mr. Wells and Members of the CFPF Review Team,

Governor Glenn Youngkin launched the Partnership for Petersburg initiative with state, local, community, and faith leaders to build relationships to foster positive change through a comprehensive approach. With support from the Commonwealth's resources, the Partnership's mission is to help Petersburg become one of the best cities to live, work, and raise a family.

The Partnership for Petersburg is a holistic partnership that brings together more than 50 initiatives under eight pillars to make a significant difference in the quality of life of Petersburg's citizens, as well as the economic health of the City. It is also the Governor's hope that the Partnership can become a model for work within other localities across the Commonwealth.

The program includes initiatives in Agriculture and Forestry, Commonwealth, Commerce and Trade, Education, Health and Human Resources, Labor, Public Safety, Transportation, and Veterans Affairs.

The Partnership for Petersburg supports the City's five (5) grant applications for Community Flood Preparedness Funds, including capacity building, a study, and projects, all consistent with the Partnership's mission. Thank you for considering supporting the City of Petersburg.

Sincerely,
A handwritten signature in blue ink, appearing to read "Garrison Coward".
Garrison Coward

Senior Advisor, Governor of Virginia
Partnership for Petersburg

Projects: Benefit-Cost Analysis

The City of Petersburg is applying for Community Flood Preparedness Fund assistance to include various projects related the ongoing Citywide Drainage Study. The ongoing Citywide Drainage Study, funded with CFPF Round 3 money, provided for the mapping and modeling of 10,000 stormwater assets within the City of Petersburg. The goal of the modeling efforts is to identify areas of the city with hydraulic capacity issues and identify potential solutions to improve flooding conditions.

Prior to the start of the Citywide Drainage Study, the City of Petersburg did not have comprehensive data/mapping for the stormwater infrastructure located within the City. Therefore, it was unknown how many assets would be found as part of the initial mapping effort of the Citywide Drainage Study. Based on the encountered number of features during initial mapping, it is anticipated that there will over 10,000 additional units mapped than originally estimated. The request for CFPF Round 4 funding will provide the additional approximated 10,000 units that are anticipated to be encountered during the initial mapping efforts. In addition to the mapping efforts, additional funds are requested to provide for the modeling of the additional approximated 10,000 assets in order to identify areas in the city where the stormwater system is capacity constrained.

There have been many benefits realized, and will continue to be realized with the Citywide Drainage Study, including:

- Identification of structures requiring maintenance.
- Scheduling structures identified as requiring immediate maintenance for service. Due to the significant number of stormwater features identified as needing maintenance, the City is requesting assistance in the recovery of structures requiring maintenance.
- Widespread maintenance of the stormwater system will improve the performance of the system during storm events by restoring capacity to systems, and provides removal of sediment, trash and other stormwater contaminants from the stormwater system.
- Water quality improvements associated with Chesapeake Bay TMDL compliance strategy for removal of sediment from storm drain structures.
- Enabling more proactive maintenance of the entire stormwater system in the future.
- Improving the City's knowledge of their stormwater system for a variety of purposes, including to track discharges from the stormwater systems and to better understand flooding issues.
- Identification of illicit discharges during Citywide Drainage mapping efforts.
- Identification of previously unmapped stormwater BMPs and outfalls complements the City's MS4 Program compliance.
- Modeling of stormwater systems to identify areas in the City in need of capacity improvements.
- Identification of outfalls with non-operational flap gates. The City is requesting assistance to assist with maintenance at these locations and to retrofit the flap gates with new technology backflow prevention devices.

In addition to the benefits above, the request includes the restoration of three (3) vital outfalls within the City's Harbor area, identified as part of the Citywide inventory. The restoration of the outfalls will provide immediate improvement of stormwater discharges to the River upon construction. Therefore, there will

be, upon construction, immediate improvements to life safety for motorists and improved flooding conditions and resulting damages to structures and infrastructure.

The results of the proposed study for flood and sediment transport conditions in the harbor area and other critical areas in the city will provide the city a plan/framework for restoring natural riverine conditions and sediment transport in the Harbor area, identifying areas in the city critical for sediment removal, and identifying future projects to improve flooding conditions within the city.

Budget Narrative

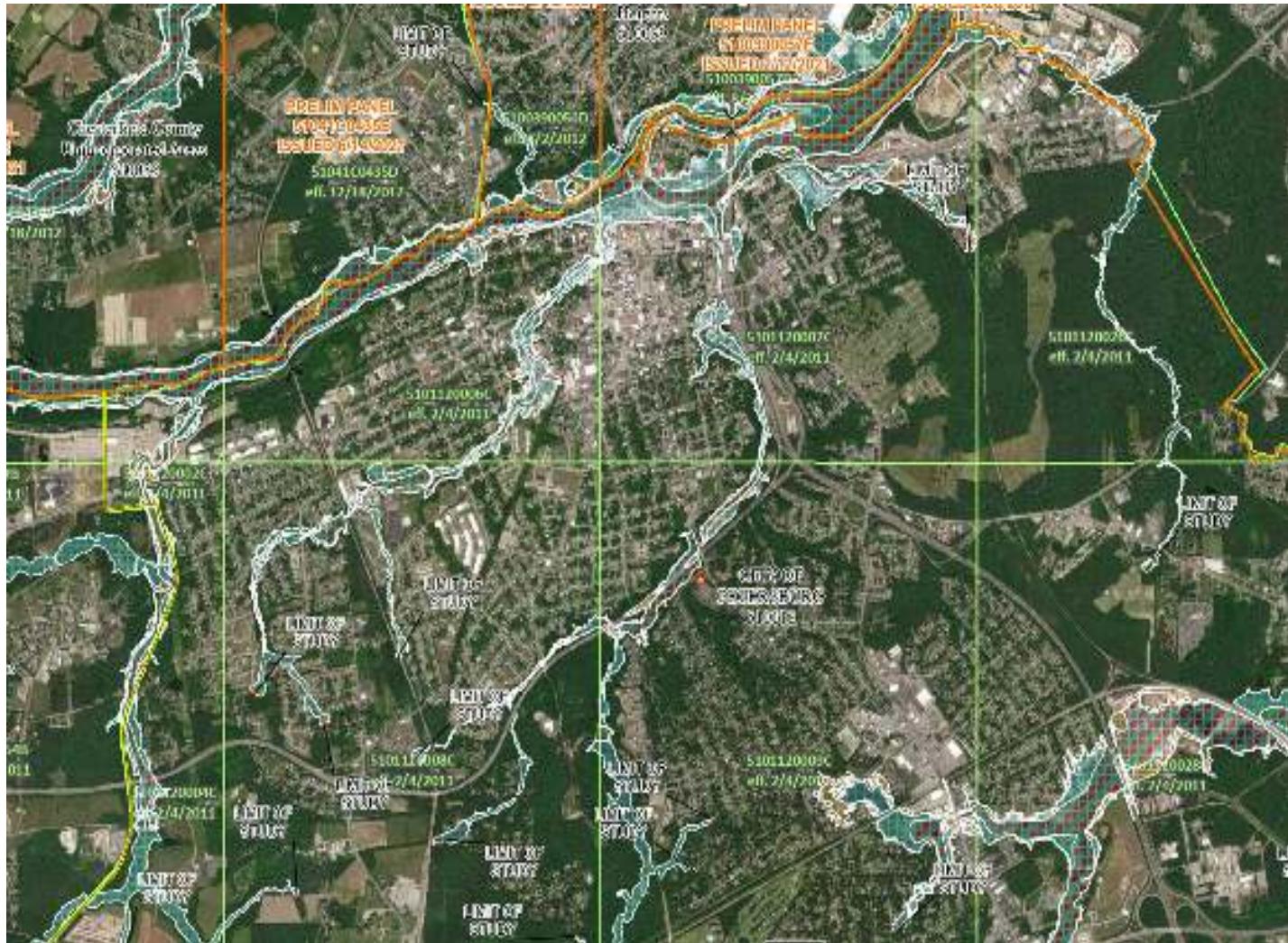
Applicant Name: Community Flood Preparedness Fund & Resilient Virginia Revolving Loan Fund
Structural Conveyance and Beneficial Reuse

Detailed Budget Narrative

Period of Performance: 2024 through 2027
Submission Date: 11/12/2023

							Grand Total State Funding Request	\$ 3,605,000.00	
							Grand Total Local Share of Project	\$ -	
							Federal Funding (if applicable)	\$ -	
							Project Grand Total	\$ 3,605,000.00	
							Locality Cost Match	0%	
Breakout By Cost Type	Personnel	Fringe	Travel	Equipment	Supplies	Contracts	Indirect Costs	Other Costs	Total
Federal Share (if applicable)									
Local Share									
State Share						\$ 3,605,000.00			\$ 3,605,000.00
Pre-Award/Startup									
Maintenance									
Total						\$ 3,605,000.00			

COMMUNITY FLOOD PREPAREDNESS FUND PROJECT GRANT APPLICATION



CITY OF PETERSBURG, VA

COMMUNITY ID #510112

SUBMITTED NOVEMBER 12, 2023



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CFPF Grant Application: Projects

1.0. Scope of Work Narrative

Needs and Problems

The purpose of this application is to request funds to implement flood prevention and protection projects in areas that are subject to recurrent flooding. A Citywide Drainage Study is underway to inventory and assess all storm infrastructure and conveyances within the City of Petersburg, made possible with Round 2 CFPF funding. The goal of the Citywide Drainage Study is to locate, attribute, and assess stormwater assets (public and private) within the City. A key outcome from the Citywide Drainage Study is that areas of capacity-constrained stormwater infrastructure will be identified and a prioritized list of projects to improve flooding conditions will be identified. As the Citywide Drainage Study has been in progress, additional needs have been identified for the successful completion of the project.

Specific problem being solved:

The extent of the stormwater drainage conveyance system within the City of Petersburg has been revealed to be more extensive than originally estimated. Further, the stormwater inventory and assessment phase of the Citywide Drainage Study has categorized a significant number (approximately 20%) of stormwater assets as inaccessible for complete mapping/attribution due to reasons such as needing sediment/trash removal, access issues (bolted or stuck lids), extensive traffic control needs to access structures, etc. In addition, the inventory effort identified three (3) outfalls located near the old City Harbor with flap gates that are not operational due to sediment deposition. The round 4 CFPF grant request is for: 1) Funding the inventory and modeling of additional stormwater infrastructure units encountered during the ongoing Citywide Drainage Study 2) Assistance with hiring a 3rd party to assist the city with structure recovery efforts of inaccessible structures identified during the Citywide Drainage Study and 3) Recovery of three (3) outfalls, including dredge of sediment and replacement of backflow prevention device with Tideflex® or approved equal, located within the City's old harbor and 5) Study flood and sediment transport conditions of the Harbor, Appomattox River and other areas of the city to identify critical areas within the city where dredging of sediment and other materials can contribute to flood risk reduction and to evaluate green solutions to revitalize the waterway and encourage natural riverine conditions and sediment transport.

Factors which contribute to the identified problem:

The City is a low-income geographic area, as defined in the CFPF Grant Manual, as an area where the median household income (\$44,890) is significantly less than 80% of the local median household income (\$80,615 in VA), according to the US Census Data in 2022¹. Further, several areas in the City are designated as Qualified Opportunity Zones, as presented in the supporting documentation. The City is low-income geographic area and limited by public funding. As a result, the City relies on funding assistance and partnerships to complete many studies and capital projects. Funding the inventory and analysis of the extensive number of additional encountered stormwater infrastructure as part of the Citywide Drainage Study is not possible with current City budget. The City has attempted to recover the inaccessible stormwater assets with City resources, but is overwhelmed by the number of inaccessible structures and does not have the personnel and resources available to provide timely recovery of the inaccessible structures, including the three outfalls in the City's old harbor that need dredging and backflow prevention device replacement to be operational. The existing flap gates are blocked from operating properly due to mud and silt settling in and around the flap gates. With the flap gates stuck, stormwater cannot discharge appropriately from the downtown area, and this contributes to flooding conditions of the downtown area during storm events. The hydraulics and sediment transport condition

¹ <https://www.census.gov/quickfacts/fact/table/petersburgcityvirginia,VA/PST045222>

of the Appomattox River and the Harbor area and other areas within the city is complicated. Deposition in these areas prevent effective discharge from the outfalls along the River. A study will identify potential green solutions to improve sediment transport and reduce dredging maintenance for continued effectiveness of the stormwater outfalls to the river and other areas of the City.

Why the project is needed:

In order to address current and future flooding issues due to inadequate, unmaintained, and antiquated storm sewer systems, the City is requesting additional funding to: complete the Citywide Drainage Study inventory and modeling, to support associated encountered maintenance efforts, restore operation to three (3) vital stormwater outfalls, and to study conditions contributing to the deposition of sediment. If provided, Round 4 CFPF funding will allow the City to: complete the inventory and hydraulic modeling of the additional encountered stormwater infrastructure, provide maintenance and dredging efforts to those structures requiring maintenance, understand and prioritize improvements that will improve sediment transports, and improve public safety risk by reducing flooding on roads and near residences.

How the project decreases the risk to public safety through flood risk reduction:

The mapping of the entire City's stormwater infrastructure will enable proactive maintenance of the system, complement the City's MS4 program, and better understand and appropriately plan for improvements in capacity constrained areas of the City. The ability to perform the identified maintenance associated with structure and outfall recovery will provide immediate improved performance of the stormwater system, reducing the instances of road closures, car strandings, and emergency rescues required in storm events. Further, the 3rd party maintenance assistance will allow for complete data collection and more accurate modeling of the existing stormwater infrastructure system. As a result, more accurate project identification for flood risk reduction and improved conveyance can be provided, and a plan for improving sediment transport can be developed. Future implementation of the identified flood improvement projects will lead to long-term flood reduction risks for the citizens of Petersburg.

How the project protects or conserves natural resources:

The Round 4 CFPF request includes providing the City with 3rd party assistance to perform identified maintenance on the stormwater system. The maintenance will remove trash, sediment and other contaminants from the stormwater system and receiving streams, thereby improving and protecting the receiving stream quality. The contracted maintenance provider will be required by contract to provide material tickets to quantify the materials removed from the storm drain system. As such, the City will be able to utilize this effort for pollutant removal credit associated with compliance with the City's Chesapeake Bay TMDL Action Plan utilizing the strategy for Storm Drain Cleaning (Appendix V.G of the DEEQ Guidance Memo No. 20-2003 – Chesapeake Bay TMDL Special Condition guidance, February 6, 2021). For the Harbor dredging project, soil testing will be completed to determine if the material is contaminated. If the material is contaminated, the City will properly dispose of the material. If not contaminated, the City will explore and pursue beneficial uses for the dredge material, including the use as fill material for construction and environmental projects, use as a soil amendment, etc.

Who is protected:

If complete funding for the request is provided, the project will benefit citizens citywide within the City of Petersburg with short-term and long-term flood risk reduction.

The Safety Threats or Environmental Concerns Related to Flood Risk.

The ability to accurately map, attribute, and perform hydraulic modeling of all stormwater assets within the City of Petersburg will allow the city to better protect citizens from flood risks in the future. In addition, a complete stormwater inventory of the City's stormwater assets will allow the city to identify at-risk outfalls in the case of

illicit discharges in the City. The ability to perform the identified maintenance will provide immediate improved performance of the stormwater system, reducing the instances of road closures, car strandings, and emergency rescues required in storm events. Recovery of the three (3) vital outfalls will improve flooding conditions in the downtown area. Further, the ability to perform identified maintenance will remove trash, sediment and other contaminants from the stormwater system and benefiting receiving stream water quality.

Groups to be targeted who might directly benefit from this flood risk reduction effort.

The citizens of the City of Petersburg are targeted for feedback and will directly benefit from this flood risk reduction effort. The Citywide Drainage Study has a Public Outreach component. As part of the project, the public outreach team makes social media posts on the City's social media accounts, maintains a project web page, attends Ward meetings, and other opportunities to engage the public for feedback regarding flooding issues.

What would happen (or not happen) if the applicant does not receive funding:

Without round 4 CFPF funding, the City will not be able to complete a full citywide inventory of the existing stormwater conveyance system and, consequently, will not be able to perform hydraulic modeling of the citywide existing conveyance system. Further, without the requested 3rd party maintenance assistance, the City does not have the personnel and resources to provide prompt maintenance of the identified maintenance deficiencies of the stormwater system. The City will need to schedule the identified maintenance issues over a long period of time, thereby delaying immediate improvements to the hydraulic capacity. In addition, the City's downtown area has repeatedly been plagued with flooding associated in the areas that drain to the three (3) identified vital outfalls with non-operational flap gates. Without the requested funding, the flap gate replacement and associated dredging will be delayed until the City can designate funding for the effort, delaying the flood risk reduction.

Alternatives Analysis of the Viability of the Project

The ability to perform the identified maintenance will provide immediate improved performance of the stormwater system, reducing the instances of road closures, car strandings, and emergency rescues required in storm events. Further, the 3rd party maintenance assistance will allow for complete data collection and more accurate modeling of the existing stormwater infrastructure system. As a result, more accurate project identification for flood risk reduction and improved conveyance can be provided. Future implementation of the identified flood improvement projects will lead to long-term flood reduction risks for the citizens of Petersburg.

The flap gate replacement with Tideflex® Valves, or approved equal, will provide a long-lasting, maintenance free solution for effective backflow prevention. The Tideflex® Valve, or approved equal, are proven to function even when covered in significant amounts of mud and other debris. Improved backflow prevention will improve flooding conditions currently associated with the non-operational flap gates.

Goals and Objectives

The goals of this project will be:

1. To complete the Citywide Drainage Study including the mapping and modeling of the additional encountered features of the stormwater conveyance system within the three-year grant agreement period.
2. To complete structure recovery maintenance of storm drains to facilitate the complete attribution and mapping of the existing stormwater system within the three-year grant agreement period. This task includes the removal and disposal of sediment, trash, and other contaminants. Quantify and document the removed material from storm drains for pollutant removal credit for the Chesapeake Bay TMDL Action Plan within the three-year grant agreement period.

3. To complete dredging at outfalls located within the Harbor near Pocahontas Island in order to restore functionality, and to retrofit Tideflex units, or approved equal, onto the outfalls to provide improved performance of back flow prevention. This task will be achievable within the three-year grant agreement period.
4. To study flood and sediment transport conditions of the Harbor, make recommendations for potential green solutions to revitalize the waterway and encourage natural riverine conditions. In addition, the study will identify critical areas within the City along the Appomattox River and other parts of the city where dredging of sediment and other material can contribute flood risk reduction. This task will be achievable within the three-year grant agreement period.

Work Plan

The Work Plan provided below details the major activities and tasks with the following sub-components identified for each task: (a) who is responsible for completing the activities and tasks, (b) the timeframe for accomplishing activities and tasks, (c) required partners to ensure success, and (d) deliverables.

1. Complete the Citywide Drainage Study including the mapping and modeling of the additional encountered features of the stormwater conveyance system.
 - a. The Petersburg Department of Public Works is responsible for completing the activities.
 - b. The task will be accomplished within the three-year grant agreement period.
 - c. Required partners for the task include contracting with a selected engineering consultant team selected to execute the work. The contract for additional encountered features will include a team comprised of engineering firm(s) to complete the inventory and modeling tasks, public outreach consultant, and surveying firm(s).
 - d. Deliverables include the creation of a GIS-based stormwater infrastructure system map with survey-grade location of assets, attribution of assets and established feature connectivity. Deliverable will also include hydrologic and hydraulic modeling of selected infrastructure, identification of and development of project alternatives.
2. Complete structure recovery maintenance of storm drains using a contracted 3rd party to facilitate the complete attribution and mapping of the existing stormwater system.
 - a. The Petersburg Department of Public Works is responsible for completing the activities.
 - b. The task will be accomplished within the three-year grant agreement period.
 - c. Required partners for the task include contracting with a 3rd party contractor to perform structure recovery tasks. The selected team will have the means to perform soil testing and the ability to properly dispose of removed material from the storm drain system. The team will provide to the City Stormwater Manager the material tickets quantifying the removed material.
 - d. Deliverables for the project will be the removal of trash/sediment from the storm drain system, soil testing results, and material tickets for the proper disposal of removed material.
3. Complete dredging at three (3) outfalls located within the Harbor near Pocahontas Island, and retrofit the current flap gates with Tideflex units, or approved equal to provide improved performance of back flow prevention.
 - a. The Petersburg Department of Public Works is responsible for completing the activities.
 - b. This task will be achievable within the three-year grant agreement period.
 - c. Required partners for the task include contracting with a 3rd party contractor to perform the dredging and flap gate retrofit task. The selected team will have the means to perform soil testing and the ability to properly dispose of removed material from the storm drain system. The team will provide to the City Stormwater Manager the material tickets quantifying the removed material.

- d. Deliverables for the project will be the removal of sediment from the vicinity of the identified outfalls, testing of the dredged material, and purchase and installation of three (3) Tideflex valves (or approved equal).
- 4. Study flood and sediment transport conditions of the Harbor, make recommendations for potential green solutions to revitalize the waterway and encourage natural riverine conditions. In addition, the study will identify critical areas within the City along the Appomattox River and other parts of the city where dredging of sediment and other material can contribute flood risk reduction.
 - a. The Petersburg Department of Public Works is responsible for completing the activities.
 - b. This task will be achievable within the three-year grant agreement period.
 - c. Required partners for the task includes contracting with a 3rd party consultant. The selected team will have public outreach coordinator on the team.
 - d. Deliverables for the task is a written study with associated mapping that identifies the location of critical areas for dredging and/or improved back flow prevention devices along the Appomattox River and other areas of the city.

Evaluation

Each of the tasks identified in the Work Plan have evaluation indicators listed:

- 1. Complete the Citywide Drainage Study including the mapping and modeling of the additional encountered features of the stormwater conveyance system.
 - a. Indicators of success is the development of GIS mapping and attribution of the additional units comprising the Citywide Drainage Study and the development of modeling existing capacity of key areas identified within the City with flooding concerns.
 - b. Data collected will be the mapped location feature attribution for each of the additional assets within the city.
 - c. The project has many benefits for the City and will be used to evaluate capacity of the existing stormwater systems, identify capacity-constrained areas of the city, identify flooding improvement strategies, enable better proactive maintenance of the stormwater system, complement the City's MS4 program associated with MCM3 and MCM5, target public outreach efforts regarding flood risk.
 - d. Outreach will be conducted using a variety of techniques, including social media posts, Ward Meetings, council meetings, newsletter posts, and other. Related tasks with this request will provide assistance in recovering structures for complete mapping of the city's stormwater infrastructure.
 - e. Project progress will occur in line with the Work Plan outlined above. The project will monitor progress using regular meetings with city staff and by establishing deadlines for task completion. Encountered conditions may cause delays in the schedule and schedule will be updated accordingly.
- 2. Complete structure recovery maintenance of storm drains using a contracted 3rd party to facilitate the complete attribution and mapping of the existing stormwater system.
 - a. Indicators of success will be the successful completion of structure recovery.
 - b. Data that will be collected will be material tickets for disposed material collected from the storm drain system and associated soil testing.
 - c. The project is cost effective because there will be immediate improvements in the existing conveyance capacity associated with the removal of sediment/trash. The structure recovery effort will allow for completion of task 1 and allow for more accurate modeling of the existing stormwater conveyance system.

- d. A 3rd party contractor will be contracted by the City of Petersburg to facilitate structure recovery efforts.
 - e. Project progress will occur in line with the Work Plan outlined above. The project will monitor progress using regular meetings with city staff and by establishing deadlines for task completion. Encountered conditions may cause delays in the schedule and schedule will be updated accordingly.
3. Complete dredging at three (3) outfalls located within the Harbor near Pocahontas Island and retrofit the current flap gates with Tideflex® valves or approved equal to provide improved performance of back flow prevention.
- a. Indicators of success will be the removal of sediment around the identified outfalls and the replacement of the flap gates with Tideflex® Valves or approved equal.
 - b. Dredged material from around the identified outfalls will be tested for contamination. If the material is contaminated, success will be the removal of contaminated material from the river. Material tickets will be collected and reported for disposal of contaminated material. If the material is not contaminated, the City will explore beneficial reuse of the material including use as structural fill for ongoing projects, etc.
 - c. Cost effectiveness of the project is beneficial because the removal of sediment and use of Tideflex® valves, or approved equal, will enable the outfalls to function and will reduce flooding in the downtown area of the city that discharges to these outfalls.
 - d. Products used with this task will include Tideflex® Valves or approved equal. Services will be provided by a 3rd party contractor under contract with the City of Petersburg.
 - e. Project progress will occur in line with the Work Plan outlined above. The project will monitor progress using regular meetings with city staff and by establishing deadlines for task completion. Encountered conditions may cause delays in the schedule and schedule will be updated accordingly.
4. Study flood and sediment transport conditions of the Harbor, make recommendations for potential green solutions to revitalize the waterway and encourage natural riverine conditions. In addition, the study will identify critical areas within the City along the Appomattox River and other parts of the city where dredging of sediment and other material can contribute flood risk reduction.
- a. Indicators of success will be the written report and associated mapping documenting the findings of the study.
 - b. Data that will be collected includes discharges along the Appomattox River, an evaluation of the discharges within the Harbor area, calculation of sediment transport within the river and Harbor.
 - c. The study will be cost effective because it will study how the Appomattox River and Harbor area currently transports sediment and will evaluate alternatives to improve sediment transport along the Appomattox River and the Harbor area. The goal of the study is to identify potential solutions to reduce sediment deposition along the city's frontage of the Appomattox River and within the Harbor to reduce dredging maintenance needs in the future and promote better discharge of the City's stormwater conveyance system into the receiving waterways. The study will also identify additional outfalls in the city where dredging provides an opportunity to improve flooding conditions.
 - d. The city will contract with an engineering firm/team to conduct the study. Success will be measured with report deliverable to the City.
 - e. Project progress will occur in line with the Work Plan outlined above. The project will monitor progress using regular meetings with city staff and by establishing deadlines for task completion. Encountered conditions may cause delays in the schedule and schedule will be updated accordingly.

<https://www.msn.com/en-us/news/us/petersburg-neighborhood-sees-environmentally-friendly-way-to-reduce-stormwater-runoff/ar-BB1gzpEn>

[Petersburg neighborhood sees environmentally friendly way to reduce stormwater runoff \(msn.com\)](#)

Petersburg neighborhood sees environmentally friendly way to reduce stormwater runoff

Bill Atkinson, The Progress-Index - May 10

PETERSBURG — A non-profit organization has announced plans to help an eastern Petersburg neighborhood by extending storm sewers and installing equipment that will remove debris, therefore eliminating issues with storm-drain back-ups and spot-flooding.



© James River Association. Construction equipment will be a common sight along Brunswick Street as crews install two sections of reinforced concrete pipe and a filter station to reduce problems with stormwater runoff.

Two sections of concrete pipe — one 175 feet and the other 50 feet — will be put in along Brunswick Street between Culpeper and Slagle avenues in the city's Lakemont area near East Washington Street. A hydrodynamic separator will also be put in place to filter trash, sediment and hydrocarbons out of the water flowing through the drain that will prevent backwash from ponding across the street.



© James River Association. Pipe

The Culpeper Avenue Storm Sewer Extension Project, as it is being called, is spearheaded by the James River Association, in association with the city of Petersburg, Lakemont Neighborhood Watch, the Timmons Group and the Petersburg Healthy Opportunities Partnership.

The JRA said traditional post-storm conditions in that section of Lakemont made it a prime candidate for the project

"Two local consequences of global climate change are rainier years and high intensity rain events that contribute to localized flooding in communities like Lakemont," Justin Doyle, JRA's community conservation manager, said. "Areas of Lakemont are prone to flooding after rain events, and we are hopeful that this project will begin to alleviate flooding that occurs at the intersection of Brunswick Street and Slagle Avenue, and promote community resilience."

CONCEPT PLAN



On-Street Opportunities

- Sidewalks and Natural Drainage
 - Primary Route
 - Secondary Route
- Safe Crossing
 - Intersection Retrofit
- Natural Drainage Retrofit
- Swales
- Existing Infrastructure
 - Stormwater Infrastructure Improvements

A Specific Recommendations.

Off-Street Opportunities

- Natural Drainage Retrofit
 - Planted Buffer and Improved Swale
 - Rain Garden
- Trails
 - Connect to Existing Trails
 - On-Street Route
 - Trailhead Access
- Existing Sidewalks
- Existing Trails



Grassy Swale Example:

Grassy swales along streets without sidewalks could address street flooding by providing holding space for stormwater during rain events – swales are designed to drain after rain event to avoid standing water. Swales can also be designed for ease of maintenance and to minimize trash collection.

The announcement caps a six-year project to improve drainage along Brunswick Street.

In 2016, JRA and the city created a walkable watershed concept plan, a policy for fixing not only drainage issues but also improving access to local walking trails, including the Petersburg National Battlefield that neighbors Lakemont. Two years later, an absorbent walkway was put in to create a cleaner path to Lakemont Elementary School and the battlefield.

The Timmons Group then did a drainage study of the area and had residents rank seven potential stormwater mitigation projects in importance. The Culpeper Avenue project was the top choice.

The project is being funded by the city, the National Fish and Wildlife Foundation and the U.S. Environmental Protection Agency. Southern Construction Utilities Inc. will do the work.

Bill Atkinson (he/him/his) is the news director of The Progress-Index, located in his hometown of Petersburg, Va. He is also the breaking-news coordinator and has been known to "nerd out" over political news coverage and history. Contact Bill at batkinson@progress-index.com, and follow him on Twitter at @BAtkinson_PI, and subscribe to us at progress-index.com.

This article originally appeared on The Progress-Index: [Petersburg neighborhood sees environmentally friendly way to reduce stormwater runoff](#)

<https://www.nbc12.com/2021/07/09/petersburg-workers-rescued-after-becoming-trapped-floodwaters-70-roads-closed/>

[Petersburg workers rescued after becoming trapped in floodwaters \(nbc12.com\)](#)

Petersburg workers rescued after becoming trapped in floodwaters

By NBC12 Newsroom

Published: Jul. 8, 2021 at 7:27 PM EDT|Updated: Jul. 9, 2021 at 6:14 PM EDT

PETERSBURG, Va. (WWBT) - Rain from Tropical Storm Elsa caused flash flooding in Petersburg, which quickly caused city workers to become trapped in floodwaters.

[Heavy rain, isolated tornado threat from Elsa Thursday](#)

Crews rescued two public works employees from the roofs of vehicles on Thursday night.

Officials said the crews were out on Madison and Bollingbrook streets putting up signage when the water rapidly rose, causing them to get stuck.

The two were rescued and are now safe.

A spokesperson said that 70 percent of roadways in Petersburg were closed due to flooding on Thursday. Residents are asked to stay home and off the roadways.

“It is dangerous. It’s quite dangerous. Even roads that may not be blocked off, which is 30% of them, there could be lots of ponding that you might not see that could cause an accident,” Petersburg spokesperson Joanne Williams said.

A Ford Mustang also became stuck in high water on Wythe Street. NBC12's Brent Solomon reports that the driver tried to push the car out after it stalled.

Petersburg police said the following roads, as of 5 p.m. on July 9, are closed due to high water:

- Franklin Street - tree down
- Roylart Road - tree down

Across Central Virginia, anywhere from 2-5 inches of rain is possible.

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<https://www.msn.com/en-us/weather/topstories/flash-flooding-causes-road-closures-in-petersburg/ar-AAMAk3a>

[Flash flooding causes road closures in Petersburg \(msn.com\)](#)



Richmond-Petersburg WWBT

Flash flooding causes road closures in Petersburg

NBC12 Newsroom - Jul 26

PETERSBURG, Va. (WWBT) - Flash flooding has caused several road closures in Petersburg as storms move through Central Virginia.



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As of 6 p.m., between three and three-and-a-half inches of rain have already fallen, and more rain is expected Monday evening.

The following roads in Petersburg are closed:

- Bank Street between Crater Road and Madison Street
- Joseph Jenkins Robert's Parkway between Third Street and Fourth Street
- Bollingbrook Street between Crater Road and Madison Street

Officials said there is also ponding on many streets and drivers should be cautious.

"We are prepared and expect that some low areas in the city may flood during heavy downpours," says City Manager Stuart Turille earlier on Monday before the storms. "City crews will close roadways with high water and will continuously monitor all street conditions."

The Petersburg Department of Public Works has been cleaning drains following recent flash flooding from Tropical Storm Elsa.

According to Turille, infrastructure in the city is more than 150 years old and needs upgrading.

"Engineering consultants are working on a storm drainage management plan," Turille said. "Once a plan is finalized and costs determined, the City will apply for grants from state and federal agencies to pay for the needed upgrades."

Residents are asked to be cautious during heavy rain and flash flood situations:

- Don't walk, swim or drive through floodwater. Six inches of fast-flowing water can knock you over and two feet will float a car. Never drive through barricades.
- If caught on a flooded road with rapidly rising waters, get out of the car quickly and move to higher ground. Most flood fatalities occur in vehicles.
- Don't walk along streams or riverbanks.
- Don't allow children or pets to play in or near flood water.
- Avoid any contact with floodwater. It may be contaminated with harmful chemicals and debris that are not visible from the surface.

- Stay out of areas subject to flooding. Underpasses, dips, low spots, etc. can become rapidly filled with water.

If residents see clogged drains or fallen trees, please call Street Operations at 804-733-2415 from 8 a.m. to 5 p.m. To report any flooded areas after 5 p.m., call the Petersburg Police Department's non-emergency number at 804-732-4222.

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[Petersburg to use federal dollars to upgrade stormwater management system | 8News \(wric.com\)](#)

Petersburg to use federal dollars to upgrade stormwater management system

THE TRI-CITIES

by: [Sabrina Shutters](#)

Posted: Sep 1, 2021 / 03:48 PM EDT / Updated: Sep 1, 2021 / 08:52 PM EDT

PETERSBURG, Va. (WRIC) – Heavy winds, dark skies and rain hit Petersburg as the remnants of Hurricane Ida passed through Central Virginia Wednesday.

Flooding has been a long time issue in Petersburg, but the city said they were prepared for the worst Wednesday.

Ominous clouds moved over Petersburg Wednesday afternoon, bringing on and off rain showers to the city. Rain water could be seen rushing into storm drains near city hall.





City Manager Stuart Turille said the city's fire and police departments were on standby Wednesday, prepared to close streets as needed and help keep vehicles and people away from areas in the city that flood during hard downpours.

On Tuesday, the Petersburg Department of Public Works cleaned storm drains throughout the city to prepare for Wednesday's storm.

"My basement is a pool": Petersburg man frustrated with city after home floods again

Turille said the city is working on hiring a contractor to come in and perform a study to replace some of the old infrastructure causing flooding issues, using funding from the American Recovery Act.

"We're going to fix these problem areas," Turille said in an interview with 8News Wednesday.

He said Wednesday's storm brought in by Ida was just a test of the city's drainage system. The city is using the storm to collect data.

"These events just point out, highlight the urgency of the need for long term planning," he said.

The data is part of a new study that will help the city figure out where infrastructure needs to be replaced the most to minimize flooding when severe storms occur.

"We have the money now to actually put in culverts, construct more ditches, interconnect more pipes, replace the old pipes that were laid here in 1820 and fix the system," Turille said.

Petersburg received \$21 million dollars from the American Recovery Act funding, and Turille said part of that money will go towards the project. A press release sent out by the city on Tuesday said the city will also apply for grants from state and federal agencies.

PHOTOS: Severe weather wreaks havoc on Southwest Virginia as state prepares for remnants of Hurricane Ida Wednesday

For now, Petersburg Police Chief Travis Christian reminds the public, it's still important to remember your own safety during severe weather.

"If you see high water, don't drive through the water. If you see downed power lines, don't attempt to go near the power lines, don't attempt to go near wet areas where you see power lines, and by all means, try to stay inside the residence if at all possible and don't come out in the weather," Christian said.

The city is still looking for a contractor for the planned study.

If citizens see clogged drains or fallen trees, they're asked to call street operations at (804) 733-2415 during normal working hours (8 a.m. – 5 p.m.).

To report any flooded areas or other concerns after 5 p.m., residents can call the Petersburg Police Department's non-emergency number, (804) 732-4222. Call 9-1-1 for emergencies, including any emergencies where you must exit your home due to flooding.

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<https://www.wric.com/news/taking-action/homeowner-fed-up-with-flooding-and-damage-to-his-home-blames-petersburg/>

[Homeowner fed up with flooding and damage to his home, blames Petersburg | 8News \(wric.com\)](#)

Homeowner fed up with flooding and damage to his home, blames Petersburg

TAKING ACTION

by: [Kerri O'Brien](#)

Posted: Sep 16, 2021 / 09:27 PM EDT / Updated: Sep 17, 2021 / 08:25 AM EDT

Petersburg, VA (WRIC-TV) — A Petersburg homeowner claims the city has failed to maintain its storm water system and it's causing his property to flood.

"When it rained, I had almost three feet of water come across the back year," said Alonzo Saunders.

Saunders told 8News every time it rains, the Brickhouse Run Stream that runs next to his Washington Street home, backs up and floods his home. Saunders showed us sand, sticks and other debris left in his backyard. He said, "This is debris that has actually washed up to the house."

The water is damaging his home. The foundation is shifting. Saunders said, "All this washed out. So, this is my foundation right here and there's nothing here."

Heavy rains causing flash flooding, dangerous driving conditions in Richmond

The Petersburg homeowner believes debris and overgrowth, in what is supposed to be part of the city's storm water drainage system, is clogging the stream. He said, "It's got so much debris, so much trash, so many obstacles."

He even showed us what appears to be the remnants of a bridge that collapsed years ago.

"The city never cleaned it up," said Saunders.

8News has learned the state has told the city it needs to clear the stream. In an email shared with 8News, Virginia's Director of Dam Safety and Floodplain Management Wendy Howard-Cooper writes: "My team has been working with the city on this and I am waiting on confirmation that the debris was actually removed this week as required."

Howard-Cooper told 8News the [State Department of Conservation and Recreation](#) sent someone out to look at the waterway. She says they found tires and trash and told the city it's got to go.

StormTracker8: Flooding to abate this evening: more scattered showers Friday

"The city has neglected to clean it," said Saunders. In an email, Joanne Williams, a spokesperson [for Petersburg](#) said the city and state department have "discussed a plan to move forward with next steps in solving any possible flooding issues."

Saunders says the other problem is, there's no retaining wall on his side of the stream. It crumbled into the water. He said, "You can still see down here where the retaining wall is." He told us he asked Petersburg to put a new but was told it's not their responsibility.



Photo: Kerri O'Brien/8News

The homeowner tells us he's been complaining to the city for two years now. He even filed a claim with the city but it was denied. Petersburg's insurance provider found "no liability on the part of the City of Petersburg."

However, an independent engineer hired by Saunders disagrees. The professional engineering company found "The abandoned debris in the creek, the large impervious areas that drain into the creek, the lack of a storm water management system and the City of Petersburg's failure to maintain the retaining walls, have all contributed to the flooding of the crawl space and damage to the home's structural members."

I-95 southbound lanes near Belvidere Street reopen after flooding

"I feel like I have been done an injustice," said Saunders. He says he bought the property as an investment and is now losing money on it. He said, "Can't sell it. I don't want to rent it because it's a danger. You got stagnant water out here, mosquitoes."

Williams says that report from the engineer was never shared with the city. We're told it has now been forwarded. Since 8News started asking questions about Saunders' flooding problems we've been told public works is sending an engineer to the site next week.

Williams also told us, "The City is going to work with the property owner in trying to determine what may be causing any water issues, as well as continue to work with DCR."

Petersburg officials have publicly acknowledged in the past the city has storm water management issues and we're told Petersburg is working on a plan.

UPDATE: Petersburg water main break repairs complete Sunday afternoon

Saunders had a plan for them. He said, "First and foremost fix the drainage problem, after that, fix my house."

In the meantime, The state's Director for Safety and Floodplain Management told 8News Saunders home is sitting in a floodplain. She said, "that's a recipe for disaster."

She said there's no quick fix and some of the structures in the area may need to be removed. They told us the department (DCR) knows Petersburg is aware it

has a flooding problem and is aware it needs to build a solid plan with funding to fix it. Howard-Cooper said there is federal FEMA funding they city could apply

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<https://www.wric.com/news/local-news/the-tri-cities/it-floods-every-major-rain-petersburg-sets-aside-over-2-million-to-repair-storm-drainage-system/>

[‘It floods every major rain’: Petersburg sets aside over \\$2 million to repair storm drainage system | 8News \(wric.com\)](#)

‘It floods every major rain’: Petersburg sets aside over \$2 million to repair storm drainage system

THE TRI-CITIES

by: [Tyler Thrasher](#)

Posted: Oct 1, 2021 / 07:09 AM EDT / Updated: Oct 1, 2021 / 05:23 PM EDT

PETERSBURG, Va. (WRIC) — With the addition of over \$9 million from the American Rescue Plan Act federal, Petersburg City Council determined **storm drainage system repairs are one of their top priorities** for utilizing the grant funding.

The city has committed to using **around \$2.1 million** from the funding to repair Petersburg’s aging infrastructure that results in regular flooding in the area.

“My basement is a pool”: Petersburg man frustrated with city after home floods again

Petersburg City Manager Stuart Turille attributed the changing climate and lack of infrastructure evaluation as the reason the flooding has become a more significant challenge for the city.

“It happens every major rain. The storm drainage system has had no comprehensive evaluation study likely in over 60 years,” Turille explained. “There is aging infrastructure laying in the ground that is nearly 200 to 300 years old. There are even more impervious surfaces in the city. It is not suitable for the city and stormwater runoff.”

Turille said the city has seen storms of greater intensity and frequency over the last several years, which has created even more flooding.

“We have shovel-ready projects mapped out for the worst areas in the city for flooding. We know those and are ready to get going on them,” he said. “A storm drainage study will be happening soon to determine the worst flooded areas, but

we know from on the ground experience that we can't wait for a map to be done for certain areas."

He noted Claremont Street, North Whitehill Drive and Bank Street as three of the first areas the city will handle when construction is ready to begin in the near future.



Flooding on Claremont Street in Petersburg

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<https://www.nbc12.com/2022/06/27/multiple-roads-petersburg-closed-due-flooding/>

Multiple roads closed in Petersburg and Chesterfield due to flooding



Flooding on Bank Street in Petersburg (City of Petersburg)

By NBC12 Newsroom

Published: Jun. 27, 2022 at 5:33 PM EDT

PETERSBURG, Va. (WWBT) - Petersburg officials say multiple roads are closed due to flooding.

The city says several roadways are closed because of high water levels in the Old Towne area.

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Flooding on Bollingbrook Street in Petersburg (City of Petersburg)

Petersburg police, fire and public works are monitoring roadways throughout the evening.

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Anyone can report flooded roads or fallen trees blocking roads to the Public Works Street Operations Division at 804-733-2415 or the non-emergency police at 804-732-422.

In Chesterfield, Ware Bottom Spring Road is closed between Old Stage Road and Ramblewood Road due to high waters.

Chesterfield Fire and Emergency Medical Services 
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Ware Bottom Spring Rd is closed between Old Stage Rd and Ramblewood Rd due to high water. Please plan your evening travel accordingly.

5:25 PM · Jun 27, 2022 

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[Chesterfield Fire and Emergency Medical Services](#) say drivers should plan evening travel accordingly.

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A LEGO Fest Is Coming To Chicago, Tons Of Fun For All Ages!



How Petersburg prepares for potential Ophelia flooding



As Tropical Storm Ophelia moved closer to Virginia on Friday, city crews and business owners in Petersburg, Virginia, worked to prepare for the heavy rain the storm might bring.



By: Wayne Covil

Posted at 3:40 PM, Sep 22, 2023 and last updated 4:53 PM, Sep 22, 2023

PETERSBURG, Va. -- As Tropical Storm Ophelia moved closer to Virginia on Friday, city crews and business owners in Petersburg, Virginia, worked to prepare for the heavy rain the storm might bring.

"If we get one inch of rain, hopefully in an hour and a half, I'll be ok," Bank Street business owner Matt Carden said. "But when I have trouble is when we have an inch of rain in 30 minutes."

Having experienced flooding on Bank Street before, Carden has a plan in place.

Courtesy photo by Emily Swope

"All my books will be in here and my battery charger and floor jacks and stuff like that," he said about a safe container he planned to put in his truck. "[Then] I'll lift the truck up."

Because East Bank Street is well known for flooding, Petersburg Public Works responded Friday when a business owner reported a clogged drainage pipe.

Cleaning out pipes and storm drains in flood-prone areas was a top priority this week for city work crews.

"It's crucial to keep these streets from flooding," Petersburg Public Works Director Jerry Byerly said. "We've checked all the vehicles that will be used this weekend."

He said the city had barricades at the ready in case the roads became impassible.

"We're going to be out with barricades in places, that historically flood, pre-positioning some barricades so we can close roads if need be," he said. "If we get a heavy downpour, couple inches an hour, there probably will be some road closed."

Petersburg is currently using a \$2 million grant to identify flood-prone areas and to find solutions for stormwater management while dealing with a 100-year-old infrastructure that has to be upgraded and expanded.

Virginia Governor Glenn Youngking declared a state of emergency on Friday and the intensifying weather system has forced schools to close early and canceled weekend events. Ophelia has maximum sustained winds of 60 miles per hour, and storm surges between 3 and 5 feet are forecast for parts of North Carolina and Virginia. Rainfall up to 7 inches is also expected in some areas.

Petersburg leaders urged neighbors to stay home during the height of the storm.

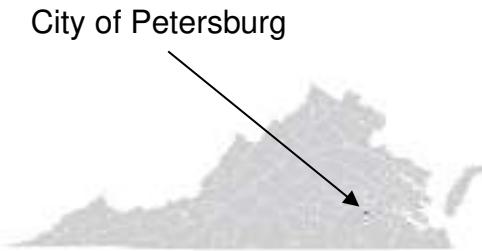
"The City team is prepared to address storm and flooding issues tonight and on Saturday," City Manager March Altman said. "Our main concern is to keep Petersburg citizens safe and secure during emergency situations."

Depend on CBS 6 News and WTVR.com for in-depth coverage of this important local story. Anyone with more information can [email newstips@wtvr.com](mailto:newstips@wtvr.com) to send a tip.

FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 1



CITY OF PETERSBURG, VIRGINIA

INDEPENDENT CITY

COMMUNITY NAME	COMMUNITY NUMBER
PETERSBURG, CITY OF	510112



FEMA

Reprinted with corrections on June 8, 2023

REVISED:

December 15, 2022

FLOOD INSURANCE STUDY NUMBER
510112V000B
Version Number 2.6.4.6

brief description of the basin, and its drainage area.

Table 4: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Appomattox	02080207	Appomattox River	Drains the northwestern two-thirds of the City of Petersburg.	1,610
Blackwater	03010202	Blackwater River	Drains the southeastern third of the City of Petersburg.	740
Nottoway	03010201	Nottoway River	Drains a small southwestern portion of the City of Petersburg.	1,723

4.2 Principal Flood Problems

Table 5 contains a description of the principal flood problems that have been noted for the City of Petersburg by flooding source.

Table 5: Principal Flood Problems

Flooding Source	Description of Flood Problems
Appomattox River	The Appomattox River is the source of most major flood problems in the City of Petersburg. The Appomattox River can flood any time of the year, typically from prolonged winter and spring storms or tropical storms that pass over the area in late summer and fall. Due to the hydrologic nature of the Appomattox River drainage basin, flood events typically last for several days. Three of the five largest floods in Petersburg were recorded between October 1971- 1972. Petersburg recorded highest peaks (cfs) of 40,800,28,000,22,800,21,100,18,800 in 1972,1940,1971,1970,1937 with recurrence intervals of 110,40,25,20 and 15 years respectively (FIS 2011)
Blackwater Swamp	Major flooding along Blackwater Swamp has been the result of summer thunderstorms, hurricanes, and snowmelt. (FIS 2011)
Brickhouse Run, Harrison Creek, Lieutenant Run, Poor Creek, and Rohoic Creek	Downstream sections of these reaches are impacted by the backwater from Appomattox river and susceptible to flooding. Brickhouse and Lieutenant Run flow through highly urban areas, while Harrison Poor and Rohoic Creek flow through commercial/industrial development and many of their structures are inadequate and creating ponding. (FIS 2011)

Table 6 contains information about historic flood elevations in the communities within the City of Petersburg.

Table 6: Historic Flooding Elevations

[Not applicable to this Flood Risk Project.]

4.3 Non-Levee Flood Protection Measures

Table 7 contains information about non-levee flood protection measures within the City of Petersburg such as dams, jetties, and or dikes. Levees are addressed in Section 4.4 of this FIS Report.

Table 7: Non-Levee Flood Protection Measures

[Not applicable to this Flood Risk Project.]

4.4 Levees

This section is not applicable to this Flood Risk Project.

Table 8: Levees

[Not applicable to this Flood Risk Project.]

SECTION 5.0 – ENGINEERING METHODS

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance, respectively, of being equaled or exceeded during any year.

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

In addition to these flood events, the “1-percent-plus”, or “1%+”, annual chance flood elevation has been modeled and included on the flood profile for certain flooding sources in this FIS Report. While not used for regulatory or insurance purposes, this flood event has been calculated to help illustrate the variability range that exists between the regulatory 1-percent-annual-chance flood elevation and a 1-percent-annual-chance elevation that has taken into account an additional amount of uncertainty in the flood discharges (thus, the 1% “plus”). For flooding sources whose discharges were estimated using regression equations, the 1%+ flood elevations are derived by taking the 1-percent-annual-chance flood discharges and increasing the modeled discharges by a percentage equal to the average predictive error for the regression equation. For flooding sources with

gage- or rainfall-runoff-based discharge estimates, the upper 84-percent confidence limit of the discharges is used to compute the 1%+ flood elevations.

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 12. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 9. Note: Discharges for flooding sources designated as Zone A on the FIRM are not shown in Table 9 of this FIS report, however, discharge values are included in the FIRM database in the S_NODES and L_SUMMARY_DISCHARGES feature classes. Stream gage information is provided in Table 11.

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Appomattox River	Upstream of the confluence with Brickhouse Run	1,357	19,707	26,101	31,503	37,462	53,881
Appomattox River	Upstream of the confluence with Fleets Branch	1,356	19,690	26,078	31,475	37,429	53,834
Appomattox River	Upstream of the confluence with Rohoic Creek	1,345	19,525	25,859	31,212	37,115	53,382
Blackwater Swamp	Approximately 1,000 feet upstream of County Road	4.8	590	809	831	1,172	1,616
Blackwater Swamp	Approximately 1,800 feet downstream of Country Drive	2.9	850	1,231	1,246	1,880	2,723
Blackwater Swamp	Upstream of Wagner Road	1.8	492	717	722	1,094	1,580
Brickhouse Run	At the confluence with Appomattox River	2.3	1,711	2,328	2,910	3,536	5,186
Brickhouse Run	Approximately 700 feet upstream of S West St	1.2	638	847	1,035	1,242	1,804
Brickhouse Run	Approximately 550 feet upstream of Elm Street	0.4	336	477	567	709	1,092
Harrison Creek	At the confluence with Appomattox River	2.9	782	1,119	1,368	1,634	2,228
Harrison Creek	Upstream of Norfolk Southern Railroad	1.8	332	562	770	1,004	1,504
Harrison Creek	Downstream of Hickory Hill Road	0.6	226	354	464	586	898

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Lieutenant Run	At the confluence with Appomattox River Navigation Channel	5.6	2,525	3,197	3,637	4,079	5,091
Lieutenant Run	Upstream of Johnson Road	3.3	1,046	1,495	1,919	2,407	3,711
Lieutenant Run	Downstream of East Washington Street	5.3	2,252	2,874	3,281	3,662	4,367
Poor Creek	At the confluence with Appomattox River Navigation Channel	2.6	1,075	1,189	1,276	1,449	1,863
Poor Creek	At East Washington Street	2.4	1,572	2,266	2,912	3,635	5,194
Poor Creek	Approximately 5,000 feet upstream of East Washington Street	1.9	1,643	2,378	3,040	3,750	4,907
Rohoic Creek	At the confluence with Appomattox River	9.6	1,792	2,636	3,383	4,267	8,571
Rohoic Creek	Upstream of Cattail Creek	4.9	990	1,475	1,929	2,405	4,550
Rohoic Creek	Upstream of Route 142	3.9	805	1,208	1,591	1,974	3,688

Figure 7: Frequency Discharge-Drainage Area Curves
[Not applicable to this Flood Risk Project.]

Table 10: Summary of Non-Coastal Stillwater Elevations

Flooding Source	Location	Elevations (feet NAVD 88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Unnamed tributary 2 to Blackwater Swamp	Upstream of Norfolk Southern Railroad	140.1	140.5	140.5	141.2	142

Table 11: Stream Gage Information used to Determine Discharges

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
Appomattox River	02041650	USGS	Appomattox River at Matoaca	1,342	04/04/1970	12/26/2015

5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Base flood elevations on the FIRM represent the elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed in Table 23, "Floodway Data."

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 12. Roughness coefficients are provided in Table 13. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
All Zone A Streams and Tributaries in HUC 02080207	Various	Various	Regression Equations	HEC-RAS 5.0.5	07/31/2019	A	Effects of hydraulic structures were not considered in the model.
All Zone A Streams and Tributaries in HUC 03010202	Various	Various	Regression Equations	HEC-RAS 5.0.5	07/31/2019	A	Effects of hydraulic structures were not considered in the model.
Appomattox River	Approximately 3,000 feet downstream of confluence with Interstate 95	Approximately 0.5 miles upstream of confluence with Rohoic Creek	Regression Equations	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Gage No. 02041650 was used in hydrologic analysis. Hydraulic models incorporated field measured bridge and culvert data. Modeling incorporates split flow through Interstate 95.
Appomattox River Navigation Channel	Convergence with the Appomattox River approximately 0.7 miles downstream of Interstate 95	Divergence from the Appomattox River approximately 200 feet downstream of U.S. Route 1	Regression Equations	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Gage No. 02041650 was used in hydrologic analysis. Hydraulic models incorporated field measured bridge and culvert data. Modeling incorporates split flow through Interstate 95.
Blackwater Swamp	Approximately 500 feet downstream of U.S. Highway 460	Approximately 250 feet downstream of Retnag Road	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.
Brickhouse Run	At confluence with Appomattox River	Approximately 370 feet downstream of Darby Drive	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulics models incorporated field measured bridge and culvert data. A culvert extends from S. South Street to Brown Street. The overland flow for this reach has been modeled separately.
Brickhouse Run Overland	At Brown Street	Approximately 150 feet upstream of S. South Street	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	A culvert extends from S. South Street to Brown Street. The overland flow for this reach has been modeled separately.
Harrison Creek	At confluence with Appomattox River	Approximately 1,640 feet upstream of East Washington Street	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Lieutenant Run	At confluence with Appomattox River Navigation Channel	Approximately 1,300 feet upstream of Baylors Lane	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.
Poor Creek	At confluence with Appomattox River Navigation Channel	Approximately 320 feet upstream of Pine Oak Drive	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.
Rohoic Creek	At confluence with Appomattox River	Approximately 60 feet upstream of Boydton Plank Road	Regression Equations	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.
Unnamed Tributary 1 to Blackwater Swamp	At confluence with Blackwater Swamp	Approximately 500 feet upstream of U.S. Highway 301	HEC-HMS 4.3	HEC-RAS 5.0.5	03/25/2020	AE w/ Floodway	Hydraulic model incorporated field measured bridge and culvert data.
Unnamed Tributary 2 to Blackwater Swamp	At Norfolk Southern Railroad	Approximately 1,200 feet upstream of Norfolk Southern Railroad	HEC-HMS 4.3	N/A	03/25/2020	AE	Static elevation mapped based on the hydrologic analysis of the storage area.

No Adverse Impact

Taking inventory of the existing conveyances will create no disruption in the storm system's capacity to manage flow, and maintaining the system will have a positive impact and likely decrease flooding in the areas where maintenance is carried out. Dredging near the outfalls, similarly, will allow backed-up water to flow as intended into the outfall channel. Thus, the activities of this project will impose no adverse impact upon the properties and will actually decrease flood vulnerabilities.

Ability of Local Government to Provide its Share of the Cost

The City is a low-income geographic area, as defined in the CFPF Grant Manual, as an area where the median household income (\$44,890) is significantly less than 80% of the local median household income (\$80,615 in VA), according to the US Census Data in 2022¹. Further, several areas in the City are designated as Qualified Opportunity Zones, as presented in the supporting documentation. Given these constraints, the City Manager has respectfully requested a waiver to match funds and that the cost of this project be covered in its entirety by the Fund.

¹ <https://www.census.gov/quickfacts/fact/table/petersburgcityvirginia,VA/PST045222>

Approach, Milestones, and Deliverables

If awarded, the City will use existing term contracts to assign task orders for completion of the engineering professional services to develop construction documents. Once the construction documents are prepared, the City will follow Virginia Procurement Law to publicly advertise for construction bids. The project may be subdivided to allow for competitive bidding and to expedite the construction process. Presented in the following is an estimated timeline with milestones and deliverables. The projects will be completed within three years of award.

Date	Milestone	Deliverable
December 2023	Anticipated Award	Announcement
January 2024	Commence Project – Citywide Survey	Issued task order
January 2024	Commence Project –Storm Sewer Maintenance	Issued task order
January 2025	Engineering	Model of City Storm Sewer Infrastructure
February 2025	Commence Project – Appomattox Outfall Study	Issued task order
July 2025	Commence Project – Harbor Outfall Maintenance	Issued task order
August 2025	Engineering – Appomattox Outfall Study	Flood Study Report
November 2025	Engineering – Harbor Outfall Maintenance	Construction Documents
December 2025	City Review – Harbor Outfall Maintenance	Bid documents
January 2026	Contractor Selection	Construction contract
June 2026	Construction – Harbor Outfall Maintenance	Completed project
Ongoing	Maintenance – City Storm Sewer	System performance

Projects: Benefit-Cost Analysis

The City of Petersburg is applying for Community Flood Preparedness Fund assistance to include various projects related the ongoing Citywide Drainage Study. The ongoing Citywide Drainage Study, funded with CFPF Round 3 money, provided for the mapping and modeling of 10,000 stormwater assets within the City of Petersburg. The goal of the modeling efforts is to identify areas of the city with hydraulic capacity issues and identify potential solutions to improve flooding conditions.

Prior to the start of the Citywide Drainage Study, the City of Petersburg did not have comprehensive data/mapping for the stormwater infrastructure located within the City. Therefore, it was unknown how many assets would be found as part of the initial mapping effort of the Citywide Drainage Study. Based on the encountered number of features during initial mapping, it is anticipated that there will over 10,000 additional units mapped than originally estimated. The request for CFPF Round 4 funding will provide the additional approximated 10,000 units that are anticipated to be encountered during the initial mapping efforts. In addition to the mapping efforts, additional funds are requested to provide for the modeling of the additional approximated 10,000 assets in order to identify areas in the city where the stormwater system is capacity constrained.

There have been many benefits realized, and will continue to be realized with the Citywide Drainage Study, including:

- Identification of structures requiring maintenance.
- Scheduling structures identified as requiring immediate maintenance for service. Due to the significant number of stormwater features identified as needing maintenance, the City is requesting assistance in the recovery of structures requiring maintenance.
- Widespread maintenance of the stormwater system will improve the performance of the system during storm events by restoring capacity to systems, and provides removal of sediment, trash and other stormwater contaminants from the stormwater system.
- Water quality improvements associated with Chesapeake Bay TMDL compliance strategy for removal of sediment from storm drain structures.
- Enabling more proactive maintenance of the entire stormwater system in the future.
- Improving the City's knowledge of their stormwater system for a variety of purposes, including to track discharges from the stormwater systems and to better understand flooding issues.
- Identification of illicit discharges during Citywide Drainage mapping efforts.
- Identification of previously unmapped stormwater BMPs and outfalls complements the City's MS4 Program compliance.
- Modeling of stormwater systems to identify areas in the City in need of capacity improvements.
- Identification of outfalls with non-operational flap gates. The City is requesting assistance to assist with maintenance at these locations and to retrofit the flap gates with new technology backflow prevention devices.

In addition to the benefits above, the request includes the restoration of three (3) vital outfalls within the City's Harbor area, identified as part of the Citywide inventory. The restoration of the outfalls will provide immediate improvement of stormwater discharges to the River upon construction. Therefore, there will

be, upon construction, immediate improvements to life safety for motorists and improved flooding conditions and resulting damages to structures and infrastructure.

The results of the proposed study for flood and sediment transport conditions in the harbor area and other critical areas in the city will provide the city a plan/framework for restoring natural riverine conditions and sediment transport in the Harbor area, identifying areas in the city critical for sediment removal, and identifying future projects to improve flooding conditions within the city.

Maintenance and Management Plan

June 2023 – June 2033

The City of Petersburg will use funds from the CFPF to enable the completion of the comprehensive catalogue of storm structures in the City, the cleanout of identified but nonfunctional structures, the dredging and retrofitting of outfalls into the Harbor to restore outfall functionality, and the development of plans for future dredging efforts. Throughout the life cycle of the stormwater assets identified and maintained through these projects, the City will continue to fund ongoing cleanout and recovery of structures to ensure continued functionality of the storm sewer system. The City is committed to regularly funding maintenance and improvements to continue to reduce flooding efforts and ensure consistent functionality through the Stormwater Utility program and partnerships.

Repetitive Loss and/or Severe Repetitive Loss Properties

The City is working with DCR to obtain any repetitive loss and/or severe repetitive loss data for use in administering the requested funding application.