

Appendix A: Application Form for Grant Requests for All Categories

Virginia Department of Conservation and Recreation
Virginia Community Flood Preparedness Fund Grant Program

Name of Local Government:

Fairfax County

Category of Grant Being Applied for (check one):

Capacity Building/Planning


Project

Study

NFIP/DCR Community Identification Number (CID) 515525

If a state or federally recognized Indian tribe, Name of tribe N/A

Name of Authorized Official: Bryan J. Hill, County Executive

Signature of Authorized Official: 

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 552

City: Fairfax **State:** VA **Zip:** 22035

Telephone Number: (703) 324-2531 **Cell Phone Number:** () N/A

Email Address: cexbryanhill@fairfaxcounty.gov

Contact Person (If different from authorized official): Craig Carinci

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 449

City: Fairfax State: VA Zip: 22035

Telephone Number: (703) 324-5500 Cell Phone Number: () N/A

Email Address: Craig.Carinci@fairfaxcounty.gov

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes No

Categories (select applicable project):

Project Grants (Check All that Apply)

- Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- Wetland restoration.
- Floodplain restoration.
- Construction of swales and settling ponds.
- Living shorelines and vegetated buffers.
- Structural floodwalls, levees, berms, flood gates, structural conveyances.
- Storm water system upgrades.
- Medium and large scale Low Impact Development (LID) in urban areas.
- Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool.
- Dam restoration or removal.
- Stream bank restoration or stabilization.
- Restoration of floodplains to natural and beneficial function.
- Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.

Study Grants (Check All that Apply)

- Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.
- Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.
- Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.
- Studies and Data Collection of Statewide and Regional Significance.
- Revisions to existing resilience plans and modifications to existing comprehensive and hazard.
- Other relevant flood prevention and protection project or study.

Capacity Building and Planning Grants

- Floodplain Staff Capacity.
- Resilience Plan Development
 - Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans.
 - Resource assessments, planning, strategies and development.
 - Policy management and/or development.
 - Stakeholder engagement and strategies.

Location of Project (Include Maps): 27 Fairfax County Watersheds

NFIP Community Identification Number (CID#):(See appendix F 515525)

Is Project Located in an NFIP Participating Community? Yes No

Is Project Located in a Special Flood Hazard Area? Yes No

Flood Zone(s) (If Applicable): SFHA Zones A and AE

Flood Insurance Rate Map Number(s) (If Applicable): See spreadsheet

Total Cost of Project: \$1,200,000

Total Amount Requested \$600,000

FAIRFAX COUNTY

REGULATED FLOODPLAIN MAP UPDATES

Virginia Community Flood Preparedness Fund

FY 2022 ROUND 3 GRANT APPLICATION

CID515525_FairfaxCounty_CFPF-5 (Map Updates)

April 8, 2022



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Attachments

Attachment A- Detailed map of the study area

Attachment B- FIRMs of the study area

Attachment C- Historic flood damage images

Attachment D- Social vulnerability index score from ADAPT VA's Virginia Vulnerability Viewer

Attachment E- Approved Resilience Plan

Appendices

Appendix A – Application Form for Grant Requests for All Categories

Appendix B – Scoring Criteria for Studies Form

Appendix D – Checklist for all Categories

Executive Summary

The Fairfax County regulated floodplain mapping study will consolidate multiple flood hazard data sources into one comprehensive map for regulatory use, increase community flood risk awareness, and allow the County to integrate the impacts of climate change into its floodplain management program. To be able to complete the first phase of the study, the County is requesting 50% of the total cost of the project (\$1,200,000) or \$600,000. If the grant is awarded and the study moves forward, the County can develop preliminary HEC-RAS hydraulic models for 27 watersheds, approximately 757 stream miles (excluding the 56 stream miles that are currently being completed as part of the pilot), and advance the mapping of all floodplains 70 acres or greater in the County.

A. Scope of Work Narrative

Fairfax County regulates proposed uses and disturbances in the 100-year flood inundation area associated with open channel conveyance systems that have a contributing drainage area of 70 acres or more. The location of the base flood elevation (BFE) is required for demonstrating compliance with all applicable Federal, State, and County floodplain regulations.

There are three distinct types of regulated floodplains in Fairfax County:

- Minor floodplains include drainage areas between 70 acres and 360 acres.
- Major floodplains consist of drainage areas 360 acres or greater.
- Areas that are designated as floodplain by the National Flood Insurance Program (NFIP) are shown on the Flood Insurance Rate Maps (FIRMs) issued by the Federal Emergency Management Agency (FEMA) – generally, for areas 1 square mile (640 acres) or greater.

Currently, existing floodplain boundaries and water surface elevations are available from several sources and a significant portion of County regulated floodplain is not mapped. This missing or conflicting flood hazard data creates confusion during floodplain study development, review, and enforcement. Rather than having multiple sources for flood hazard data, the County plans to develop a comprehensive regulated floodplain map. The updated map and water surface elevations will be used to provide clear and consistent BFEs for proposed development in or adjacent to all regulated floodplains, increase community flood risk awareness, and allow for the incorporation of future climate projection conditions.

Background

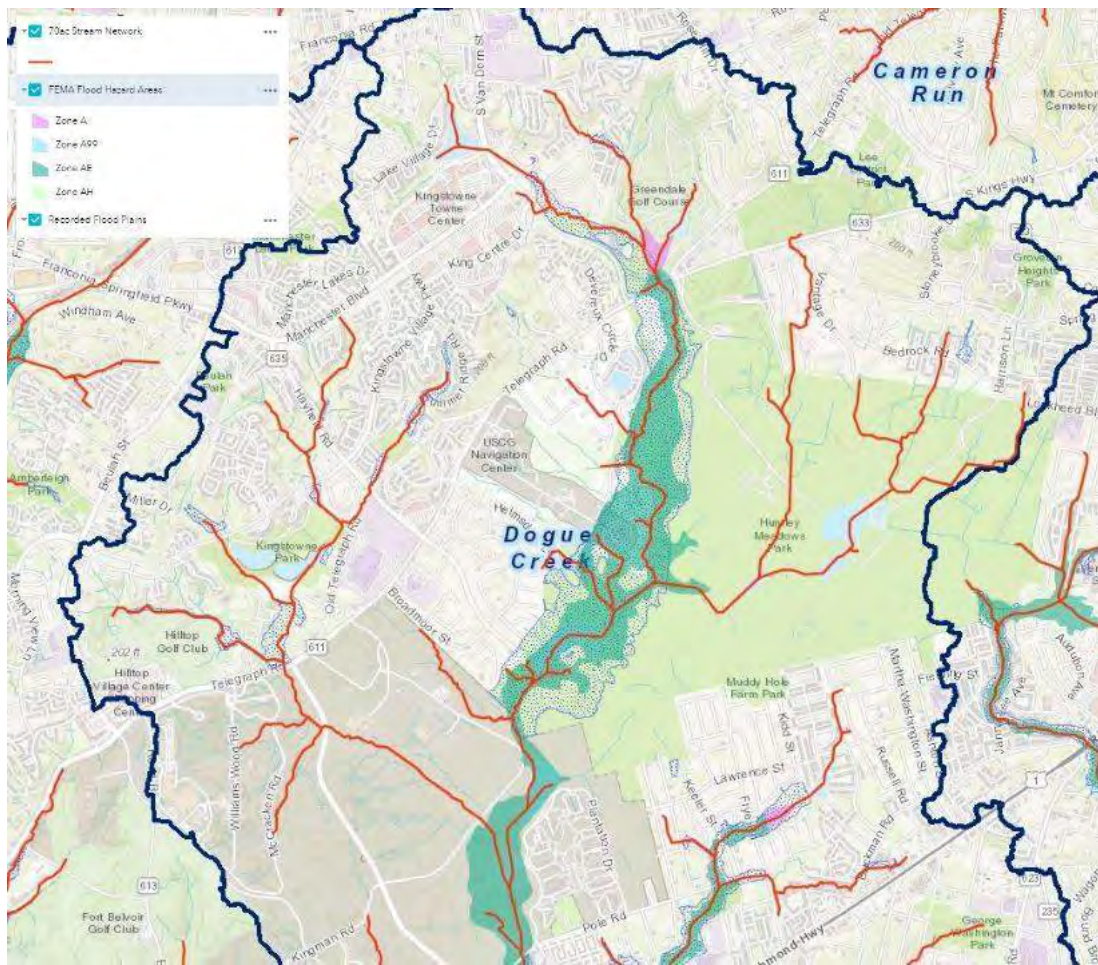
Unlike FIRMs which are developed using existing land use conditions, major and minor floodplains developed by the County reflect ultimate (future) conditions. The County's floodplain ordinance requires that new and substantially improved existing dwellings located on parcels with floodplain must elevate the lowest part of the lowest floor of all living space, including basements, at least 18 inches above the applicable BFE for the property, and the dwellings must be at least 15 feet from the floodplain boundary. For development in the regulated floodplain, the floodplain water surface elevation must be computed to establish the actual floodplain boundary and a floodplain easement must typically be dedicated to the County.

There are multiple County Geographic Information System (GIS) floodplain layers that each have their own history and uses; however, they are all referred to as floodplain and are used in the County's plan review process to flag potential construction in these areas. Available floodplain boundaries and water surface elevations come from several sources, including floodplain studies performed by the United States Geological Survey and FEMA and approved floodplain studies that have been performed by

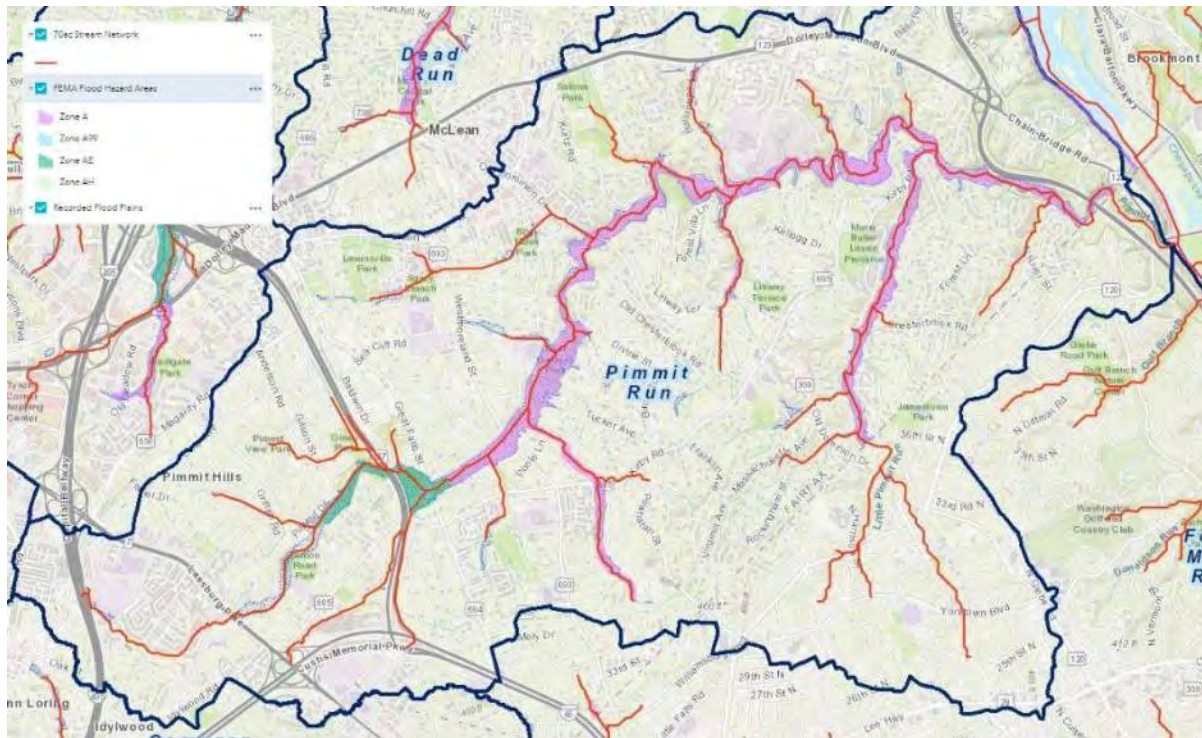
engineers in conjunction with prior land development. Floodplain information is available on the publicly accessible County Floodplain Viewer (<https://fairfaxCountygis.maps.arcgis.com/apps/webappviewer/index.html?id=c62ab5b0d13a49c990480e456e70e45f&mobileBreakPoint=300>).

Not all County regulated floodplain is mapped. For instance, Fairfax County has older neighborhoods that developed in the 1950s and 1960s prior to modern floodplain regulations. These communities may include piped or channelized streams in minor floodplains that lack mapped floodplain boundaries and BFEs. See examples in Maps 1 and 2 below. The red 70-acre stream network line represents potential County regulated floodplain. As shown on the maps, many sections of the regulated floodplain lack recorded floodplain boundaries.

Map 1. Unmapped regulated floodplain within Dogue Creek watershed



Map 2. Unmapped regulated floodplain within Pimmit Run watershed



As the County reaches buildout conditions and large tracts of green space are no longer available for new subdivisions, much of the residential development in these older neighborhoods has shifted to lot-by-lot infill redevelopment. For residential infill development in and adjacent to unmapped regulated floodplain, the County must rely on very limited floodplain studies completed as a part of the infill plan to review and enforce floodplain regulations.

Additionally, FEMA completed a multi-year project to reexamine Fairfax County's flood zones and produce detailed digital flood hazard maps. The preliminary updated FIRMs, which reflect the flood risk based on the latest data, have been released for public review. The County held a series of virtual public meetings to provide more information on the proposed changes and respond to questions from residents.

Study Description

Fairfax County will complete modeling and mapping of the remaining 757 stream miles with County regulated floodplains in the remaining 27 designated watersheds. This study includes both updates to prior mapped floodplains and new floodplain models and mapping. Given the size and complexity of this effort, the study will be split into a pilot and two phases.

The County is in the process of completing a pilot study on three watersheds- Dogue Creek, Pimmit Run, and Little Hunting Creek (total of 56 stream miles)- to establish standard means and methods to develop the regulated floodplain map updates. The pilot study will prepare the most current terrain data for the County and develop appropriate hydrologic and hydraulic modeling of all streams with drainage areas of 70 acres or greater. The pilot study scope includes obtaining and preparing terrain data for use in the hydrologic and hydraulic (H&H) analyses, identifying data for bridges and culverts, establishing 100-year

elevations using steady-state one-dimensional modeling, and mapping the results for the three watersheds.

This grant application is for Phase I of the study to develop a preliminary HEC-RAS hydraulic model for the remaining 27 watersheds. The HEC-RAS models for each watershed will establish preliminary floodplain mapping (within RAS Mapper), flow velocities, profiles, and rating tables. Phase II of the study, which includes the final HEC-RAS model with bridges and culverts incorporated and final floodplain mapping, will be submitted as a separate study application under a future grant round.

The Phase I of the study will be completed by Atkins. The firm is a consultant with a County Basic Ordering Agreement (BOA) for Flood Mitigation and Monitoring and Dam Safety Program Services. Attachment 1 is the Request for Qualifications that the firm had to meet to be awarded this BOA.

Study Benefits

The County regulated floodplain updates will consolidate multiple flood hazard data sources into one comprehensive map for regulatory use, eliminating conflicting water surface boundaries and generating BFEs for unmapped regulated floodplains. The study will also revise and clarify various references to floodplain mapping studies in the Floodplain Ordinance, County Public Facilities Manual (PFM), and the County Code of Ordinances. Fairfax County floodplain management regulations are codified in Section 5105 of the Zoning Ordinance. The PFM details the appropriate methods and guidelines for water surface calculations and floodplain easements. Appendix A of the County code describes some of the maps and studies used to depict the areas designated as floodplain by Fairfax County. These three regulatory documents will be revised to reflect the new comprehensive County regulated floodplain map.

The study allows the County to integrate climate change into the regulated floodplains. The County is embarking on Resilient Fairfax, a formal and holistic effort to address climate adaption and resilience. The Resilient Fairfax plan will develop a climate projections report with future predicted climate conditions (<https://www.fairfaxcounty.gov/environment-energy-coordination/resilient-fairfax>). Data from this report can be integrated into the new or updated floodplain models to reflect anticipated future precipitation trends.

The study will also increase community flood risk awareness by mapping previously unmapped floodplain. Later phases of the study will encompass a significant public outreach program to notify residents that they are in a newly mapped floodplain, advise them on how to prepare for flooding, and share resources related to flood protection and insurance.

With 1,167,000 residents, Fairfax County is more populous than six states (Alaska, Montana, North Dakota, Rhode Island, South Dakota, Vermont, and the District of Columbia) and accounts for about 13% of the total population of Virginia. Providing comprehensive, accurate, and consistent regulated floodplain maps will benefit not only the County, but also more than a tenth of Virginia residents. The maps will help increase flood risk awareness for residents located in and adjacent to previously unmapped floodplains, developers to better incorporate flood prevention and protection techniques into their construction plans, and the County to better review and enforce its robust floodplain management regulations.

Attachment 1. Flood mitigation and monitoring and dam safety program services request for qualifications

**COUNTY OF FAIRFAX
DEPARTMENT OF PUBLIC WORKS & ENVIRONMENTAL SERVICES
FLOOD MITIGATION AND MONITORING & DAM SAFETY PROGRAM SERVICES**

REQUEST FOR QUALIFICATIONS (RFQ)

SCOPE OF WORK

The County of Fairfax, Virginia, Department of Public Works and Environmental Services (DPWES) is soliciting statements of qualifications from engineering firms to provide services on a Basic Ordering Agreement (BOA) to support Fairfax County's participation in the National Federal Insurance Program (NFIP), flood mitigation and monitoring, dam safety, and other ancillary engineering services that may be needed. These services will be required on a task order basis. The initial agreement will be established to run for a 12-month term with the option of four additional 12-month terms (up to 48 months). Pursuant to Virginia State Code, BOAs have a maximum of \$5 million per year, with no individual task order exceeding \$2.5 million. However, this contract is not anticipated to exceed a total value of \$1.0 million per year. DPWES anticipates the award of one or more BOAs to support the programs described above.

Typical tasks under this COA may include but are limited to the following services:

NFIP and Floodplain Management Services

- Perform detailed Hydrologic and Hydraulic (H&H) modeling to support floodplain delineation and analysis.
- Provide engineering and ancillary services to support the county's participation in the NFIP, Cooperating Technical Partners, and Community Rating System programs.
- Assist with various tasks related to floodplain analysis, such as Letter of Map Revision (LOMRs), Conditional LOMRs (CLOMRs), coordination with FEMA, and other FEMA and floodplain management related tasks.

Dam Safety Program Services

- Geotechnical services including provisions for an on-call geotechnical engineer with expertise in dam designs and operations.
- Detailed (H&H) analyses required for Virginia State Dam Certification submissions. Such analyses include the determination of dam breach inundation zones, and incremental damage assessment.
- Develop and conduct dam safety drills and table-top exercises.
- Perform dam inspections and monitoring.
- Perform dam piezometer monitoring and analysis.
- Perform dam emergency spillway capacity and stability and integrity analyses.
- Development of Emergency Action Plans (EAP) and the preparation of Operation and Maintenance (O&M) certificates applications for dams regulated by the state.
- Development and maintenance of response plans for areas prone to flooding such as New Alexandria.

Fairfax County, Department of Public Works & Environmental Services
 Flood Mitigation & Monitoring, Dam Safety Program Services
 March 6, 2020

Project implementation Support and General Engineering Services

- Performance of detailed land surveys, bathymetric surveys, and the preparation of elevation certificates and plats.
- Delineation of wetlands.
- Support for the acquisition of hydrologic data, geotechnical, investigations, or other purposes.
- AutoCAD drafting and plan preparation services.
- Modeling green infrastructure and Stormwater management facility rehabilitation and retrofit designs.
- Acquire federal, state, and local permits required for construction.
- Preparing and conducting presentations at public meetings during non-business hours
- Other related ancillary services.

Consultants who wish to be considered for this work must submit eight (8) hard copies copies, as well as a PDF copy on a CD of their statements of qualifications to Roz Knox, Contract Specialist, Stormwater Planning Division, Department of Public Works and Environmental Services, 12000 Government Center Parkway, Suite 449, Fairfax, Virginia 22035-0052.

The submittal must include:

- Statements of Interest;
- GSA Standard Form 330 Part I and Part II for the primary firm and all major sub-consultants; and
- List of references with current addresses and telephone numbers for recently completed projects of a similar nature.

All submissions must be complete and clearly demonstrate the capability to provide the required services. The following weighted criteria and evaluation factors will be utilized by a Selection Advisory Committee to evaluate the statement of qualifications:

Criteria No.	Criteria Description	Weight
1.	The ability and experience of firm/team to deliver work as described	25%
2.	Project teams' personnel qualifications and experience	20%
3.	Past performance history	15%
4.	Ability to meet time and budget requirements	15%
5.	Location of key project staff	10%
6.	Volume of work previously awarded by the County within the last 3	5%
7.	Recent, current, and projected workload	5%
8.	Public presentations and community coordination	5%

Fairfax County, Department of Public Works & Environmental Services
Flood Mitigation & Monitoring, Dam Safety Program Services
March 6, 2020

All statements of qualifications shall be delivered no later than 4:00 p.m., local prevailing time on Wednesday April 8, 2020. Statements of qualifications received after the submission deadline will not be considered. The statement of qualifications, including GSA 330 forms, shall not exceed the equivalent of thirty-five (35) pages of content (printed double-sided copies). The cover letter and binding are not included in the 35 pages.

Fairfax County is committed to paying a living wage to all qualified County employees and encourages contractors and sub-contractors involved in all County programs, services, and activities to pay a living wage to their employees.

All questions related to this solicitation should be directed to Roz Knox, Contract Specialist, of Stormwater Planning Division at rosalind.knox@fairfaxcounty.gov or 703-324-5500, TTY 711.



To request this information in an alternate format, please call Roz Knox, Contract Specialist, Stormwater Planning Division, Department of Public Works and Environmental Services at 703-324-5500, TTY 711.

B. Budget Narrative

The sections below outline the anticipated expenditures for the study including the estimated total study cost, the grant funds requested, and the corresponding match to be provided by the County.

1. Estimated Total Project Cost

The estimated total study cost is \$1,200,000. In Fairfax County, there are 812 stream miles of regulatory floodplain. The pilot studies completed in Dogue Creek, Little Hunting Creek, and Pimmit Run covered 56 stream miles. Based on these pilot studies, the estimated cost to complete the preliminary hydraulic models for the remaining stream miles is \$1,450 per mile. The total cost to complete the preliminary hydraulic models for the remaining 27 watershed (756 miles) is:

$$(\$1450/\text{mile} * 756 \text{ miles}) = \$1,096,200 + 10\% \text{ contingency} = \sim \$1,200,000$$

2. Funds Requested

The amount of funds requested from the Fund is \$600,000. This is the total amount of any grant assistance sought from the Fund. 100% of this grant will be applied to the Atkins task order to complete Phase I of the Fairfax County regulated floodplain map updates. Attachment 2 includes the task order draft proposal scopes of work describing how this funding will be used.

3. Available Funds

\$600,000 of cash funds is available in *Regulatory Program Support* under Fund 40100 Stormwater Services in the proposed Fairfax County Fiscal Year 2023 budget. See Attachment 3 for the proposed Fiscal Year 2023 County budget plan document.

4. Authorization to Request for Funding

See Attachment 4 for the Not in Package (NIP) item to the Board of Supervisors authorizing a request for funding through the grant program.

Fairfax County
Atkins Draft Flood Mitigation and Monitoring & Dam Safety Basic
Ordering Agreement
Request for Proposal (RFP)
Task Orders #Y2-02 and #Y2-03
April 4, 2022

Task Order #Y2-02: Preliminary floodplain mapping for 27 watersheds

Under this task order, Atkins will develop preliminary HEC-RAS models for the 27 County watersheds listed below. The general scope of work is similar for all watersheds, with a total estimated 757 stream miles to be modeled (draining 70 acres or more).

1. Scotts/Dead/Bull Neck/Turkey¹
2. Cameron/Four Mile/Belle Haven
3. Cub/Bull
4. Sugarland/Horsepen/Nichol/Pond
5. Little Rocky/Johnny Moore/Popes Head
6. Difficult
7. Accotink
8. Pohick
9. Old Mill/Wolf/Ryans Dam/Sandy/Occoquan/Mill/Kane/High Point

Note that this is a suggested grouping and sequence. It is anticipated that the preliminary floodplain mapping for these watersheds under Task Order #Y2-02 will include watersheds listed in numbers 1-5 above and Task Order #Y2-03 include watersheds listed in 6-9 above. Each task order will have subtasks for the proposed groupings.

Background

Fairfax County has initiated a project to complete modeling and mapping of the county's regulatory floodplains in the County's 30 designated watersheds. Pilot studies for three watersheds (Dogue Creek, Little Hunting Creek, Pimmit Run) have been completed or in progress. Under this task order, Atkins will develop preliminary RAS hydraulic models for remaining 27 watersheds. The purpose of the preliminary hydraulic model development is to provide a starting point for final RAS models for these watersheds that includes all stream crossings and develops the final floodplain mapping. The following will serve to provide additional detail on the preliminary and final RAS models:

Preliminary RAS model: Automated generation of cross-sections, with Quality Control (QC) checks performed to ensure proper cross-section placement, extents, alignment, and spacing (placement checks include ensuring cross-sections are not located on top of roadways, extent and alignment checks include making sure the cross-section contains the estimated 500-year flow prism and is perpendicular to the flow prism, and spacing checks include making sure that stream meander patterns are adequately represented). The County will provide a HMS model with flows to be used for this RAS version. Flows will be provided for the 1-year, 2-year, 10-

¹Note *Run, Creek, or Branch* have been omitted from the watershed names for brevity.

year, 100-year, and 500-year events and used to establish water-surface elevation profiles and preliminary floodplain mapping (within RAS Mapper) for these events.

Final RAS model: This version will incorporate all stream crossings into preliminary RAS models previously reviewed and approved by the County. Additionally, for areas where there piped systems within the floodplain, the model will utilize headwater elevations obtained from an analysis of the piped system where the open channel system enters and exits the piped system. The final RAS version will be used to create final 100-year, 500-year floodplain mapping and associated products for the watershed.

Note: This RFP is only for preliminary RAS models, information on final RAS models is only provided for reference.

Subtasks

1. The County will provide the following data to enable the development and testing of the preliminary version of HEC-RAS models:
 - a. Clipped 2018 Terrain data (Lidar raster layers) for all watersheds.
 - b. GIS layers derived from Arc Hydro to be used in configuring the geometric data for the RAS Model. This includes 70-acre stream centerlines, confluence nodes, stream crossing point layer along with any other data needed.
 - c. Final version of the configured HMS Models.

Atkins will review data provided for the County to ensure it is complete and will allow development of the preliminary RAS models detailed previously.

2. Atkins will utilize reach and river naming conventions in RAS developed as part of Task Order #Y1-05 (Little Hunting Creek preliminary floodplain mapping) to ensure consistency between the reach identifiers used in HMS and Arc Hydro. Naming conventions should allow users to efficiently locate flows used in RAS in the HMS models and then determine the relevant Arc Hydro elements to establish how hydrologic parameters in HMS were estimated.
3. Atkins will develop preliminary RAS models for the watersheds as detailed previously.
4. Atkins will use the HMS model provided by the county to assign flows in the RAS flow editor and impose normal depth as downstream boundary conditions.
5. Atkins will produce preliminary flood inundation maps and velocity maps in RAS Mapper for all profiles to ensure that the overall results are reasonable, and the cross-sections used in modeling the reach are extended sufficiently to capture the 500-year floodplain limits.

The final deliverables from this task would be a hydraulic model for the each watershed with brief documentation of the reaches modeled and naming convention.

Schedule

Atkins will provide a schedule for each task order showing when work will be initiated and completed for each watershed.

Fund 40100: Stormwater Services

Mission To develop and maintain a comprehensive watershed and infrastructure management program to protect property, health, and safety; to enhance the quality of life; and to preserve and improve the environment for the benefit of the public. To plan, design, construct, operate, maintain, and inspect stormwater infrastructure; perform environmental assessments through coordinated stormwater and maintenance programs in compliance with all government regulations utilizing innovative techniques, customer feedback and program review; and to be responsive and sensitive to the needs of the residents, customers, and public partners.

Focus Stormwater Services are essential to protect public safety, preserve property values and support environmental mandates such as those aimed at protecting the Chesapeake Bay and the water quality of other local jurisdictional waterways. Projects in this fund include repairs to stormwater infrastructure, measures to improve water quality such as stream stabilization, rehabilitation, safety upgrades of state regulated dams, repair and rehabilitation of underground pipe systems, surface channels, flood mitigation, site retrofits and best management practices (BMP), and other stormwater improvements.

The Board of Supervisors approved a special service district to support the Stormwater Management Program as part of the FY 2010 Adopted Budget Plan. This service district provides a dedicated funding source for both operating and capital project requirements by levying a service rate per \$100 of assessed real estate value, as authorized by Code of Virginia Ann. Sections 15.2-2400. Since FY 2010, staff has made significant progress in the implementation of watershed master plans, public outreach efforts, stormwater monitoring activities, water quality and flood mitigation project implementation and operational maintenance programs related to existing storm drainage infrastructure including stormwater conveyance, and regulatory requirements.

A rate of \$0.0400 per \$100 of assessed value has been estimated to be required to fully support the stormwater program in the future; however, staff is currently evaluating the long-term requirements for the program to address the growth in inventory and other community needs. Some of the additional community needs under evaluation include debt service to support the Board's approval of the dredging of Lake Accotink, the anticipation of additional flood mitigation requirements, and strengthening the role and financial support for the implementation of stormwater requirements associated with Fairfax County Public Schools sites under renovation. This enhanced program may require incremental changes to the rate over time and may result in a higher rate to fully support the program. Staff continues to evaluate these requirements, as well as the staffing to support them, and analyze the impact of increased real estate values and revenue projections.

One of the recent initiatives being funded by the Stormwater Fund is the new Public Works complex which will consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions. Stormwater operations are currently conducted from various locations throughout the County, and a new colocation of both Stormwater and Wastewater staff will provide efficiencies and sharing of resources. Another initiative in progress is the planned dredging of Lake Accotink. Lake Accotink is a 55-acre lake surrounded by managed conservation areas, wetlands, deciduous and evergreen forests, and historic and prehistoric sites. Over 300,000 patrons visit the park annually to enjoy a variety of facilities and activities that vary with the season. Sediment from the upstream areas of the watershed has continued to be deposited in Lake Accotink over the years filling in the lake and limiting recreational use. Estimates for the cost of dredging including sediment disposal are still under review. Staff has identified the option of a low interest loan via the Virginia Clean Water Revolving Loan Fund (VCWRLF) as the preferred funding mechanism to fund the dredging project costs. The Stormwater fund will pay the future debt costs.

Fund 40100: Stormwater Services

While staff continues to further evaluate the impact of recent initiatives and the long-term requirements for the Stormwater Program, the FY 2023 rate will remain the same as the FY 2022 Adopted Budget Plan level of \$0.0325 per \$100 of assessed value. However, based on capital project costs and projected revenues, it is anticipated that in the next several years, incremental rate increases will be required based on continued growth of stormwater facilities and infrastructure that must be inspected and maintained by the County, the implementation of flood mitigation projects, and additional requirements in the forthcoming Municipal Separate Storm Sewer System (MS4) Permit. On an annual basis, staff will continue to evaluate the program, analyze future requirements, and develop Stormwater operational and capital resource needs.

The FY 2023 levy of \$0.0325 will generate \$94,393,055, supporting \$27,113,315 for staff and operational costs; \$65,879,740 for capital project implementation including, infrastructure reinvestment, regulatory requirements, dam safety, and contributory funding requirements; and \$1,400,000 transferred to the General Fund to partially offset central support services such as Human Resources, Purchasing, Budget and other administrative services supported by the General Fund, which benefit this fund.

Stormwater Services Operational Support

Stormwater Services operational support includes funding for staff salaries, Fringe Benefits, and Operating Expenses for all stormwater operations. In addition, Fund 40100 includes positions related to transportation operations maintenance provided by the Maintenance and Stormwater Management Division. Beginning in FY 2023, all funding for the transportation related salary expenses and equipment previously supported by Agency 87, Unclassified Administrative Expenses - Public Works Programs will be supported by capital projects in Fund 30010, General Construction and Contributions, as they do not qualify for expenses related to the stormwater service district. The transfer of funding to Fund 30010, General Construction and Contributions, will provide more transparency and the carryforward of balances at year-end.

Fund 40100 also supports the Urban Forestry Management Division (UFMD). The UFMD was established to mitigate tree loss and maximize tree planting during land development, enforce tree conservation requirements and monitor and suppress populations of Gypsy Moth, Emerald Ash Borer, and other forest pests. The division also implements programs needed to sustain the rich level of environmental, ecological, and socio-economic services provided by the County's tree canopy. The UFMD is aligned with the mission of Stormwater Services as it strives to "improve water quality and stormwater management through tree conservation." Tree canopy and forest soils function to mitigate significant levels of water pollution and stormwater runoff.

FY 2023 Stormwater Capital Project Support

Conveyance System Inspections, Development and Rehabilitation

The County owns and operates approximately 1,500 miles of underground stormwater pipes and improved channels with an estimated replacement value of over one billion dollars. The County



FY 2023 Fairfax County Advertised Budget Plan (Vol. 2) - 234

Fund 40100: Stormwater Services

began performing internal inspections of the pipes in FY 2006. The initial results showed that approximately 5 percent of the pipes exhibit conditions of failure, and an additional 5 percent required maintenance or repair. MS4 Permit regulations require inspection and maintenance of these 1,500 miles of existing conveyance systems, 69,000 stormwater structures, and a portion of the immediate downstream channel at the 7,000 regulated pipe outlets. Acceptable industry standards indicate that one dollar reinvested in infrastructure saves seven dollars in the asset's life and 70 dollars if asset failure occurs. Once the initial internal inspections are complete, the goal of this program is to inspect pipes on a 20-year cycle and rehabilitate pipes and improve outfall channels before total failure occurs. Total funding in the amount of \$9.0 million is included for Conveyance System Inspections, Development and Rehabilitation in FY 2023, including \$2.0 million for inspections and development and \$7.0 million for rehabilitation and outfall restoration.

Dam Safety and Facility Rehabilitation

There are approximately 7,900 stormwater management facilities in service that range in size from small rain gardens to large state regulated flood control dams. The County is responsible for inspecting approximately 5,500 privately-owned facilities and maintaining over 2,400 County owned facilities. This inventory increases annually and is projected to continually increase as new development and redevelopment sites occur in the County. This initiative also includes the removal of sediment that occurs in both wet and dry stormwater management facilities to ensure that



adequate capacity is maintained to treat the stormwater. The program results in approximately 50 projects annually that require design and construction management activities as well as contract management and maintenance responsibilities. This program maintains the structures and dams that control and treat the water flowing through County owned facilities. This program improves dam safety by supporting annual inspections of 20 state-regulated dams and the Huntington Levee and by developing Emergency Action Plans required by the state. The Emergency Action Plans are updated annually. In addition, these plans include annual emergency drills and exercises, and flood monitoring for each dam. Total funding in the amount of \$15.0 million is included in FY 2023, including \$5.0 million for maintenance and \$10.0 million for rehabilitation.

Stormwater/Wastewater Facility

This project will provide funding for a Stormwater/Wastewater Facility which will consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions. Currently, Stormwater operations are conducted from various locations throughout the County, with the majority of staff located at the West Drive facility. Facilities for field maintenance operations and for field/office-based staff are inadequate and outdated for the increased scope of the stormwater program, and inadequate to accommodate future operations. This project is currently in design with construction anticipated to begin in early 2022. The facility is financed by EDA bonds with the Stormwater Services Fund and Wastewater Fund supporting the debt service. Funding in the amount of \$4.2 million is included in FY 2023 to support the second year of debt service for the Stormwater/Wastewater Facility.

Fund 40100: Stormwater Services

Emergency and Flood Response Projects

This program supports flood control projects for unanticipated flooding events that impact storm systems and structural flooding. The program provides annual funding for scoping, design, and construction activities related to flood mitigation projects. Funding in the amount of \$7.0 million is included for the Emergency and Flood Response Projects in FY 2023.

Enterprise Asset Management-Work Order System

This project will provide funding for the transition from an Enterprise Asset Management (EAM) system to a more functional Asset Management Program (AMP). This funding will support the acquisition of software, servers and consultant services to migrate asset management and related work order management into the new system. The current system tracks assets, inspections, daily work management and associated contractor costs. Features of the replacement system include geographic information system (GIS) integration and field mobility. The Department of Public Works and Environmental Services (DPWES) Information Technology staff have collaborated with the Stormwater Management and the Wastewater Management staff to promote interagency capabilities, optimize performance, and improve system lifecycle management for the new system. This new system will meet the future expectations for both divisions and optimize service delivery for DPWES. Funding in the amount of \$1.4 million is included in Capital Projects and an amount of \$800,000 is included in Operating Expenses for this project in FY 2023.

Stormwater-Related Contributory Program

Contributory funds are provided to the Northern Virginia Soil and Water Conservation District (NVSWCD) and the Occoquan Watershed Monitoring Program (OWMP). The NVSWCD is an independent subdivision of the Commonwealth of Virginia that provides leadership in the conservation and protection of Fairfax County's soil and water resources. It is governed by a five-member Board of Directors - three members are elected every four years by the voters of Fairfax County and two members are appointed by the Virginia Soil and Water Conservation Board. Accordingly, the work of NVSWCD supports many of the environmental goals established by the Board of Supervisors. The goal of the NVSWCD is to continue to improve the quality of the environment and general welfare of the citizens of Fairfax County by providing them with a means of dealing with soil, water conservation and related natural resource problems. It provides County agencies with comprehensive environmental evaluations for proposed land use changes with particular attention to the properties of soils, erosion potential, drainage, and the impact on the surrounding environment. NVSWCD has consistently been able to create partnerships and leverage state, federal and private resources to benefit natural resources protection in Fairfax County. FY 2023 funding of \$0.6 million is included in Fund 40100 for the County contribution to the NVSWCD.

The OWMP and the Occoquan Watershed Monitoring Laboratory (OWML) were established to ensure that water quality is monitored and protected in the Occoquan Watershed. Given the many diverse uses of the land and water resources in the Occoquan Watershed (agriculture, urban residential development, commercial and industrial activity, water supply, and wastewater disposal), the OWMP plays a critical role as the unbiased interpreter of basin water quality information. FY 2023 funding of \$0.2 million is included in Fund 40100 for the County contribution to the OWMP.

Stormwater Allocation to Towns

On April 18, 2012, the State Legislature passed SB 227, which entitles the Towns of Herndon and Vienna to all revenues collected within their boundaries by Fairfax County's stormwater service district. An agreement was developed for a coordinated program whereby the Towns remain part of the County's service district and the County returns 25 percent of the revenue collected from properties within each town. This allows for the Towns to provide services independently such as

Fund 40100: Stormwater Services

maintenance and operation of stormwater pipes, manholes, and catch basins. The remaining 75 percent remains with the County and the County takes on the responsibility for the Towns' Chesapeake Bay Total Maximum Daily Load (TMDL) requirements as well as other TMDL and MS4 requirements. This provides for an approach that is based on watersheds rather than on jurisdictional lines. Funding in the amount of \$1.0 million is included for the Stormwater Allocations to Towns project in FY 2023.

Regulatory Program

The County is required by federal law to operate under the conditions of a state issued MS4 Permit. Stormwater staff annually evaluates funding required to meet the increasing federal and state regulatory requirements pertaining to the MS4 Permit, and State and Federal mandates associated with controlling water pollution delivered to local streams and the Chesapeake Bay. The MS4 Permit allows the County to discharge stormwater from its stormwater systems into state and federal waters. The County currently owns and/or operates approximately 15,000 outfalls, and 7,000 of these outfalls are regulated outfalls governed by the permit. The current permit was issued to the County in April 2015 and expired in April 2020. The County is operating under an administrative continuance until a new permit is issued. The permit requires the County to document the stormwater management facility inventory, enhance public outreach and education efforts, increase water quality monitoring efforts, provide stormwater management and stormwater control training to all appropriate County employees. The permit requires the County to implement sufficient stormwater projects that will reduce the nutrients and sediment to comply with the Chesapeake Bay and local stream TMDL requirements. Funding in the amount of \$4.0 million is included for the Stormwater Regulatory Program in FY 2023.

Stream and Water Quality Improvements

This program funds water quality improvement projects necessary to mitigate the impacts to local streams and the Chesapeake Bay resulting from urban stormwater runoff. This includes water quality projects such as construction and retrofit of stormwater management ponds, implementation of green stormwater infrastructure facilities, stream restoration, and water quality projects identified in the completed Countywide Watershed Management Plans. These projects will aid in the reduction of



pollutants and improve water quality in county streams that are considered to be in fair to very poor condition and likely do not meet CWA water quality standards. In addition, Total Maximum Daily Load (TMDL) requirements for local streams and the Chesapeake Bay are the regulatory drivers by which pollutants entering impaired water bodies must be reduced. The Chesapeake Bay TMDL was established by the EPA and requires that MS4 communities as well as other dischargers implement measures to significantly reduce the nitrogen, phosphorous and sediment loads in waters that drain to the Chesapeake Bay by 2025. MS4 Permit holders must achieve 35 percent of the required reductions within the current five-year permit cycle and 60 percent of the required reductions in the

Fund 40100: Stormwater Services

next five-year permit cycle. In addition, compliance with the Chesapeake Bay TMDL requires that the County undertake construction of new stormwater facilities and retrofit existing facilities and properties. The EPA continually updates the Chesapeake Bay compliance targets and credits. It is anticipated that the changes to the assigned targets as well as how projects are credited will likely impact future compliance requirements. In addition to being required to meet the Chesapeake Bay TMDL targets, the current MS4 Permit requires the County to develop and implement action plans to address local impairments. Most of the 1,900 watershed management plan projects contribute toward achieving the Chesapeake Bay and local stream TMDL requirements. Funding in the amount of \$23.5 million is included for Stream and Water Quality Improvements in FY 2023.

Organizational Chart



*Denotes functions that are included in both Fund 30010, General Construction and Contributions, and Fund 40100, Stormwater Services.

Budget and Staff Resources

Category	FY 2021 Actual	FY 2022 Adopted	FY 2022 Revised	FY 2023 Advertised
FUNDING				
Expenditures:				
Personnel Services	\$20,448,442	\$22,615,643	\$22,813,269	\$24,580,634
Operating Expenses	3,919,893	3,182,636	3,389,603	4,010,636
Capital Equipment	1,077,511	782,000	1,887,143	652,000
Capital Projects	50,984,399	61,600,414	242,012,718	65,879,740
Subtotal	\$76,430,245	\$88,180,693	\$270,102,733	\$95,123,010
Less:				
Recovered Costs	(\$1,832,157)	(\$2,129,955)	(\$2,129,955)	(\$2,129,955)
Total Expenditures	\$74,598,088	\$86,050,738	\$267,972,778	\$92,993,055
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	202 / 202	200 / 200	200 / 200	208 / 208

FY 2023 Funding Adjustments

The following funding adjustments from the FY 2022 Adopted Budget Plan are necessary to support the FY 2023 program:

Employee Compensation **\$1,214,199**
 An increase of \$ 1,214,199 in Personnel Services includes \$850,684 for a 4.01 percent market rate adjustment (MRA) for all employees and \$363,515 for performance-based and longevity increases for non-uniformed merit employees, both effective July 2022.

Fund 40100: Stormwater Services

Other Post-Employment Benefits **(\$106,403)**

A decrease of \$106,403 in Personnel Services reflects required adjustments associated with providing Other Post-Employment Benefits (OPEBs) to retirees, including the Referee Health Benefits Subsidy. For more information on Other Post-Employment Benefits, please refer to Fund 73030, OPEB Trust, in Volume 2 of the FY 2023 Advertised Budget Plan.

New Positions **\$885,195**

An increase of \$885,195 including Personnel Services of \$857,195 and Operating Expenses of \$28,000 is necessary to fund requirements associated with 8/8.0 FTE new positions, including 1/1.0 Engineering Technician III, 1/1.0 FTE Planner III, 1/1.0 FTE Project Manager I, 1/1.0 FTE Senior Engineering Inspector, 1/1.0 FTE Senior Engineer III, and 3/3.0 FTE Senior Maintenance Workers. The Engineering Technician III position will support address the increased workload of permit required pond inspections and maintenance. The Planner III position will review and provide needed stormwater expertise, advanced technical analysis, support and recommendations on planning and development efforts during planning, pre-zoning and rezoning processes. The Project Manager I position will support the Tree Preservation and Planting Program and manage projects that support the tree planting goals of Virginia's Final Phase III Watershed Implementation Plan. The projects will be geared towards increasing tree canopy through street and landscape tree plantings, afforestation and reforestation, and assisting with outreach and education programs. The Senior Engineering Inspector position will be responsible for reviewing erosion and sediment control plans, reviewing project designs, understanding job specifications, inspecting County stormwater infrastructure, updating work orders and keeping a daily log of work performed on construction sites. The Senior Engineer III position will initiate flood mitigation projects, coordinate with property owners to address their flooding concerns, and execute flood mitigation project design and implementation services. The three Senior Maintenance Worker positions will form an additional crew that will be deployed into the field to perform maintenance on the storm drainage system throughout the County.

Asset Management Program **\$800,000**

An increase of \$800,000 in Operating Expenses will support a new Asset Management Program (AMP). Funding will support the acquisition of software, servers, and consultant services to migrate asset management and related work order management into the new system. This new system will meet the future expectations for both Stormwater and Wastewater divisions and optimize service delivery for the Department of Public Works and Environmental Services.

Capital Equipment **(\$130,000)**

Funding of \$652,000 in Capital Equipment, a decrease of \$130,000 from the FY 2022 Adopted Budget Plan, is included primarily associated with replacement equipment that has outlived its useful life and is critical to stormwater services activities. Replacement equipment includes: \$390,000 to replace two dump trucks that support all maintenance and emergency response programs and \$40,000 to replace three equipment trailers that support all maintenance and emergency response programs in transporting construction materials, light duty and snow removal equipment. New equipment includes \$222,000 for the purchase of three new pickup trucks and one new utility truck to support the new positions in FY 2023.

Capital Projects **\$4,279,326**

Funding of \$65,879,740 in Capital Projects, an increase of \$4,279,326 from the FY 2022 Adopted Budget Plan, has been included in FY 2023 for priority stormwater capital projects.

Fund 40100: Stormwater Services

Changes to FY 2022 Adopted Budget Plan

The following funding adjustments reflect all approved changes in the FY 2022 Revised Budget Plan since passage of the FY 2022 Adopted Budget Plan. Included are all adjustments made as part of the FY 2021 Carryover Review, FY 2022 Mid-Year Review, and all other approved changes through December 31, 2021:

Carryover Adjustments **\$182,312,873**

As part of the FY 2021 Carryover Review, the Board of Supervisors approved funding of \$182,312,873 based on the carryover of unexpended project balances in the amount of \$179,413,809 and a net adjustment of \$2,899,064. This adjustment includes the carryover of \$1,312,110 in operating and capital equipment encumbrances, an increase of \$197,626 to Personnel Services to support a one-time compensation adjustment of \$1,000 for merit employees and \$500 for non-merit employees to be paid no later than November 2021, and an increase to capital projects of \$1,389,328. The adjustment to capital projects is based on the appropriation of the remaining operational savings of \$783,662, higher than anticipated revenues of \$304,634, revenues of \$203,600 collected through the land development process that will support tree preservation and planting projects in FY 2022, revenues of \$44,841 associated with dam and facility maintenance projects, miscellaneous revenues in the amount of \$45,652, and the appropriation of \$6,939 from the ending balance that was due to an FY 2021 audit adjustment.

Mid-Year Adjustments **(\$1,555)**

As part of the FY 2022 Mid-Year Review, the Board of Supervisors approved a decrease of \$1,555 due to an FY 2021 audit adjustment.

Position Detail

The FY 2023 Advertised Budget Plan includes the following positions:

STORMWATER SERVICES – 208 Positions			
MSMD Administration (10 positions)			
1	Director, Maintenance and SW	1	Safety Analyst I
1	HR Generalist II	1	Administrative Assistant IV
1	HR Generalist I	4	Administrative Assistants III
1	Safety Analyst II		
IT – Director’s Office/Stormwater (1 position)			
1	Network/Telecom. Analyst I		
Finance – Wastewater and Stormwater (4 positions)			
1	Financial Specialist IV	1	Financial Specialist I
1	Financial Specialist II	1	Administrative Assistant III
Contracting Services/Material Support (5 positions)			
1	Material Mgmt. Specialist III	1	Financial Specialist II
2	Contract Analysts I	1	Inventory Manager
Dam Safety and Maintenance Projects/Projects and LID/Inspection and Maintenance (19 positions)			
1	Public Works-Env. Serv. Manager	5	Engineering Technicians III [+1]
1	Engineer IV	2	Engineering Technicians II
1	Senior Engineer III	1	Project Manager II
3	Engineers III	2	Project Managers I
1	Ecologist III	1	Assistant Project Manager
1	Ecologist II		
Field Operations (74 positions)			
2	Env. Services Supervisors	3	Masons
1	Public Works-Env. Serv. Manager	1	Vehicle Maintenance Coordinator
2	Public Works-Env. Bus. Operations	5	Engineering Technicians III
2	Public Works-Env. Serv. Specialists	2	Engineering Technicians II
8	Senior Maintenance Supervisors	1	Carpenter II
5	Maintenance Supervisors	2	Equipment Repairers

Fund 40100: Stormwater Services

Field Operations		
2	Maintenance Crew Chiefs	1 Welder II
15	Senior Maintenance Workers [+3]	1 Welder I
10	Heavy Equipment Operators	1 Trades Supervisor
10	Motor Equipment Operators	
Stormwater Infrastructure Branch (16 positions)		
1	Public Works-Env. Serv. Manager	1 Senior Engineering Inspector [+1]
3	Engineers IV	2 Engineering Technicians II
2	Senior Engineers III [+1]	2 Engineering Technicians I
4	Engineers III	1 Project Manager I
Transportation Infrastructure Branch (7 positions)		
1	Engineer V	3 Project Managers I
1	Engineer IV	1 Engineering Technician II
1	Project Manager II	
Stormwater Planning Division (56 positions)		
1	Director, Stormwater Planning	1 Emergency Mgmt. Specialist III
1	Engineer V	1 Planner IV
4	Engineers IV	1 Planner III [+1]
1	Senior Engineer III	2 Landscape Architects III
8	Engineers III	1 Engineering Technician III
5	Project Managers II	1 Management Analyst II
2	Project Managers I	2 Code Specialists II
4	Ecologists IV	1 Financial Specialist II
5	Ecologists III	1 Financial Specialist I
3	Ecologists II	1 Contract Specialist II
2	Ecologists I	1 Assistant Contract Specialist
3	Project Coordinators	3 Administrative Assistants III
1	Public Works-Env. Serv. Manager	
Urban Forestry (16 positions)		
1	Director, Urban Forestry Division	3 Urban Foresters I
1	Urban Forester IV	1 Project Manager I [+1]
4	Urban Foresters III	1 Administrative Assistant II
5	Urban Foresters II	

+ Denotes New Position(s)

Performance Measurement Results

The objective to receive no MS4 Permit violations related to inspection and maintenance of public and private stormwater management facilities was met in FY 2019, FY 2020, and FY 2021. It is expected that this objective will also be met in FY 2022 and FY 2023. The objective to update 100 percent of the Stormwater emergency action plans was met in prior years. It is expected that this trend will continue in both FY 2022 and FY 2023. Lastly, the objective to keep 100 percent of the commuter facilities operational for 365 days was met in prior years. It is expected that this goal will be met in FY 2022 and FY 2023.

Indicator	FY 2019 Actual	FY 2020 Actual	FY 2021 Estimate	FY 2021 Actual	FY 2022 Estimate	FY 2023 Estimate
MS4 permit violations received	0	0	0	0	0	0
Percent of Emergency Action Plans current	100%	100%	100%	100%	100%	100%
Percent of commuter facilities available 365 days per year	100%	100%	100%	100%	100%	100%

A complete list of performance measures can be viewed at <https://www.fairfaxcounty.gov/budget/fy-2023-advertised-performance-measures-pm>

Fund 40100: Stormwater Services

FUND STATEMENT

Category	FY 2021 Actual	FY 2022 Adopted Budget Plan	FY 2022 Revised Budget Plan	FY 2023 Advertised Budget Plan
Beginning Balance	\$78,402,156	\$6,939	\$90,244,247	\$0
Revenue:				
Stormwater Service District Levy	\$85,394,610	\$87,175,738	\$87,175,738	\$94,393,055
Sale of Bonds ¹	0	0	88,000,000	0
Stormwater Local Assistance Fund (SLAF) Grant ²	1,876,476	0	3,596,793	0
Tree Preservation/Planting Fund ³	203,600	0	0	0
Miscellaneous	90,493	0	81,000	0
Total Revenue	\$87,565,179	\$87,175,738	\$178,853,531	\$94,393,055
Total Available	\$165,967,335	\$87,182,677	\$269,097,778	\$94,393,055
Expenditures:				
Personnel Services ⁴	\$20,448,442	\$22,615,643	\$22,813,269	\$24,580,634
Operating Expenses	3,919,893	3,182,636	3,389,603	4,010,636
Recovered Costs	(1,832,157)	(2,129,955)	(2,129,955)	(2,129,955)
Capital Equipment	1,077,511	782,000	1,887,143	652,000
Capital Projects ⁴	50,984,399	61,600,414	242,012,718	65,879,740
Total Expenditures	\$74,598,088	\$86,050,738	\$267,972,778	\$92,993,055
Transfers Out:				
General Fund (10001) ⁵	\$1,125,000	\$1,125,000	\$1,125,000	\$1,400,000
Total Transfers Out	\$1,125,000	\$1,125,000	\$1,125,000	\$1,400,000
Total Disbursements	\$75,723,088	\$87,175,738	\$269,097,778	\$94,393,055
Ending Balance^{6,7}	\$90,244,247	\$6,939	\$0	\$0
Tax Rate Per \$100 of Assessed Value	\$0.0325	\$0.0325	\$0.0325	\$0.0325

¹ In FY 2022, Economic Development Authority (EDA) Bonds were issued to support the construction of a Stormwater/Wastewater facility to consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions.

² Represents Virginia Department of Environmental Quality (VDEQ) Stormwater Local Assistance Fund (SLAF) grants which support stream and water quality improvement projects. An amount of \$1,876,476 was received in FY 2021 and an amount of \$3,596,793 is anticipated in FY 2022 and beyond.

³ Reflects revenues collected through the land development process that will support tree preservation and planting projects in FY 2022.

⁴ In order to account for revenues and expenditures in the proper fiscal year, audit adjustments were reflected as an increase of \$1,555.35 to FY 2021 Personnel Services expenditures to record expenditure accruals and an increase of \$389,278.17 to FY 2021 Capital Projects expenditures to record expenditure accruals. This impacted the amount carried forward resulting in a decrease of \$389,278.17 to the FY 2022 Revised Budget Plan. The projects affected by this adjustment were 2G25-006-000, Stormwater Regulatory Program, SD-000031, Stream & Water Quality Improvements, and SD-000033, Dam Safety and Facility Rehabilitation. The Annual Comprehensive Financial Report (ACFR) reflects all audit adjustments in FY 2021. Details of the audit adjustments were found in Attachment VI of the FY 2022 Mid-Year Review.

⁵ Funding in the amount of \$1,400,000 is transferred to the General Fund to partially offset central support services supported by the General Fund, which benefit Fund 40100. These indirect costs include support services such as Human Resources, Purchasing, Budget and other administrative services.

⁶ Capital projects are budgeted based on the total project costs. Most projects span multiple years, from design to construction completion. Therefore, funding for capital projects is carried forward each fiscal year, and ending balances fluctuate, reflecting the carryover of these funds.

⁷ The FY 2022 Adopted Budget Plan ending balance of \$6,939 was due to an adjustment made to FY 2020, and it was adjusted as part of the FY 2021 Carryover Review.

Fund 40100: Stormwater Services

SUMMARY OF CAPITAL PROJECTS

Project	Total Project Estimate	FY 2021 Actual Expenditures	FY 2022 Revised Budget	FY 2023 Advertised Budget Plan
Conveyance System Inspection/Development (2G25-028-000)	\$13,725,000	\$1,547,185.84	\$4,734,379.98	\$2,000,000
Conveyance System Rehabilitation (SD-000034)	65,034,135	6,858,021.91	10,922,648.48	7,000,000
Dam & Facility Maintenance (2G25-031-000)	30,194,841	5,511,833.19	7,422,312.42	5,000,000
Dam Safety and Facility Rehabilitation (SD-000033)	62,576,104	5,838,539.60	12,227,774.80	10,000,000
Debt Service for SWWW Facility (2G25-117-000)	9,179,000	0.00	5,000,000.00	4,179,000
Emergency and Flood Response Projects (SD-000032)	36,686,091	1,432,074.25	14,457,916.30	7,000,000
Enterprise Asset Management-Work Order System (SD-000044)	2,400,000	0.00	1,000,000.00	1,400,000
Flood Prevention-Huntington Area-2012 (SD-000037)	41,350,000	204,250.20	2,260,024.24	0
Lake Accotink Dredging (SD-000041)	5,000,000	576,187.62	4,423,812.38	0
Laurel Hill Adaptive Reuse Infrastructure (SD-000038)	1,925,000	8,306.59	0.00	0
NVSWCD Contributory (2G25-007-000)	6,530,042	554,811.00	554,811.00	609,346
Ocoquan Monitoring Contributory (2G25-008-000)	1,750,641	172,138.00	177,799.00	183,437
Scotts Run Stream Restoration (SD-000043)	151,358	151,357.99	0.00	0
Stormwater Allocation to Towns (2G25-027-000)	7,644,829	816,434.14	1,294,119.92	1,000,000
Stormwater Civil Penalties Fees (2G25-119-000)	185,750	0.00	185,750.00	0
Stormwater Facility (SD-000039)	96,515,000	1,985,385.95	88,412,475.41	0
Stormwater Proffers (2G25-032-000)	56,500	0.00	56,500.01	0
Stormwater Regulatory Program (2G25-006-000)	64,014,584	2,588,925.98	7,420,778.36	4,000,000
Stream & Water Quality Improvements (SD-000031)	255,588,016	22,533,970.99	80,322,038.93	23,507,957
Towns Grant Contribution (2G25-029-000)	4,805,976	176,548.01	906,583.17	0
Tree Preservation and Plantings (2G25-030-000)	308,916	28,427.87	232,993.36	0
Total	\$705,621,783	\$50,984,399.13	\$242,012,717.76	\$65,879,740



County of Fairfax, Virginia

MEMORANDUM

DATE: April 5, 2022
TO: Board of Supervisors
FROM: Bryan J. Hill
County Executive *[Signature]*
SUBJECT: Department of Conservation and Recreation, Virginia Community Flood Preparedness Fund

The Virginia Community Flood Preparedness Fund (CFPF) was “established to provide support for regions and localities across Virginia, to reduce the impacts of flooding, including flooding driven by climate change.” The Department of Conservation and Recreation (DCR) administers loans and grants from the CFPF to local governments. DCR has advertised that approximately \$40,000,000 in matching CFPF funds is available this grant cycle. The minimum grant amount is \$50,000 for project grants and \$1,000 for study grants. Project grants will not be capped and final awards will be determined based on available funds following review by DCR. The grant amount per application will be determined based on scoring, amount requests from eligible applications, and available funds.

DCR is soliciting applications for flood prevention and protection project types including, but not limited to: i) nature-based solutions; ii) flood control solutions; and iii) preservation and creation of open space. DCR is also soliciting applications for the following study types including, but not limited to: i) floodplain ordinance revisions; ii) hydrologic and hydraulic floodplain studies with historic and predicted floods; iii) hydrologic and hydraulic floodplain studies to clarify or update FEMA Flood Insurance Rate Maps; and iv) studies and data collection of statewide and regional significance. Applications must be for discrete projects to be completed after the beginning of the application period and not later than three years from the date of an executed grant agreement or by an extension date approved by DCR. Applications for this grant cycle are due on April 8, 2022.

DCR will review applications and award grant assistance by category (project, study, and capacity building and planning) on a competitive scoring basis. Priority is given to applications that are in concert with local, state, and federal floodplain management standards, local resilience plans, and the Virginia Coastal Resilience Master Plan. Based on that ranking process, DCR will select and approve applications. The approved applications will be

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forwarded to the Virginia Resources Authority for the execution of a grant agreement and funding.

For this grant cycle, Fairfax County (County) proposes submitting the following five applications:

Project/Study Title	Project/Study Estimate	Grant Amount Requested
1. Tucker Avenue Neighborhood Stormwater Improvements	\$9,834,000	\$5,900,000
2. Chowan Avenue Flood Mitigation	\$2,000,000	\$1,200,000
3. Little Pimmit Run Tributary at Woodland Terrace	\$4,279,000	\$2,567,000
4. Tripps Run at Barrett Road Flood Mitigation	\$12,836,000	\$8,985,200
5. County Regulated Floodplain Map Updates	\$1,200,000	\$600,000
Total	\$30,149,000	\$19,252,200

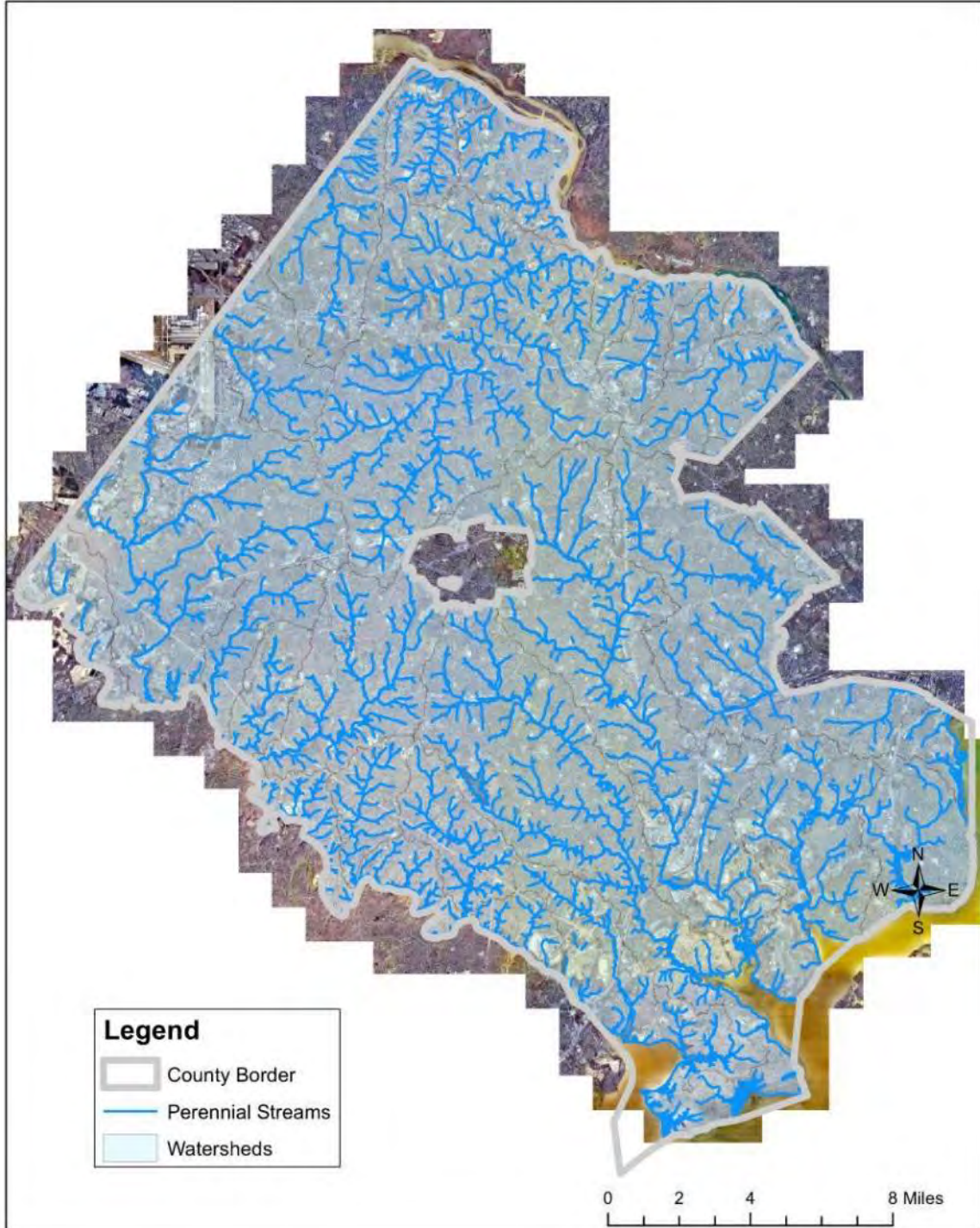
The County is under no financial obligation to apply for CFPF grants. If DCR selects one or more of these applications, the grant(s) will be presented to the Board of Supervisors for approval.

cc: Rachel Flynn, Deputy, County Executive
Christopher Herrington, Director, Department of Public Works and Environmental Services (DPWES)
Eleanor Ku Coddling, Deputy Director DPWES, Stormwater and Wastewater Divisions

C. Supporting Documentation

Scope of Work Narrative	
Supporting Documentation	Link or Attachment
Detailed map of the project areas	Attachment A
FIRMettes of the project areas	Attachment B
Historic flood damage data and/or images	Attachment C
A link to or copy of the current floodplain ordinance	https://online.encodeplus.com/regs/fairfaxcounty-va/doc-viewer.aspx#secid-251
A link to or a copy of the current hazard mitigation plan	https://www.fairfaxcounty.gov/emergencymanagement/sites/emergencymanagement/files/assets/documents/pdf/hazard%20mitigation%20plan%2010.22.19.pdf
A link to or a copy of the current comprehensive plan	https://www.fairfaxcounty.gov/planning-development/fairfax-county-comprehensive-plan
Social vulnerability index score for the project areas from ADAPT VA's Virginia Vulnerability Viewer	Attachment D
Completed Scoring Criteria Sheet in Appendix C	See Appendices
Approved Resilience Plan	Attachment E
Budget Narrative	
Supporting Documentation	Attachment
Authorization to request funding from the Fund from governing body or chief executive of the local government	Attachment 4

Fairfax County Watersheds



NOTES TO USERS

This map is for use in determining the National Flood Insurance Program's flood risk and insurance availability of those areas of flooding, particularly those that are not currently insured or are at risk. The National Flood Insurance Program's flood risk and insurance availability is based on the National Flood Insurance Program's flood risk and insurance availability as of the date of the map. The National Flood Insurance Program's flood risk and insurance availability is based on the National Flood Insurance Program's flood risk and insurance availability as of the date of the map.

Special Flood Hazard Areas (SFHA) are areas of flooding that are subject to inundation by the 1% annual chance flood. SFHAs are divided into three zones: Zone A, Zone B, and Zone X. Zone A is the area of flooding that is subject to inundation by the 1% annual chance flood and is the area of highest flood risk. Zone B is the area of flooding that is subject to inundation by the 1% annual chance flood and is the area of moderate flood risk. Zone X is the area of flooding that is subject to inundation by the 1% annual chance flood and is the area of low flood risk.

Flood Hazard Symbols:
Zone A: 1% Annual Chance Flood
Zone B: 1% Annual Chance Flood
Zone X: 1% Annual Chance Flood

Map Scale: 1" = 1,000'



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

- Zone A: 1% Annual Chance Flood
- Zone B: 1% Annual Chance Flood
- Zone X: 1% Annual Chance Flood

OTHER FLOOD AREAS

- Zone A: 1% Annual Chance Flood
- Zone B: 1% Annual Chance Flood
- Zone X: 1% Annual Chance Flood

OTHER AREAS

- Zone A: 1% Annual Chance Flood
- Zone B: 1% Annual Chance Flood
- Zone X: 1% Annual Chance Flood

CONTRACTOR BARRIER SYSTEMS (CBM) AREAS

- Zone A: 1% Annual Chance Flood
- Zone B: 1% Annual Chance Flood
- Zone X: 1% Annual Chance Flood

UNINCORPORATED AREAS

- Zone A: 1% Annual Chance Flood
- Zone B: 1% Annual Chance Flood
- Zone X: 1% Annual Chance Flood

FAIRFAX COUNTY (UNINCORPORATED AREAS) FIRM

MAP SCALE: 1" = 1,000'

NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND UNINCORPORATED AREAS

PANEL 115 OF 450

MAP NUMBER 5180C0115E

EFFECTIVE DATE: SEPTEMBER 17, 2015

Federal Emergency Management Agency

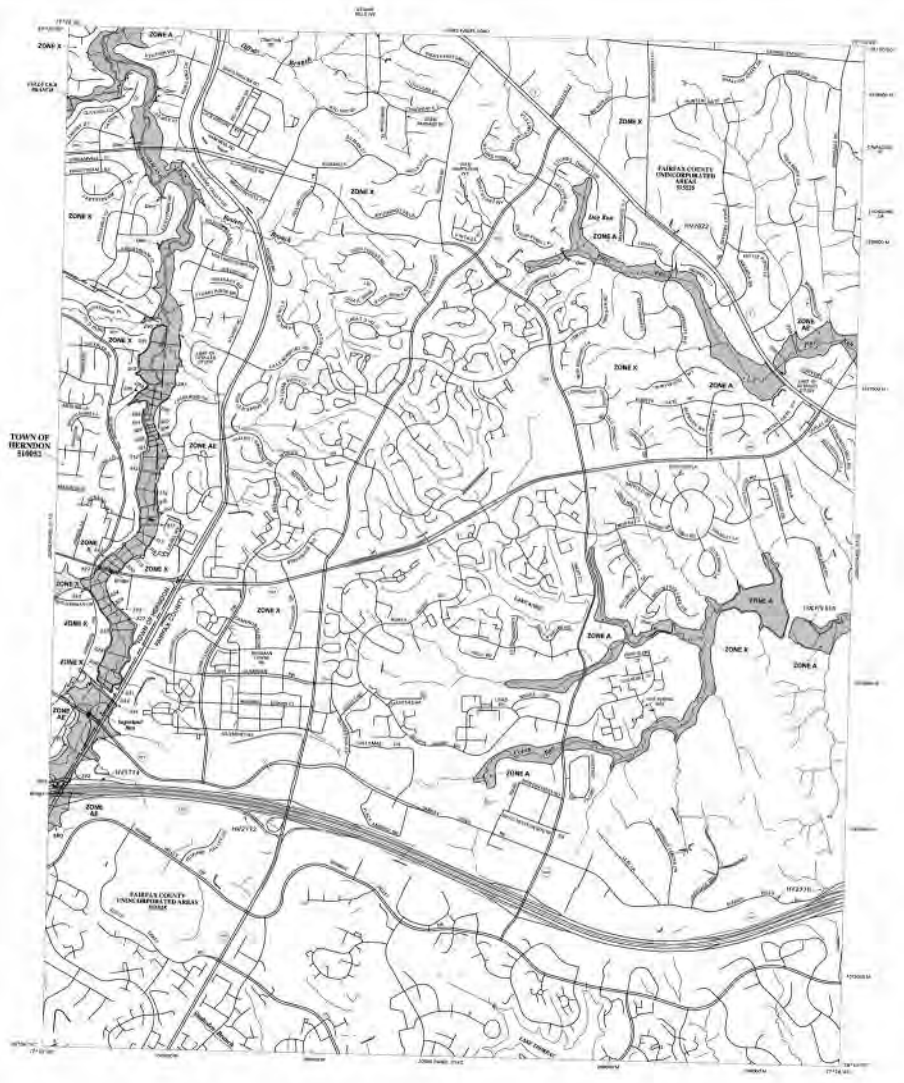
NOTES TO USERS

This map is for use in determining the Federal Flood Insurance Program's (FFIP) flood insurance rates. It is not intended to be used for any other purpose. The information on this map is for informational purposes only and should not be used for any other purpose.

General Flood Hazard Information: The FFIP is a federal program that provides flood insurance to property owners in the United States. The FFIP is administered by the Federal Emergency Management Agency (FEMA). The FFIP is a federal program that provides flood insurance to property owners in the United States. The FFIP is administered by the Federal Emergency Management Agency (FEMA).

Map Accuracy: This map is based on the best available information at the time of its preparation. It is not intended to be used for any other purpose. The information on this map is for informational purposes only and should not be used for any other purpose.

Disclaimer: The information on this map is for informational purposes only and should not be used for any other purpose. The information on this map is for informational purposes only and should not be used for any other purpose.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO REGULATION BY THE FLOOD INSURANCE RATE MAP:

- Zone A:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone B:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone C:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone D:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone E:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone F:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone G:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
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- Zone I:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone J:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone K:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone L:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone M:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone N:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone O:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone P:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone Q:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone R:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone S:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone T:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone U:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone V:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone W:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone X:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.

Other Areas:

- Zone Y:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.
- Zone Z:** Special Flood Hazard Areas (SFHAs) subject to regulation by the Flood Insurance Rate Map.

Map Scale: 1" = 1000'

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 130 OF 450

MAP NUMBER 5109C0130E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is to be used in administering the National Flood Insurance Program. It does not constitute a warranty of any kind, particularly with regard to the accuracy of the information shown. The information was prepared by the Federal Emergency Management Agency for the National Flood Insurance Program.

1. Use of this map: This map is to be used in administering the National Flood Insurance Program. It does not constitute a warranty of any kind, particularly with regard to the accuracy of the information shown. The information was prepared by the Federal Emergency Management Agency for the National Flood Insurance Program.

2. Use of this map: This map is to be used in administering the National Flood Insurance Program. It does not constitute a warranty of any kind, particularly with regard to the accuracy of the information shown. The information was prepared by the Federal Emergency Management Agency for the National Flood Insurance Program.

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5. Use of this map: This map is to be used in administering the National Flood Insurance Program. It does not constitute a warranty of any kind, particularly with regard to the accuracy of the information shown. The information was prepared by the Federal Emergency Management Agency for the National Flood Insurance Program.

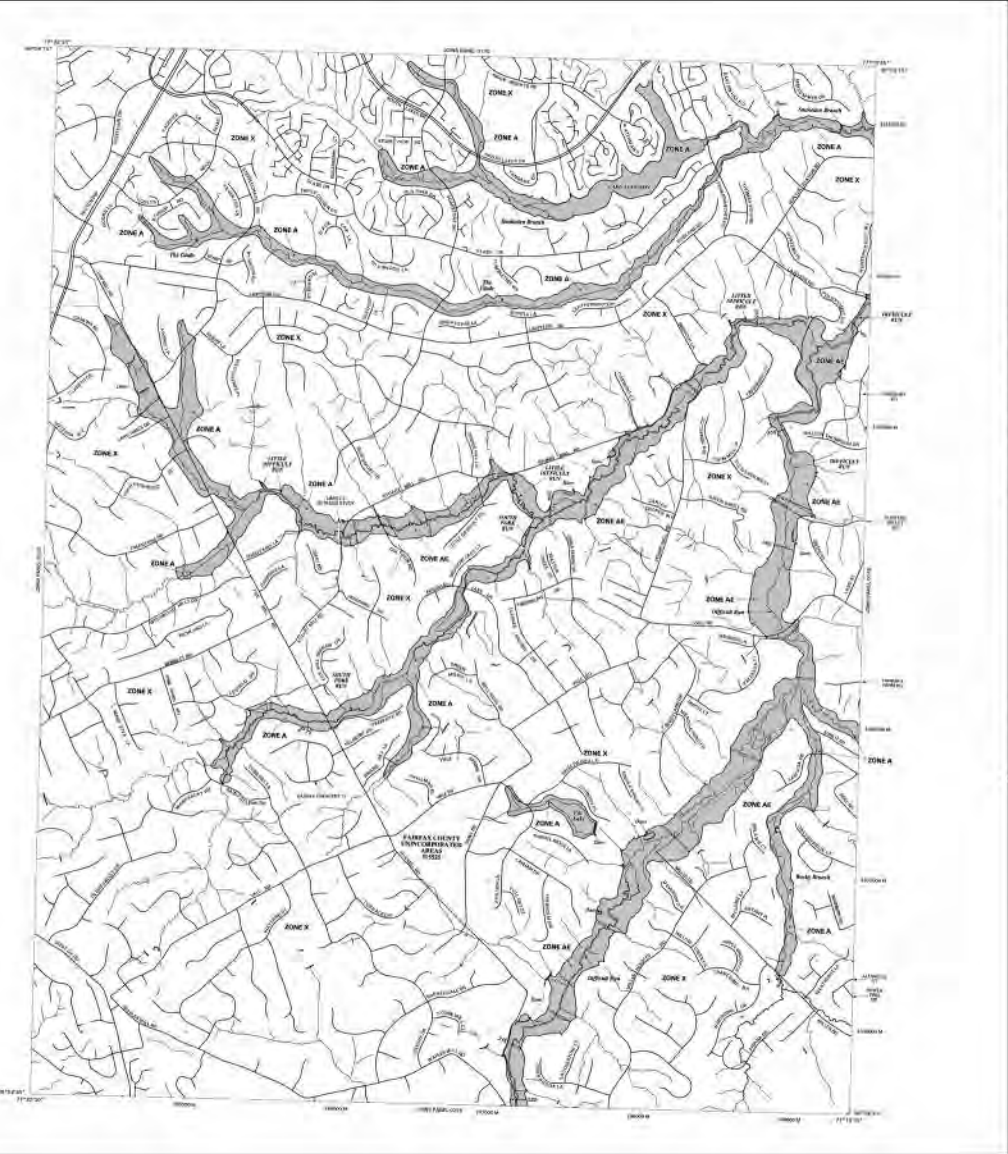
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7. Use of this map: This map is to be used in administering the National Flood Insurance Program. It does not constitute a warranty of any kind, particularly with regard to the accuracy of the information shown. The information was prepared by the Federal Emergency Management Agency for the National Flood Insurance Program.

8. Use of this map: This map is to be used in administering the National Flood Insurance Program. It does not constitute a warranty of any kind, particularly with regard to the accuracy of the information shown. The information was prepared by the Federal Emergency Management Agency for the National Flood Insurance Program.

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10. Use of this map: This map is to be used in administering the National Flood Insurance Program. It does not constitute a warranty of any kind, particularly with regard to the accuracy of the information shown. The information was prepared by the Federal Emergency Management Agency for the National Flood Insurance Program.



LEGEND

SPECIAL FLOODED HAZARD AREAS SUBJECT TO REINVESTMENT BY THE FAIRFAX CHANCE FLOOD FUND

- ZONE AE** Special Flood Hazard Areas (SFHAs) subject to investment by the Fairfax Chance Flood Fund. This zone is shown in a light gray color.
- ZONE X** Special Flood Hazard Areas (SFHAs) subject to investment by the Fairfax Chance Flood Fund. This zone is shown in a medium gray color.
- ZONE A** Special Flood Hazard Areas (SFHAs) subject to investment by the Fairfax Chance Flood Fund. This zone is shown in a dark gray color.
- ZONE AE** Special Flood Hazard Areas (SFHAs) subject to investment by the Fairfax Chance Flood Fund. This zone is shown in a light gray color.
- ZONE X** Special Flood Hazard Areas (SFHAs) subject to investment by the Fairfax Chance Flood Fund. This zone is shown in a medium gray color.
- ZONE A** Special Flood Hazard Areas (SFHAs) subject to investment by the Fairfax Chance Flood Fund. This zone is shown in a dark gray color.

FLOOD-PRONE AREAS IN ZONE AE

- 1.000000M** Flood-prone areas in Zone AE. This area is shown in a light gray color.
- 1.000000M** Flood-prone areas in Zone AE. This area is shown in a light gray color.
- 1.000000M** Flood-prone areas in Zone AE. This area is shown in a light gray color.

OTHER FLOOD AREAS

- 1.000000M** Other flood areas. This area is shown in a light gray color.
- 1.000000M** Other flood areas. This area is shown in a light gray color.
- 1.000000M** Other flood areas. This area is shown in a light gray color.

FAIRFAX COUNTY FLOOD-PRONE AREAS

- 1.000000M** Fairfax County flood-prone areas. This area is shown in a light gray color.
- 1.000000M** Fairfax County flood-prone areas. This area is shown in a light gray color.
- 1.000000M** Fairfax County flood-prone areas. This area is shown in a light gray color.

LEGEND

1.000000M Legend entries for various symbols and colors used on the map.

MAP SCALE 1" = 1000'

PANEL B140E

FIRM FLOOD INSURANCE RATE MAP FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 140 OF 450

MAP NUMBER 510830006E

EFFECTIVE DATE: SEPTEMBER 17, 2010

NOTES TO USERS

This map is for use in determining the National Flood Insurance Program. It does not necessarily identify areas subject to flooding, generally from river flooding, coastal storm surge, or other causes. The appropriate area category should be available for panels 405A through 405D.

The 1988 Flood Insurance Rate Map (FIRM) for Fairfax County, Virginia, is based on the 1988 Flood Insurance Rate Map (FIRM) for Fairfax County, Virginia, which was published in 1988. The 1988 FIRM was based on the 1988 Flood Insurance Rate Map (FIRM) for Fairfax County, Virginia, which was published in 1988. The 1988 FIRM was based on the 1988 Flood Insurance Rate Map (FIRM) for Fairfax County, Virginia, which was published in 1988.

Special Flood Hazard Areas (SFHA) are areas that are subject to flooding. They are identified on this map by the following symbols:

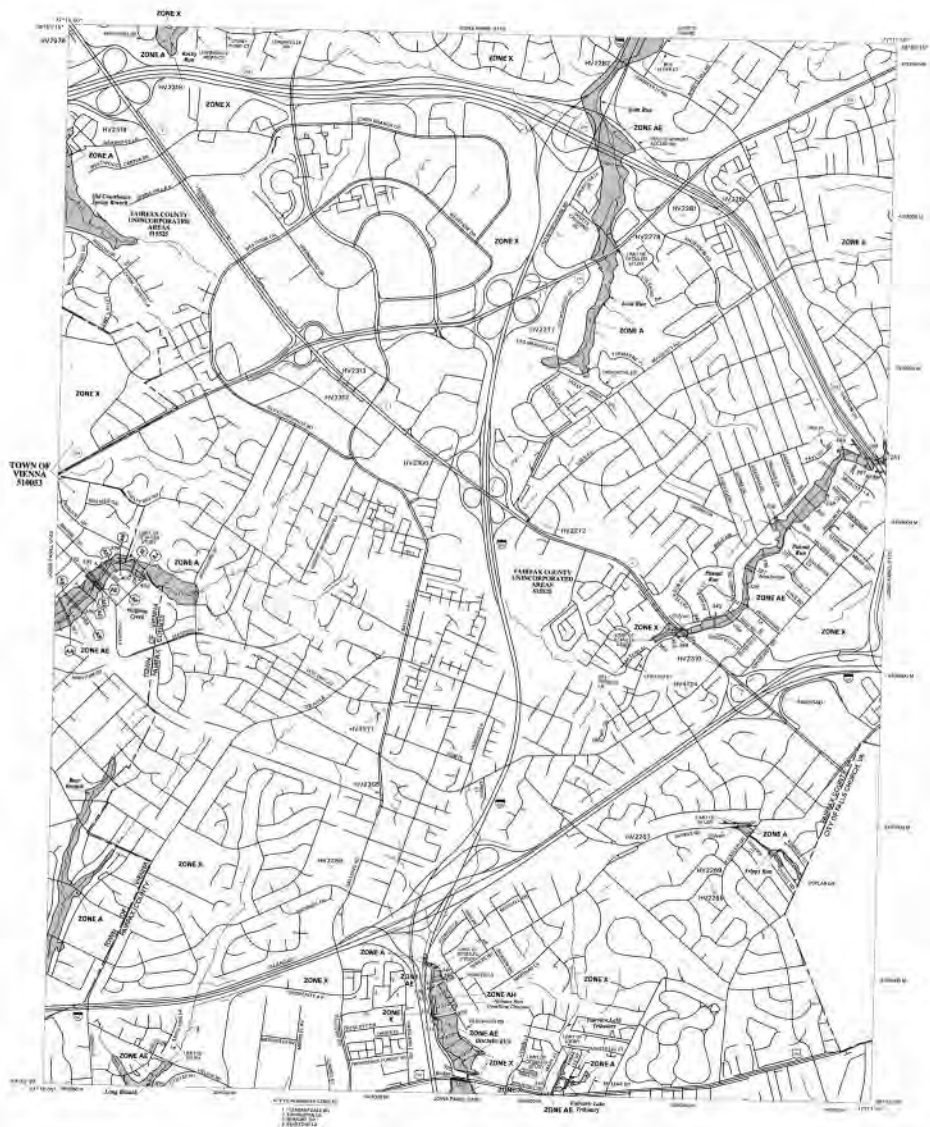
- Zone X:** Areas of moderate flood hazard.
- Zone AE:** Areas of special flood hazard.
- Zone A:** Areas of flood hazard.
- Zone V:** Areas of very high flood hazard.
- Zone VE:** Areas of extremely high flood hazard.

Other Areas:

- Zone B:** Areas of minimal flood hazard.
- Zone C:** Areas of flood hazard.
- Zone D:** Areas of flood hazard.
- Zone E:** Areas of flood hazard.
- Zone F:** Areas of flood hazard.
- Zone G:** Areas of flood hazard.
- Zone H:** Areas of flood hazard.
- Zone I:** Areas of flood hazard.
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- Zone N:** Areas of flood hazard.
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- Zone P:** Areas of flood hazard.
- Zone Q:** Areas of flood hazard.
- Zone R:** Areas of flood hazard.
- Zone S:** Areas of flood hazard.
- Zone T:** Areas of flood hazard.
- Zone U:** Areas of flood hazard.
- Zone V:** Areas of flood hazard.
- Zone W:** Areas of flood hazard.
- Zone X:** Areas of flood hazard.
- Zone Y:** Areas of flood hazard.
- Zone Z:** Areas of flood hazard.

Legend:

- Zone X:** Areas of moderate flood hazard.
- Zone AE:** Areas of special flood hazard.
- Zone A:** Areas of flood hazard.
- Zone V:** Areas of very high flood hazard.
- Zone VE:** Areas of extremely high flood hazard.
- Zone B:** Areas of minimal flood hazard.
- Zone C:** Areas of flood hazard.
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- Zone W:** Areas of flood hazard.
- Zone X:** Areas of flood hazard.
- Zone Y:** Areas of flood hazard.
- Zone Z:** Areas of flood hazard.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INSURANCE BY THE NATIONAL FLOOD INSURANCE PROGRAM

Zone X: Areas of moderate flood hazard.

Zone AE: Areas of special flood hazard.

Zone A: Areas of flood hazard.

Zone V: Areas of very high flood hazard.

Zone VE: Areas of extremely high flood hazard.

Zone B: Areas of minimal flood hazard.

Zone C: Areas of flood hazard.

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Zone T: Areas of flood hazard.

Zone U: Areas of flood hazard.

Zone W: Areas of flood hazard.

Zone Y: Areas of flood hazard.

Zone Z: Areas of flood hazard.

Other Areas:

- Zone B:** Areas of minimal flood hazard.
- Zone C:** Areas of flood hazard.
- Zone D:** Areas of flood hazard.
- Zone E:** Areas of flood hazard.
- Zone F:** Areas of flood hazard.
- Zone G:** Areas of flood hazard.
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- Zone V:** Areas of flood hazard.
- Zone W:** Areas of flood hazard.
- Zone X:** Areas of flood hazard.
- Zone Y:** Areas of flood hazard.
- Zone Z:** Areas of flood hazard.

Map Scale 1" = 1000'

FIRM FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 165 OF 400

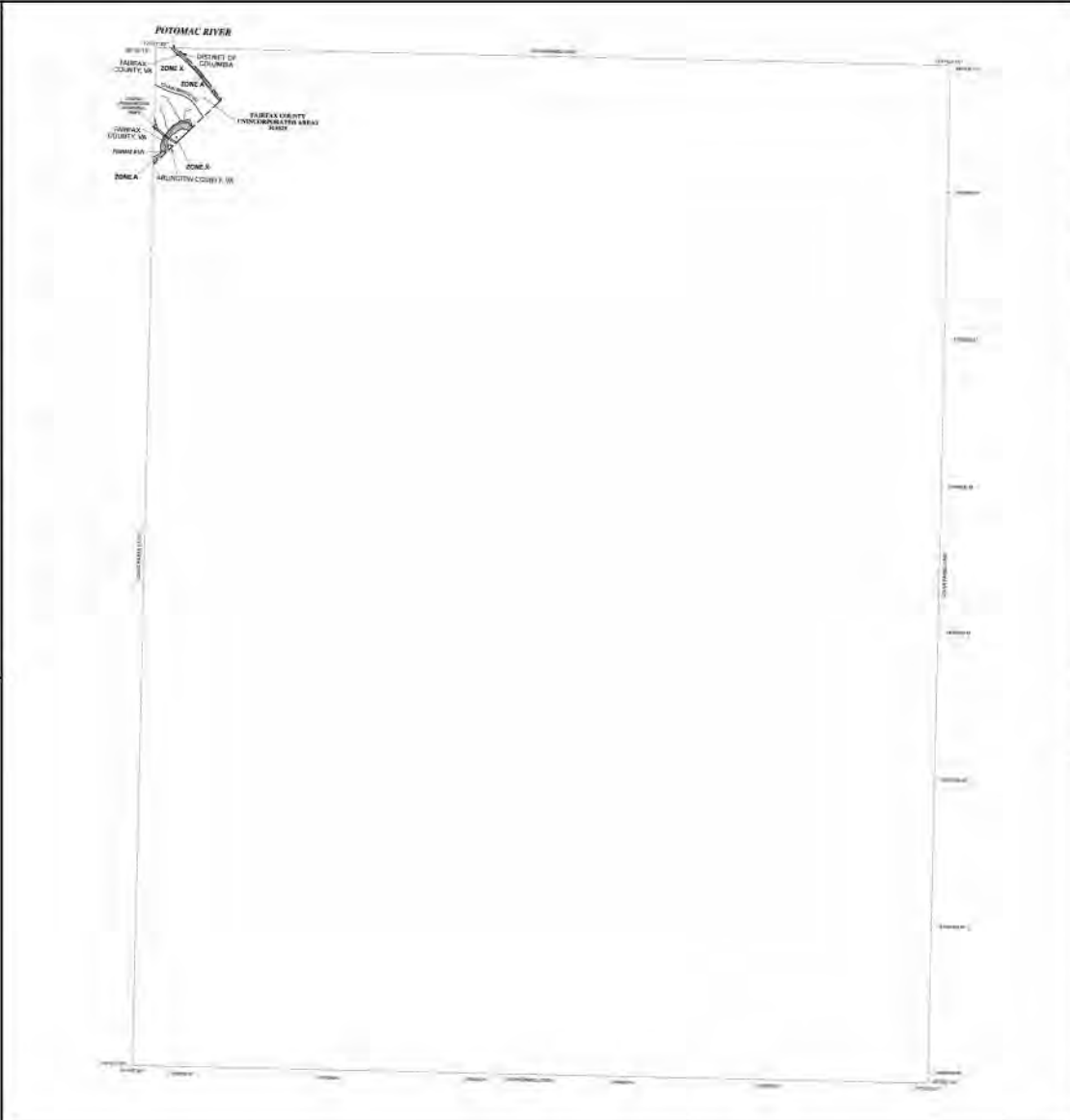
MAP NUMBER: 510002105E

EFFECTIVE DATE: SEPTEMBER 14, 2010

Federal Emergency Management Agency

NOTES TO USERS

The map is to be used in determining the extent that National Flood Insurance Act has not previously been...
1. Each area shown on this Flood Insurance Rate Map (FIRM) was determined...
2. Special Flood Hazard Areas (SFHAs) shown on this map apply only to areas of 1:100 Annual Chance Flood Risk...



LEGEND
SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODATION BY THE 1% ANNUAL CHANCE FLOOD EVENT
ZONE A: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
ZONE B: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
ZONE C: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
ZONE D: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
ZONE E: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
ZONE F: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
ZONE G: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
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ZONE O: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
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ZONE Q: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
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ZONE W: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
ZONE X: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
ZONE Y: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
ZONE Z: Special Flood Hazard Areas Subject to Floodation by the 1% Annual Chance Flood Event...
OTHER FLOOD HAZARD AREAS
OTHER AREAS
COASTAL HAZARD RESOURCE SYSTEM (CHRS) AREAS
OTHER FEMA-PROTECTED AREAS (OFA)

PANEL 100 OF 450
FIRM FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY, VIRGINIA
AND UNINCORPORATED AREAS
PANEL 100 OF 450
ISSUED DATE: SEPTEMBER 17, 2010
EFFECTIVE DATE: SEPTEMBER 17, 2010
National Emergency Management Agency

NOTES TO USERS

This map is to be used in administering the National Flood Insurance Program. It does not constitute a warranty of any kind and is not intended to be used for any purpose other than that for which it was prepared. The user assumes all responsibility for the use of this map.

To learn more about flood insurance, or to see what your Flood Hazard Insurance Rate Map (FIRM) shows, contact your insurance agent. FIRM data is available on the FEMA website at www.fema.gov. FIRM data is also available on the FEMA website at www.fema.gov. FIRM data is also available on the FEMA website at www.fema.gov.

Special Flood Hazard Areas (SFHA) shown on this map apply only to areas of the National Flood Insurance Program (NFIP). Areas of the NFIP are shown on this map. Areas of the NFIP are shown on this map. Areas of the NFIP are shown on this map.

Other areas not in Special Flood Hazard Areas may be involved in the Flood Hazard Insurance Program. Other areas not in Special Flood Hazard Areas may be involved in the Flood Hazard Insurance Program. Other areas not in Special Flood Hazard Areas may be involved in the Flood Hazard Insurance Program.

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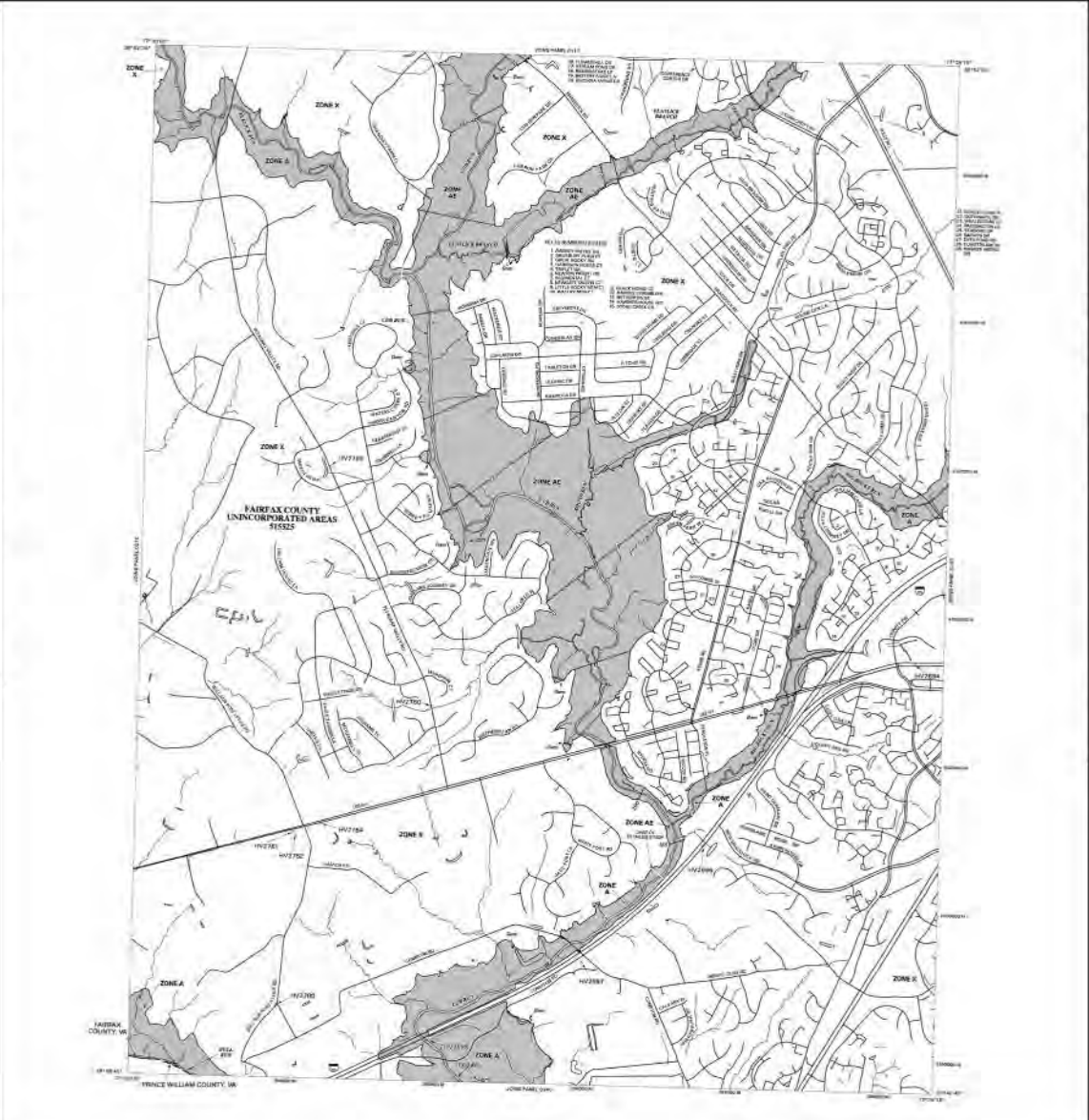
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LEGEND

SPECIAL HAZARD AREAS SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD EVENT

ZONE A
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE B
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE C
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE D
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE E
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE F
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE G
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE H
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE I
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE J
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE K
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE L
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE M
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE N
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE O
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE P
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE Q
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE R
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE S
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE T
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE U
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE V
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE W
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE X
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE Y
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

ZONE Z
Areas of special flood hazard subject to flooding by the 1% annual chance flood event.

FLOODWAY AREAS IN ZONE A

OTHER AREAS

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHER PROTECTED AREAS (OPA)

MAP SCALE 1" = 1000'

NATIONAL FLOOD INSURANCE PROGRAM

FAIRFAX COUNTY, VIRGINIA

UNINCORPORATED AREAS

PANEL 230 OF 450

MAP NUMBER 5109C0230E

EFFECTIVE DATE: SEPTEMBER 17, 2016

Federal Emergency Management Agency

NOTES TO USERS

The map is for use in determining the National Flood Insurance Program's (NFIP) special flood hazard areas (SFHAs) subject to inundation by the 1% annual chance flood event. It does not constitute a warranty or insurance policy. It is intended to provide information for use in determining the risk of flooding and the potential for damage to property and infrastructure.

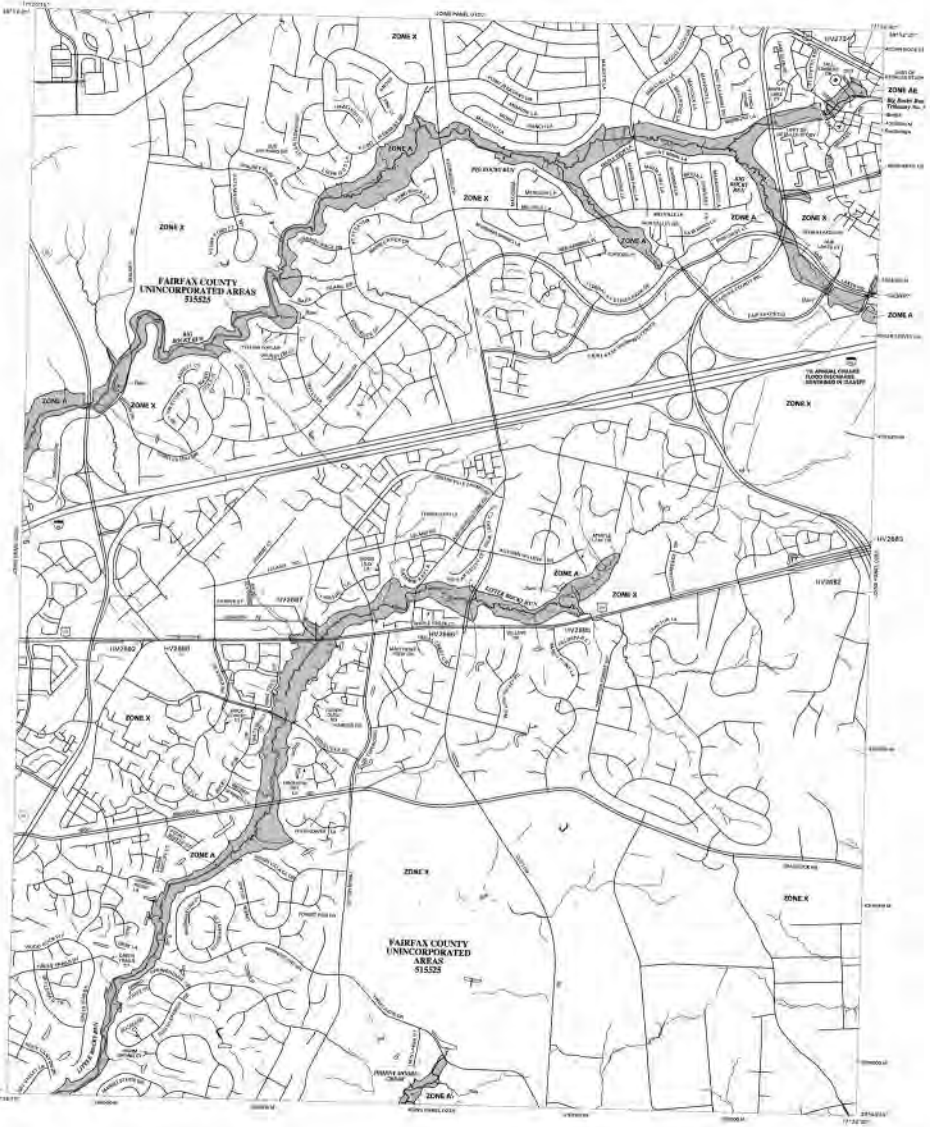
To obtain more detailed information on any area, contact the Flood Protection and Planning Section, Federal Emergency Management Agency (FEMA), 1215 Jefferson Davis Highway, Alexandria, VA 22304. For more information on the NFIP, visit the FEMA website at www.fema.gov.

Special Flood Hazard Areas (SFHAs) are shown on this map. These areas are subject to inundation by the 1% annual chance flood event. The SFHAs are shown in various shades of gray. The map also shows other flood hazard areas, such as the 100-year flood plain and the 500-year flood plain. The map is based on the best available data and is subject to change as more information becomes available.

For more information on the NFIP, visit the FEMA website at www.fema.gov. For more information on the SFHAs, contact the Flood Protection and Planning Section, FEMA, 1215 Jefferson Davis Highway, Alexandria, VA 22304.

This map is based on the best available data and is subject to change as more information becomes available. It is intended to provide information for use in determining the risk of flooding and the potential for damage to property and infrastructure.

For more information on the NFIP, visit the FEMA website at www.fema.gov. For more information on the SFHAs, contact the Flood Protection and Planning Section, FEMA, 1215 Jefferson Davis Highway, Alexandria, VA 22304.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

Zone AE Special Flood Hazard Areas (SFHAs) subject to inundation by the 1% annual chance flood event. The map shows the extent of the SFHAs and the potential for damage to property and infrastructure.

Zone AH Special Flood Hazard Areas (SFHAs) subject to inundation by the 1% annual chance flood event. The map shows the extent of the SFHAs and the potential for damage to property and infrastructure.

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Zone Y Special Flood Hazard Areas (SFHAs) subject to inundation by the 1% annual chance flood event. The map shows the extent of the SFHAs and the potential for damage to property and infrastructure.

Zone Z Special Flood Hazard Areas (SFHAs) subject to inundation by the 1% annual chance flood event. The map shows the extent of the SFHAs and the potential for damage to property and infrastructure.

OTHER AREAS

100-YEAR FLOOD PLAIN

500-YEAR FLOOD PLAIN

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

UNINCORPORATED AREAS

WATER BODIES

ROADS

RAILROADS

UTILITY LINES

MAP SCALE 1" = 1000'

NATIONAL FLOOD INSURANCE PROGRAM

PANEL #232E

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA (UNINCORPORATED AREAS)

PANEL 235 OF 450

MAP NUMBER 51050C025E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in determining the National Flood Insurance Program (NFIP) flood insurance rates for the 15th annual January 1st renewal. It is not intended to be used for any other purpose. The information on this map is for informational purposes only and does not constitute a warranty of any kind. The information on this map is for informational purposes only and does not constitute a warranty of any kind.

1. SPECIAL FLOOD HAZARD INFORMATION: This map shows Special Flood Hazard Areas (SFHAs) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal.

2. SPECIAL FLOOD HAZARD INFORMATION: This map shows Special Flood Hazard Areas (SFHAs) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal.

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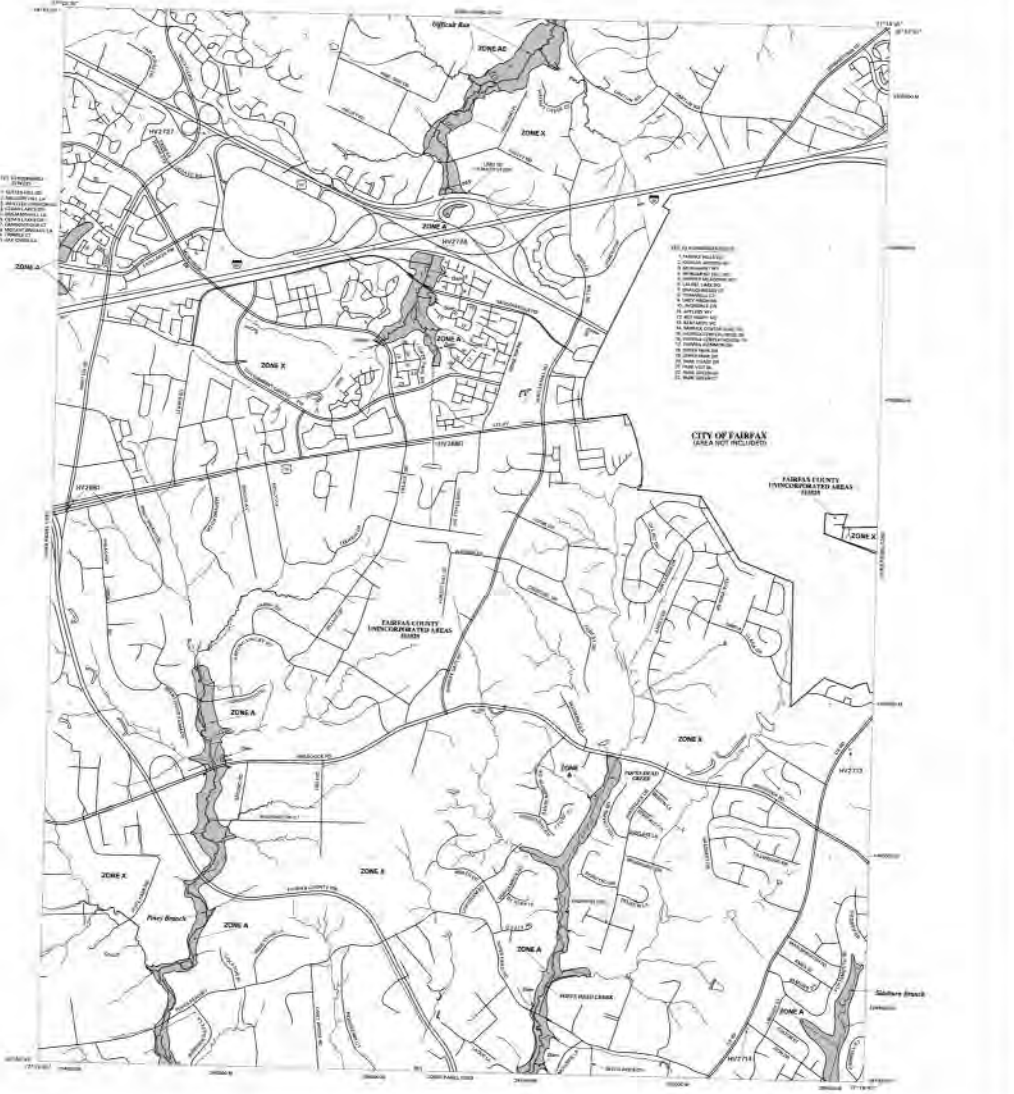
6. SPECIAL FLOOD HAZARD INFORMATION: This map shows Special Flood Hazard Areas (SFHAs) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal.

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8. SPECIAL FLOOD HAZARD INFORMATION: This map shows Special Flood Hazard Areas (SFHAs) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal.

9. SPECIAL FLOOD HAZARD INFORMATION: This map shows Special Flood Hazard Areas (SFHAs) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal.

10. SPECIAL FLOOD HAZARD INFORMATION: This map shows Special Flood Hazard Areas (SFHAs) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal. The SFHAs are based on the Flood Insurance Study (FIS) for the 15th annual January 1st renewal.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INSURANCE BY THE 15th ANNUAL JANUARY 1st RENEWAL

ZONE A
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE B
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE C
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE D
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE E
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE F
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE G
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE H
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE I
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE J
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE K
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE L
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE M
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE N
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE O
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE P
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE Q
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE R
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE S
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE T
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE U
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE V
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE W
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE X
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE Y
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE Z
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

OTHER AREAS

ZONE A
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE B
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE C
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

COASTAL BARRIER PROTECTED SYSTEM (CBPS) AREAS

OTHER AREAS

ZONE A
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE B
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

ZONE C
Special Flood Hazard Areas (SFHAs) subject to insurance by the 15th annual January 1st renewal.

MAP SCALE 1" = 1000'

NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA

AND INCORPORATED AREAS

PANEL 255 OF 450

MAP NUMBER SFD000255E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is an approximation of the National Flood Insurance Program (NFIP) data. It is not intended to be used as a substitute for the official NFIP data. The information on this map is for informational purposes only and should not be used for any other purpose.

To obtain more detailed information on areas shown as Special Flood Hazard Areas (SFHAs) on this map, please contact the National Flood Insurance Program (NFIP) at 1-800-358-3247. For more information on the NFIP, please visit the NFIP website at www.flood.gov.

Special Flood Hazard Areas (SFHAs) are areas that are subject to flooding. They are shown on this map as follows:

- Zone A:** Areas of shallow flooding (1-3 feet deep).
- Zone AE:** Areas of moderate flooding (3-6 feet deep).
- Zone X:** Areas of high flooding (6-9 feet deep).
- Zone V:** Areas of very high flooding (9-12 feet deep).
- Zone VE:** Areas of extremely high flooding (12-15 feet deep).
- Zone D:** Areas of deep flooding (15-20 feet deep).
- Zone DE:** Areas of extremely deep flooding (20-30 feet deep).
- Zone O:** Areas of other flooding (30+ feet deep).
- Zone OE:** Areas of extremely other flooding (30+ feet deep).

Other areas shown on this map include:

- Uninsured Areas:** Areas that are not covered by the NFIP.
- Other Flooded Areas:** Areas that are flooded but not shown on the NFIP map.
- Other Areas:** Areas that are not shown on the NFIP map.

For more information on the NFIP, please contact the National Flood Insurance Program (NFIP) at 1-800-358-3247. For more information on the NFIP, please visit the NFIP website at www.flood.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD EVENT

- Zone A: Areas of shallow flooding (1-3 feet deep).
- Zone AE: Areas of moderate flooding (3-6 feet deep).
- Zone X: Areas of high flooding (6-9 feet deep).
- Zone V: Areas of very high flooding (9-12 feet deep).
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- Zone DE: Areas of extremely deep flooding (20-30 feet deep).
- Zone O: Areas of other flooding (30+ feet deep).
- Zone OE: Areas of extremely other flooding (30+ feet deep).

OTHER AREAS

- Uninsured Areas: Areas that are not covered by the NFIP.
- Other Flooded Areas: Areas that are flooded but not shown on the NFIP map.
- Other Areas: Areas that are not shown on the NFIP map.

OTHER FEATURES

- Major Road: Road with a width of 60 feet or more.
- Minor Road: Road with a width of 30 feet or more.
- Waterway: Waterway with a width of 100 feet or more.
- Boundary: Boundary of a political subdivision.
- City/Town/Village Boundary: Boundary of a city, town, or village.
- County Boundary: Boundary of a county.
- State Boundary: Boundary of a state.
- North Arrow: North arrow.
- Scale: Scale of 1" = 1000'.

NATIONAL FLOOD INSURANCE PROGRAM

PANEL BOOK

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 250 OF 450

MAP NUMBER 510530C00E

EFFECTIVE DATE: SEPTEMBER 11, 2016

Printed On Demand by MapSource

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not constitute an offer of insurance. It is not intended to be used as a basis for rating or underwriting. The information shown here is for informational purposes only and does not constitute a contract. For more information, contact your insurance agent.

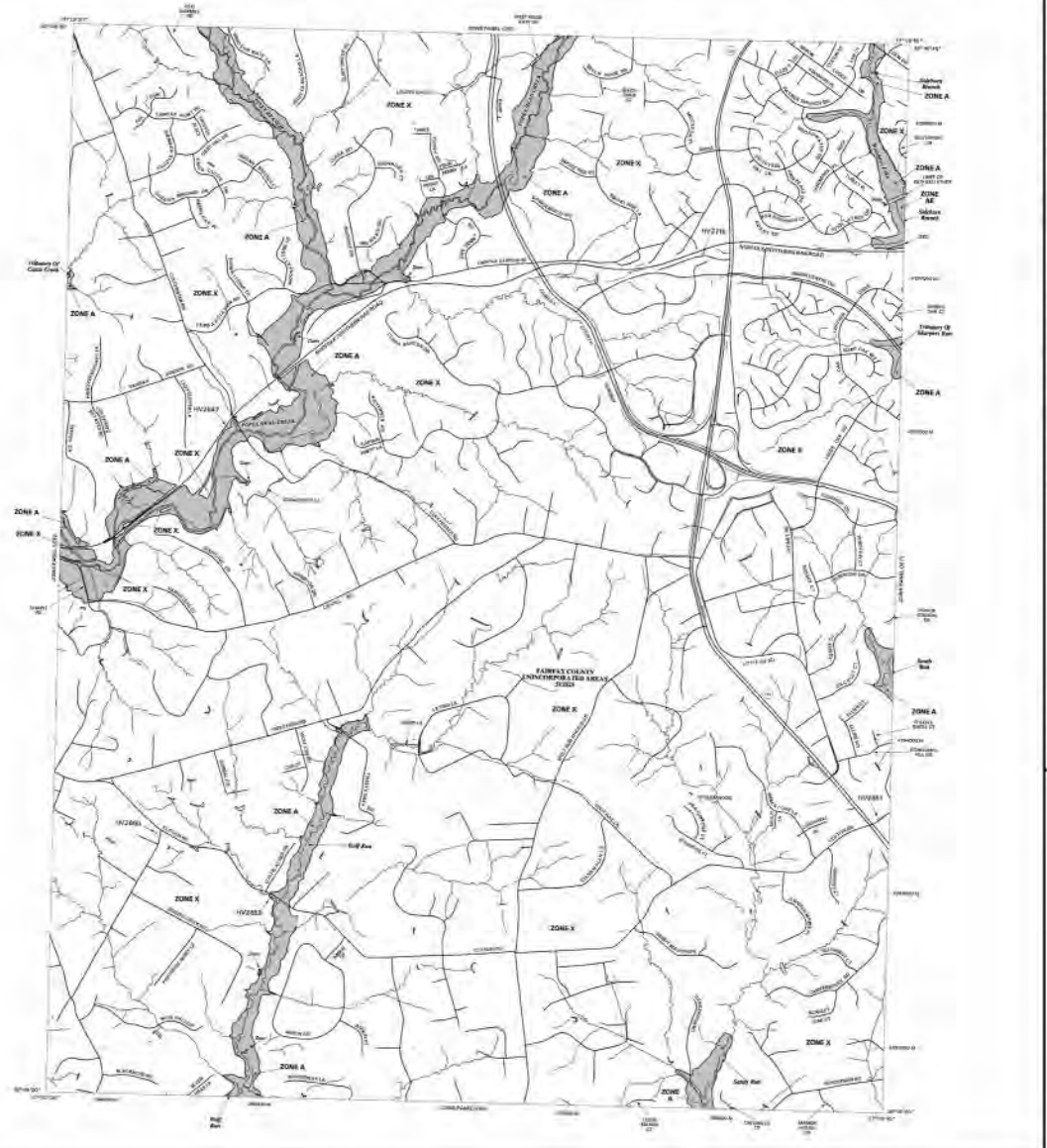
To obtain more detailed information on areas shown as Special Flood Hazard Areas (SFHAs) on this map, contact the Federal Emergency Management Agency (FEMA) at 400 South Alamo Street, Suite 500, Alexandria, VA 22304. FEMA will provide you with a copy of the Flood Insurance Study (FIS) for the area shown on this map. The FIS includes a detailed description of the SFHAs and the basis for their designation. It also includes a list of the communities that are in the SFHAs and the basis for their inclusion. The FIS is available to the public for a fee of \$10.00 per copy. If you are a member of the National Flood Insurance Program, you may obtain a copy of the FIS for your community at a reduced rate.

Communities that are in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Structures" of the Flood Insurance Study for information on flood control structures in this area.

The population used in the preparation of this map is based on Census Bureau data from the 1990 Census. The population for the 2000 Census is also available. The population for the 2010 Census is also available. The population for the 2020 Census is also available. The population for the 2030 Census is also available. The population for the 2040 Census is also available. The population for the 2050 Census is also available. The population for the 2060 Census is also available. The population for the 2070 Census is also available. The population for the 2080 Census is also available. The population for the 2090 Census is also available. The population for the 2100 Census is also available.

Special Flood Hazard Areas shown on this map are based on the National Flood Insurance Study (NFIS) for the area shown on this map. The NFIS is the result of a study conducted by the Federal Emergency Management Agency (FEMA) in cooperation with the National Flood Insurance Program (NFIP). The NFIS is the basis for the Special Flood Hazard Areas shown on this map. The NFIS is available to the public for a fee of \$10.00 per copy. If you are a member of the National Flood Insurance Program, you may obtain a copy of the NFIS for your community at a reduced rate.

Special Flood Hazard Areas shown on this map are based on the National Flood Insurance Study (NFIS) for the area shown on this map. The NFIS is the result of a study conducted by the Federal Emergency Management Agency (FEMA) in cooperation with the National Flood Insurance Program (NFIP). The NFIS is the basis for the Special Flood Hazard Areas shown on this map. The NFIS is available to the public for a fee of \$10.00 per copy. If you are a member of the National Flood Insurance Program, you may obtain a copy of the NFIS for your community at a reduced rate.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODATION BY THE 1% ANNUAL FLOOD FLOOD EVENT

- Zone A: Areas of high flood hazard, with a 1% annual flood depth of 1 to 3 feet.
- Zone X: Areas of moderate flood hazard, with a 1% annual flood depth of 3 to 6 feet.
- Zone B: Areas of low flood hazard, with a 1% annual flood depth of 6 to 12 feet.
- Zone C: Areas of very low flood hazard, with a 1% annual flood depth of 12 to 18 feet.
- Zone D: Areas of minimal flood hazard, with a 1% annual flood depth of 18 to 24 feet.

FLOODWAY AREAS IN ZONE A:

- Areas of high flood hazard, with a 1% annual flood depth of 1 to 3 feet, that are subject to flooding from a floodway.

OTHER AREAS:

- Zone X: Areas of moderate flood hazard, with a 1% annual flood depth of 3 to 6 feet.
- Zone B: Areas of low flood hazard, with a 1% annual flood depth of 6 to 12 feet.
- Zone C: Areas of very low flood hazard, with a 1% annual flood depth of 12 to 18 feet.
- Zone D: Areas of minimal flood hazard, with a 1% annual flood depth of 18 to 24 feet.

CONCRETE OR METAL STRUCTURE SYSTEM (CMRS) AREAS:

- Areas of high flood hazard, with a 1% annual flood depth of 1 to 3 feet, that are subject to flooding from a concrete or metal structure system.

OTHERWISE PROTECTED AREAS (OPAs):

- Areas of high flood hazard, with a 1% annual flood depth of 1 to 3 feet, that are subject to flooding from a structure that is otherwise protected.

MAP SCALE 1" = 100'

NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA

AND INCORPORATED AREAS

PANEL 285 OF 450

DATE MAP MADE FOR THIS PANEL: LATEST

DATE: 09/15/2010

MAP NUMBER: S1050C285

EFFECTIVE DATE: SEPTEMBER 15, 2010

Eastern Emergency Management Agency

NOTES TO USERS

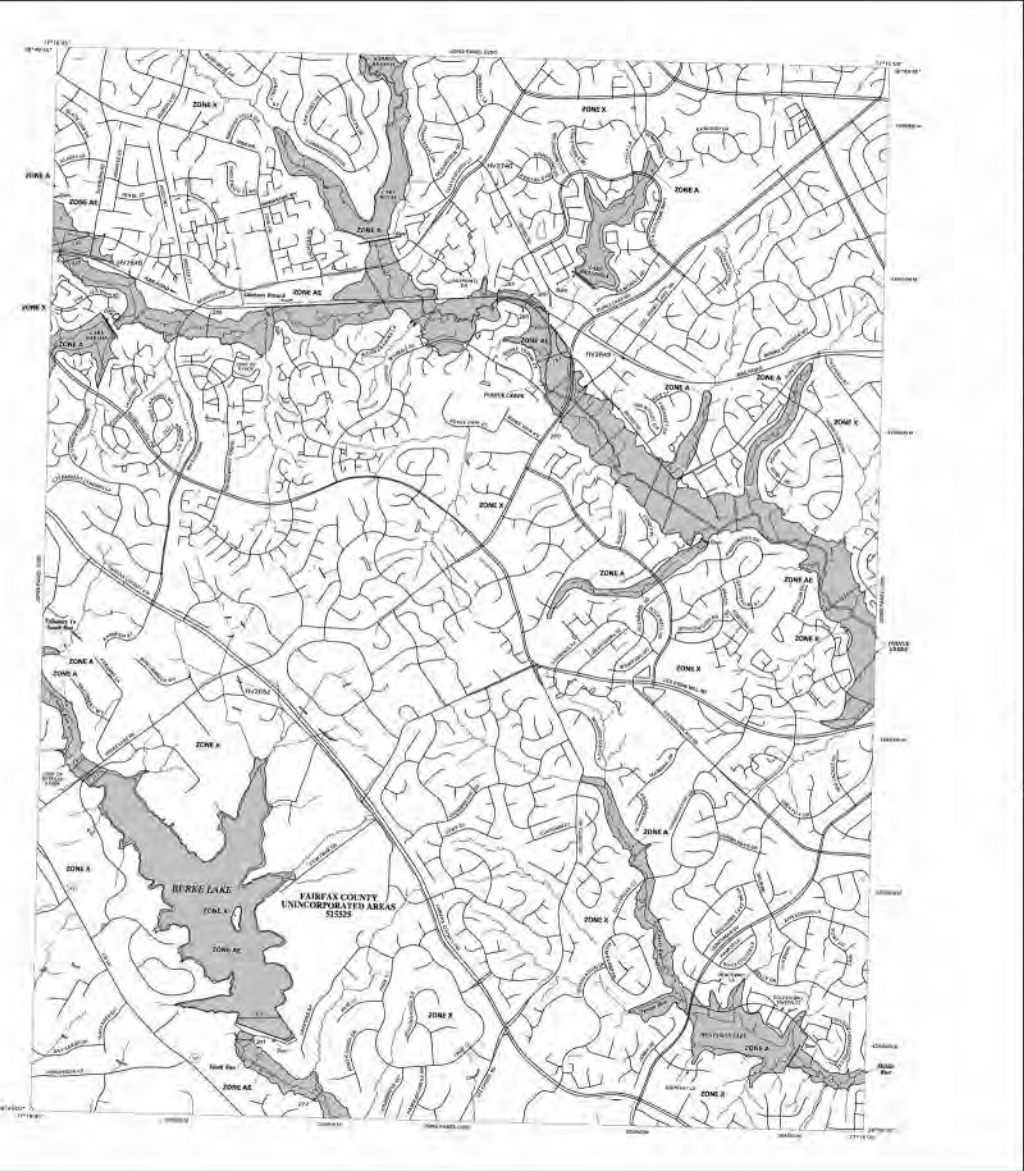
This map is for use in determining the Federal Flood Insurance Program (FFIP) for residential property in the subject of flooding, particularly from rain storage basins of water. The information here represents only an estimate for possible damage of additional flood hazard information.

To obtain more detailed information in areas where Flood Hazard (FFH) zones are shown, users should refer to the FFH map. The FFH map shows the FFH zones and the FFH zones are shown on the FFH map. The FFH zones are shown on the FFH map. The FFH zones are shown on the FFH map.

Users should refer to the FFH map for more information on the FFH zones. The FFH zones are shown on the FFH map. The FFH zones are shown on the FFH map. The FFH zones are shown on the FFH map.

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LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD EVENT

- Zone A: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone X: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone B: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone C: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone D: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone E: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
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- Zone Q: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
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- Zone T: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone U: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone V: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone W: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone X: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone Y: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.
- Zone Z: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.

FLOODWAY AREAS IN ZONE A

- Zone A: Floodway Areas in Zone A.

OTHER AREAS

- Zone B: Other Areas.

COASTAL SANDWICH ISLANDS (SPECIAL FLOOD AREAS)

- Zone C: Coastal Sandwich Islands (Special Flood Areas).

UNINCORPORATED AREAS (ZONED)

- Zone D: Unincorporated Areas (Zoned).

LEGEND

Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event

- Zone A: Special Flood Hazard Areas Subject to Flooding by the 1% Annual Chance Flood Event.

Map Scale: 1" = 500'

FIRM FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 270 OF 450

MAP NUMBER 5180C020E

EFFECTIVE DATE: SEPTEMBER 11, 2018

Federal Emergency Management Agency

NOTES TO USERS

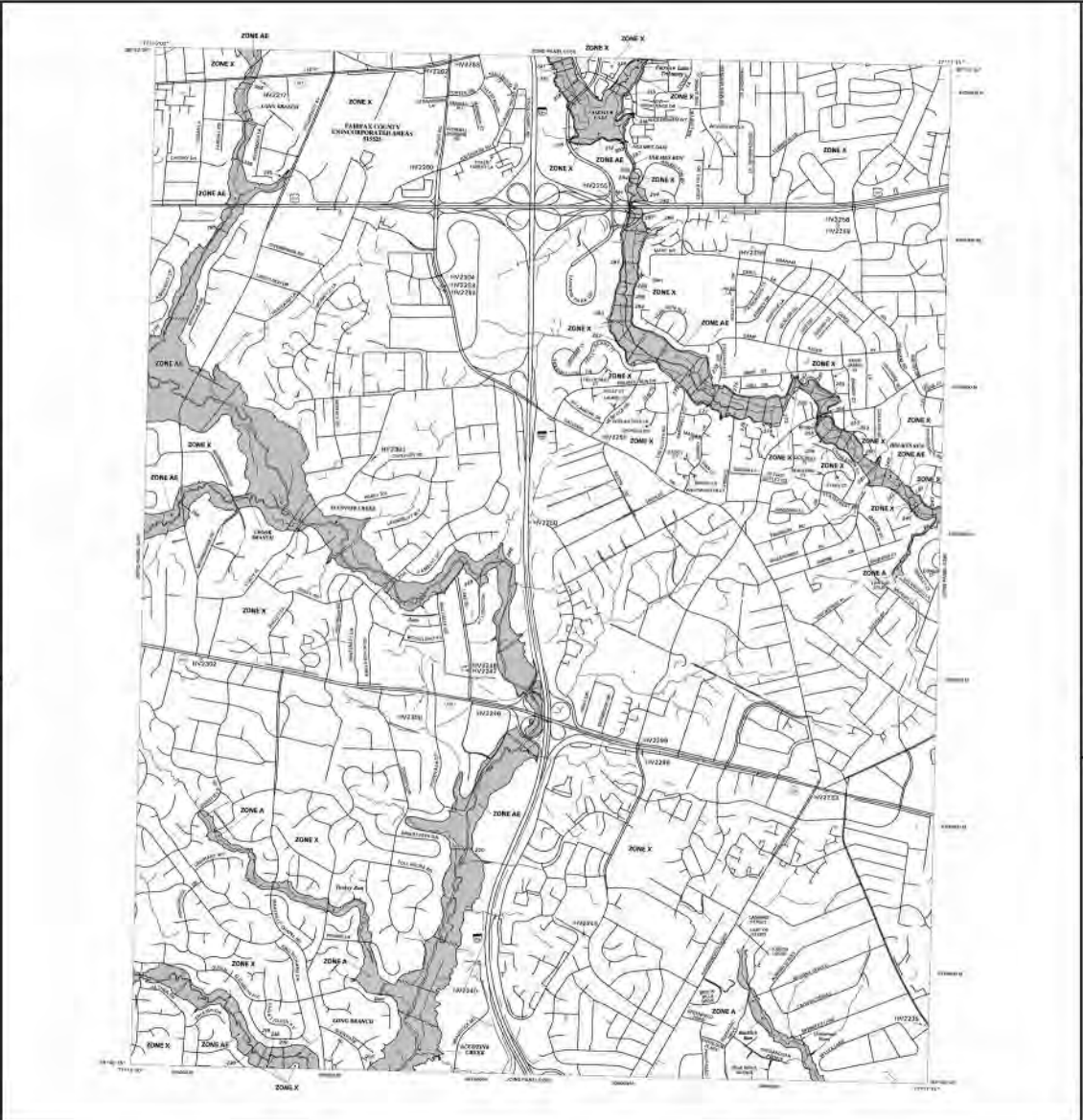
The data for use in determining the Flood Hazard Region is data not necessarily timely or accurate in showing conditions that may change because of such things as the construction of new levees or other flood control structures.

This Flood Hazard Region is based on the Flood Hazard Region of the State of Virginia as shown on the Flood Hazard Region Map of the State of Virginia, 1988, as amended by the Flood Hazard Region Map of the State of Virginia, 1992, as amended by the Flood Hazard Region Map of the State of Virginia, 1996, as amended by the Flood Hazard Region Map of the State of Virginia, 2000, as amended by the Flood Hazard Region Map of the State of Virginia, 2004, as amended by the Flood Hazard Region Map of the State of Virginia, 2008, as amended by the Flood Hazard Region Map of the State of Virginia, 2012, as amended by the Flood Hazard Region Map of the State of Virginia, 2016, as amended by the Flood Hazard Region Map of the State of Virginia, 2020.

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LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

ZONE AA Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE AB Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE AX Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE B Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE C Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE D Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE E Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE F Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE G Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE H Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE I Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE J Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE K Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE L Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE M Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE N Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE O Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE P Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE Q Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE R Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE S Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE T Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE U Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE V Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE W Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE X Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE Y Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

ZONE Z Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event (ACFE) in areas of high ground water table.

FLOODWAY AREAS (ZONE AF)

OTHER FLOOD AREAS

OTHER AREAS

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREA

DYKEMAN'S PROTECTED AREAS (DPA)

MAP SCALE 1" = 100'

FAIRFAX COUNTY FLOOD INSURANCE PROGRAM

PANEL 588E

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 588 OF 450

MAP NUMBER 58850282E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

The data on this map is derived from the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, nor does it indicate the depth of flooding. The information on this map is intended for general informational purposes only. It is not intended for use in the design of flood control structures or other flood control measures. It is not intended for use in the design of flood control structures or other flood control measures. It is not intended for use in the design of flood control structures or other flood control measures.

Special Flood Hazard Areas Subject to Inundation by the 1% Annual Chance Flood Event

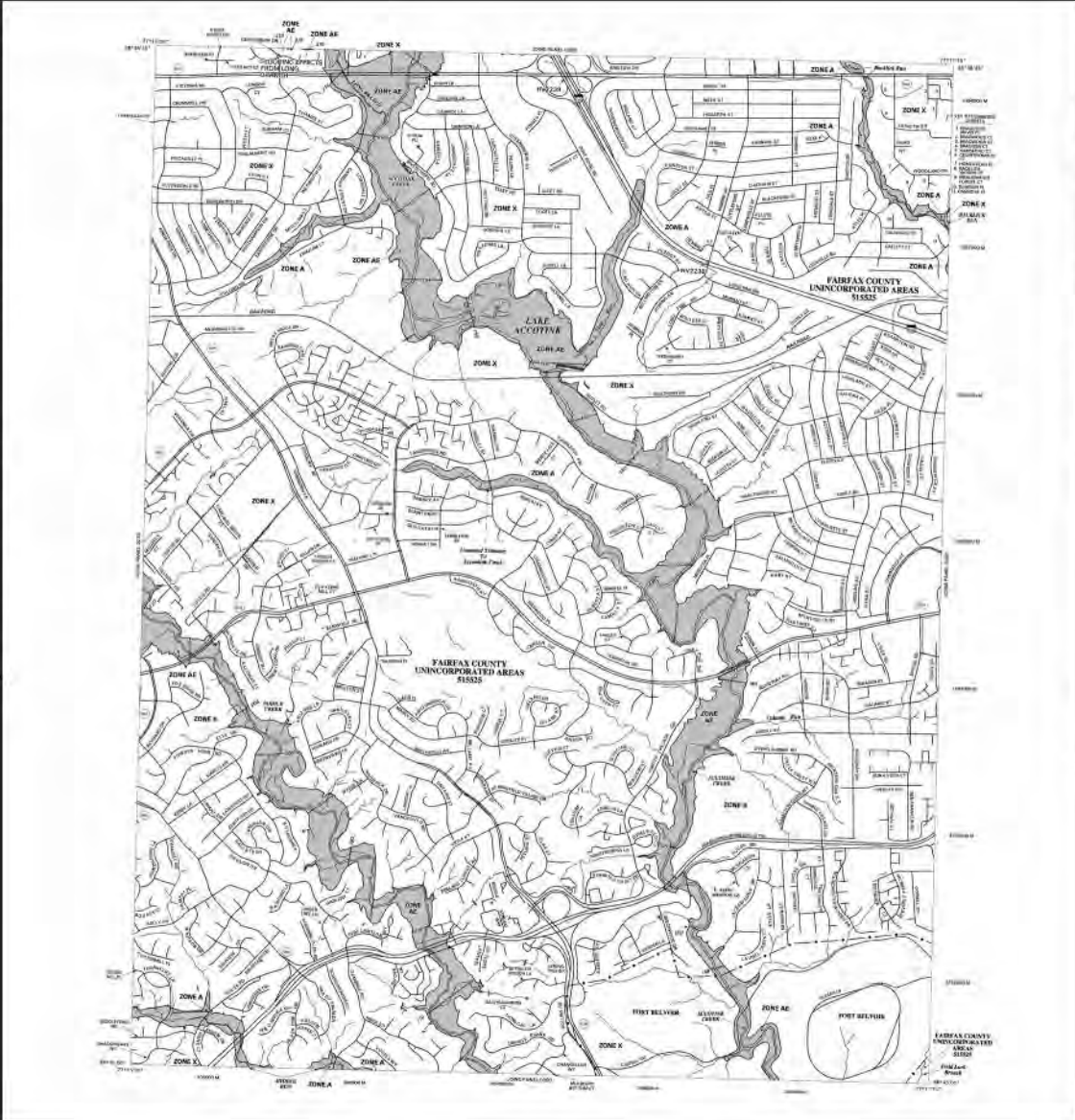
The 1% Annual Chance Flood Event is the flood that has a 1% chance of occurring in any given year. It is the flood that is most likely to cause damage to property and loss of life. The 1% Annual Chance Flood Event is the flood that is most likely to cause damage to property and loss of life. The 1% Annual Chance Flood Event is the flood that is most likely to cause damage to property and loss of life.

Special Flood Hazard Areas Subject to Inundation by the 1% Annual Chance Flood Event

The 1% Annual Chance Flood Event is the flood that has a 1% chance of occurring in any given year. It is the flood that is most likely to cause damage to property and loss of life. The 1% Annual Chance Flood Event is the flood that is most likely to cause damage to property and loss of life. The 1% Annual Chance Flood Event is the flood that is most likely to cause damage to property and loss of life.

Special Flood Hazard Areas Subject to Inundation by the 1% Annual Chance Flood Event

The 1% Annual Chance Flood Event is the flood that has a 1% chance of occurring in any given year. It is the flood that is most likely to cause damage to property and loss of life. The 1% Annual Chance Flood Event is the flood that is most likely to cause damage to property and loss of life. The 1% Annual Chance Flood Event is the flood that is most likely to cause damage to property and loss of life.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

Zone A Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone AE Areas of special flood hazard subject to inundation by the 1% annual chance flood event and to erosion of the land surface.

Zone X Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone B Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone C Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone D Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone E Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone F Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone G Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone H Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone I Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone J Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone K Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone L Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone M Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone N Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone O Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone P Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone Q Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone R Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone S Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone T Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone U Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone V Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone W Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone Y Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Zone Z Areas of special flood hazard subject to inundation by the 1% annual chance flood event.

Other Flood Areas

Coastal Barrier Resources System (CBRS)

Determined Protected Areas (DPA)

Other Areas

Map Scale: 1" = 100'

FAIRFAX FLOOD INSURANCE PROGRAM

PANEL 0200

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 090 OF 450

MAP NUMBER 5105000000

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in determining the National Flood Insurance Program (NFIP) risk rating for property located in the Special Flood Hazard Areas (SFHAs) shown on this map. It does not represent a guarantee of coverage or a listing of properties that are not covered by the NFIP. The information on this map is intended for general informational purposes only and should not be used for any other purpose.

Special Flood Hazard Areas (SFHAs) shown on this map are based on the Flood Insurance Rate Study (FIRS) for the area. These areas are subject to flooding from the 1% Annual Chance Flood Event. The 1% Annual Chance Flood Event is a statistical estimate of the annual maximum flood discharge that would be expected to occur on average once every 100 years.

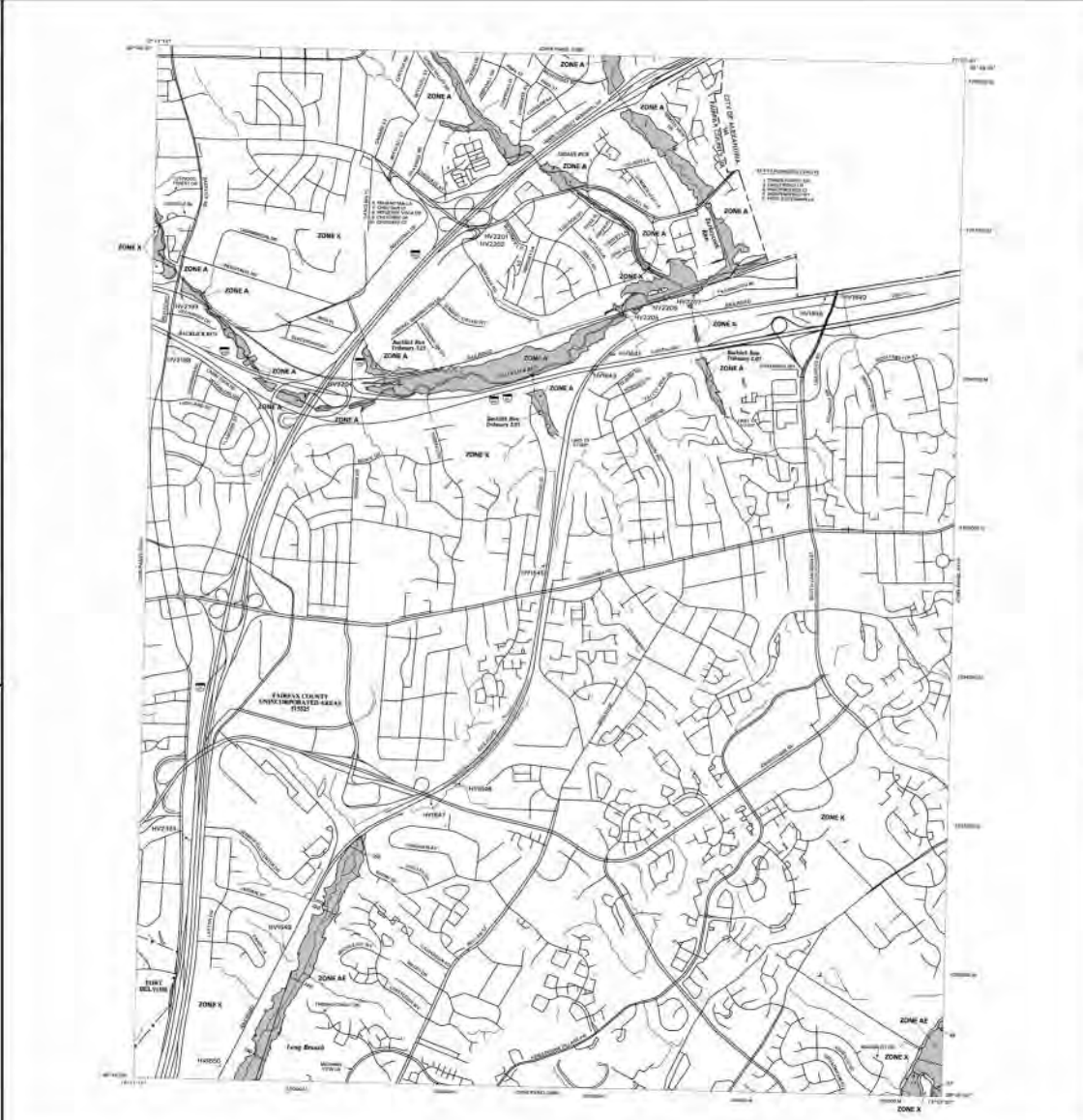
Coastal High Water Elevation (CHWE) shown on this map is based on the National Oceanic and Atmospheric Administration (NOAA) data. The CHWE is the elevation of the mean high water of the ocean at the location of the SFHA. The CHWE is used to determine the elevation of the 1% Annual Chance Flood Event.

Flood Elevation (FE) shown on this map is based on the National Oceanic and Atmospheric Administration (NOAA) data. The FE is the elevation of the water surface of the flood at the location of the SFHA. The FE is used to determine the elevation of the 1% Annual Chance Flood Event.

Map Scale is 1" = 1000'. The map is based on the National Plane Coordinate System (NAD 83) for the area. The map is based on the datum of 1983. The map is based on the datum of 1983.

Map Accuracy is based on the National Flood Insurance Program (NFIP) data. The map is based on the data provided by the NFIP. The map is based on the data provided by the NFIP.

Map Disclaimer is based on the National Flood Insurance Program (NFIP) data. The map is based on the data provided by the NFIP. The map is based on the data provided by the NFIP.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD EVENT

ZONE A
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE X
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE AE
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE AH
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE AO
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE AR
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE AV
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE B
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE C
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE D
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE E
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE F
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE G
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE H
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE I
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE J
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE K
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE L
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE M
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE N
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE O
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE P
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE Q
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE R
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE S
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE T
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE U
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE V
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE W
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE X
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE Y
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

ZONE Z
Special Flood Hazard Areas (SFHAs) subject to flooding from the 1% Annual Chance Flood Event.

FAIRFAX COUNTY UNDERWRITTEN SPECIAL FIRM

MAP SCALE 1" = 1000'

PANEL 0028E

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY VIRGINIA AND INCORPORATED AREAS

PANEL 206 OF 456

1995 MAP 10001 RIA 1000 10001 10001

MAP NUMBER 01000028E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

The goal is to use the information in the National Flood Hazard Program to show the approximate location of flood hazard areas. This information is not intended to be used for any other purpose. The information is not intended to be used for any other purpose. The information is not intended to be used for any other purpose.

General Note: Flood Hazard Areas shown on this map were derived from the Flood Hazard Study report for the Fairfax County, Virginia, and Incorporated Areas. Flood Hazard Areas shown on this map were derived from the Flood Hazard Study report for the Fairfax County, Virginia, and Incorporated Areas.

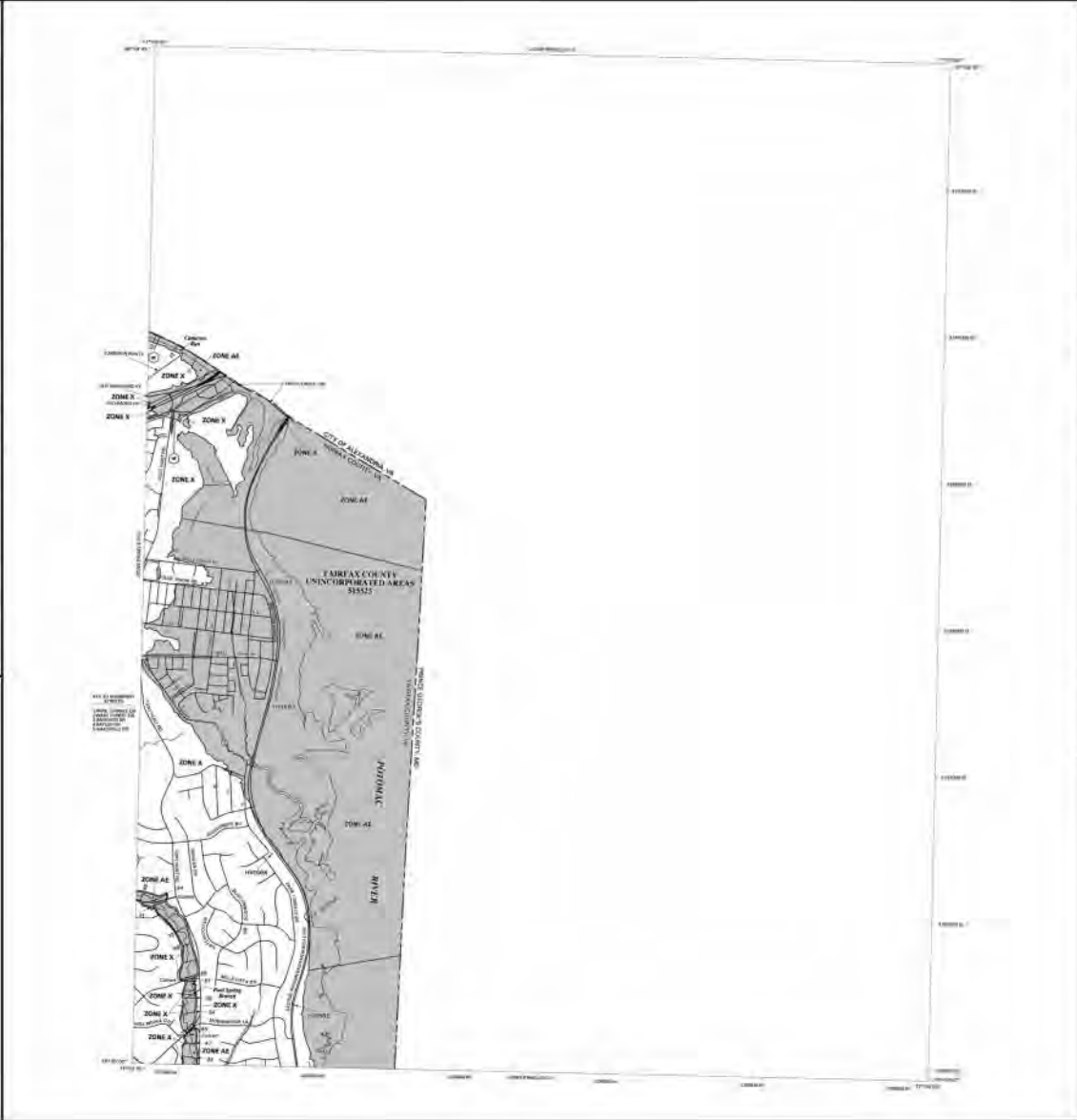
Other Areas: Areas shown on this map that are not Flood Hazard Areas are shown in white. These areas are shown in white on this map. These areas are shown in white on this map.

Legend: The legend on this map shows the symbols used to indicate Flood Hazard Areas. The legend on this map shows the symbols used to indicate Flood Hazard Areas.

Scale: The scale of this map is 1 inch = 1 mile. The scale of this map is 1 inch = 1 mile. The scale of this map is 1 inch = 1 mile.

Source: The information on this map was derived from the Flood Hazard Study report for the Fairfax County, Virginia, and Incorporated Areas. The information on this map was derived from the Flood Hazard Study report for the Fairfax County, Virginia, and Incorporated Areas.

Disclaimer: The information on this map is provided for informational purposes only. The information on this map is provided for informational purposes only. The information on this map is provided for informational purposes only.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

ZONE A Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE AE Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE X Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE Y Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE A1 Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE A2 Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE A3 Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE A4 Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE A5 Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE A6 Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE A7 Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE A8 Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE A9 Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

ZONE A10 Special Flood Hazard Area (SFHA) subject to inundation by the 1% Annual Chance Flood Event.

OTHER AREAS Areas not subject to inundation by the 1% Annual Chance Flood Event.

COASTAL BARRIER RESOURCES SYSTEM AREAS Coastal Barrier Resources System (CBRS) Areas.

OTHERWISE PROTECTED AREAS (OPWA) Other areas protected by the National Flood Insurance Program.

MAP SCALE 1" = 1000'

PANEL 022E

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY VIRGINIA AND INCORPORATED AREAS

PANEL 320 OF 450

MAP NUMBER 51595C022E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in determining the Special Flood Hazard Potential of areas not otherwise shown as being subject to flooding, particularly those flood storage basins or other sites. The geographic map information should be obtained for possible updated information from the National Flood Insurance Program.

In detail, every possible distribution of water which could be stored in flood storage basins or other sites is shown. Areas are shown as being subject to flooding if they are shown as being subject to flooding in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Design Base Flood Elevation (DFBE) shown as the 100-year flood with wave height of 3.0 feet. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Anticipation of sea level rise is not included in this map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Coastal High Water Elevation (CHWE) shown as the 100-year flood with wave height of 3.0 feet. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Other Flood Hazard Potential is shown as being subject to flooding in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Flood elevations of this map are based on the National Flood Insurance Program. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Special Flood Hazard Potential is shown as being subject to flooding in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Base Flood Elevation (BFE) shown as the 100-year flood with wave height of 3.0 feet. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Coastal High Water Elevation (CHWE) shown as the 100-year flood with wave height of 3.0 feet. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Flood elevations of this map are based on the National Flood Insurance Program. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Special Flood Hazard Potential is shown as being subject to flooding in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Flood elevations of this map are based on the National Flood Insurance Program. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Special Flood Hazard Potential is shown as being subject to flooding in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Flood elevations of this map are based on the National Flood Insurance Program. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Special Flood Hazard Potential is shown as being subject to flooding in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Flood elevations of this map are based on the National Flood Insurance Program. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

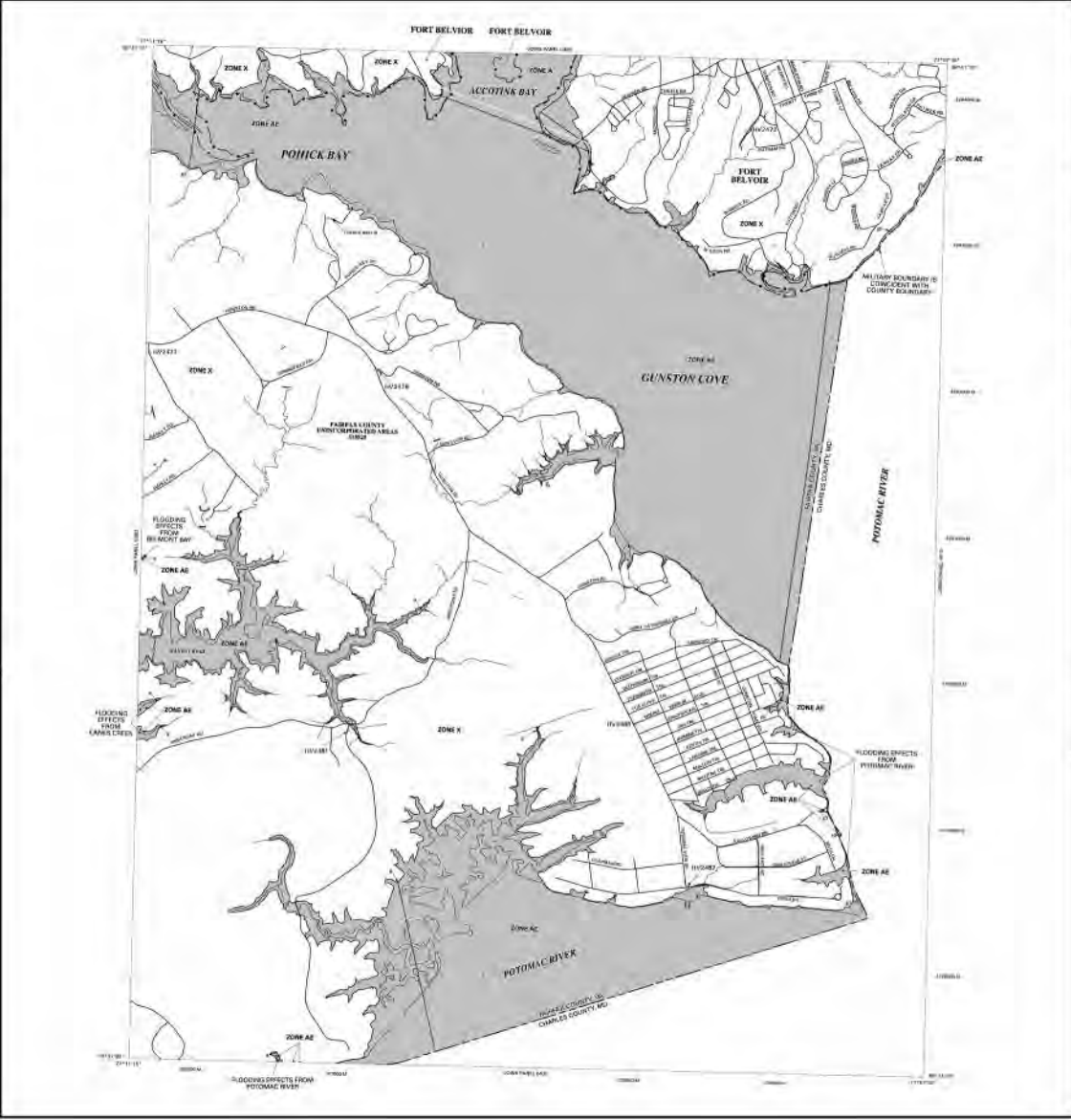
Special Flood Hazard Potential is shown as being subject to flooding in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Flood elevations of this map are based on the National Flood Insurance Program. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Special Flood Hazard Potential is shown as being subject to flooding in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Flood elevations of this map are based on the National Flood Insurance Program. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.

Special Flood Hazard Potential is shown as being subject to flooding in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map. Areas shown as being subject to flooding are shown in the Flood Insurance Rate Map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD EVENT

ZONE X Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

ZONE AE Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

ZONE AH Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

ZONE A Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

OTHER AREAS Areas not subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

COASTAL HIGH WATER ELEVATION (CHWE) AREA Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

DESIGN BASE FLOOD ELEVATION (DFBE) AREA Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

BASE FLOOD ELEVATION (BFE) AREA Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

FLOODING EFFECTS FROM POTOMAC RIVER Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

FLOODING EFFECTS FROM POTOMAC RIVER Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

MILITARY BOUNDARY (COUNTY BOUNDARY) Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

POTOMAC RIVER Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

UNION COUNTY, VA Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

CHARLES COUNTY, MD Areas subject to flooding by the 1% Annual Chance Flood Event with wave height of 3.0 feet.

PANEL 688E

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 385 OF 450

MAP NUMBER 510503000E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is the result of information provided by the National Flood Insurance Program. It does not constitute a warranty or insurance policy. It is not intended to be used for any purpose other than the purpose for which it was prepared.

To assist in the understanding of the map, the following information is provided. The Flood Insurance Rate Map (FIRM) is a map that shows the flood insurance risk areas for a community. It is based on the Flood Insurance Study (FIS) and the Flood Hazard Data (FHD) for the community. The FIRM is used to determine the flood insurance rates for properties in the community.

Special Flood Hazard Areas (SFHAs) are areas that are subject to flooding. They are identified on the map and are shaded in various colors. The SFHAs are: Zone X (shaded light blue), Zone AE (shaded dark blue), Zone A (shaded medium blue), Zone V (shaded light green), Zone VE (shaded dark green), Zone D (shaded light yellow), Zone VE (shaded dark yellow), Zone A (shaded medium blue), Zone AE (shaded dark blue), Zone X (shaded light blue).

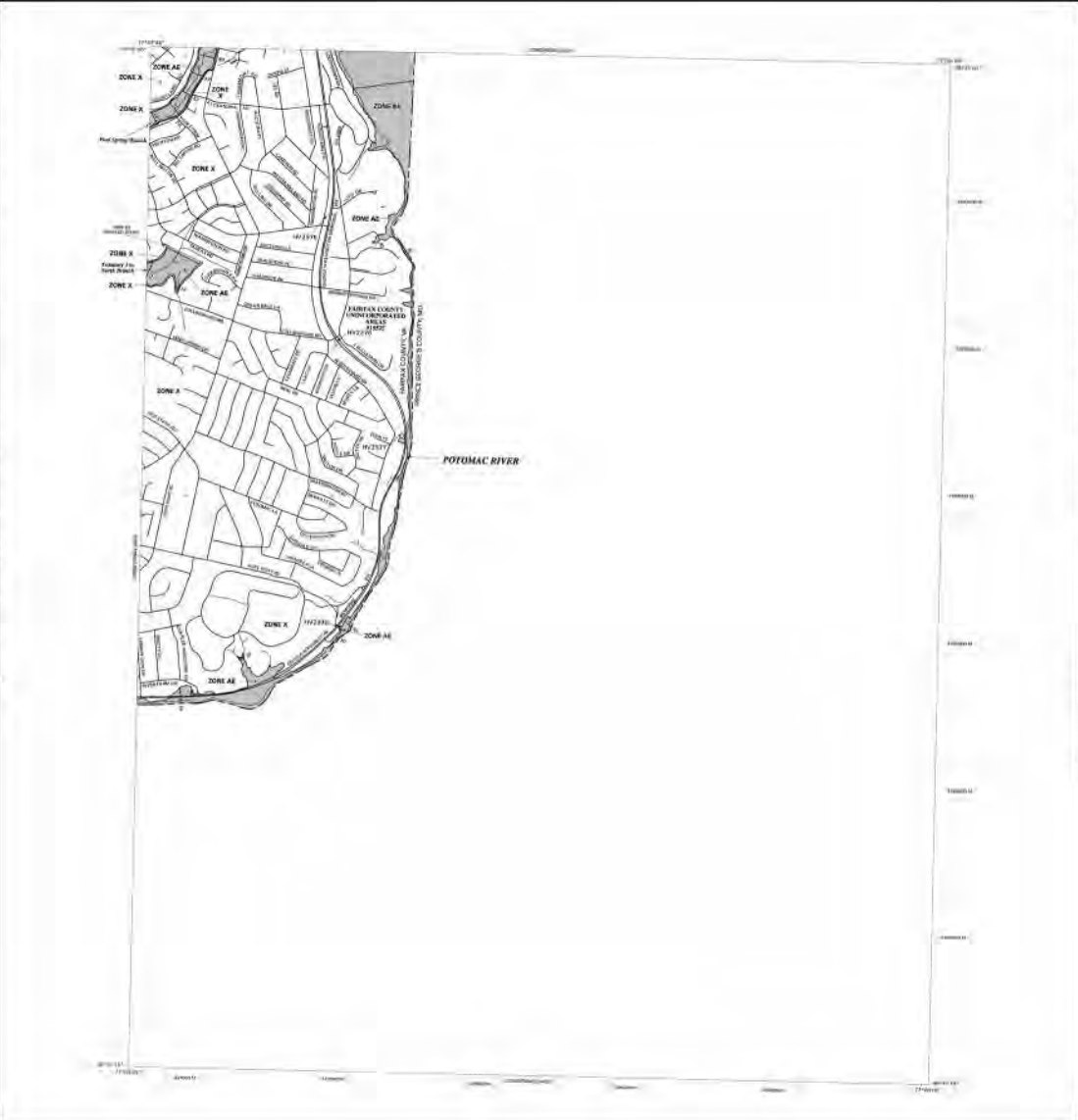
Other Areas are areas that are not subject to flooding. They are identified on the map and are shaded in various colors. The Other Areas are: Zone X (shaded light blue), Zone AE (shaded dark blue), Zone A (shaded medium blue), Zone V (shaded light green), Zone VE (shaded dark green), Zone D (shaded light yellow), Zone VE (shaded dark yellow), Zone A (shaded medium blue), Zone AE (shaded dark blue), Zone X (shaded light blue).

Map Scale is 1" = 1000'. The map is drawn to scale and all dimensions are in feet.

Projection is NAD 83, UTM, Zone 18N.

Source is the National Flood Insurance Program (NFIP) Flood Insurance Study (FIS) and Flood Hazard Data (FHD) for Fairfax County, Virginia.

Revision is 10/17/10.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODING BY THE NATIONAL FLOOD INSURANCE PROGRAM

- Zone X: Shaded light blue
- Zone AE: Shaded dark blue
- Zone A: Shaded medium blue
- Zone V: Shaded light green
- Zone VE: Shaded dark green
- Zone D: Shaded light yellow
- Zone VE: Shaded dark yellow
- Zone A: Shaded medium blue
- Zone AE: Shaded dark blue
- Zone X: Shaded light blue

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- Zone X: Shaded light blue
- Zone AE: Shaded dark blue
- Zone A: Shaded medium blue
- Zone V: Shaded light green
- Zone VE: Shaded dark green
- Zone D: Shaded light yellow
- Zone VE: Shaded dark yellow
- Zone A: Shaded medium blue
- Zone AE: Shaded dark blue
- Zone X: Shaded light blue

OTHER AREAS

- Zone X: Shaded light blue
- Zone AE: Shaded dark blue
- Zone A: Shaded medium blue
- Zone V: Shaded light green
- Zone VE: Shaded dark green
- Zone D: Shaded light yellow
- Zone VE: Shaded dark yellow
- Zone A: Shaded medium blue
- Zone AE: Shaded dark blue
- Zone X: Shaded light blue

COSTAL HAZARD INQUIRY SYSTEM (CHIMS) AREAS

- Zone X: Shaded light blue
- Zone AE: Shaded dark blue
- Zone A: Shaded medium blue
- Zone V: Shaded light green
- Zone VE: Shaded dark green
- Zone D: Shaded light yellow
- Zone VE: Shaded dark yellow
- Zone A: Shaded medium blue
- Zone AE: Shaded dark blue
- Zone X: Shaded light blue

OTHER PROTECTED AREAS (OPAs)

- Zone X: Shaded light blue
- Zone AE: Shaded dark blue
- Zone A: Shaded medium blue
- Zone V: Shaded light green
- Zone VE: Shaded dark green
- Zone D: Shaded light yellow
- Zone VE: Shaded dark yellow
- Zone A: Shaded medium blue
- Zone AE: Shaded dark blue
- Zone X: Shaded light blue

MAP SCALE 1" = 1000'

FAIRFAX COUNTY

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA

AND INCORPORATED AREAS

PANEL 410 OF 400

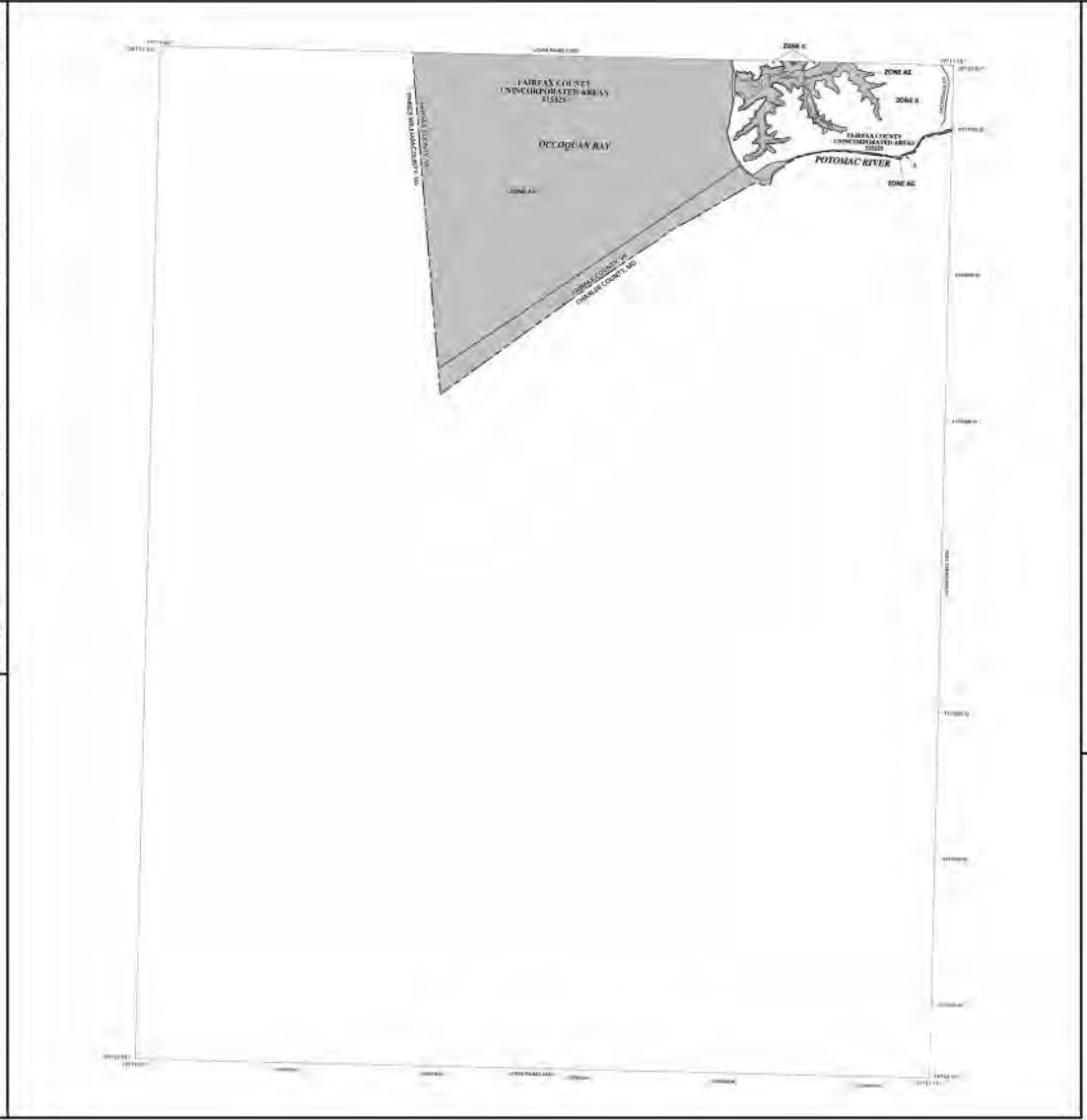
MAP NUMBER 2100040100

EFFECTIVE DATE: SEPTEMBER 17, 2010

Fairfax Emergency Management Agency

NOTES TO USERS

The user is to use in determining the National Flood Insurance Program... This map is for use in determining the National Flood Insurance Program... It does not constitute a guarantee of accuracy...



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODATION BY THE FIRM SYMBOLS DESCRIBED BELOW
- Zone A: 100 Year Flood Insurance Rate Map
- Zone AE: Special Flood Hazard Area (SFHA) - 1% Annual Chance Flood
- Zone AH: 100 Year Flood Insurance Rate Map
- Zone AO: 100 Year Flood Insurance Rate Map
- Zone AR: 100 Year Flood Insurance Rate Map
- Zone AV: 100 Year Flood Insurance Rate Map
- Zone B: 100 Year Flood Insurance Rate Map
- Zone C: 100 Year Flood Insurance Rate Map
- Zone D: 100 Year Flood Insurance Rate Map
- Zone E: 100 Year Flood Insurance Rate Map
- Zone F: 100 Year Flood Insurance Rate Map
- Zone G: 100 Year Flood Insurance Rate Map
- Zone H: 100 Year Flood Insurance Rate Map
- Zone I: 100 Year Flood Insurance Rate Map
- Zone J: 100 Year Flood Insurance Rate Map
- Zone K: 100 Year Flood Insurance Rate Map
- Zone L: 100 Year Flood Insurance Rate Map
- Zone M: 100 Year Flood Insurance Rate Map
- Zone N: 100 Year Flood Insurance Rate Map
- Zone O: 100 Year Flood Insurance Rate Map
- Zone P: 100 Year Flood Insurance Rate Map
- Zone Q: 100 Year Flood Insurance Rate Map
- Zone R: 100 Year Flood Insurance Rate Map
- Zone S: 100 Year Flood Insurance Rate Map
- Zone T: 100 Year Flood Insurance Rate Map
- Zone U: 100 Year Flood Insurance Rate Map
- Zone V: 100 Year Flood Insurance Rate Map
- Zone W: 100 Year Flood Insurance Rate Map
- Zone X: 100 Year Flood Insurance Rate Map
- Zone Y: 100 Year Flood Insurance Rate Map
- Zone Z: 100 Year Flood Insurance Rate Map

PANEL 488 OF 458

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

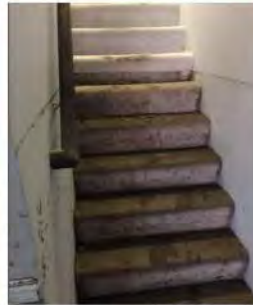
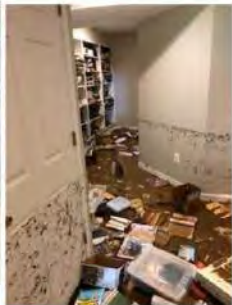
MAP NUMBER FIRM488

EFFECTIVE DATE: SEPTEMBER 17, 2016

Federal Emergency Management Agency

Fairfax County Historic Flood Damage Examples

ATTACHMENT C

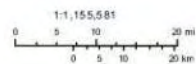




March 8, 2022

Social Vulnerability Classification

-  High Social Vulnerability
-  Moderate Social Vulnerability
-  Not Socially Vulnerable
-  Not included in the analysis



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Created from the Virginia Vulnerability Viewer



ADAPTVA

Attachment E. Approved Resilience Plan

Ann Jennings
Secretary of Natural and Historic
Resources and Chief Resilience Officer



Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

January 10, 2022

Joni Calmbacher, PE, CFM
Project Manager II
DPWES, Stormwater Planning Division
Watershed Projects Implementation Branch – South
12000 Government Center Parkway Fairfax, VA 22035

RE: Fairfax County Resilience Plan Submission - CFPP

Dear Ms. Calmbacher,

Thank you for providing an overview of your Resilience Plan, and informing DCR of the various plans that Fairfax County will be utilizing to fulfill the Resilience Plan submission requirements. After careful review and consideration, the Virginia Department of Conservation and Recreation has deemed the Plan complete and meets all the criteria outlined in the 2021 Community Flood Preparedness Grant Manual. This approval will remain in effect for a period of three years, ending on January 11, 2025.

The following elements were evaluated as part of this review:

1. Element 1: It is project-based with projects focused on flood control and resilience. DCR RESPONSE

Meets criteria as written.

- a. Project-based: Fairfax County is divided into 30 watersheds which have been addressed in 11 major watershed management plans. Each of the watershed management plans contains projects and watershed management area restoration strategies. The 2017 *Northern Virginia Hazard Mitigation Plan* was a regional effort involving nineteen counties, including Fairfax County, and outlines specific mitigation projects for each participating community in order to reduce vulnerability and exposure to future hazards, including flooding events. The *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management* contains projects at various locations throughout Fairfax County. The projects included and described in the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management* align with the established *Comprehensive Plan* objectives. The *Resilient Critical*

600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

State Parks • Soil and Water Conservation • Outdoor Recreation Planning
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation

Infrastructure Roadmap for Northern Virginia contains a database of resilience projects throughout northern Virginia, including Fairfax County.

2. Element 2: It incorporates nature-based infrastructure to the maximum extent possible. DCR RESPONSE

Meets criteria as written.

- a. The 2020 *Regional Collaboration to Build Community Resilience in Northern Virginia* expanded upon *The Roadmap*, to include maximization of green infrastructure. Nature-based solutions are also presented in the *Fairfax County Watershed Management Plan* and the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management*.

3. Element 3: It includes considerations of all parts of a locality regardless of socioeconomics or race. DCR RESPONSE

Meets criteria as written.

- a. All parts of a locality: The *Northern Virginia Hazard Mitigation Plan* discusses the demographic and economic trends throughout the entirety of Fairfax County.
- b. Social vulnerability: The *Regional Collaboration to Build Community Resilience in Northern Virginia* presents a more comprehensive approach that includes an assessment of the socioeconomic impacts of infrastructure disruptions on vulnerable populations that will be taken into account as well as the socioeconomic benefits of infrastructure investment. This expanded upon objectives contained within *The Roadmap*, to ensure equitable access to resilient critical infrastructure.
- c. Demographic Analysis: Population and demographic characteristics outlined within the *Northern Virginia Hazard Mitigation Plan*. The *Fairfax County Comprehensive Plan* also looks at demographics and social factors and utilizes this information to support the Human Services section of the *Comprehensive Plan*.

4. Element 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. DCR RESPONSE

Meets criteria as written.

- a. Coordination with other local and inter-jurisdictional projects, plans and activities: Objective 4: Strengthen Regional Resilience Through Innovative Partnerships, Programs, and Pilots contained within *Resilient Critical Infrastructure Roadmap for Northern Virginia* focuses on coordination with local and inter-jurisdictional agencies and aligning strategies and programs. The *Comprehensive Plan for Fairfax County, Virginia* was adopted by the Board of Supervisors, Planning Commission, The Department of Planning and Zoning, and the Department of Transportation, and guides all of the plans presented in the Resilience Plan

submission for Fairfax County. The *Northern Virginia Hazard Mitigation Plan* was a collaborative effort that was adopted by all impacted localities.

- b. Clearly articulated timeline or phasing plan for implementation: Timeline for deliverables is presented within the *Regional Collaboration to Build Community Resilience in Northern Virginia*. Timeline presented within the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management*. Phased implementation plans presented in the *Fairfax County Watershed Management Plans*.

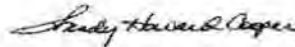
5. Element 5: Is based on the best available science, and incorporates climate change, sea level rise, storm surge (where appropriate), and current flood maps.

Meets criteria as written.

- a. The 2018 *Resilient Critical Infrastructure Roadmap for Northern Virginia (Roadmap)* incorporates best available science and identifies actions to potentially decrease the severity of future consequences emanating from climate and extreme weather, to include sea level rise and storm surge. *Sea Level Rise: Impact on Northern Virginia* is an interactive story map and dashboard that was created in 2019 to convey the impact of sea level rise scenarios. The *Northern Virginia Hazard Mitigation Plan* includes analyses of natural hazards based on best available science to include flooding, sea level rise and land subsidence, tropical and coastal storms, and shoreline erosion.

VA DCR looks forward to working with you as you work to make Fairfax County a more resilient community. If you have questions or need additional assistance, please contact us at cfpl@dcr.virginia.gov. Again, thank you for your interest in the Community Flood Preparedness Fund.

Sincerely,



Wendy Howard Cooper, Director
Dam Safety and Floodplain Management

cc: Darryl Glover, DCR

Appendix A: Application Form for Grant Requests for All Categories

Virginia Department of Conservation and Recreation
Virginia Community Flood Preparedness Fund Grant Program

Name of Local Government:

Fairfax County

Category of Grant Being Applied for (check one):

Capacity Building/Planning


Project

Study

NFIP/DCR Community Identification Number (CID) 515525

If a state or federally recognized Indian tribe, Name of tribe N/A

Name of Authorized Official: Bryan J. Hill, County Executive

Signature of Authorized Official: 

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 552

City: Fairfax **State:** VA **Zip:** 22035

Telephone Number: (703) 324-2531 **Cell Phone Number:** () N/A

Email Address: cexbryanhill@fairfaxcounty.gov

Contact Person (If different from authorized official): Craig Carinci

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 449

City: Fairfax State: VA Zip: 22035

Telephone Number: (703) 324-5500 Cell Phone Number: () N/A

Email Address: Craig.Carinci@fairfaxcounty.gov

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes No

Categories (select applicable project):

Project Grants (Check All that Apply)

- Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- Wetland restoration.
- Floodplain restoration.
- Construction of swales and settling ponds.
- Living shorelines and vegetated buffers.
- Structural floodwalls, levees, berms, flood gates, structural conveyances.
- Storm water system upgrades.
- Medium and large scale Low Impact Development (LID) in urban areas.
- Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool.
- Dam restoration or removal.
- Stream bank restoration or stabilization.
- Restoration of floodplains to natural and beneficial function.
- Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.

Study Grants (Check All that Apply)

- Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.
- Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.
- Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.
- Studies and Data Collection of Statewide and Regional Significance.
- Revisions to existing resilience plans and modifications to existing comprehensive and hazard.
- Other relevant flood prevention and protection project or study.

Capacity Building and Planning Grants

- Floodplain Staff Capacity.
- Resilience Plan Development
 - Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans.
 - Resource assessments, planning, strategies and development.
 - Policy management and/or development.
 - Stakeholder engagement and strategies.

Location of Project (Include Maps): 27 Fairfax County Watersheds

NFIP Community Identification Number (CID#):(See appendix F 515525)

Is Project Located in an NFIP Participating Community? Yes No

Is Project Located in a Special Flood Hazard Area? Yes No

Flood Zone(s) (If Applicable): SFHA Zones A and AE

Flood Insurance Rate Map Number(s) (If Applicable): See spreadsheet

Total Cost of Project: \$1,200,000

Total Amount Requested \$600,000

FEMA FIRM Panels

Panel	Effective Date
51059CIND0A	9/17/2010
51059C0020E	9/17/2010
51059C0040E	9/17/2010
51059C0045E	9/17/2010
51059C0065E	9/17/2010
51059C0095E	9/17/2010
51059C0110E	9/17/2010
51059C0115E	9/17/2010
51059C0120E	9/17/2010
51059C0130E	9/17/2010
51059C0135E	9/17/2010
51059C0140E	9/17/2010
51059C0145E	9/17/2010
51059C0155E	9/17/2010
51059C0160E	9/17/2010
51059C0165E	9/17/2010
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51059C0255E	9/17/2010
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51059C0370E	9/17/2010
51059C0380E	9/17/2010
51059C0385E	9/17/2010
51059C0390E	9/17/2010
51059C0395E	9/17/2010
51059C0405E	9/17/2010
51059C0410E	9/17/2010
51059C0415E	9/17/2010
51059C0430E	9/17/2010
51059C0435E	9/17/2010

Appendix C: Scoring Criteria for Studies

Virginia Department of Conservation and Recreation
Virginia Community Flood Preparedness Fund Grant Program

Applicant Name:	Fairfax County	
Eligibility Information		
Criterion	Description	Check One
1. 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)?		
Yes	Eligible for consideration	X
No	Not eligible for consideration	
2. Does the local government have an approved resilience plan and has provided a copy or link to the plan with this application?		
Yes	Eligible for consideration under all categories	X
No	Eligible for consideration for studies, capacity building, and planning only	
3. If the applicant is <u>not a town, city, or county</u>, are letters of support from all affected local governments included in this application?		
Yes	Eligible for consideration	
No	Not eligible for consideration	
4. Has this or any portion of this project been included in any application or program previously funded by the Department?		
Yes	Not eligible for consideration	
No	Eligible for consideration	X
5. Has the applicant provided evidence of an ability to provide the required matching funds?		
Yes	Eligible for consideration	X
No	Not eligible for consideration	
N/A	Match not required	

Studies Eligible for Consideration		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Applicant Name:	Fairfax County		
Scoring Information			
Criterion	Point Value	Points Awarded	
6. Eligible Studies (Select all that apply)			
Revising floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.	30	30	
Creating tools or applications to identify, aggregate, or display information on flood risk or creating a crowd-sourced mapping platform that gathers data points about real-time flooding. This could include a locally or regionally based web-based mapping product that allows local residents to better understand their flood risk.	15		
Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA).	35	35	
Studies and Data Collection of Statewide and Regional Significance. Funding of studies of statewide and regional significance and proposals will be considered for the following types of studies:			
<input type="checkbox"/> Updating precipitation data and IDF information (rain intensity, duration, frequency estimates) including such data at a sub-state or regional scale on a periodic basis.	45		
<input type="checkbox"/> Regional relative sea level rise projections for use in determining future impacts.	45		
<input type="checkbox"/> Vulnerability analysis either statewide or regionally to state transportation, water supply, water treatment, impounding structures, or other significant and vital infrastructure from flooding.	45		
<input type="checkbox"/> Flash flood studies and modeling in riverine regions of the state.	45		
<input type="checkbox"/> Statewide or regional stream gauge monitoring to include expansion of existing gauge networks.	45		

<input type="checkbox"/> New or updated delineations of areas of recurrent flooding, stormwater flooding, and storm surge vulnerability in coastal areas that include projections for future conditions based on sea level rise, more intense rainfall events, or other relevant flood risk factors.	45	
<input type="checkbox"/> Regional flood studies in riverine communities that may include watershed-scale evaluation, updated estimates of rainfall intensity, or other information.	50	
<input checked="" type="checkbox"/> Regional hydrologic and hydraulic studies of floodplains.	45	45
<input type="checkbox"/> Studies of potential land use strategies that could be implemented by a local government to reduce or mitigate damage from coastal or riverine flooding.	40	
<input type="checkbox"/> Other proposals that will significantly improve protection from flooding on a statewide or regional basis	35	
7. Is the study area socially vulnerable? (Based on ADAPT VA's Social Vulnerability Index Score.)		
Very High Social Vulnerability (More than 1.5)	15	
High Social Vulnerability (1.0 to 1.5)	12	
Moderate Social Vulnerability (0.0 to 1.0)	8	
Low Social Vulnerability (-1.0 to 0.0)	0	0
Very Low Social Vulnerability (Less than -1.0)	0	
8. Is the proposed study part of an effort to join or remedy the community's probation or suspension from the NFIP?		
Yes	10	
No	0	0
9. Is the proposed study in a low-income geographic area as defined in this manual?		
Yes	10	
No	0	0
10. 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?		
Yes	5	
No	0	0
Total Points		105

Appendix D: Checklist All Categories

Virginia Department of Conservation and Recreation

Community Flood Preparedness Fund Grant Program

Scope of Work Narrative	
Supporting Documentation	Included
Detailed map of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
FIRMette of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Historic flood damage data and/or images (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current floodplain ordinance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Non-Fund financed maintenance and management plan for project extending a minimum of 5 years from project close	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
A link to or a copy of the current hazard mitigation plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current comprehensive plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If applicant is not a town, city, or county, letters of support from affected communities	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Completed Scoring Criteria Sheet in Appendix B, C, or D	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Budget Narrative	
Supporting Documentation	Included
Authorization to request funding from the Fund from governing body or chief executive of the local government	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Signed pledge agreement from each contributing organization	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A



CFPF, rr <cfpf@dcr.virginia.gov>

CID515525_FairfaxCounty_CFPF Applications

2 messages

Torgersen, Catherine S <Catherine.Torgersen@fairfaxcounty.gov>

Tue, Apr 5, 2022 at 4:31 PM

To: "cfpf@dcr.virginia.gov" <cfpf@dcr.virginia.gov>

Cc: "Pokharel, Sajan" <Sajan.Pokharel@fairfaxcounty.gov>, "Habete, Daniel" <Daniel.Habete@fairfaxcounty.gov>, "Calmbacher, Joni" <Joni.Calmbacher@fairfaxcounty.gov>, "Wilkins, Fred H." <Fred.Wilkins@fairfaxcounty.gov>, "Carinci, Craig A." <Craig.Carinci@fairfaxcounty.gov>, "Ambrose, Heather" <Heather.Ambrose@fairfaxcounty.gov>, "Gutzler, Emma B." <Emma.Gutzler@fairfaxcounty.gov>

Good afternoon,

Fairfax County is pleased to submit the following five applications for grant round 3 of the Virginia Community Flood Preparedness Fund:

1. CID515525_FairfaxCounty_CFPF-1 Tucker Avenue Neighborhood Stormwater Improvement Project Application
2. CID515525_FairfaxCounty_CFPF-2 Chowan Avenue Stormwater Improvement Project Application
3. CID515525_FairfaxCounty_CFPF-3 Little Pimmit Run Tributary at Woodland Terrace Project Application
4. CID515525_FairfaxCounty_CFPF-4 Tripps Run at Barrett Road Flood Mitigation Project Application
5. CID515525_FairfaxCounty_CFPF-5 Regulated Floodplain Map Updates Study Application

The applications are available for download at the following Sharefile link: <https://fairfaxcounty-ent.sharefile.com/d-52b8f9fb46c444d8a5ecbe1f4ad3dd45>

Please let me know if you are unable to download the applications or if you have any questions.

Thank you,

Catie Torgersen

Planner

Stormwater Planning Division, SWPD
Fairfax County DPWES12000 Government Center Parkway
Fairfax, VA 22035
703-639-7664 (cell)

CFPF, rr <cfpf@dcr.virginia.gov>

Wed, Apr 6, 2022 at 10:00 AM

To: "Torgersen, Catherine S" <Catherine.Torgersen@fairfaxcounty.gov>

Cc: "Pokharel, Sajan" <Sajan.Pokharel@fairfaxcounty.gov>, "Habete, Daniel" <Daniel.Habete@fairfaxcounty.gov>, "Calmbacher, Joni" <Joni.Calmbacher@fairfaxcounty.gov>, "Wilkins, Fred H." <Fred.Wilkins@fairfaxcounty.gov>, "Carinci,

Craig A." <Craig.Carinci@fairfaxcounty.gov>, "Ambrose, Heather" <Heather.Ambrose@fairfaxcounty.gov>, "Gutzler, Emma B." <Emma.Gutzler@fairfaxcounty.gov>

Received

On Tue, Apr 5, 2022 at 4:31 PM Torgersen, Catherine S <Catherine.Torgersen@fairfaxcounty.gov> wrote:

Good afternoon,

Fairfax County is pleased to submit the following five applications for grant round 3 of the Virginia Community Flood Preparedness Fund:

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Please let me know if you are unable to download the applications or if you have any questions.

Thank you,

Catie Torgersen

Planner

Stormwater Planning Division, SWPD
Fairfax County DPWES

12000 Government Center Parkway
Fairfax, VA 22035
703-639-7664 (cell)



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

November 29, 2022

Ms. Wendy Howard Cooper, Director
Dam Safety and Floodplain Management
Department of Conservation and Recreation
East Main Street, 24th Floor
Richmond, Virginia 23219

Reference: Regulated Floodplain Map Updates Study Application (CFPF-22-03-18)

Dear Ms. Howard Cooper:

This letter is in response to your September 30, 2022, letter (attached) requesting additional information for the Regulated Floodplain Map Updates Study Application (CFPF-22-03-18). The following information was requested:

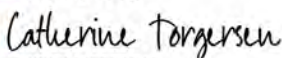
- Applicant must provide detailed allocation of match across all grant applications to verify \$7M proposed match is not over allocated.
- If a grant is awarded, it will be subject to the following condition - the County must submit Letter of Map Revision (LOMR) within six months of technical data completion.

The attached letter from the County Executive confirmed the County will provide the necessary match for the study as required by your department, subject to Fairfax County Board of Supervisors approval. The study application was also revised to reflect your feedback. The *Budget Narrative* section of the application includes an updated project cost and grant funding request. The *Study Benefits* section of the application explains why the County will not apply for a LOMR or Physical Map Revision through the Federal Emergency Management Agency.

If you have any questions or need additional assistance, please contact me at 703-324-5864.

Sincerely,

DocuSigned by:



4D7B5A40BEAB412...

Catie Torgersen, Planner IV
Stormwater Planning Division

Attachments: As stated

cc: Craig Carinci, Director, Department of Public Works and Environmental Services,
Stormwater Planning Division

Department of Public Works and Environmental Services

12000 Government Center Parkway, Suite 448

Fairfax, VA 22035-0052

Phone: 703-324-5500, TTY 711, Fax: 703-802-5955

www.fairfaxcounty.gov/publicworks





COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Darryl Glover
Deputy Director for
Dam Safety,
Floodplain Management and
Soil and Water Conservation

Laura Ellis
Interim Deputy Director for
Administration and Finance

September 30, 2022

Bryan J. Hill, County Executive
12000 Government Center Parkway
Suite 552
Fairfax, VA 22035
cexbryanhill@fairfaxcounty.gov

Re: Community Flood Preparedness Fund (CFPF)
CY2022 Round 3 Grant Application: Grant Number: CFPF-22-03-18
Application Category: Flood Prevention and Protection Studies
Community Name: FAIRFAX COUNTY, CID: 515525
Primary Contact: Craig Carinci,
Primary Contact Email Address: craig.carinci@fairfaxcounty.gov
CFPF Amount Requested: \$600,000.00
Match Amount Required: \$600,000.00
Total Project Cost: \$1,200,000.00

Dear Bryan J. Hill:

Thank you for your interest in Grant Round Three of the Community Flood Preparedness Fund (the Fund). The Department of Conservation and Recreation (DCR, or the Department) advertised that \$40 million would be made available for this Grant Round; we received 64 applications for this Round with Grant requests totaling nearly \$93 million.

We have reviewed your grant application and believe that your proposal may meet the purpose of the Fund and the requirements of the Grant Manual. However, without additional information, we are unable to make a final determination that would lead to a grant award.

Given the importance of addressing flooding and resilience challenges, and the level of interest in this Grant Round, the Department is providing applicants whose projects may meet grant qualifications, but where additional information is required, with a supplemental review period in which to submit information. Further, in order to provide support to as many beneficial projects as possible, the Secretary of Natural and Historic Resources has authorized the Department to release an additional \$30 million in funding for this Grant Round.

For your application to be considered during this supplemental review, please notify the Department of your interest in writing no later than October 14th, 2022 and submit the following information to the Department no later than 5:00 pm on November 30th.

A final determination on awards will be made by December 30th, 2022. Correspondence with the Department in this matter should be directed to cfpf@virginia.gov.

- Applicant must provide detailed allocation of match across all grant applications to verify \$7M proposed match is not over allocated.
- If a grant is awarded, it will be subject to the following condition County must submit LOMR within six months of technical data completion.

Note that this is a request for additional information about the project described in GRANT APPLICATION NUMBER(S). The Department is not accepting applications for new projects or substantial changes to existing project proposals. Submitting the information requested by the Department does not guarantee that your application will be approved; however, without this additional information the Department will not be able to approve your application.

If you have questions or wish to schedule a meeting with the Department to discuss your application prior to the November 30th deadline, we will be happy to meet with you. Please direct these inquiries to Wendy Howard-Cooper at wendy.howard-cooper@dcr.virginia.gov.

Thank you again for your interest in the Community Flood Preparedness Fund, and for your work to address this important issue.

Sincerely,



Wendy Howard Cooper
Director, Dam Safety and Floodplain Management

cc: Darryl M. Glover, Deputy Director, DCR
Kimberly S. Adams, Senior Program Manager, VRA
Angela Davis, Flood Program Planner, DCR



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

Ms. Wendy Howard Cooper, Director
Director, Dam Safety and Floodplain Management
Department of Conservation and Recreation
East Main Street, 24th Floor
Richmond, Virginia 23219

Reference: Community Flood Preparedness Fund, CY2022 Round 3 Grant Application,
Regulated Floodplain Map Updates Study Application (CFPF-22-03-18)

Dear Ms. Howard Cooper:

This letter is in response to your September 30, 2022 (attached), letter requesting Fairfax County's (County's) confirmation of further consideration of the Regulated Floodplain Map Updates Study application (CFPF-22-03-18) during the supplemental review period for the Community Flood Preparedness Fund (CFPF). The County is still interested in having this project application considered to receive funding through the CFPF.

If the grant is awarded, the County will provide the necessary match for the project (\$600,000.00) as required by your department, subject to Fairfax County Board of Supervisors approval. It is understood that the County's total match amount for all four applications being considered during the supplemental review may be as much as \$9,184,400.00.

The County will provide the requested information for the Regulated Floodplain Map Updates Study application (CFPF-22-03-18) to your department no later than 5:00 pm on November 30, 2022, as documented in your letter.

If you have any questions or need additional assistance, please contact Craig Carinci, Director Stormwater Planning Division at 703-324-5500.

Sincerely,

Bryan J. Hill
County Executive

Attachment: Community Flood Preparedness Fund (CFPF): Application CFPF-22-03-18

cc: Rachel Flynn, Deputy County Executive
Christopher Herrington, Director, Department of Public Works and Environmental Services (DPWES)
Eleanor Ku Coddling, Deputy Director, DPWES, Stormwater and Wastewater Divisions
Craig Carinci, Director, DPWES, Stormwater Planning Division

Office of the County Executive
12000 Government Center Parkway, Suite 552
Fairfax, VA 22035-0066
703-324-2531, TTY 711, Fax 703-324-3956
www.fairfaxcounty.gov

Matthew S. Wells
Director



Frank N. Stovall
Deputy Director
for Operations

Darryl Glover
Deputy Director for
Dam Safety,
Floodplain Management and
Soil and Water Conservation

Laura Ellis
Interim Deputy Director for
Administration and Finance

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

September 30, 2022

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600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

*State Parks • Soil and Water Conservation • Outdoor Recreation Planning
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*

For your application to be considered during this supplemental review, please notify the Department of your interest in writing no later than October 14th, 2022 and submit the following information to the Department no later than 5:00 pm on November 30th.

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If you have questions or wish to schedule a meeting with the Department to discuss your application prior to the November 30th deadline, we will be happy to meet with you. Please direct these inquiries to Wendy Howard-Cooper at wendy.howard-cooper@dcr.virginia.gov.

Thank you again for your interest in the Community Flood Preparedness Fund, and for your work to address this important issue.

Sincerely,



Wendy Howard Cooper
Director, Dam Safety and Floodplain Management

cc: Darryl M. Glover, Deputy Director, DCR
Kimberly S. Adams, Senior Program Manager, VRA
Angela Davis, Flood Program Planner, DCR

Appendix A: Application Form for Grant Requests for All Categories

Virginia Department of Conservation and Recreation
Virginia Community Flood Preparedness Fund Grant Program

Name of Local Government:

Fairfax County

Category of Grant Being Applied for (check one):

Capacity Building/Planning

Project

Study

NFIP/DCR Community Identification Number (CID) 515525

If a state or federally recognized Indian tribe, Name of tribe N/A

Name of Authorized Official: Christopher Herrington, Director
Department of Public Works and Environmental Services

Signature of Authorized Official: 
867974595026404

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 448

City: Fairfax **State:** VA **Zip:** 22035

Telephone Number: (703) 324-5033 **Cell Phone Number:** () N/A

Email Address: christopher.herrington@fairfaxcounty.gov

Contact Person (If different from authorized official): Craig Carinci

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 449

City: Fairfax **State:** VA **Zip:** 22035

Telephone Number: (703) 324-5500 **Cell Phone Number:** () N/A

Email Address: craig.carinci@fairfaxcounty.gov

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes No

Categories (select applicable project):

Project Grants (Check All that Apply)

- Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- Wetland restoration.
- Floodplain restoration.
- Construction of swales and settling ponds.
- Living shorelines and vegetated buffers.
- Structural floodwalls, levees, berms, flood gates, structural conveyances.
- Storm water system upgrades.
- Medium and large scale Low Impact Development (LID) in urban areas.
- Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool.
- Dam restoration or removal.
- Stream bank restoration or stabilization.
- Restoration of floodplains to natural and beneficial function.
- Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.

Study Grants (Check All that Apply)

- Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.
- Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.
- Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.
- Studies and Data Collection of Statewide and Regional Significance.
- Revisions to existing resilience plans and modifications to existing comprehensive and hazard.
- Other relevant flood prevention and protection project or study.

Capacity Building and Planning Grants

- Floodplain Staff Capacity.
- Resilience Plan Development
 - Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans.
 - Resource assessments, planning, strategies and development.
 - Policy management and/or development.
 - Stakeholder engagement and strategies.

Location of Project (Include Maps): 27 Fairfax County Watersheds

NFIP Community Identification Number (CID#):(See appendix F 515525

Is Project Located in an NFIP Participating Community? Yes No

Is Project Located in a Special Flood Hazard Area? Yes No

Flood Zone(s) (If Applicable): SFHA Zones A and AE

Flood Insurance Rate Map Number(s) (If Applicable): See spreadsheet

Total Cost of Project: \$640,000

Total Amount Requested \$320,000

FEMA FIRM Panels

Panel	Effective Date
51059CIND0A	9/17/2010
51059C0020E	9/17/2010
51059C0040E	9/17/2010
51059C0045E	9/17/2010
51059C0065E	9/17/2010
51059C0095E	9/17/2010
51059C0110E	9/17/2010
51059C0115E	9/17/2010
51059C0120E	9/17/2010
51059C0130E	9/17/2010
51059C0135E	9/17/2010
51059C0140E	9/17/2010
51059C0145E	9/17/2010
51059C0155E	9/17/2010
51059C0160E	9/17/2010
51059C0165E	9/17/2010
51059C0170E	9/17/2010
51059C0180E	9/17/2010
51059C0190E	9/17/2010
51059C0210E	9/17/2010
51059C0230E	9/17/2010
51059C0235E	9/17/2010
51059C0240E	9/17/2010
51059C0245E	9/17/2010
51059C0255E	9/17/2010
51059C0260E	9/17/2010
51059C0265E	9/17/2010
51059C0270E	9/17/2010
51059C0280E	9/17/2010
51059C0285E	9/17/2010
51059C0290E	9/17/2010
51059C0295E	9/17/2010
51059C0315E	9/17/2010
51059C0320E	9/17/2010
51059C0335E	9/17/2010
51059C0355E	9/17/2010
51059C0360E	9/17/2010
51059C0370E	9/17/2010
51059C0380E	9/17/2010
51059C0385E	9/17/2010
51059C0390E	9/17/2010
51059C0395E	9/17/2010
51059C0405E	9/17/2010
51059C0410E	9/17/2010
51059C0415E	9/17/2010
51059C0430E	9/17/2010
51059C0435E	9/17/2010

FAIRFAX COUNTY

**REGULATED FLOODPLAIN
MAP UPDATES**

Virginia Community Flood Preparedness Fund

FY 2022 ROUND 3 GRANT APPLICATION

CID515525_FairfaxCounty_CFPF-5 (Map Updates)

April 8, 2022

Revised November 18, 2022



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Attachments

Attachment A- Detailed map of the study area

Attachment B- FIRMs of the study area

Attachment C- Historic flood damage images

Attachment D- Social vulnerability index score from ADAPT VA's Virginia Vulnerability Viewer

Attachment E- Approved Resilience Plan

Appendices

Appendix A – Application Form for Grant Requests for All Categories

Appendix B – Scoring Criteria for Studies Form

Appendix D – Checklist for all Categories

Executive Summary

The Fairfax County regulated floodplain mapping study will consolidate multiple flood hazard data sources into one comprehensive map for regulatory use, increase community flood risk awareness, and allow the County to integrate the impacts of climate change into its floodplain management program. To be able to complete the first phase of the study, the County is requesting 50% of the total remaining cost of the project (\$640,000) or \$320,000. If the grant is awarded and the study moves forward, the County can complete the development of preliminary HEC-RAS hydraulic models for 16 remaining watersheds, approximately 401 stream miles (excluding the 56 stream miles completed as part of the pilot and the 355 stream miles that have already been tasked and encumbered), and advance the mapping of all floodplains 70 acres or greater in the County.

A. Scope of Work Narrative

Fairfax County regulates proposed uses and disturbances in the 100-year flood inundation area associated with open channel conveyance systems that have a contributing drainage area of 70 acres or more. The location of the base flood elevation (BFE) is required for demonstrating compliance with all applicable Federal, State, and County floodplain regulations.

There are three distinct types of regulated floodplains in Fairfax County:

- Minor floodplains include drainage areas between 70 acres and 360 acres.
- Major floodplains consist of drainage areas 360 acres or greater.
- Areas that are designated as floodplain by the National Flood Insurance Program (NFIP) are shown on the Flood Insurance Rate Maps (FIRMs) issued by the Federal Emergency Management Agency (FEMA) – generally, for areas one square mile (640 acres) or greater.

Currently, existing floodplain boundaries and water surface elevations are available from several sources and a significant portion of County regulated floodplain is not mapped. This missing or conflicting flood hazard data creates confusion during floodplain study development, review, and enforcement. Rather than having multiple sources for flood hazard data, the County plans to develop a comprehensive regulated floodplain map. The updated map and water surface elevations will be used to provide clear and consistent BFEs for proposed development in or adjacent to all regulated floodplains, increase community flood risk awareness, and allow for the incorporation of future climate projection conditions.

Background

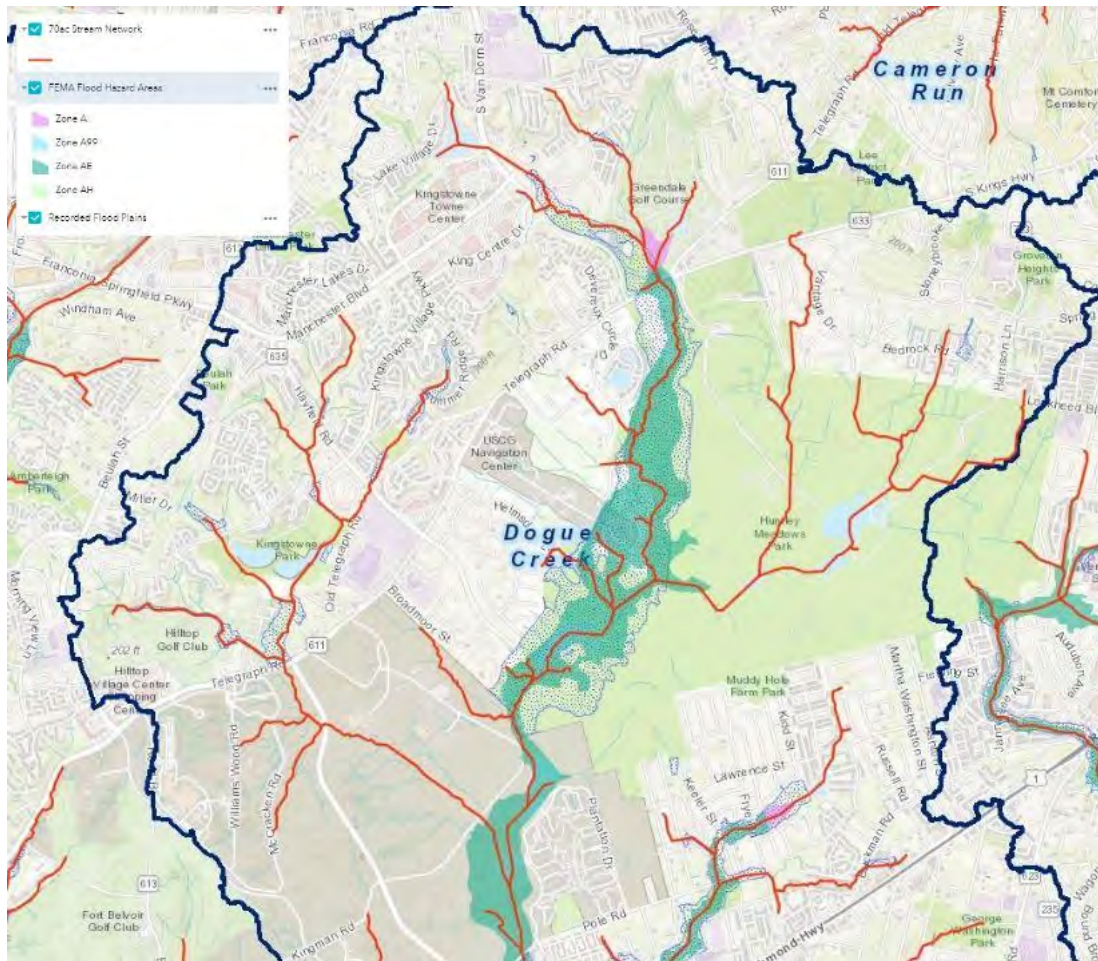
Unlike FIRMs which are developed using existing land use conditions, major and minor floodplains developed by the County reflect ultimate (future) conditions. The County's floodplain ordinance requires that new and substantially improved existing dwellings located on parcels with floodplain must elevate the lowest part of the lowest floor of all living space, including basements, at least 18 inches above the applicable BFE for the property, and the dwellings must be at least 15 feet from the floodplain boundary. For development in the regulated floodplain, the floodplain water surface elevation must be computed to establish the actual floodplain boundary and a floodplain easement must typically be dedicated to the County.

There are multiple County Geographic Information System (GIS) floodplain layers that each have their own history and uses; however, they are all referred to as floodplain and are used in the County's plan review process to flag potential construction in these areas. Available floodplain boundaries and water surface elevations come from several sources, including floodplain studies performed by the United States Geological Survey and FEMA and approved floodplain studies that have been performed by

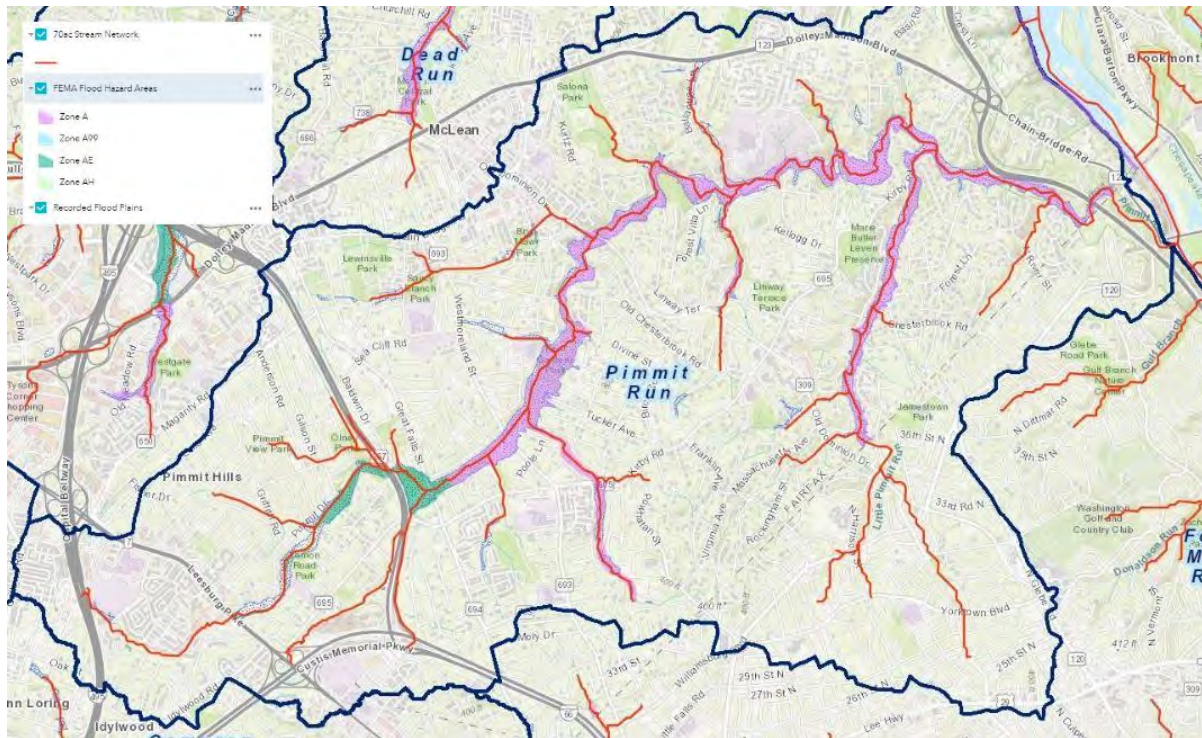
engineers in conjunction with prior land development. Floodplain information is available on the publicly accessible County Floodplain Viewer (<https://fairfaxCountygis.maps.arcgis.com/apps/webappviewer/index.html?id=c62ab5b0d13a49c990480e456e70e45f&mobileBreakPoint=300>).

Not all County regulated floodplain is mapped. For instance, Fairfax County has older neighborhoods that developed in the 1950s and 1960s prior to modern floodplain regulations. These communities may include piped or channelized streams in minor floodplains that lack mapped floodplain boundaries and BFEs. See examples in Maps 1 and 2 below. The red 70-acre stream network line represents potential County regulated floodplain. As shown on the maps, many sections of the regulated floodplain lack recorded floodplain boundaries.

Map 1. Unmapped regulated floodplain within Dogue Creek watershed



Map 2. Unmapped regulated floodplain within Pimmit Run watershed



As the County reaches buildout conditions and large tracts of green space are no longer available for new subdivisions, much of the residential development in these older neighborhoods has shifted to lot-by-lot infill redevelopment. For residential infill development in and adjacent to unmapped regulated floodplain, the County must rely on very limited floodplain studies completed as a part of the infill plan to review and enforce floodplain regulations.

Additionally, FEMA completed a multi-year project to reexamine Fairfax County's flood zones and produce detailed digital flood hazard maps. The preliminary updated FIRMs, which reflect the flood risk based on the latest data, have been released for public review. The County held a series of virtual public meetings to provide more information on the proposed changes and respond to questions from residents.

Study Description

Fairfax County will complete modeling and mapping of the remaining 757 stream miles with County regulated floodplains in the remaining 27 designated watersheds. This study includes both updates to prior mapped floodplains and new floodplain models and mapping. Given the size and complexity of this effort, the study will be split into a pilot and two phases.

The County completed a pilot study on three watersheds- Dogue Creek, Pimmit Run, and Little Hunting Creek (total of 56 stream miles)- to establish standard means and methods to develop the regulated floodplain map updates. The pilot study prepared the most current terrain data for the County and developed appropriate hydrologic and hydraulic modeling of all streams with drainage areas of 70 acres or greater. The pilot study scope included obtaining and preparing terrain data for use in the hydrologic and hydraulic (H&H) analyses, identifying data for bridges and culverts, establishing 100-year elevations using steady-state one-dimensional modeling, and mapping the results for the three watersheds. The

County recently initiated Phase I of the study to develop a preliminary HEC-RAS hydraulic model for the remaining 27 watersheds. The HEC-RAS models for each watershed will establish preliminary floodplain mapping (within RAS Mapper), flow velocities, profiles, and rating tables. Phase II of the study, which includes the final HEC-RAS model with bridges and culverts incorporated and final floodplain mapping, will be submitted as a separate study application under a future grant round.

The Phase I of the study will be completed by Atkins. The firm is a consultant with a County Basic Ordering Agreement (BOA) for Flood Mitigation and Monitoring and Dam Safety Program Services. Attachment 1 is the Request for Qualifications that the firm had to meet to be awarded this BOA.

Study Benefits

The County regulated floodplain updates will consolidate multiple flood hazard data sources into one comprehensive map for regulatory use, eliminating conflicting water surface boundaries and generating BFEs for unmapped regulated floodplains. The study will also revise and clarify various references to floodplain mapping studies in the Floodplain Ordinance, County Public Facilities Manual (PFM), and the County Code of Ordinances. Fairfax County floodplain management regulations are codified in Section 5105 of the Zoning Ordinance. The PFM details the appropriate methods and guidelines for water surface calculations and floodplain easements. Appendix A of the County code describes some of the maps and studies used to depict the areas designated as floodplain by Fairfax County. These three regulatory documents will be revised to reflect the new comprehensive County regulated floodplain map.

The study allows the County to integrate climate change into the regulated floodplains. The County is embarking on Resilient Fairfax, a formal and holistic effort to address climate adaption and resilience. The Resilient Fairfax plan will develop a climate projections report with future predicted climate conditions (<https://www.fairfaxcounty.gov/environment-energy-coordination/resilient-fairfax>). Data from this report can be integrated into the new or updated floodplain models to reflect anticipated future precipitation trends.

The study will also increase community flood risk awareness by mapping previously unmapped floodplain. Following the completion of Phase II, the County will embark on a significant public outreach program to notify residents that they are in a newly mapped floodplain, advise them on how to prepare for flooding, and share resources related to flood protection and insurance.

Although the study will use the best available technical data, there will be no new data based on the FEMA floodplain requirements. As noted previously, Fairfax County regulates all floodplains with drainage areas over 70 acres. Approximately 50 percent of the stream miles undergoing map updates are outside of Special Flood Hazard Areas (SFHAs). FEMA mapped SFHAs are primarily based on existing condition flows and are used to determine mandatory flood insurance purchase requirements. For the 50 percent of stream miles inside SFHAs, the County uses ultimate development condition flows rather than existing land use conditions. As a result, the County will not apply for a Letter of Map Revision or Physical Map Revision through FEMA.

With 1,167,000 residents, Fairfax County is more populous than six states (Alaska, Montana, North Dakota, Rhode Island, South Dakota, Vermont, and the District of Columbia) and accounts for about 13% of the total population of Virginia. Providing comprehensive, accurate, and consistent regulated

floodplain maps will benefit not only the County, but also more than a tenth of Virginia residents. The maps will help increase flood risk awareness for residents located in and adjacent to previously unmapped floodplains, developers to better incorporate flood prevention and protection techniques into their construction plans, and the County to better review and enforce its robust floodplain management regulations.

Attachment 1. Flood mitigation and monitoring and dam safety program services request for qualifications

**COUNTY OF FAIRFAX
DEPARTMENT OF PUBLIC WORKS & ENVIRONMENTAL SERVICES
FLOOD MITIGATION AND MONITORING & DAM SAFETY PROGRAM SERVICES**

REQUEST FOR QUALIFICATIONS (RFQ)

SCOPE OF WORK

The County of Fairfax, Virginia, Department of Public Works and Environmental Services (DPWES) is soliciting statements of qualifications from engineering firms to provide services on a Basic Ordering Agreement (BOA) to support Fairfax County's participation in the National Federal Insurance Program (NFIP), flood mitigation and monitoring, dam safety, and other ancillary engineering services that may be needed. These services will be required on a task order basis. The initial agreement will be established to run for a 12-month term with the option of four additional 12-month terms (up to 48 months). Pursuant to Virginia State Code, BOAs have a maximum of \$5 million per year, with no individual task order exceeding \$2.5 million. However, this contract is not anticipated to exceed a total value of \$1.0 million per year. DPWES anticipates the award of one or more BOAs to support the programs described above.

Typical tasks under this COA may include but are limited to the following services:

NFIP and Floodplain Management Services

- Perform detailed Hydrologic and Hydraulic (H&H) modeling to support floodplain delineation and analysis.
- Provide engineering and ancillary services to support the county's participation in the NFIP, Cooperating Technical Partners, and Community Rating System programs.
- Assist with various tasks related to floodplain analysis, such as Letter of Map Revision (LOMRs), Conditional LOMRs (CLOMRs), coordination with FEMA, and other FEMA and floodplain management related tasks.

Dam Safety Program Services

- Geotechnical services including provisions for an on-call geotechnical engineer with expertise in dam designs and operations.
- Detailed (H&H) analyses required for Virginia State Dam Certification submissions. Such analyses include the determination of dam breach inundation zones, and incremental damage assessment.
- Develop and conduct dam safety drills and table-top exercises.
- Perform dam inspections and monitoring.
- Perform dam piezometer monitoring and analysis.
- Perform dam emergency spillway capacity and stability and integrity analyses.
- Development of Emergency Action Plans (EAP) and the preparation of Operation and Maintenance (O&M) certificates applications for dams regulated by the state.
- Development and maintenance of response plans for areas prone to flooding such as New Alexandria.

Fairfax County, Department of Public Works & Environmental Services
 Flood Mitigation & Monitoring, Dam Safety Program Services
 March 6, 2020

Project implementation Support and General Engineering Services

- Performance of detailed land surveys, bathymetric surveys, and the preparation of elevation certificates and plats.
- Delineation of wetlands.
- Support for the acquisition of hydrologic data, geotechnical investigations, or other purposes.
- AutoCAD drafting and plan preparation services.
- Modeling green infrastructure and Stormwater management facility rehabilitation and retrofit designs.
- Acquire federal, state, and local permits required for construction.
- Preparing and conducting presentations at public meetings during non-business hours
- Other related ancillary services.

Consultants who wish to be considered for this work must submit eight (8) hard copies copies, as well as a PDF copy on a CD of their statements of qualifications to Roz Knox, Contract Specialist, Stormwater Planning Division, Department of Public Works and Environmental Services, 12000 Government Center Parkway, Suite 449, Fairfax, Virginia 22035-0052.

The submittal must include:

- Statements of Interest;
- GSA Standard Form 330 Part I and Part II for the primary firm and all major sub-consultants; and
- List of references with current addresses and telephone numbers for recently completed projects of a similar nature.

All submissions must be complete and clearly demonstrate the capability to provide the required services. The following weighted criteria and evaluation factors will be utilized by a Selection Advisory Committee to evaluate the statement of qualifications:

Criteria No.	Criteria Description	Weight
1.	The ability and experience of firm/team to deliver work as described	25%
2.	Project teams' personnel qualifications and experience	20%
3.	Past performance history	15%
4.	Ability to meet time and budget requirements	15%
5.	Location of key project staff	10%
6.	Volume of work previously awarded by the County within the last 3	5%
7.	Recent, current, and projected workload	5%
8.	Public presentations and community coordination	5%

Fairfax County, Department of Public Works & Environmental Services
Flood Mitigation & Monitoring, Dam Safety Program Services
March 6, 2020

All statements of qualifications shall be delivered no later than 4:00 p.m., local prevailing time on Wednesday April 8, 2020. Statements of qualifications received after the submission deadline will not be considered. The statement of qualifications, including GSA 330 forms, shall not exceed the equivalent of thirty-five (35) pages of content (printed double-sided copies). The cover letter and binding are not included in the 35 pages.

Fairfax County is committed to paying a living wage to all qualified County employees and encourages contractors and sub-contractors involved in all County programs, services, and activities to pay a living wage to their employees.

All questions related to this solicitation should be directed to Roz Knox, Contract Specialist, of Stormwater Planning Division at rosalind.knox@fairfaxcounty.gov or 703-324-5500, TTY 711.



To request this information in an alternate format, please call Roz Knox, Contract Specialist, Stormwater Planning Division, Department of Public Works and Environmental Services at 703-324-5500, TTY 711.

B. Budget Narrative

The sections below outline the anticipated expenditures for the study including the estimated total study cost, the grant funds requested, and the corresponding match to be provided by the County.

1. Estimated Total Project Cost

The estimated total study cost to complete preliminary hydraulic models is \$1,200,000. In Fairfax County, there are 812 stream miles of regulatory floodplain. The pilot studies completed in Dogue Creek, Little Hunting Creek, and Pimmit Run covered 56 stream miles. Based on these pilot studies, the estimated cost to complete the preliminary hydraulic models for the remaining stream miles is \$1,450 per mile. The County has already tasked and encumbered funds for completing preliminary hydraulic models for 11 watersheds covering 355 miles. The total cost to complete the preliminary hydraulic models for the remaining 16 watersheds (401 miles) is:

$$(\$1450/\text{mile} * 401 \text{ miles}) = \$581,450 + 10\% \text{ contingency} = \sim \$640,000$$

2. Funds Requested

The amount of funds requested from the Fund is \$320,000. This is the total amount of any grant assistance sought from the Fund. 100% of this grant will be applied to the Atkins task order to complete Phase I of the Fairfax County regulated floodplain map updates. Attachment 2 includes the task order draft proposal scope of work describing how this funding will be used.

3. Available Funds

The \$320,000 County match for the study will be allocated from the cash funds available in *Regulatory Program Support* under Fund 40100 Stormwater Services in the Fairfax County Fiscal Year 2023 budget. See Attachment 3 for the Fiscal Year 2023 County budget plan document.

4. Authorization to Request for Funding

See Attachment 4 for the Not in Package (NIP) item to the Board of Supervisors authorizing a request for funding through the grant program.

Fairfax County
Atkins Flood Mitigation and Monitoring & Dam Safety Basic
Ordering Agreement
Request for Proposal (RFP)
Task Orders #Y3-XX
_____, 2023

Task Order #Y3-XX: Preliminary floodplain mapping for 16 watersheds

Atkins is currently completing preliminary HEC-RAS models for 11 watersheds totaling 355 stream miles. Under this task order, Atkins will develop preliminary HEC-RAS models for the remaining 16 County watersheds listed below. The general scope of work is similar for all watersheds, with a total estimated 401 stream miles to be modeled (draining 70 acres or more).

1. Cub/Bull¹
2. Sugarland/Horsepen
3. Little Rocky/Johnny Moore/Popes Head
4. Pohick
5. Old Mill/Wolf/Ryan's Dam/Sandy/Occoquan/Mill/Kane/High Point

Note that this is a suggested grouping and sequence. Atkins will determine the final grouping and sequence for development of preliminary hydraulic models.

Background

Fairfax County has initiated a project to complete modeling and mapping of the county's regulatory floodplains in the County's 30 designated watersheds. Pilot studies for three watersheds (Dogue Creek, Little Hunting Creek, Pimmit Run) have been completed or in progress, and Atkins is currently developing preliminary HEC-RAS models for 11 additional watersheds. Under this task order, Atkins will develop preliminary RAS hydraulic models for remaining 16 watersheds. The purpose of the preliminary hydraulic model development is to provide a starting point for final RAS models for these watersheds that includes all stream crossings and develops the final floodplain mapping. The following will serve to provide additional detail on the preliminary and final RAS models:

Preliminary RAS model: Automated generation of cross-sections, with Quality Control (QC) checks performed to ensure proper cross-section placement, extents, alignment, and spacing (placement checks include ensuring cross-sections are not located on top of roadways, extent and alignment checks include making sure the cross-section contains the estimated 500-year flow prism and is perpendicular to the flow prism, and spacing checks include making sure that stream meander patterns are adequately represented). The County will provide a HMS model with flows to be used for this RAS version. Flows will be provided for the 1-year, 2-year, 10-year, 50-year, 100-year, and 500-year events and used to establish water-surface elevation profiles and preliminary floodplain mapping (within RAS Mapper) for these events.

Final RAS model: This version will incorporate all stream crossings into preliminary RAS models previously reviewed and approved by the County. Additionally, for areas where there piped

¹Note *Run, Creek, or Branch* have been omitted from the watershed names for brevity.

systems within the floodplain, the model will utilize headwater elevations obtained from an analysis of the piped system where the open channel system enters and exits the piped system. The final RAS version will be used to create final 100-year, 500-year floodplain mapping and associated products for the watershed.

Note: This RFP is only for preliminary RAS models, information on final RAS models is provided for reference.

Subtasks

1. The County will provide the following data to enable the development and testing of the preliminary version of HEC-RAS models:
 - a. Clipped 2018 Terrain data (Lidar raster layers) for all watersheds.
 - b. GIS layers derived from Arc Hydro to be used in configuring the geometric data for the RAS Model. This includes 70-acre stream centerlines, confluence nodes, stream crossing point layer along with any other data needed.
 - c. Final version of the configured HMS Models.

Atkins will review data provided for the County to ensure it is complete and will allow development of the preliminary RAS models detailed previously.

2. Atkins will utilize reach and river naming conventions in RAS developed as part of Task Order #Y1-05 (Little Hunting Creek preliminary floodplain mapping) to ensure consistency between the reach identifiers used in HMS and Arc Hydro. Naming conventions should allow users to efficiently locate flows used in RAS in the HMS models and then determine the relevant Arc Hydro elements to establish how hydrologic parameters in HMS were estimated.
3. Atkins will develop preliminary RAS models for the watersheds as detailed previously.
4. Atkins will use the HMS model provided by the county to assign flows in the RAS flow editor and impose normal depth as downstream boundary conditions.
5. Atkins will produce preliminary flood inundation maps and velocity maps in RAS Mapper for all profiles to ensure that the overall results are reasonable, and the cross-sections used in modelling the reach are extended sufficiently to capture the 500-year floodplain limits.

The final deliverables from this task would be a hydraulic model for each watershed listed in this RFP with brief documentation of the reaches modeled and naming convention.

Schedule

Atkins will provide a schedule for each task order showing when work will be initiated and completed for each watershed.

Fund 40100: Stormwater Services

Mission

To develop and maintain a comprehensive watershed and infrastructure management program to protect property, health, and safety; to enhance the quality of life; and to preserve and improve the environment for the benefit of the public. To plan, design, construct, operate, maintain, and inspect stormwater infrastructure; perform environmental assessments through coordinated stormwater and maintenance programs in compliance with all government regulations utilizing innovative techniques, customer feedback and program review; and to be responsive and sensitive to the needs of the residents, customers, and public partners.

Focus

Stormwater Services are essential to protect public safety, preserve property values and support environmental mandates such as those aimed at protecting the Chesapeake Bay and the water quality of other local jurisdictional waterways. Projects in this fund include repairs to stormwater infrastructure, measures to improve water quality such as stream stabilization, rehabilitation, safety upgrades of state regulated dams, repair and rehabilitation of underground pipe systems, surface channels, flood mitigation, site retrofits and best management practices (BMP), and other stormwater improvements.

The Board of Supervisors approved a special service district to support the Stormwater Management Program as part of the FY 2010 Adopted Budget Plan. This service district provides a dedicated funding source for both operating and capital project requirements by levying a service rate per \$100 of assessed real estate value, as authorized by Code of Virginia Ann. Sections 15.2-2400. Since FY 2010, staff has made significant progress in the implementation of watershed master plans, public outreach efforts, stormwater monitoring activities, water quality and flood mitigation project implementation and operational maintenance programs related to existing storm drainage infrastructure including stormwater conveyance, and regulatory requirements.

A rate of \$0.0400 per \$100 of assessed value has been estimated to be required to fully support the stormwater program in the future; however, staff is currently evaluating the long-term requirements for the program to address the growth in inventory and other community needs. Some of the additional community needs under evaluation include debt service to support the Board's approval of the dredging of Lake Accotink, the anticipation of additional flood mitigation requirements, and strengthening the role and financial support for the implementation of stormwater requirements associated with Fairfax County Public Schools sites under renovation. This enhanced program may require incremental changes to the rate over time and may result in a higher rate to fully support the program. Staff continues to evaluate these requirements, as well as the staffing to support them, and analyze the impact of increased real estate values and revenue projections.

One of the recent initiatives being funded by the Stormwater Fund is the new Public Works complex which will consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions. Stormwater operations are currently conducted from various locations throughout the County, and a new colocation of both Stormwater and Wastewater staff will provide efficiencies and sharing of resources. Another initiative in progress is the planned dredging of Lake Accotink. Lake Accotink is a 55-acre lake surrounded by managed conservation areas, wetlands, deciduous and evergreen forests, and historic and prehistoric sites. Over 300,000 patrons visit the park annually to enjoy a variety of facilities and activities that vary with the season. Sediment from the upstream areas of the watershed has continued to be deposited in Lake Accotink over the years filling in the lake and limiting recreational use. Estimates for the cost of dredging including sediment disposal are still under review. Staff has identified the option of a low interest loan via the Virginia Clean Water Revolving Loan Fund (VCWRLF) as the preferred funding mechanism to fund the dredging project costs. The Stormwater fund will pay the future debt costs.

Fund 40100: Stormwater Services

While staff continues to further evaluate the impact of recent initiatives and the long-term requirements for the Stormwater Program, the FY 2023 rate will remain the same as the FY 2022 Adopted Budget Plan level of \$0.0325 per \$100 of assessed value. However, based on capital project costs and projected revenues, it is anticipated that in the next several years, incremental rate increases will be required based on continued growth of stormwater facilities and infrastructure that must be inspected and maintained by the County, the implementation of flood mitigation projects, and additional requirements in the forthcoming Municipal Separate Storm Sewer System (MS4) Permit. On an annual basis, staff will continue to evaluate the program, analyze future requirements, and develop Stormwater operational and capital resource needs.

The FY 2023 levy of \$0.0325 will generate \$94,393,055, supporting \$27,113,315 for staff and operational costs; \$65,879,740 for capital project implementation including, infrastructure reinvestment, regulatory requirements, dam safety, and contributory funding requirements; and \$1,400,000 transferred to the General Fund to partially offset central support services such as Human Resources, Purchasing, Budget and other administrative services supported by the General Fund, which benefit this fund.

Stormwater Services Operational Support

Stormwater Services operational support includes funding for staff salaries, Fringe Benefits, and Operating Expenses for all stormwater operations. In addition, Fund 40100 includes positions related to transportation operations maintenance provided by the Maintenance and Stormwater Management Division. Beginning in FY 2023, all funding for the transportation related salary expenses and equipment previously supported by Agency 87, Unclassified Administrative Expenses - Public Works Programs will be supported by capital projects in Fund 30010, General Construction and Contributions, as they do not qualify for expenses related to the stormwater service district. The transfer of funding to Fund 30010, General Construction and Contributions, will provide more transparency and the carryforward of balances at year-end.

Fund 40100 also supports the Urban Forestry Management Division (UFMD). The UFMD was established to mitigate tree loss and maximize tree planting during land development, enforce tree conservation requirements and monitor and suppress populations of Gypsy Moth, Emerald Ash Borer, and other forest pests. The division also implements programs needed to sustain the rich level of environmental, ecological, and socio-economic services provided by the County's tree canopy. The UFMD is aligned with the mission of Stormwater Services as it strives to "improve water quality and stormwater management through tree conservation." Tree canopy and forest soils function to mitigate significant levels of water pollution and stormwater runoff.

FY 2023 Stormwater Capital Project Support

Conveyance System Inspections, Development and Rehabilitation

The County owns and operates approximately 1,500 miles of underground stormwater pipes and improved channels with an estimated replacement value of over one billion dollars. The County



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began performing internal inspections of the pipes in FY 2006. The initial results showed that approximately 5 percent of the pipes exhibit conditions of failure, and an additional 5 percent required maintenance or repair. MS4 Permit regulations require inspection and maintenance of these 1,500 miles of existing conveyance systems, 69,000 stormwater structures, and a portion of the immediate downstream channel at the 7,000 regulated pipe outlets. Acceptable industry standards indicate that one dollar reinvested in infrastructure saves seven dollars in the asset's life and 70 dollars if asset failure occurs. Once the initial internal inspections are complete, the goal of this program is to inspect pipes on a 20-year cycle and rehabilitate pipes and improve outfall channels before total failure occurs. Total funding in the amount of \$9.0 million is included for Conveyance System Inspections, Development and Rehabilitation in FY 2023, including \$2.0 million for inspections and development and \$7.0 million for rehabilitation and outfall restoration.

Dam Safety and Facility Rehabilitation

There are approximately 7,900 stormwater management facilities in service that range in size from small rain gardens to large state regulated flood control dams. The County is responsible for inspecting approximately 5,500 privately-owned facilities and maintaining over 2,400 County owned facilities. This inventory increases annually and is projected to continually increase as new development and redevelopment sites occur in the County. This initiative also includes the removal of sediment that occurs in both wet and dry stormwater management facilities to ensure that



adequate capacity is maintained to treat the stormwater. The program results in approximately 50 projects annually that require design and construction management activities as well as contract management and maintenance responsibilities. This program maintains the structures and dams that control and treat the water flowing through County owned facilities. This program improves dam safety by supporting annual inspections of 20 state-regulated dams and the Huntington Levee and by developing Emergency Action Plans required by the state. The Emergency Action Plans are updated annually. In addition, these plans include annual emergency drills and exercises, and flood monitoring for each dam. Total funding in the amount of \$15.0 million is included in FY 2023, including \$5.0 million for maintenance and \$10.0 million for rehabilitation.

Stormwater/Wastewater Facility

This project will provide funding for a Stormwater/Wastewater Facility which will consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions. Currently, Stormwater operations are conducted from various locations throughout the County, with the majority of staff located at the West Drive facility. Facilities for field maintenance operations and for field/office-based staff are inadequate and outdated for the increased scope of the stormwater program, and inadequate to accommodate future operations. This project is currently in design with construction anticipated to begin in early 2022. The facility is financed by EDA bonds with the Stormwater Services Fund and Wastewater Fund supporting the debt service. Funding in the amount of \$4.2 million is included in FY 2023 to support the second year of debt service for the Stormwater/Wastewater Facility.

Fund 40100: Stormwater Services

Emergency and Flood Response Projects

This program supports flood control projects for unanticipated flooding events that impact storm systems and structural flooding. The program provides annual funding for scoping, design, and construction activities related to flood mitigation projects. Funding in the amount of \$7.0 million is included for the Emergency and Flood Response Projects in FY 2023.

Enterprise Asset Management-Work Order System

This project will provide funding for the transition from an Enterprise Asset Management (EAM) system to a more functional Asset Management Program (AMP). This funding will support the acquisition of software, servers and consultant services to migrate asset management and related work order management into the new system. The current system tracks assets, inspections, daily work management and associated contractor costs. Features of the replacement system include geographic information system (GIS) integration and field mobility. The Department of Public Works and Environmental Services (DPWES) Information Technology staff have collaborated with the Stormwater Management and the Wastewater Management staff to promote interagency capabilities, optimize performance, and improve system lifecycle management for the new system. This new system will meet the future expectations for both divisions and optimize service delivery for DPWES. Funding in the amount of \$1.4 million is included in Capital Projects and an amount of \$800,000 is included in Operating Expenses for this project in FY 2023.

Stormwater-Related Contributory Program

Contributory funds are provided to the Northern Virginia Soil and Water Conservation District (NVSWCD) and the Occoquan Watershed Monitoring Program (OWMP). The NVSWCD is an independent subdivision of the Commonwealth of Virginia that provides leadership in the conservation and protection of Fairfax County's soil and water resources. It is governed by a five-member Board of Directors - three members are elected every four years by the voters of Fairfax County and two members are appointed by the Virginia Soil and Water Conservation Board. Accordingly, the work of NVSWCD supports many of the environmental goals established by the Board of Supervisors. The goal of the NVSWCD is to continue to improve the quality of the environment and general welfare of the citizens of Fairfax County by providing them with a means of dealing with soil, water conservation and related natural resource problems. It provides County agencies with comprehensive environmental evaluations for proposed land use changes with particular attention to the properties of soils, erosion potential, drainage, and the impact on the surrounding environment. NVSWCD has consistently been able to create partnerships and leverage state, federal and private resources to benefit natural resources protection in Fairfax County. FY 2023 funding of \$0.6 million is included in Fund 40100 for the County contribution to the NVSWCD.

The OWMP and the Occoquan Watershed Monitoring Laboratory (OWML) were established to ensure that water quality is monitored and protected in the Occoquan Watershed. Given the many diverse uses of the land and water resources in the Occoquan Watershed (agriculture, urban residential development, commercial and industrial activity, water supply, and wastewater disposal), the OWMP plays a critical role as the unbiased interpreter of basin water quality information. FY 2023 funding of \$0.2 million is included in Fund 40100 for the County contribution to the OWMP.

Stormwater Allocation to Towns

On April 18, 2012, the State Legislature passed SB 227, which entitles the Towns of Herndon and Vienna to all revenues collected within their boundaries by Fairfax County's stormwater service district. An agreement was developed for a coordinated program whereby the Towns remain part of the County's service district and the County returns 25 percent of the revenue collected from properties within each town. This allows for the Towns to provide services independently such as

Fund 40100: Stormwater Services

maintenance and operation of stormwater pipes, manholes, and catch basins. The remaining 75 percent remains with the County and the County takes on the responsibility for the Towns' Chesapeake Bay Total Maximum Daily Load (TMDL) requirements as well as other TMDL and MS4 requirements. This provides for an approach that is based on watersheds rather than on jurisdictional lines. Funding in the amount of \$1.0 million is included for the Stormwater Allocations to Towns project in FY 2023.

Regulatory Program

The County is required by federal law to operate under the conditions of a state issued MS4 Permit. Stormwater staff annually evaluates funding required to meet the increasing federal and state regulatory requirements pertaining to the MS4 Permit, and State and Federal mandates associated with controlling water pollution delivered to local streams and the Chesapeake Bay. The MS4 Permit allows the County to discharge stormwater from its stormwater systems into state and federal waters. The County currently owns and/or operates approximately 15,000 outfalls, and 7,000 of these outfalls are regulated outfalls governed by the permit. The current permit was issued to the County in April 2015 and expired in April 2020. The County is operating under an administrative continuance until a new permit is issued. The permit requires the County to document the stormwater management facility inventory, enhance public outreach and education efforts, increase water quality monitoring efforts, provide stormwater management and stormwater control training to all appropriate County employees. The permit requires the County to implement sufficient stormwater projects that will reduce the nutrients and sediment to comply with the Chesapeake Bay and local stream TMDL requirements. Funding in the amount of \$4.0 million is included for the Stormwater Regulatory Program in FY 2023.

Stream and Water Quality Improvements

This program funds water quality improvement projects necessary to mitigate the impacts to local streams and the Chesapeake Bay resulting from urban stormwater runoff. This includes water quality projects such as construction and retrofit of stormwater management ponds, implementation of green stormwater infrastructure facilities, stream restoration, and water quality projects identified in the completed Countywide Watershed Management Plans. These projects will aid in the reduction of



pollutants and improve water quality in county streams that are considered to be in fair to very poor condition and likely do not meet CWA water quality standards. In addition, Total Maximum Daily Load (TMDL) requirements for local streams and the Chesapeake Bay are the regulatory drivers by which pollutants entering impaired water bodies must be reduced. The Chesapeake Bay TMDL was established by the EPA and requires that MS4 communities as well as other dischargers implement measures to significantly reduce the nitrogen, phosphorous and sediment loads in waters that drain to the Chesapeake Bay by 2025. MS4 Permit holders must achieve 35 percent of the required reductions within the current five-year permit cycle and 60 percent of the required reductions in the

Fund 40100: Stormwater Services

next five-year permit cycle. In addition, compliance with the Chesapeake Bay TMDL requires that the County undertake construction of new stormwater facilities and retrofit existing facilities and properties. The EPA continually updates the Chesapeake Bay compliance targets and credits. It is anticipated that the changes to the assigned targets as well as how projects are credited will likely impact future compliance requirements. In addition to being required to meet the Chesapeake Bay TMDL targets, the current MS4 Permit requires the County to develop and implement action plans to address local impairments. Most of the 1,900 watershed management plan projects contribute toward achieving the Chesapeake Bay and local stream TMDL requirements. Funding in the amount of \$23.5 million is included for Stream and Water Quality Improvements in FY 2023.

Organizational Chart



*Denotes functions that are included in both Fund 30010, General Construction and Contributions, and Fund 40100, Stormwater Services.

Budget and Staff Resources

Category	FY 2021 Actual	FY 2022 Adopted	FY 2022 Revised	FY 2023 Advertised
FUNDING				
Expenditures:				
Personnel Services	\$20,448,442	\$22,615,643	\$22,813,269	\$24,580,634
Operating Expenses	3,919,893	3,182,636	3,389,603	4,010,636
Capital Equipment	1,077,511	782,000	1,887,143	652,000
Capital Projects	50,984,399	61,600,414	242,012,718	65,879,740
Subtotal	\$76,430,245	\$88,180,693	\$270,102,733	\$95,123,010
Less:				
Recovered Costs	(\$1,832,157)	(\$2,129,955)	(\$2,129,955)	(\$2,129,955)
Total Expenditures	\$74,598,088	\$86,050,738	\$267,972,778	\$92,993,055
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	202 / 202	200 / 200	200 / 200	208 / 208

FY 2023 Funding Adjustments

The following funding adjustments from the FY 2022 Adopted Budget Plan are necessary to support the FY 2023 program:

Employee Compensation **\$1,214,199**

An increase of \$ 1,214,199 in Personnel Services includes \$850,684 for a 4.01 percent market rate adjustment (MRA) for all employees and \$363,515 for performance-based and longevity increases for non-uniformed merit employees, both effective July 2022.

Fund 40100: Stormwater Services

Other Post-Employment Benefits **(\$106,403)**

A decrease of \$106,403 in Personnel Services reflects required adjustments associated with providing Other Post-Employment Benefits (OPEBs) to retirees, including the Retiree Health Benefits Subsidy. For more information on Other Post-Employment Benefits, please refer to Fund 73030, OPEB Trust, in Volume 2 of the FY 2023 Advertised Budget Plan.

New Positions **\$885,195**

An increase of \$885,195 including Personnel Services of \$857,195 and Operating Expenses of \$28,000 is necessary to fund requirements associated with 8/8.0 FTE new positions, including 1/1.0 Engineering Technician III, 1/1.0 FTE Planner III, 1/1.0 FTE Project Manager I, 1/1.0 FTE Senior Engineering Inspector, 1/1.0 FTE Senior Engineer III, and 3/3.0 FTE Senior Maintenance Workers. The Engineering Technician III position will support address the increased workload of permit required pond inspections and maintenance. The Planner III position will review and provide needed stormwater expertise, advanced technical analysis, support and recommendations on planning and development efforts during planning, pre-zoning and rezoning processes. The Project Manager I position will support the Tree Preservation and Planting Program and manage projects that support the tree planting goals of Virginia's Final Phase III Watershed Implementation Plan. The projects will be geared towards increasing tree canopy through street and landscape tree plantings, afforestation and reforestation, and assisting with outreach and education programs. The Senior Engineering Inspector position will be responsible for reviewing erosion and sediment control plans, reviewing project designs, understanding job specifications, inspecting County stormwater infrastructure, updating work orders and keeping a daily log of work performed on construction sites. The Senior Engineer III position will initiate flood mitigation projects, coordinate with property owners to address their flooding concerns, and execute flood mitigation project design and implementation services. The three Senior Maintenance Worker positions will form an additional crew that will be deployed into the field to perform maintenance on the storm drainage system throughout the County.

Asset Management Program **\$800,000**

An increase of \$800,000 in Operating Expenses will support a new Asset Management Program (AMP). Funding will support the acquisition of software, servers, and consultant services to migrate asset management and related work order management into the new system. This new system will meet the future expectations for both Stormwater and Wastewater divisions and optimize service delivery for the Department of Public Works and Environmental Services.

Capital Equipment **(\$130,000)**

Funding of \$652,000 in Capital Equipment, a decrease of \$130,000 from the FY 2022 Adopted Budget Plan, is included primarily associated with replacement equipment that has outlived its useful life and is critical to stormwater services activities. Replacement equipment includes: \$390,000 to replace two dump trucks that support all maintenance and emergency response programs and \$40,000 to replace three equipment trailers that support all maintenance and emergency response programs in transporting construction materials, light duty and snow removal equipment. New equipment includes \$222,000 for the purchase of three new pickup trucks and one new utility truck to support the new positions in FY 2023.

Capital Projects **\$4,279,326**

Funding of \$65,879,740 in Capital Projects, an increase of \$4,279,326 from the FY 2022 Adopted Budget Plan, has been included in FY 2023 for priority stormwater capital projects.

Fund 40100: Stormwater Services

Changes to FY 2022 Adopted Budget Plan

The following funding adjustments reflect all approved changes in the FY 2022 Revised Budget Plan since passage of the FY 2022 Adopted Budget Plan. Included are all adjustments made as part of the FY 2021 Carryover Review, FY 2022 Mid-Year Review, and all other approved changes through December 31, 2021:

Carryover Adjustments **\$182,312,873**

As part of the FY 2021 Carryover Review, the Board of Supervisors approved funding of \$182,312,873 based on the carryover of unexpended project balances in the amount of \$179,413,809 and a net adjustment of \$2,899,064. This adjustment includes the carryover of \$1,312,110 in operating and capital equipment encumbrances, an increase of \$197,626 to Personnel Services to support a one-time compensation adjustment of \$1,000 for merit employees and \$500 for non-merit employees to be paid no later than November 2021, and an increase to capital projects of \$1,389,328. The adjustment to capital projects is based on the appropriation of the remaining operational savings of \$783,662, higher than anticipated revenues of \$304,634, revenues of \$203,600 collected through the land development process that will support tree preservation and planting projects in FY 2022, revenues of \$44,841 associated with dam and facility maintenance projects, miscellaneous revenues in the amount of \$45,652, and the appropriation of \$6,939 from the ending balance that was due to an FY 2021 audit adjustment.

Mid-Year Adjustments **(\$1,555)**

As part of the FY 2022 Mid-Year Review, the Board of Supervisors approved a decrease of \$1,555 due to an FY 2021 audit adjustment.

Position Detail

The FY 2023 Advertised Budget Plan includes the following positions:

STORMWATER SERVICES – 208 Positions			
MSMD Administration (10 positions)			
1	Director, Maintenance and SW	1	Safety Analyst I
1	HR Generalist II	1	Administrative Assistant IV
1	HR Generalist I	4	Administrative Assistants III
1	Safety Analyst II		
IT – Director’s Office/Stormwater (1 position)			
1	Network/Telecom. Analyst I		
Finance – Wastewater and Stormwater (4 positions)			
1	Financial Specialist IV	1	Financial Specialist I
1	Financial Specialist II	1	Administrative Assistant III
Contracting Services/Material Support (5 positions)			
1	Material Mgmt. Specialist III	1	Financial Specialist II
2	Contract Analysts I	1	Inventory Manager
Dam Safety and Maintenance Projects/Projects and LID/Inspection and Maintenance (19 positions)			
1	Public Works-Env. Serv. Manager	5	Engineering Technicians III [+1]
1	Engineer IV	2	Engineering Technicians II
1	Senior Engineer III	1	Project Manager II
3	Engineers III	2	Project Managers I
1	Ecologist III	1	Assistant Project Manager
1	Ecologist II		
Field Operations (74 positions)			
2	Env. Services Supervisors	3	Masons
1	Public Works-Env. Serv. Manager	1	Vehicle Maintenance Coordinator
2	Public Works-Env. Bus. Operations	5	Engineering Technicians III
2	Public Works-Env. Serv. Specialists	2	Engineering Technicians II
8	Senior Maintenance Supervisors	1	Carpenter II
5	Maintenance Supervisors	2	Equipment Repairers

Fund 40100: Stormwater Services

Field Operations			
2	Maintenance Crew Chiefs	1	Welder II
15	Senior Maintenance Workers [+3]	1	Welder I
10	Heavy Equipment Operators	1	Trades Supervisor
10	Motor Equipment Operators		
Stormwater Infrastructure Branch (16 positions)			
1	Public Works-Env. Serv. Manager	1	Senior Engineering Inspector [+1]
3	Engineers IV	2	Engineering Technicians II
2	Senior Engineers III [+1]	2	Engineering Technicians I
4	Engineers III	1	Project Manager I
Transportation Infrastructure Branch (7 positions)			
1	Engineer V	3	Project Managers I
1	Engineer IV	1	Engineering Technician II
1	Project Manager II		
Stormwater Planning Division (56 positions)			
1	Director, Stormwater Planning	1	Emergency Mgmt. Specialist III
1	Engineer V	1	Planner IV
4	Engineers IV	1	Planner III [+1]
1	Senior Engineer III	2	Landscape Architects III
8	Engineers III	1	Engineering Technician III
5	Project Managers II	1	Management Analyst II
2	Project Managers I	2	Code Specialists II
4	Ecologists IV	1	Financial Specialist II
5	Ecologists III	1	Financial Specialist I
3	Ecologists II	1	Contract Specialist II
2	Ecologists I	1	Assistant Contract Specialist
3	Project Coordinators	3	Administrative Assistants III
1	Public Works-Env. Serv. Manager		
Urban Forestry (16 positions)			
1	Director, Urban Forestry Division	3	Urban Foresters I
1	Urban Forester IV	1	Project Manager I [+1]
4	Urban Foresters III	1	Administrative Assistant II
5	Urban Foresters II		

+ Denotes New Position(s)

Performance Measurement Results

The objective to receive no MS4 Permit violations related to inspection and maintenance of public and private stormwater management facilities was met in FY 2019, FY 2020, and FY 2021. It is expected that this objective will also be met in FY 2022 and FY 2023. The objective to update 100 percent of the Stormwater emergency action plans was met in prior years. It is expected that this trend will continue in both FY 2022 and FY 2023. Lastly, the objective to keep 100 percent of the commuter facilities operational for 365 days was met in prior years. It is expected that this goal will be met in FY 2022 and FY 2023.

Indicator	FY 2019 Actual	FY 2020 Actual	FY 2021 Estimate	FY 2021 Actual	FY 2022 Estimate	FY 2023 Estimate
MS4 permit violations received	0	0	0	0	0	0
Percent of Emergency Action Plans current	100%	100%	100%	100%	100%	100%
Percent of commuter facilities available 365 days per year	100%	100%	100%	100%	100%	100%

A complete list of performance measures can be viewed at <https://www.fairfaxcounty.gov/budget/fy-2023-advertised-performance-measures-pm>

Fund 40100: Stormwater Services

FUND STATEMENT

Category	FY 2021 Actual	FY 2022 Adopted Budget Plan	FY 2022 Revised Budget Plan	FY 2023 Advertised Budget Plan
Beginning Balance	\$78,402,156	\$6,939	\$90,244,247	\$0
Revenue:				
Stormwater Service District Levy	\$85,394,610	\$87,175,738	\$87,175,738	\$94,393,055
Sale of Bonds ¹	0	0	88,000,000	0
Stormwater Local Assistance Fund (SLAF) Grant ²	1,876,476	0	3,596,793	0
Tree Preservation/Planting Fund ³	203,600	0	0	0
Miscellaneous	90,493	0	81,000	0
Total Revenue	\$87,565,179	\$87,175,738	\$178,853,531	\$94,393,055
Total Available	\$165,967,335	\$87,182,677	\$269,097,778	\$94,393,055
Expenditures:				
Personnel Services ⁴	\$20,448,442	\$22,615,643	\$22,813,269	\$24,580,634
Operating Expenses	3,919,893	3,182,636	3,389,603	4,010,636
Recovered Costs	(1,832,157)	(2,129,955)	(2,129,955)	(2,129,955)
Capital Equipment	1,077,511	782,000	1,887,143	652,000
Capital Projects ⁴	50,984,399	61,600,414	242,012,718	65,879,740
Total Expenditures	\$74,598,088	\$86,050,738	\$267,972,778	\$92,993,055
Transfers Out:				
General Fund (10001) ⁵	\$1,125,000	\$1,125,000	\$1,125,000	\$1,400,000
Total Transfers Out	\$1,125,000	\$1,125,000	\$1,125,000	\$1,400,000
Total Disbursements	\$75,723,088	\$87,175,738	\$269,097,778	\$94,393,055
Ending Balance^{6,7}	\$90,244,247	\$6,939	\$0	\$0
Tax Rate Per \$100 of Assessed Value	\$0.0325	\$0.0325	\$0.0325	\$0.0325

¹ In FY 2022, Economic Development Authority (EDA) Bonds were issued to support the construction of a Stormwater/Wastewater facility to consolidate functions and operations and maximize efficiencies between the Stormwater and Wastewater Divisions.

² Represents Virginia Department of Environmental Quality (VDEQ) Stormwater Local Assistance Fund (SLAF) grants which support stream and water quality improvement projects. An amount of \$1,876,476 was received in FY 2021 and an amount of \$3,596,793 is anticipated in FY 2022 and beyond.

³ Reflects revenues collected through the land development process that will support tree preservation and planting projects in FY 2022.

⁴ In order to account for revenues and expenditures in the proper fiscal year, audit adjustments were reflected as an increase of \$1,555.35 to FY 2021 Personnel Services expenditures to record expenditure accruals and an increase of \$389,278.17 to FY 2021 Capital Projects expenditures to record expenditure accruals. This impacted the amount carried forward resulting in a decrease of \$389,278.17 to the *FY 2022 Revised Budget Plan*. The projects affected by this adjustment were 2G25-006-000, Stormwater Regulatory Program, SD-000031, Stream & Water Quality Improvements, and SD-000033, Dam Safety and Facility Rehabilitation. The Annual Comprehensive Financial Report (ACFR) reflects all audit adjustments in FY 2021. Details of the audit adjustments were found in Attachment VI of the *FY 2022 Mid-Year Review*.

⁵ Funding in the amount of \$1,400,000 is transferred to the General Fund to partially offset central support services supported by the General Fund, which benefit Fund 40100. These indirect costs include support services such as Human Resources, Purchasing, Budget and other administrative services.

⁶ Capital projects are budgeted based on the total project costs. Most projects span multiple years, from design to construction completion. Therefore, funding for capital projects is carried forward each fiscal year, and ending balances fluctuate, reflecting the carryover of these funds.

⁷ The *FY 2022 Adopted Budget Plan* ending balance of \$6,939 was due to an adjustment made to FY 2020, and it was adjusted as part of the *FY 2021 Carryover Review*.

Fund 40100: Stormwater Services

SUMMARY OF CAPITAL PROJECTS

Project	Total Project Estimate	FY 2021 Actual Expenditures	FY 2022 Revised Budget	FY 2023 Advertised Budget Plan
Conveyance System Inspection/Development (2G25-028-000)	\$13,725,000	\$1,547,185.84	\$4,734,379.98	\$2,000,000
Conveyance System Rehabilitation (SD-000034)	65,034,135	6,858,021.91	10,922,648.48	7,000,000
Dam & Facility Maintenance (2G25-031-000)	30,194,841	5,511,833.19	7,422,312.42	5,000,000
Dam Safety and Facility Rehabilitation (SD-000033)	62,576,104	5,838,539.60	12,227,774.80	10,000,000
Debt Service for SWWW Facility (2G25-117-000)	9,179,000	0.00	5,000,000.00	4,179,000
Emergency and Flood Response Projects (SD-000032)	36,686,091	1,432,074.25	14,457,916.30	7,000,000
Enterprise Asset Management-Work Order System (SD-000044)	2,400,000	0.00	1,000,000.00	1,400,000
Flood Prevention-Huntington Area-2012 (SD-000037)	41,350,000	204,250.20	2,260,024.24	0
Lake Accotink Dredging (SD-000041)	5,000,000	576,187.62	4,423,812.38	0
Laurel Hill Adaptive Reuse Infrastructure (SD-000038)	1,925,000	8,306.59	0.00	0
NVSWCD Contributory (2G25-007-000)	6,530,042	554,811.00	554,811.00	609,346
Occoquan Monitoring Contributory (2G25-008-000)	1,750,641	172,138.00	177,799.00	183,437
Scotts Run Stream Restoration (SD-000043)	151,358	151,357.99	0.00	0
Stormwater Allocation to Towns (2G25-027-000)	7,644,829	816,434.14	1,294,119.92	1,000,000
Stormwater Civil Penalties Fees (2G25-119-000)	185,750	0.00	185,750.00	0
Stormwater Facility (SD-000039)	96,515,000	1,985,385.95	88,412,475.41	0
Stormwater Proffers (2G25-032-000)	56,500	0.00	56,500.01	0
Stormwater Regulatory Program (2G25-006-000)	64,014,584	2,588,925.98	7,420,778.36	4,000,000
Stream & Water Quality Improvements (SD-000031)	255,588,016	22,533,970.99	80,322,038.93	23,507,957
Towns Grant Contribution (2G25-029-000)	4,805,976	176,548.01	906,583.17	0
Tree Preservation and Plantings (2G25-030-000)	308,916	28,427.87	232,993.36	0
Total	\$705,621,783	\$50,984,399.13	\$242,012,717.76	\$65,879,740

Attachment 4. Authorization to request funding



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

Ms. Wendy Howard Cooper, Director
Director, Dam Safety and Floodplain Management
Department of Conservation and Recreation
East Main Street, 24th Floor
Richmond, Virginia 23219

Reference: Community Flood Preparedness Fund, CY2022 Round 3 Grant Application,
Regulated Floodplain Map Updates Study Application (CFPF-22-03-18)

Dear Ms. Howard Cooper:

This letter is in response to your September 30, 2022 (attached), letter requesting Fairfax County's (County's) confirmation of further consideration of the Regulated Floodplain Map Updates Study application (CFPF-22-03-18) during the supplemental review period for the Community Flood Preparedness Fund (CFPF). The County is still interested in having this project application considered to receive funding through the CFPF.

If the grant is awarded, the County will provide the necessary match for the project (\$600,000.00) as required by your department, subject to Fairfax County Board of Supervisors approval. It is understood that the County's total match amount for all four applications being considered during the supplemental review may be as much as \$9,184,400.00.

The County will provide the requested information for the Regulated Floodplain Map Updates Study application (CFPF-22-03-18) to your department no later than 5:00 pm on November 30, 2022, as documented in your letter.

If you have any questions or need additional assistance, please contact Craig Carinci, Director Stormwater Planning Division at 703-324-5500.

Sincerely,

Bryan J. Hill
County Executive

Attachment: Community Flood Preparedness Fund (CFPF): Application CFPF-22-03-18

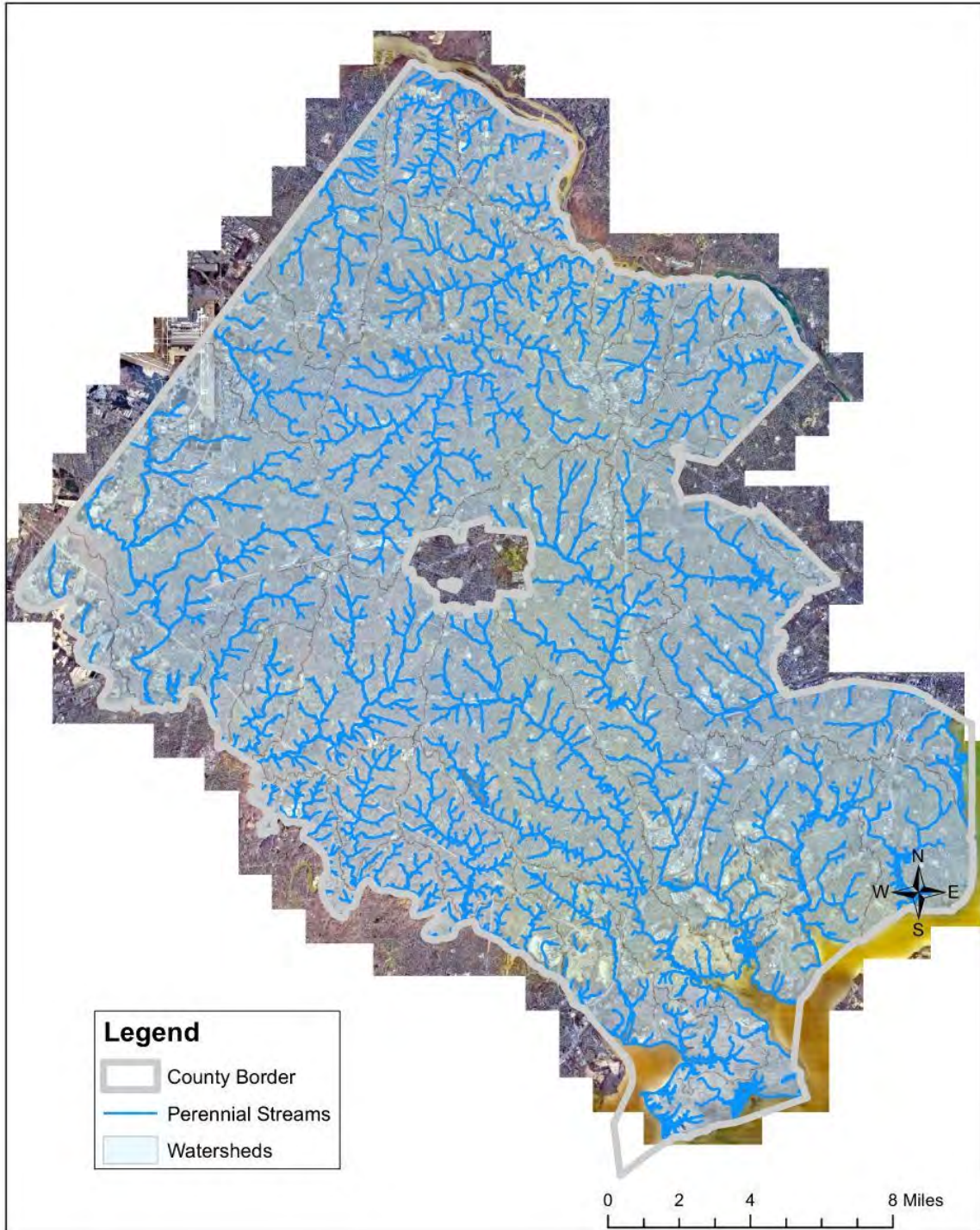
cc: Rachel Flynn, Deputy County Executive
Christopher Herrington, Director, Department of Public Works and Environmental Services (DPWES)
Eleanor Ku Coddling, Deputy Director, DPWES, Stormwater and Wastewater Divisions
Craig Carinci, Director, DPWES, Stormwater Planning Division

Office of the County Executive
12000 Government Center Parkway, Suite 552
Fairfax, VA 22035-0066
703-324-2531, TTY 711, Fax 703-324-3956
www.fairfaxcounty.gov

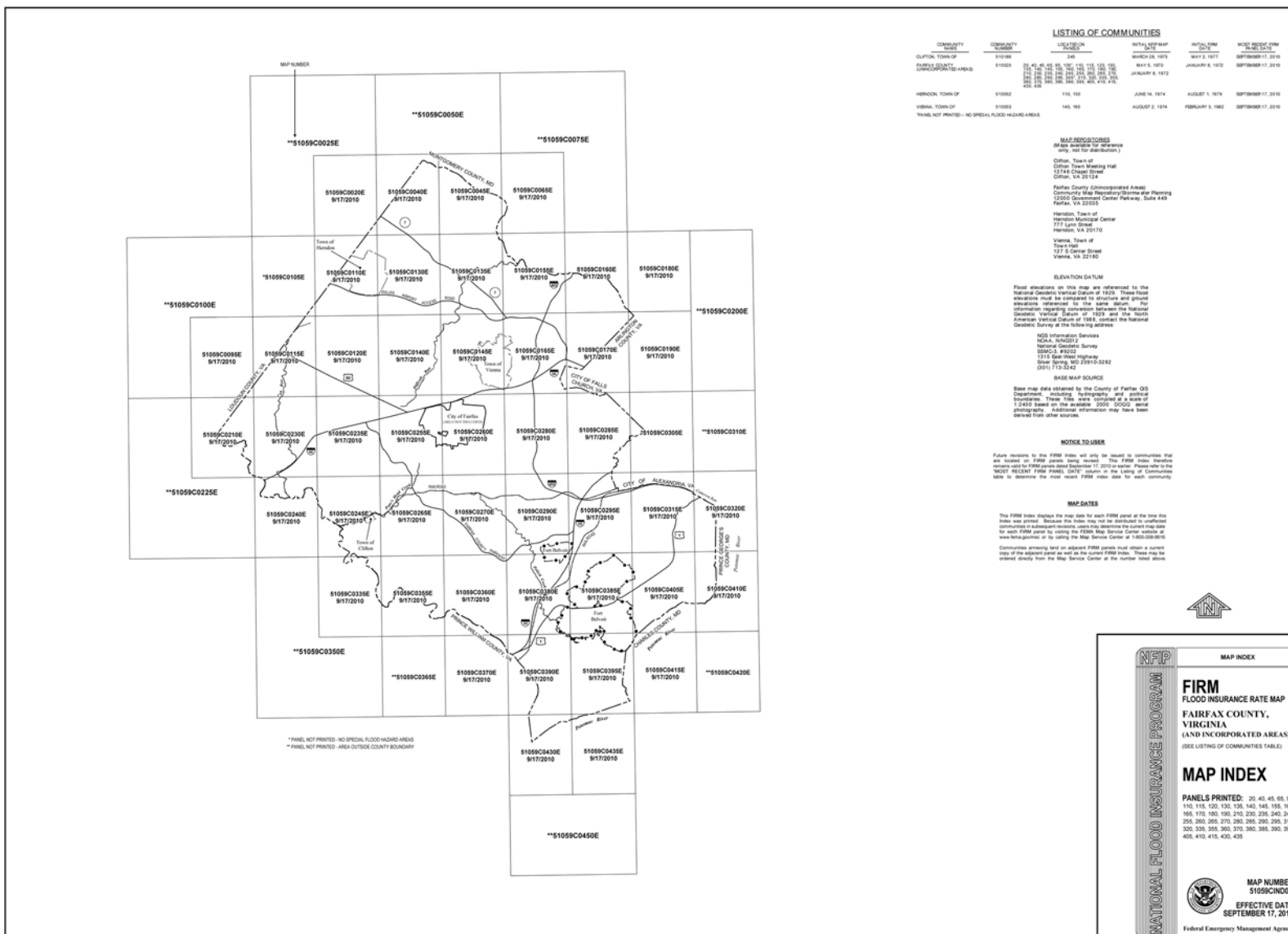
C. Supporting Documentation

Scope of Work Narrative	
Supporting Documentation	Link or Attachment
Detailed map of the project areas	Attachment A
FIRMettes of the project areas	Attachment B
Historic flood damage data and/or images	Attachment C
A link to or copy of the current floodplain ordinance	https://online.encodeplus.com/regs/fairfaxcounty-va/doc-viewer.aspx#secid-251
A link to or a copy of the current hazard mitigation plan	https://www.fairfaxcounty.gov/emergencymanagement/sites/emergencymanagement/files/assets/documents/pdf/hazard%20mitigation%20plan%2010.22.19.pdf
A link to or a copy of the current comprehensive plan	https://www.fairfaxcounty.gov/planning-development/fairfax-county-comprehensive-plan
Social vulnerability index score for the project areas from ADAPT VA's Virginia Vulnerability Viewer	Attachment D
Completed Scoring Criteria Sheet in Appendix C	See Appendices
Approved Resilience Plan	Attachment E
Budget Narrative	
Supporting Documentation	Attachment
Authorization to request funding from the Fund from governing body or chief executive of the local government	Attachment 4

Fairfax County Watersheds



Attachment B. FIRMs of the study area



NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage systems or small creeks. This information map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevation (BFE) and/or Floodway have been determined, contact an authorized local official. The Flood Insurance Study (FIS) report that accompanied this FIRM Users should be aware that the FIS report on the FIS report reported elevation values are not to be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIS for purposes of construction and/or flood damage management.

Coastal Base Flood Elevation (CBFE) shown on this map apply only to land west of 102° 30' West Longitude. Coastal Base Flood Elevation (CBFE) users of this map should be aware that coastal flood elevations may also be provided in the Summary of Elevation Elevations and in the Flood Insurance Study report for the community. Elevations shown in the Summary of Elevation Elevations should be used for construction, and/or flood damage management purposes when they are higher than the elevations shown on this map.

Boundaries of the Floodways were computed at cross sections and interpolated between cross sections. The Floodways were based on hydraulic computations with regard to requirements in the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projection used in the preparation of this map is Universal Transverse Mercator (UTM), zone 18. The horizontal datum is NAD83, GRS 80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FISs for adjacent jurisdictions may result in slight positional differences in map feature across jurisdiction boundaries. These differences do not affect the accuracy of the FIS.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

National Geodetic Survey
National Geodetic Survey NOAA
Signal Service Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3342

Topographic contour lines, drainage, and location information are benchmarks shown on this map, please consult the Information Service Branch of the National Geodetic Survey or (202) 713-3342, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the County of Fairfax GIS department, including topographic and political boundaries. These data were compiled at a scale of 1:5000 based on the available 5000:5000 aerial photography. Additional information may have been derived from other sources.

Complete details shown on this map are based on the best data available at the time of publication. Because changes due to amendments or other jurisdictions may have occurred after this map was published, map users should contact appropriate community officials to verify current proposed land features.

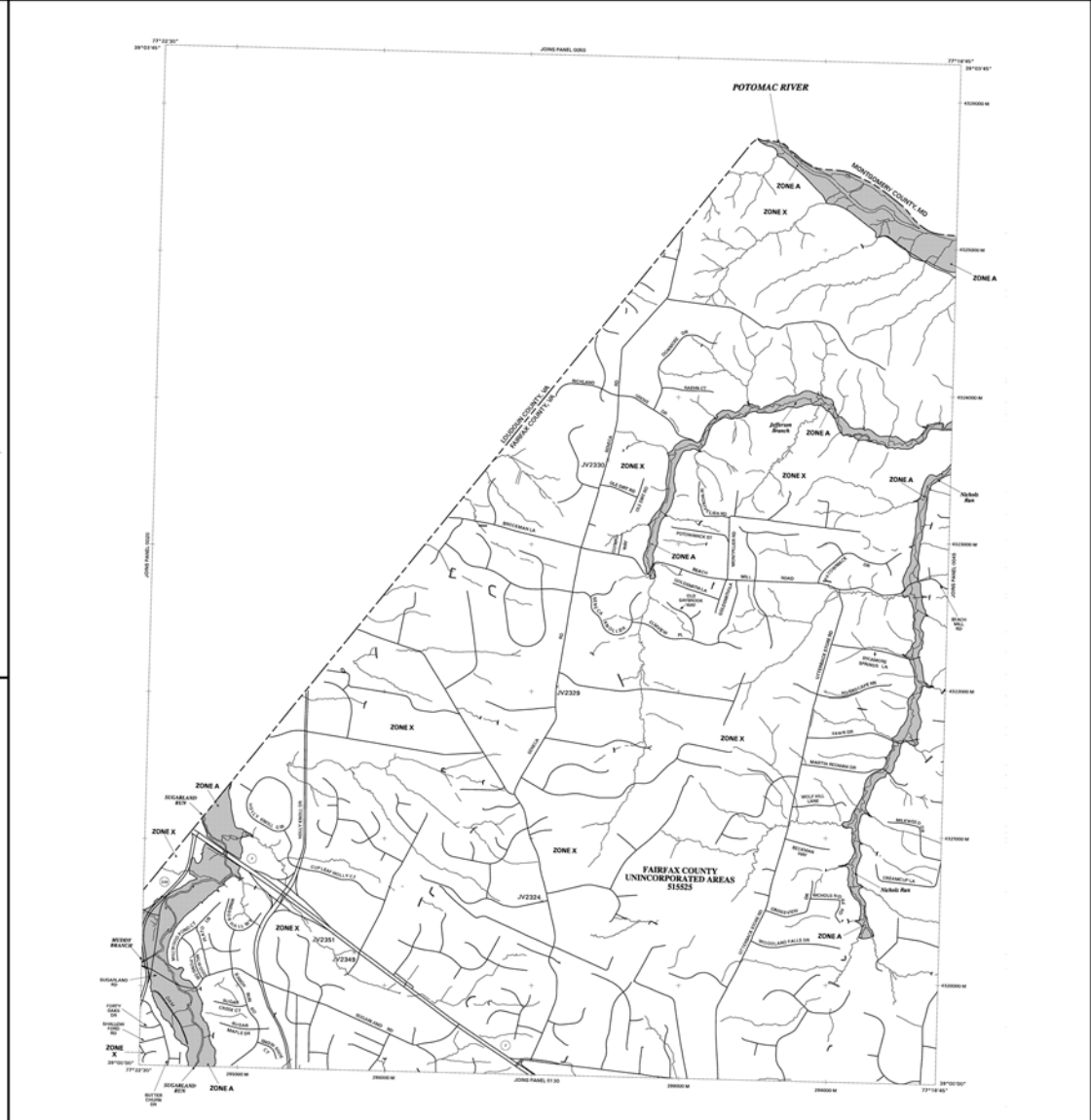
Users refer to the appropriate printed Map Index for an overview map of the county showing the extent of map panels, community map repository addresses, and a listing of Communities under participating National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment covering portions of this panel, and digital versions of this PANEL may be available. Contact the FEMA Map Service Center at the following phone numbers and internet address for information on all current products available from FEMA:

Phone: 800-368-5848
FAX: 800-368-9823
www.fema.gov

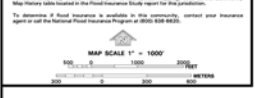
If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2323) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The Floodways and Floodways that were transferred from the previous FIRM may have been updated in certain areas to reflect more stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report may reflect stream channel configurations that differ from what is shown on this map.



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT
- ZONE AE: Area of special flood hazard (see notes) subject to inundation by the 1% annual chance flood event.
- ZONE AH: Area of special flood hazard (see notes) subject to inundation by the 1% annual chance flood event.
- ZONE AO: Area of special flood hazard (see notes) subject to inundation by the 1% annual chance flood event.
- ZONE A: Area of special flood hazard (see notes) subject to inundation by the 1% annual chance flood event.
- ZONE X: Area of special flood hazard (see notes) subject to inundation by the 1% annual chance flood event.
- FLOODWAY AREAS IN ZONE AE: The boundary is the elevation of a stream plus one additional floodway area that must be kept free of obstruction to allow the 1% annual chance flood to be carried without overtopping of floodway walls.
- OTHER FLOOD AREAS
- ZONE X: Areas of 0.2% annual chance flood, areas of 1% annual chance flood with moderate wave action, and areas of 1% annual chance flood with minor wave action.
- OTHER AREAS
- ZONE D: Areas determined to be outside the 0.2% annual chance floodway.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
- OTHERWISE PROTECTED AREAS (OPA): CBRS areas and OPAs are usually located within or adjacent to Special Flood Hazard Areas.
- Floodway boundary
- Floodway boundary
- CBRS and OPA boundary
- Boundary of Special Flood Hazard Areas of Adjacent Jurisdiction
- Base Flood Elevation line and water elevation in feet
- 100-year Unflooded Topographic Maximum Inundation with 1%
- Beach profile line registration in relation to datum elevation of the FIRM panel
- MAP REPOSITORY: Refer to Repository Listing on Index Map
- EFFECTIVE DATE OF COMMUNITY FLOOD INSURANCE RATE MAP
- EFFECTIVE DATE OF REVISION TO THIS PANEL



NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 40 OF 450

SEE MAP INDEX FOR FIRM PANEL LAYOUT

COMMUNITY: JAMES PANEL DATE:

FAIRFAX COUNTY: 515225 1/18 4

MAP NUMBER 510500040E

EFFECTIVE DATE: SEPTEMBER 17, 2016

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or at areas. An appropriate map user should be consulted for updates or additional flood hazard information.

To obtain detailed information on areas within **Base Flood Elevation (BFE)** and/or **Flowlines** have been determined, users are encouraged to consult the Flood Profile and/or Floodway Data Report for the Flood Insurance Study (FIS) report that accompanies the FIRM. Users should be aware that BFE shown on the FIRM represents rounded values that are not intended for flood damage rating purposes. Also, and should not be used as the sole source of flood damage rating information. Flood-related data provided on the FIRM should be used in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevation (CBFE) shown on this map apply only to land west of 0.2 National Geospatial Vertical Datum (NGVD) along the Potomac River. The CBFE values shown on the FIRM should be used for flood damage rating purposes. Flood-related data should be used for construction and/or floodplain management purposes when they are higher than the elevation shown on the FIRM.

Boundaries of the **Flowlines** were computed at cross sections and interpolated between cross sections. The boundaries were used for hydraulic computations with regard to requirements of the National Flood Insurance Program. Flowlines and other pertinent hydrologic data are provided on the Flood Insurance Study report for this jurisdiction.

Coastal areas not in Special Flood Hazard Areas may be protected by **Coastal Flood Hazard** under Section 2.4 "Coastal Flood Hazard" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **probable used** in the preparation of this map is National Geospatial Vertical Datum (NGVD), zone 18. The **horizontal datum** is NAD83, 1983 US National Geospatial Vertical Datum. Elevation, elevation or other units used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the National Geospatial Vertical Datum of 1983. These flood elevations must be compared to elevation and ground elevations indicated on the site-related data. For information regarding coordination between the National Geospatial Vertical Datum of 1983 and the North American Vertical Datum of 1988, visit the National Geospatial Survey website at www.nga.mil/gov or contact the National Geospatial Survey at the following address:

National Geospatial Survey Division
 National Geospatial Survey, NSGA
 Silver Spring Metro Center
 1215 Six Flags Highway
 Silver Spring, Maryland 20910
 (301) 713-3242

To obtain current elevation, description, and/or location information for **benchmarks** shown on this map, please contact the Information Services Branch of the National Geospatial Survey at (301) 713-3242, or visit their website at www.nga.mil/igs.

Base map information shown on the FIRM was provided in digital format by the County of Fairfax GIS Department, including hydrography and jurisdiction boundaries. These files were compiled at a scale of 1:2400 based on the available 2000 DOQQ and orthorectified. Additional information may have been derived from other sources.

Coastline shown on this map are based on the best data available at the time of publication. Because changes due to accretion or sea level rise may have occurred after this map was published, map users should contact appropriate authorities to obtain current coastline data.

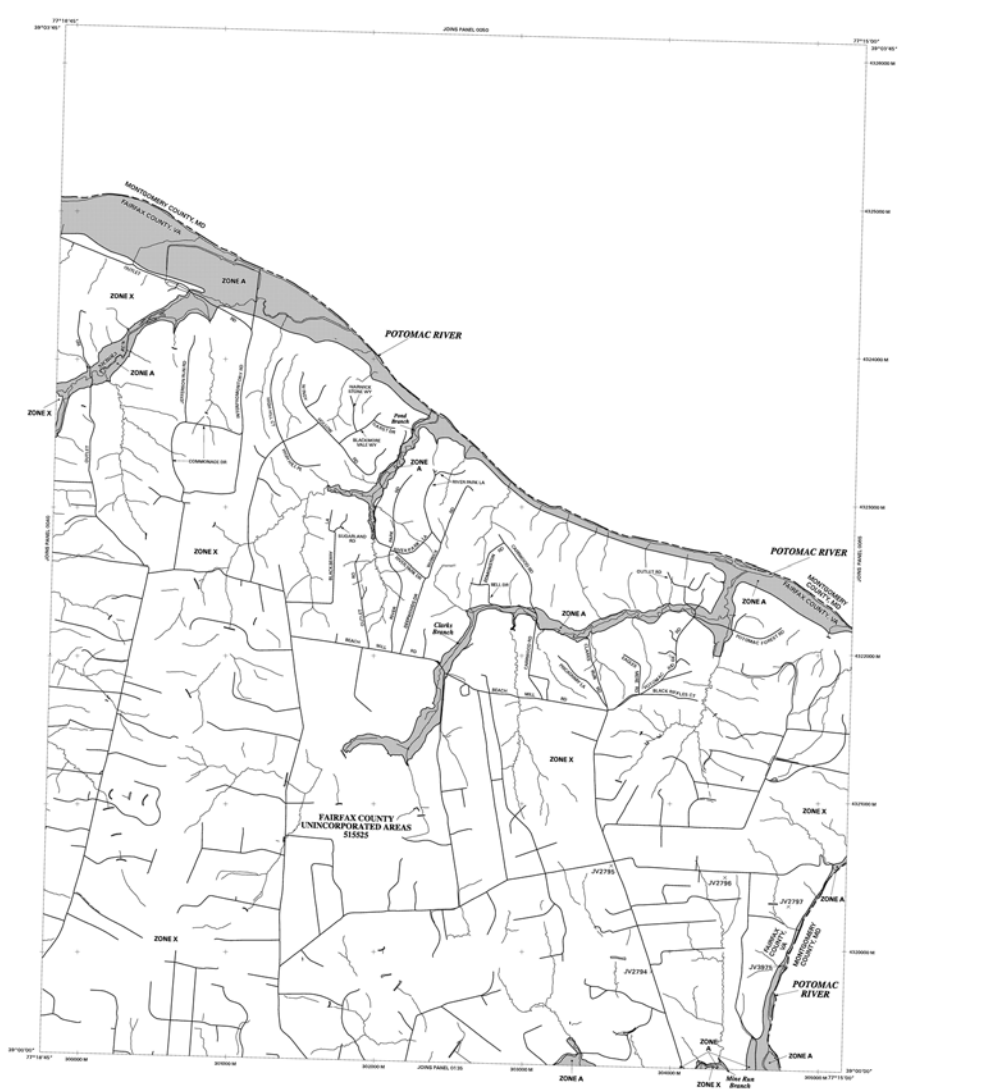
Please refer to the separately printed **Map Index** for an overview map of the county showing the location of map sheets, community map regulatory addresses, and a listing of Communities with National Flood Insurance Program data on the map, as well as a listing of the points on which each sheet terminates.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment covering portions of this panel, and digital versions of the FIRM, may be available. Contact the **FIRM Map Service Center** at the following phone numbers and internet address for information on all related products available from FEMA.

Phone: 800-253-8816
 FAX: 800-358-9525
 URL: www.fema.gov

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website (www.fema.gov).

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The boundaries and flowlines that were transferred from the previous FIRM may have been adjusted or corrected to more closely reflect channel configurations. As a result, the Flood Profile and Floodway Data tables in the Flood Insurance Study report may reflect stream channel elevations that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood) data shown on this map were derived from the Flood Insurance Study (FIS) report for this jurisdiction. The 1% annual chance flood elevation is shown on the map as a solid line. The 1% annual chance flood elevation is shown on the map as a solid line.

ZONE A Base Flood Elevation Determination
 Flood elevation is based on the 1% annual chance flood elevation, base flood elevation, and/or other data as shown on the map.

ZONE X Flood Hazard Zone
 Flood elevation is based on the 1% annual chance flood elevation, base flood elevation, and/or other data as shown on the map.

ZONE AO Flood Hazard Zone
 Flood elevation is based on the 1% annual chance flood elevation, base flood elevation, and/or other data as shown on the map.

ZONE A99 Area to be protected from 1% annual chance flood event by a Federal Flood Insurance Program (FFIP) Floodway.

ZONE V Coastal Flood zone with velocity hazard (waves action) on base flood elevation determination.

ZONE VE Coastal Flood zone with velocity hazard (waves action) base flood elevation determination.

FLOODWAY AREAS IN ZONE AE
 Floodway areas are shown on the map as a solid line. Floodway areas are shown on the map as a solid line.

OTHER FLOOD AREAS

ZONE 1 Areas of 0.2% annual chance flood, zone of 1% annual chance flood (1% average depth of less than 1 foot) or with average water depth less than 1 foot.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance flood.

ZONE D Areas in which flood hazards are unassessable, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)
 CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

BOUNDARIES
 Jurisdiction boundary
 Precinct boundary
 Zone D boundary
 CBRS and OPA boundary

Flowlines
 Boundary showing Special Flood Hazard Areas of different flood elevations and/or flowlines.

Base Flood Elevation and other elevations
 (1) BFE
 (2) CBFE
 (3) BFE
 (4) BFE

Other features
 430000 M
 0X3510-2
 1 M 1.5
 800-253-8816
 Refer to Regulatory Listing on Inland Map

EFFECTIVE DATE OF COUNTY/FLOOD INSURANCE RATE MAP
 SEPTEMBER 17, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

MAP SCALE 1" = 1000'

MAP NUMBER 450

EFFECTIVE DATE SEPTEMBER 17, 2010

Federal Emergency Management Agency

NEIP PANEL 0045

FIRM FLOOD INSURANCE RATE MAP
 FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 45 OF 450

SEE INDEX FOR FIRM PANEL LAYOUT

JURISDICTION: FAIRFAX COUNTY, VIRGINIA
 COMMUNITY: FAIRFAX COUNTY, VIRGINIA
 MAP NUMBER: 450
 EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updates or additional flood hazard information.

To obtain more detailed information on areas where Special Flood Elevation (SFE) and/or Floodway (FW) have been determined, users are encouraged to consult the Flood Profile and/or Floodway Data tables contained within the Flood Insurance Study (FIS) report that accompanies the FIRM. Users should be aware that the data shown on the FIRM represent reported elevation information. These data are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be obtained in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Storm Flood Elevation (CSFE) shown on this map apply only to land west of U.S. National Geodetic Vertical Datum (NGVD). Users of this map should be aware that coastal flood elevations may also be provided in the Community Elevation Diagram in the Flood Insurance Study report for the community. Elevation shown in the Community Elevation Diagram should be used for construction, and/or floodplain management purposes when they are higher than the elevation shown on the FIRM.

Boundaries of Floodways were computed at cross sections and interpolated between cross sections. The Floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4, "Flood Protection Measures," of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projection used in the preparation of this map is Universal Transverse Mercator (UTM), zone 18. The horizontal datum is NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1985. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1985 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

National Geodetic Survey
National Geodetic Survey, NOAA
Signal Building Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3342

Topographic contour information, including elevation information for bench marks shown on this map, please contact the National Geodetic Survey of the National Geodetic Survey at (301) 713-3342, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the County of Fairfax GIS Department, including hydrographic and political boundaries. These data were compiled at a scale of 1:500 based on the available 3000-foot aerial photography. Additional information may have been derived from other sources.

Complete details shown on this map are based on the best data available at the time of publication. Because changes due to amendments or other situations may have occurred after this map was published, map users should contact appropriate community officials to verify current conditions and locations.

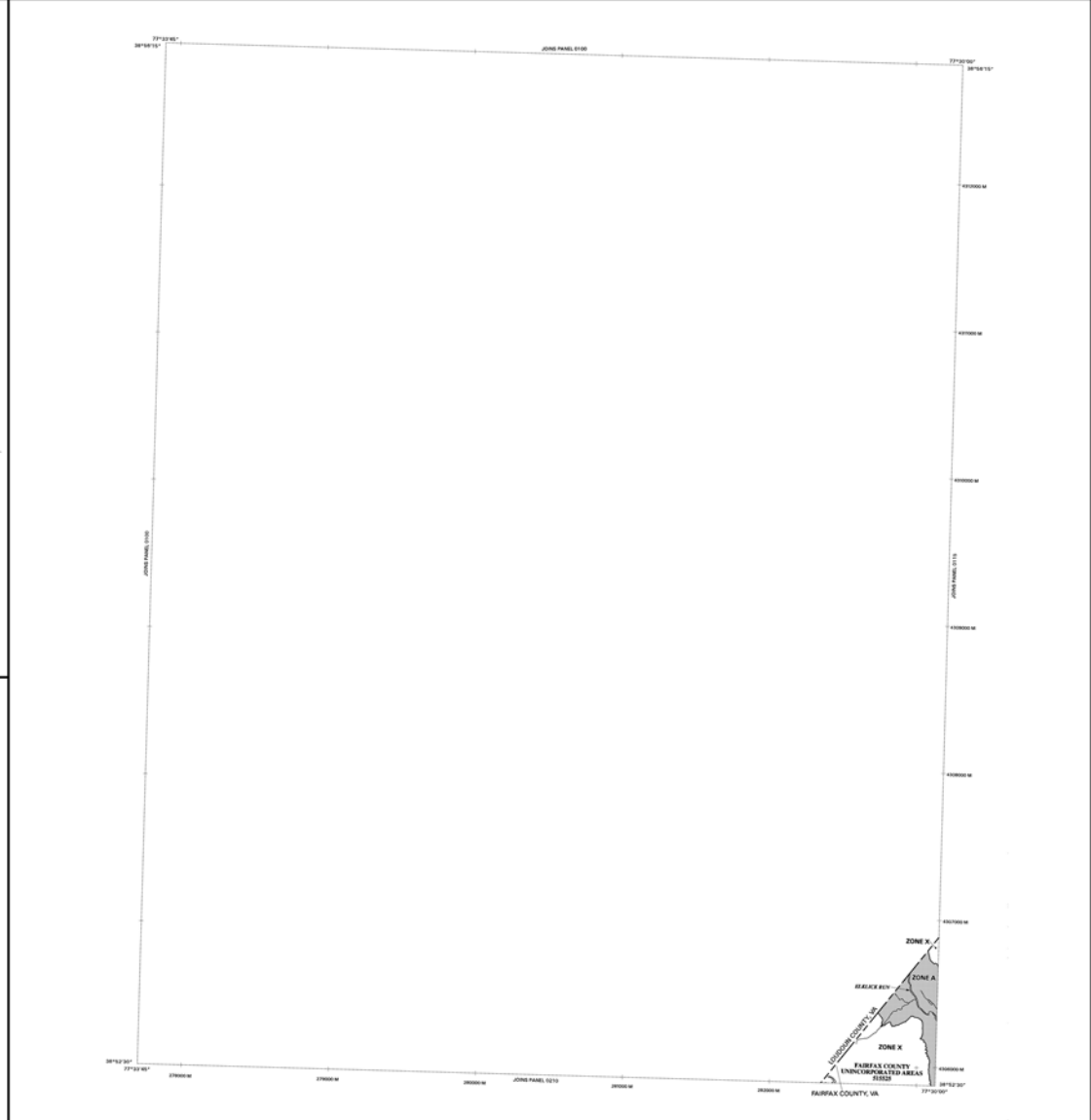
Please refer to the repository portal www.fema.gov for an interactive map of the county showing the location of map panels, community map repository addresses, and a listing of Communities with participating National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment covering sections of this panel, and digital versions of this panel, may be available. Contact the FEMA Map Service Center at the following phone numbers and internet address for information on all current products available from FEMA.

Phone: 800-368-5848
FAX: 800-368-9823
www.fema.gov

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-368-2627) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The Floodways and Floodways that were transferred from the previous FIRM may have been adjusted in length to better show stream channel configurations. As a result, the Flood Profile and Floodway Data tables in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood) area shown on the base flood map is the Flood Insurance Study (FIS) 1% annual chance flood elevation. The 1% annual chance flood elevation is the elevation of the water surface elevation of the 1% annual chance flood.

ZONE A
No flood elevation determined.

ZONE AE
Base flood elevation determined.

ZONE AA
Area to be protected from 1% annual chance flood event by a Federal Flood Insurance Study and/or construction, see base flood elevation determined.

ZONE AA0
Area to be protected from 1% annual chance flood event by a Federal Flood Insurance Study and/or construction, see base flood elevation determined.

ZONE V
Coastal flood area with velocity hazard (wave action), see base flood elevation determined.

ZONE VE
Coastal flood area with velocity hazard (wave action), see base flood elevation determined.

FLOODWAY AREAS IN ZONE AE

The Floodway is the adjacent of a stream plus any adjacent floodplain area that must be kept free of encumbrance so that the 1% annual chance flood can be carried without significant increases in flood height.

OTHER FLOOD AREAS

ZONE X
Area of 0.2% annual chance flood shown on the 1% annual chance flood map. Areas in which flood heights are undetermined, but possible.

OTHER AREAS

ZONE B
Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D
Areas in which flood heights are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

— Floodplain boundary
— Floodway boundary
— Zone B boundary
— CBRS and OPA boundary

— Base Flood Elevation line and water elevation in feet
— 0.2% Annual Chance Flood Elevation
— 1% Annual Chance Flood Elevation
— 100-year Unimproved Threshold Flood Elevation, zone 18
— 0.2% Annual Chance Flood Elevation
— 1% Annual Chance Flood Elevation
— 100-year Unimproved Threshold Flood Elevation, zone 18

430000M
1000-meter Unimproved Threshold Flood Elevation, zone 18

DXS510
Base map data from registration in Series 18 data section of the FIRM panel.

MAP REPOSITORY
Refer to Repository Listing on Index Map
EFFECTIVE DATE OF COUNTY FLOOD INSURANCE RATE MAP
SEPTEMBER 11, 2016
EFFECTIVE DATES OF REVISIONS TO THIS PANEL

For community map revision history prior to registration, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 800-368-5848.

MAP SCALE 1" = 1000'
100 0 1000
0 0 1000
METERS

FIRM FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY, VIRGINIA
AND INCORPORATED AREAS

PANEL 95 OF 450

SEE MAP INDEX FOR FIRM PANEL LAYOUT
ISSUANCE
COMMUNITY NUMBER PANEL SURF.
FAIRFAX COUNTY, VIRGINIA
FIRM 95 4

MAP NUMBER 51050C095E
EFFECTIVE DATE: SEPTEMBER 11, 2016

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **contour map** appearing should be consulted for such information.

To obtain more detailed information on areas shown **Special Flood Hazard (SFHA) and Floodway Data** have been determined, users are encouraged to consult the Flood Hazard and Floodway Data sheets contained within the Flood Hazard and Floodway Data sheets for the area shown on this map. These sheets should be made available to the public upon request. Flood Hazard and Floodway Data sheets are available in the Flood Hazard and Floodway Data sheets for the area shown on this map. These sheets should be made available to the public upon request.

Special Flood Hazard (SFHA) areas on this map apply only to the use of the SFHA National Geographic Vertical Datum (NGVD) Users of this map should be aware that Special Flood Hazard areas may be shown in the Summary of Flood Hazard Areas in the Flood Insurance Study report for this community. Elevations shown in the Summary of Flood Hazard Areas which are used in determining Special Flood Hazard areas may be higher than the elevations shown on this map.

Boundaries of the Floodway areas were computed at cross sections and interpolated between cross sections. The Floodway areas were based on hydraulic computations with regard to measurements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Hazard Study report for this community.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Hazard Study report for information on flood control structures in this jurisdiction.

The **contour lines** used in the preparation of this map are Universal Transverse Mercator (UTM) zone 18. The horizontal datum is NAD83. (GSA 1983) additional information on datum, vertical datum, and UTM zone used in the preparation of this map is available in the Flood Hazard Study report for this community. Additional information may be obtained from the Flood Hazard Study report for this community.

Flood elevations on this map are referenced to the National Geographic Vertical Datum of 1929. These flood elevations may be converted to other datum and datum elevations referenced to the same vertical datum. For information and guidance concerning conversion to other vertical datums, refer to the National Geographic Vertical Datum of 1929, and the National Geographic Survey website at www.ngs.noaa.gov.

National Geographic System (NGS)
National Geographic Service, NGA
2515 Spring Valley Drive
1315 East Street, Silver Spring, MD 20910
202-775-3242

For more information on this map, please contact the National Geographic Service Branch of the National Geographic Society at (202) 775-3242, or visit their website at www.ngs.noaa.gov.

Base map information shown on this map was provided in digital format by the County of Fairfax GIS Department, including geographic and political boundaries. This map was prepared at a scale of 1:2500 based on the coordinates 200 000000 and 100 000 000. Additional information may be obtained from the Flood Hazard Study report for this community.

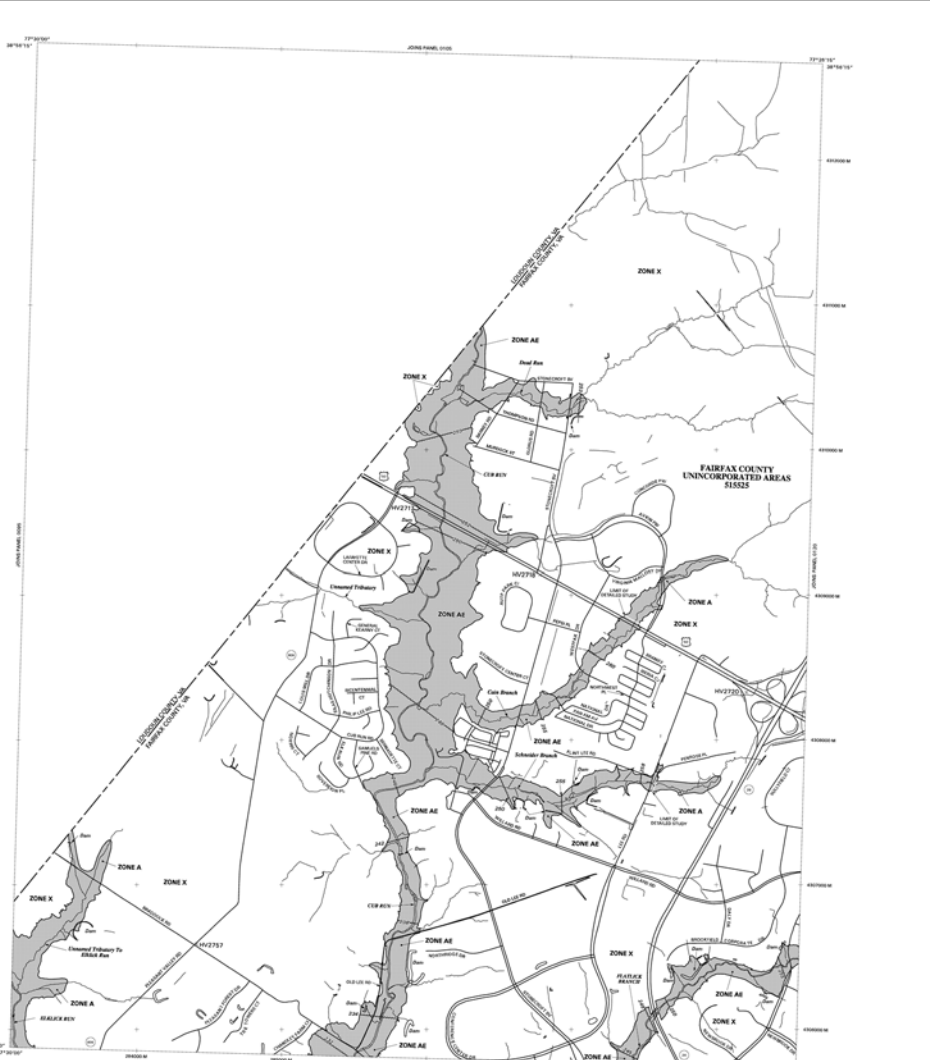
Copyright notice shown on this map are based on the best data available at the time of publication. National Flood Insurance Program is an insurance program for which community as well as a variety of the private or public community is insured.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment regarding portions of this map, and digital versions of the map may be available. Contact the **1-800-Map Service Center** at the following phone numbers and Internet address for information on all related products available from FEMA.

Phone: 800-358-2616
Fax: 800-358-9000
E-mail: 1-800-map@fema.gov

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, contact **1-877-FEMA-911** or www.fema.gov.

This map reflects more detailed one-to-one stream channel configurations than those shown on the previous FIRM for this jurisdiction. The boundaries and floodway data were transferred from the previous FIRM map were transferred to this map. The Flood Hazard and Floodway Data sheets in the Flood Hazard Study report may reflect stream channel elevations that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD EVENT
The 1% annual chance flood (100-year flood) area shown on the base map is the best available information on the extent of the 1% annual chance flood. The 1% annual chance flood area is shown on the base map. The 1% annual chance flood area is shown on the base map. The 1% annual chance flood area is shown on the base map.

ZONE A
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A.

ZONE AE
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone AE.

ZONE A1
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A1.

ZONE A2
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A2.

ZONE A3
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A3.

ZONE A4
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A4.

ZONE A5
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A5.

ZONE A6
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A6.

ZONE A7
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A7.

ZONE A8
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A8.

ZONE A9
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A9.

ZONE A10
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A10.

ZONE A11
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A11.

ZONE A12
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A12.

ZONE A13
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A13.

ZONE A14
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A14.

ZONE A15
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A15.

ZONE A16
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A16.

ZONE A17
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A17.

ZONE A18
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A18.

ZONE A19
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A19.

ZONE A20
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A20.

ZONE A21
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A21.

ZONE A22
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A22.

ZONE A23
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A23.

ZONE A24
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A24.

ZONE A25
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A25.

ZONE A26
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A26.

ZONE A27
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A27.

ZONE A28
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A28.

ZONE A29
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A29.

ZONE A30
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A30.

ZONE A31
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A31.

ZONE A32
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A32.

ZONE A33
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of 1.0 to 1.5 feet (greater areas of ponding) have flood hazard areas designated as Zone A33.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify areas subject to flooding, particularly from local drainage basins, or areas where the **anticipated flood depths** should be used for the design of additional flood hazard reduction measures.

To obtain more detailed information to assist in determining flood hazard reduction measures, users are encouraged to consult the Flood Protection and Hazard Reduction Study Report prepared for the Flood Insurance Study (FIS) and/or Flood Hazard Reduction Study (FHRS) report that accompanies the FIRM. Users should be aware that this study is based on the FEMA approved hydraulic data and hydraulic model. The FIRM is the final source of flood elevation information. Accordingly, flood elevations are presented in the FIRM should be used in conjunction with the FIRM or process of construction and/or floodplain management.

General Flood Hazard Reduction (GFHR) Study on the map shall only show areas of G.P. National Geographic Vertical Datum (NGVD), Users of this FIRM should be aware that certain flood elevations may also be provided in the Summary of Flood Hazard Reduction Study Report for the community. Elevations shown on the Summary of Flood Hazard Reduction Study should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the Floodways were computed at cross sections and interpolated between cross sections. The Floodways were based on hydraulic computations with regard to measurements of the National Flood Insurance Program. Floodway width and other pertinent hydrologic data are provided in the Flood Hazard Reduction Study Report for the community.

Certain areas not in Special Flood Hazard Areas may be protected by **Special Flood Hazard Areas**. Refer to Section 2.4 "Special Flood Hazard Areas" of the Flood Hazard Reduction Study Report for information on flood control structures in the jurisdiction.

The protection used in the preparation of this map is Universal Transverse Mercator (UTM) zone 18. The horizontal datum is NAD83. GRS1980 ellipsoid. Orthometric or datum, elevation, or UTM zone used in the preparation of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the elevation of the FIRM.

Flood elevations on this map are referenced to the National Geographic Vertical Datum of 1989. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information on the North American Vertical Datum of 1988, visit the National Geographic Society website at www.ngs.gov or contact the National Geographic Society at the following address:

National Reference System Service
National Geographic Society
1315 East-West Highway
Washington, Maryland 20035
(301) 771-3242

For additional information, description, and location information on flood hazard areas on this map, please contact the Information Services Branch of the National Geographic Society at (301) 771-3242, or visit their website at www.ngs.gov.

Base map information shown on this FIRM was provided in digital format by the County of Fairfax GIS Department, including hydrography and political boundaries. These data were updated as of a date of 1/24/2010 based on the available 2008 aerial photography. Additional information may have been derived from other sources.

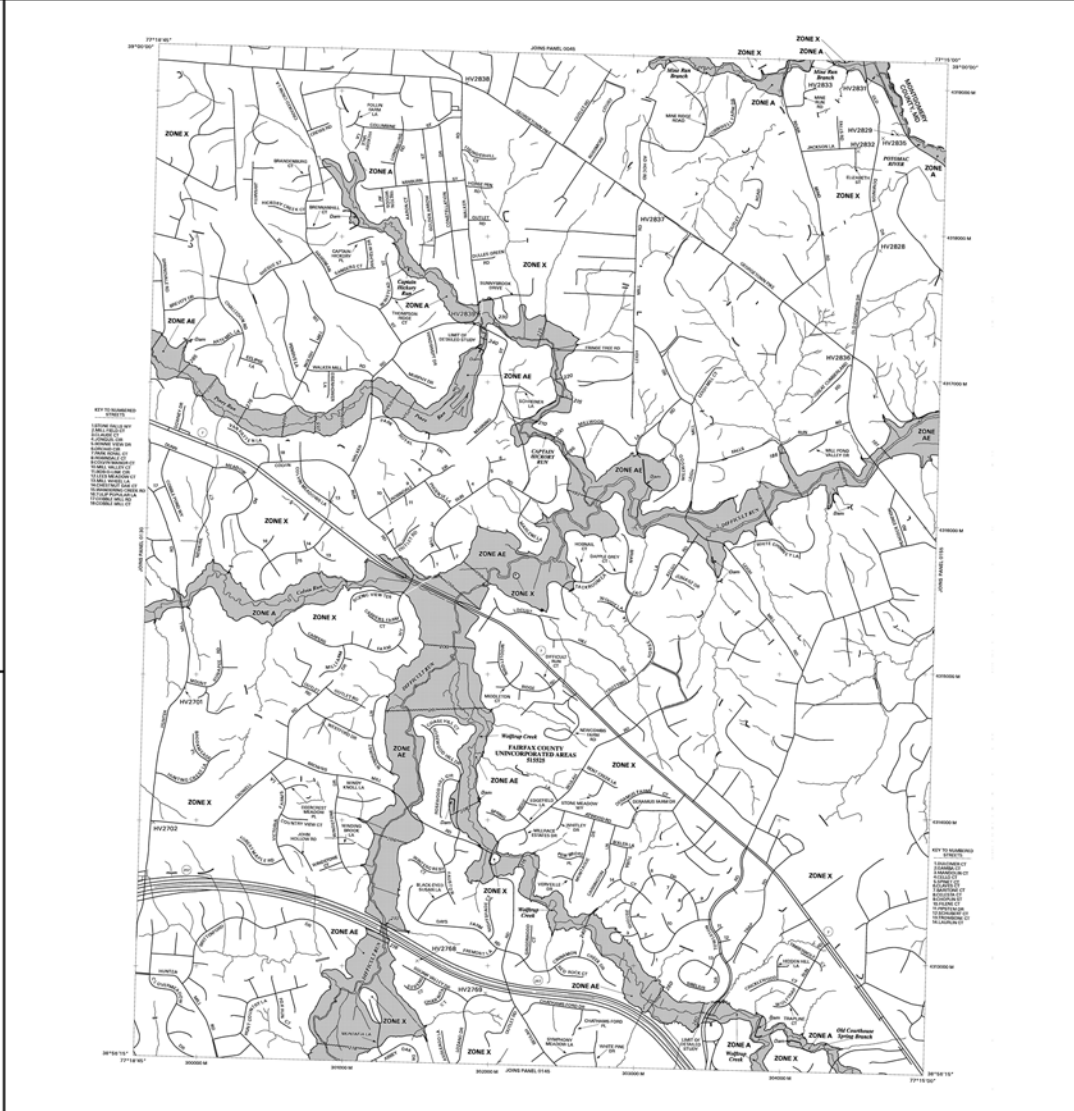
Computer data shown on this map are based on the best data available at the time of publication. Because changes due to annexation or other administrative actions have occurred after this map was published, map users should contact appropriate community officials to verify current conditions and locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the extent of map panels, community map identifier addresses, and a listing of communities with existing National Flood Insurance Program maps for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Hazard Study report, Letters of Map Revision or Letters of Map Amendment covering portions of this panel, and digital versions of this FIRM may be available. Contact the **FIRM Map Service Center** at (800) 368-6616 for more information. Contact the **FIRM Map Service Center** at (800) 368-6616 for more information. Contact the **FIRM Map Service Center** at (800) 368-6616 for more information.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call (877) FIRM-HELP (1-877-324-3627) or visit the FEMA website at <http://www.fema.gov/business/>.

This map contains several printing and reproduction errors. Original cartographers that this information on the previous FIRM is from the original cartographers and that the information on the previous FIRM is from the original cartographers and that the information on the previous FIRM is from the original cartographers. As a result, the Flood Hazard and Hazard Reduction Study Report for the community should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

ZONE X Areas of 1% annual chance flood, also known as the base flood, is the flood hazard area of the FIRM which is subject to flooding by the 1% annual chance flood. Zone X is the most common flood hazard area shown on the FIRM.

ZONE A Areas of special flood hazard that are subject to flooding by the 1% annual chance flood and are not in Zone X.

ZONE AE Areas of special flood hazard that are subject to flooding by the 1% annual chance flood and are not in Zone X or Zone A.

ZONE AO Areas of special flood hazard that are subject to flooding by the 1% annual chance flood and are not in Zone X, Zone A, or Zone AE.

ZONE AH Areas of special flood hazard that are subject to flooding by the 1% annual chance flood and are not in Zone X, Zone A, Zone AE, or Zone AO.

ZONE AR Areas of special flood hazard that are subject to flooding by the 1% annual chance flood and are not in Zone X, Zone A, Zone AE, Zone AO, or Zone AH.

ZONE VE Coastal flood zone with velocity hazard (wave action), base flood elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action), no base flood elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action), base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

The Floodway is the channel of a waterway and adjacent floodplain areas that must be maintained to ensure that the 1% annual chance flood can be safely discharged.

OTHER FLOOD AREAS

ZONE X Areas of 1% annual chance flood, also known as the base flood, is the flood hazard area of the FIRM which is subject to flooding by the 1% annual chance flood. Zone X is the most common flood hazard area shown on the FIRM.

OTHER AREAS

Areas determined to be outside the 1% annual chance flood.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

OPAs are areas that are not subject to flooding by the 1% annual chance flood.

BOUNDARIES

— Floodplain boundary
 - - - - - Political boundary
 - - - - - County boundary
 - - - - - CBRS and OPA boundary

STRUCTURES

— Flood Hazard Boundary and Flood Elevation
 - - - - - Flood Hazard Boundary and Flood Elevation
 - - - - - Flood Hazard Boundary and Flood Elevation

OTHER

— Cross Section Line
 - - - - - Transit Line
 - - - - - Road Line

4300000 M
 1000-foot Universal Transverse Mercator (UTM) zone 18

085510
 North-south line information in relation to UTM section of 855100

± 1/16"
 Base Map

MAP REVISIONS
 Refer to Flood Hazard Study Report for this Map

EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP
 SEPTEMBER 17, 2010

EFFECTIVE DATES OF REVISIONS TO THIS PANEL

MAP SCALE 1" = 1000'

0 100 200 300 400 500 FEET

0 100 200 300 400 METERS

NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 135 OF 450

SEE MAP INDEX FOR OTHER PANEL LOCATIONS

DATE: 09/17/2010
COMMITTEE: JAMES, PAMEL, DAVID
APPROVED: 09/17/2010

MAP NUMBER S1000135E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or small creeks. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevation (BFE) and/or Floodway data have been determined, such as announced in special study FIRM reports that accompanied the FIRM, users should be aware that the BFE shown on the FIRM represents normal water elevations. These BFEs are intended for flood insurance rating purposes only and should not be used for the site-specific flood elevation determination. Accordingly, flood elevation data presented in the FIRM should be utilized in conjunction with the FIRM for purposes of construction and/or flood management.

Coastal Base Flood Elevation (CBFE) shown on this map apply only to landward of 0.2 National Geospatial-Intelligence Agency (NGA) miles or the water should be aware that coastal flood elevations may also be provided in the Summary of Flood Hazard Data in the Flood Insurance Study report for the community. Elevations shown in the Summary of Flood Hazard Data should be used for construction, and/or flood management purposes where they are higher than the BFE shown on the FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic computations with regard to requirements of the National Flood Insurance Program. Floodway walls and other structures, roadway data are provided in the Flood Insurance Study report for the community.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in the community.

The projection used in the preparation of this map is Universal Transverse Mercator (UTM), zone 18. The National datum is NAD83. GPS/RSI information. Differences in datum, ellipsoid, projection or UTM zones used in the production of FIRMs for adjacent communities may result in slight positional differences in map features across projection boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the National Geospatial Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geospatial Vertical Datum of 1988 and the North American Vertical Datum of 1988, visit the National Geospatial Survey website at www.ngs.noaa.gov or contact the National Geospatial Survey at the following address:

National Geospatial Survey
National Geospatial Survey, NOAA
Signal Support Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3342

To obtain coordinate, description, and location information for landmarks shown on this map, please contact the Information Services Branch of the National Geospatial Survey at (301) 713-3342, or visit their website at www.ngs.noaa.gov.

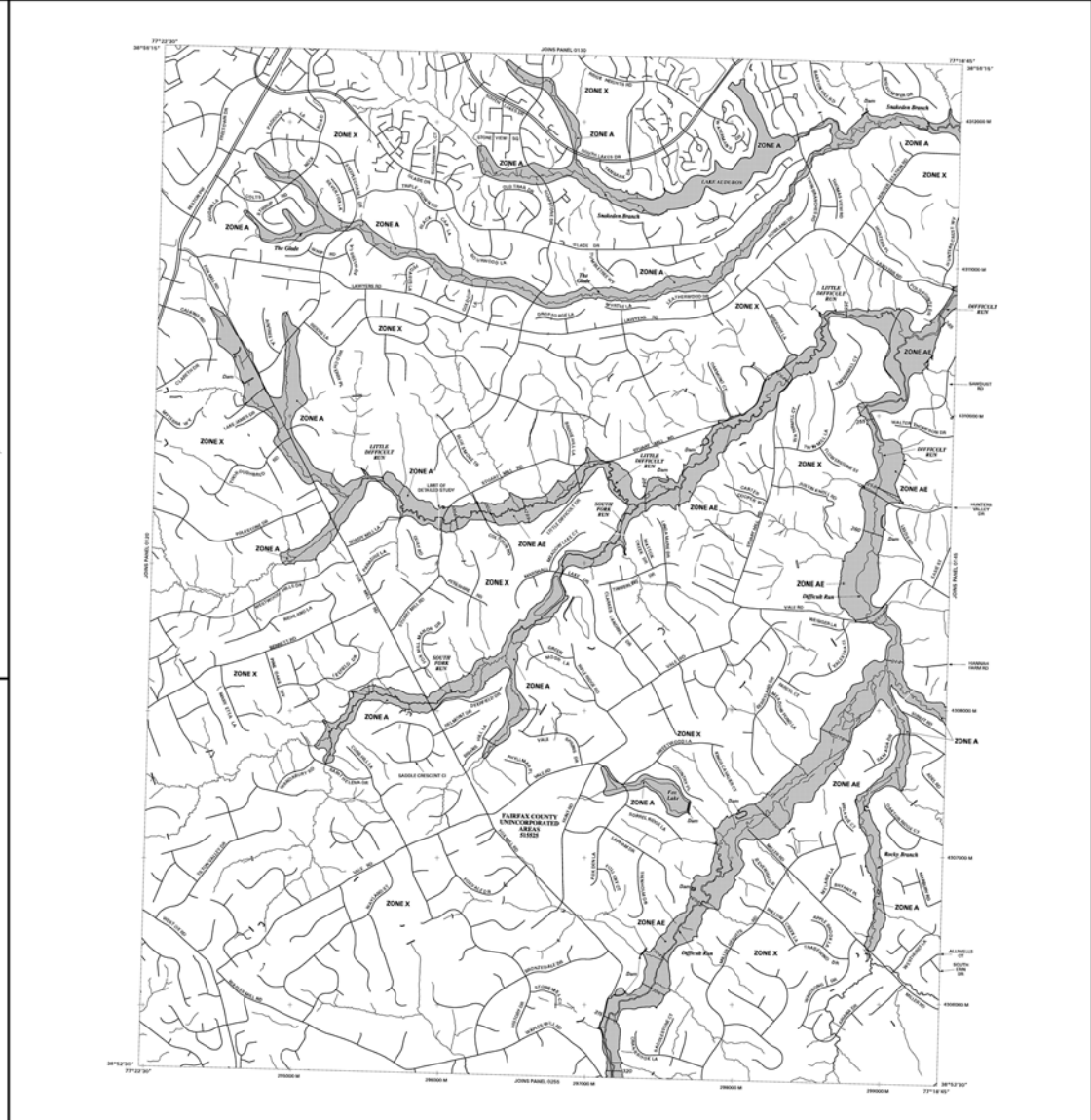
Base map information shown on this FIRM was provided in digital format by the County of Fairfax GIS Department, including hydrography and political boundaries. These data were compiled at a scale of 1:5000 based on the available 2000 USGS aerial photography. Additional information may have been derived from other sources.

Complete fields shown on this map are based on the best data available at the time of publication. Because changes due to amendments or developments may have occurred after this map was published, map users should contact appropriate community officials to verify current address and lot locations.

Please refer to the appropriate zoning code for an overview map of the county showing the flood map panels, community map repository addresses, and a listing of Communities under participating National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment covering portions of this panel, and digital versions of this PANEL may be available. Contact the FEMA Map Service Center at the following phone numbers and internet address for information on all current products available from FEMA:

Phone: 800-368-5848
FAX: 800-368-9623
Internet: www.fema.gov



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood elevation (BFE) shown on this panel is the flood elevation for a 1% chance of being equalled or exceeded in any given year. The National Flood Insurance Program is based on the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

ZONE X
The 1% annual chance flood elevation.

ZONE AE
Base flood elevation determined.

ZONE A1
Areas of 1% annual chance flood with a 1% to 2% (average range of ponding), base flood elevation determined.

ZONE A2
Areas of 1% annual chance flood with a 1% to 2% (average range of ponding), base flood elevation determined.

ZONE A3
Areas of 1% annual chance flood with a 1% to 2% (average range of ponding), base flood elevation determined.

ZONE A4
Areas of 1% annual chance flood with a 1% to 2% (average range of ponding), base flood elevation determined.

ZONE A5
Areas of 1% annual chance flood with a 1% to 2% (average range of ponding), base flood elevation determined.

ZONE A6
Areas of 1% annual chance flood with a 1% to 2% (average range of ponding), base flood elevation determined.

ZONE A7
Areas of 1% annual chance flood with a 1% to 2% (average range of ponding), base flood elevation determined.

ZONE A8
Areas of 1% annual chance flood with a 1% to 2% (average range of ponding), base flood elevation determined.

ZONE A9
Areas of 1% annual chance flood with a 1% to 2% (average range of ponding), base flood elevation determined.

ZONE A10
Areas of 1% annual chance flood with a 1% to 2% (average range of ponding), base flood elevation determined.

ZONE V
Coastal flood zone with velocity hazard (waves action), no base flood elevation determined.

ZONE VE
Coastal flood zone with velocity hazard (waves action), no base flood elevation determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodway area that must be kept free of obstructions to allow the 1% annual chance flood to be carried without substantial increase in flood height.

OTHER FLOOD AREAS

ZONE S
Areas of 0.2% annual chance flood, areas of 1% annual chance flood with a 1% to 2% (average range of ponding), no base flood elevation determined.

ZONE D
Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)

CBRS areas and OPAs are currently located within or adjacent to Special Flood Hazard Areas.

BOUNDARIES

----- Floodway boundary
----- Floodway boundary
----- Zone 2 boundary
----- CBRS and OPA boundary

OTHER AREAS

----- Floodway boundary
----- Floodway boundary
----- Zone 2 boundary
----- CBRS and OPA boundary

BASE FLOOD ELEVATION (BFE) AND VELOCITY HAZARD (V) AREAS

----- Base Flood Elevation (BFE) and velocity hazard (V) areas
----- Base Flood Elevation (BFE) and velocity hazard (V) areas
----- Base Flood Elevation (BFE) and velocity hazard (V) areas

UTM COORDINATES

----- UTM Zone 18N
----- UTM Zone 18N
----- UTM Zone 18N

SCALE

1:5000
1" = 500'

MAP REPOSITORY

Refer to Repository Listing on Index Map
EFFECTIVE DATES OF COMMUNITY FLOOD INSURANCE RATE MAP
SEPTEMBER 17, 2010
EFFECTIVE DATES OF REVISIONS TO THIS PANEL

FOR ADDITIONAL MAP REVISION HISTORY PRIOR TO REPRODUCTION, REFER TO THE COMMUNITY MAP HISTORY DATA LOCATED IN THE FLOOD INSURANCE STUDY REPORT FOR THIS PANEL.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at (800) 368-5848.

MAP SCALE 1" = 1000'

1" = 1000'

NATIONAL FLOOD INSURANCE PROGRAM

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0140E

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 140 OF 450

SEE MAP INDEX FOR FIRM PANEL LA 1001

ISSUANCE

COMMUNITY: FAIRFAX COUNTY, VIRGINIA
PANEL: 0140E
DATE: 09/17/10

MAP NUMBER 51050C0140E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or small dams. The **exempted areas** legend should be consulted for possible additional flood hazard information.

1. In areas where flood insurance is available, **Base Flood Elevation (BFE)** and/or **Special Flood Hazard Areas (SFHAs)** have been determined, users are encouraged to consult the Flood Insurance Study (FIS) report that accompanies the FIRM. Users should be aware that BFEs shown on the FIRM represent modeled water elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole basis of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

General Base Flood Elevation (GBFE) shown on this map apply only land west of 30° 15' 00" North Carolina Vertical Datum (NCVD). Users of the FIRM should be aware that coastal flood elevations may also be provided in the Summary of Significant Elevations table in the Flood Insurance Study report for this community. Elevations shown in the Summary of Significant Elevations table should be used for construction, floodplain management purposes when they are higher than the BFE shown on this map.

Boundaries of the **Right-of-Way** were computed at cross sections and interpolated between cross sections. The Right-of-Way were based on hydraulic considerations with regard to easements of the National Flood Insurance Program. Right-of-Way widths and other adjacent Right-of-Way data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.1 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map is Universal Transverse Mercator (UTM) zone 18. The **National datum** is NAD83. (GCR1983) approx. Differences in datum, elevation projection or UTM zones used in the production of FIRM for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1988. These flood elevations shall be equivalent to elevations and partial elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1988 and the North American Vertical Datum of 1988, visit the National Geodetic Service website at www.ngv.noaa.gov or contact the National Geodetic Survey at the following address:

National Geodetic Survey
National Geodetic Survey, NS&A
Beaverton, Oregon 97005
1315 East-West Highway
Suite 3000, Maryland 20810
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit their website at www.ngv.noaa.gov.

Base map information shown on this FIRM was prepared as digital data by the Center of Earth and Oceanic Observations, including hydrography and bathymetry data. These data were compiled as a set of 1:250,000 based on the available 2000-2003 bathymetry. Additional information may have been derived from other sources.

Corporate boundaries shown on this map are based on the best data available at the time of preparation. These boundaries may be approximate or the information may have occurred after the map was generated. This data should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the jurisdiction showing the extent of this product, community map projection information and a listing of Communities with existing National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment covering portions of this panel, and digital copies of the PANEL may be available. Contact the **FEMA Map Service Center** in the following phone numbers and Internet address for information on all related products available from FEMA.

Phone: 800-368-5818
FAX: 800-368-5812
<http://www.fema.gov>

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2822) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The Right-of-Way and floodlines that were transferred from the previous FIRM may have been adjusted or corrected to meet new water control arrangements. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report may reflect stream channel distances and other data which is shown on this map.



POTOMAC RIVER
DISTRICT OF COLUMBIA
FAIRFAX COUNTY, VA
ARLINGTON COUNTY, VA
ZONE X
ZONE A
FAIRFAX COUNTY, VA
ARLINGTON COUNTY, VA
ZONE X
ZONE A

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood) shown on this panel is the Flood Profile for the 1% annual chance flood. The Flood Profile is the water surface elevation of the 1% annual chance flood.

ZONE A - No flood hazard information.

ZONE AE - Base flood elevation information.

ZONE AH - Flood hazard area with a base flood elevation of 1% annual chance flood. The base flood elevation is shown in the Flood Profile. The base flood elevation is shown in the Flood Profile.

ZONE AO - Area of special flood hazard formerly protected from the 1% annual chance flood by a levee or other flood control structure. The base flood elevation is shown in the Flood Profile. The base flood elevation is shown in the Flood Profile.

ZONE A99 - Area to be protected from 1% annual chance flood used by a Federal Flood Insurance Study report with structures, see Base Flood Elevation information.

ZONE V - Coastal flood zone with velocity hazard (waves action), see Base Flood Elevation information.

ZONE VE - Coastal flood zone with velocity hazard (waves action), see Base Flood Elevation information.

FLOODWAY AREAS IN ZONE AE

The boundary is the location of a stream, pier and adjacent floodway area that must be kept free of encroachments so that the 1% annual chance flood can be carried without substantial equipment encroachments.

OTHER FLOOD AREAS

ZONE X - Areas of 0.2% annual chance flood, areas of 1% annual chance flood with structural damage in place for 1 year or with damage when the base flood elevation is not exceeded for more than 30 days.

OTHER AREAS

ZONE B - Areas determined to be outside the 1% annual chance flood.

ZONE D - Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

Coastal Barrier Resources System (CBRS) and OFA boundary.

OTHERWISE PROTECTED AREAS (OPRA)

OPRA and OFA are currently located within an adjacent Special Flood Hazard Area.

Property boundary
Floodway boundary
Zone B boundary
CBRS and OFA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, Flood Profiles or water surface elevations.

Base Flood Elevation value shown within zones, elevation in feet.

NCVD 88
Referenced to the National Geodetic Vertical Datum of 1988

Stream boundary line
Traverse line
Datums: NAD83, NAVD83, referenced to the North American Vertical Datum of 1988

4300000 M
DMS510
41 S
MAP REPOSITORY
Refer to Repository Listing on Index Map
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
SEPTEMBER 17, 2010
EFFECTIVE DATES OF REVISIONS TO THIS PANEL

For assistance map-making before final mapping, refer to the Community Map Making Guidelines in the Flood Insurance Study report for this jurisdiction. To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at (800) 368-5830.

MAP SCALE 1" = 1000'

100 0 1000
0 0 1000
METERS

PANEL 0190E

FIRM FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY,
VIRGINIA
AND INCORPORATED AREAS

PANEL 190 OF 450

SEE MAP INDEX FOR FIRM PANEL LAYOUT

OPTIONAL: JURISDICTION, ADDRESS, PHONE, DATE

FAIRFAX COUNTY
1315 EAST-WEST HIGHWAY SUITE 3000 BEAVERTON, OREGON 97005

MAP NUMBER 510506C100E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in determining the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The information map requires should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevation (BFE)** and/or **Water Levels** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data sheets contained within the Flood Insurance Study (FIS) report that accompanies the FIRMA. Users should be aware that the BFE shown on the FIRMA represents minimum water elevations. These BFEs are intended for flood insurance rating purposes only and should not be used for the sole source of flood elevation information. Additionally, flood elevation data presented in the FIS should be utilized in conjunction with the FIRMA for purposes of construction and/or floodplain management.

Coastal Base Flood Elevation (CBFE) shown on this map apply only landward of 0.5 National Geospatial Vertical Datum (NGVD). Users of the FIRMA should be aware that coastal flood elevations may also be provided in the community of different elevations data in the Flood Insurance Study report for the community. Elevations shown in the Summary of Base Flood Elevations table should be used for construction, unless floodplain management purposes when they are higher than the elevations shown on this FIRMA.

Boundaries of the **Waterways** were compiled at cross sections and impounded between cross sections. The floodways were based on hydraulic computations with regard to measurements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for the jurisdiction.

Certain areas not in Special Flood Hazard Areas may be affected by **Roof eave structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **protection** used in the preparation of this map is General Floodway Protection (GFP) zone 1B. The **horizontal datum** is NAD83. CGS1980 vertical datum. Elevations in urban, suburban, residential and other areas used in the production of FIRMA for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRMA.

Flood elevations on this map are referenced to the National Geospatial Vertical Datum of 1929. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geospatial Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geospatial Survey website at www.ngs.noaa.gov or contact the National Geospatial Survey at the following address:

National Geospatial Survey
National Geospatial Survey, NOAA
Silver Spring, Maryland 20910
301-713-3342

For additional information, description, and/or contact information for beach markers shown on this map, please contact the Information Services Branch of the National Geospatial Survey at (301) 713-3342, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRMA was provided in digital format by the County of Fairfax GIS Department, including hydrography and political boundaries. These files were compiled at a scale of 1:24,000 based on the available 1:50,000 aerial photography. Additional information may have been derived from other sources.

Copyright notice shown on this map are based on the best data available at the time of publication. Because changes due to construction or other activities may have occurred since the map was published, map users should contact appropriate community officials to verify current copyright level locations.

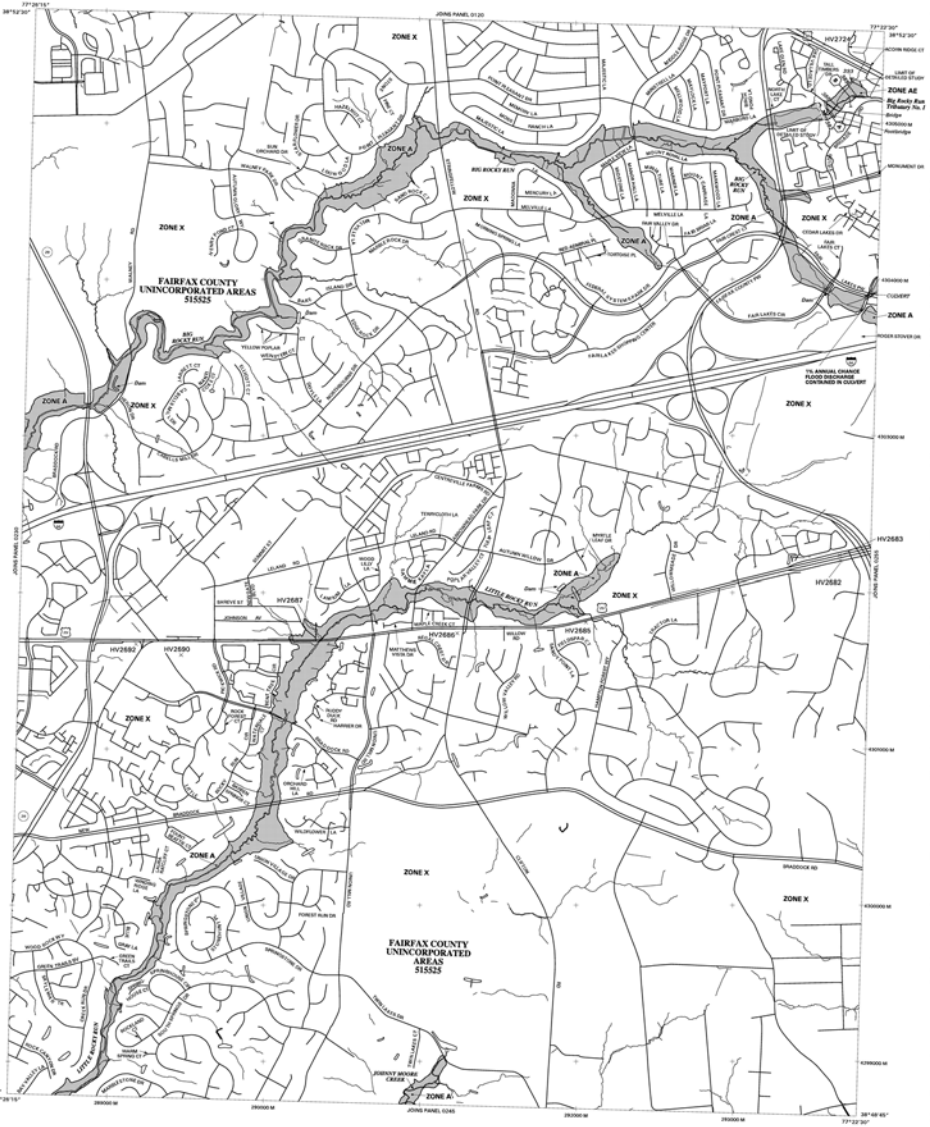
Please refer to the separate printed **Map Index** for an overview map of the county showing the location of map sheets, including the jurisdiction addresses and a listing of Communities with current National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision and Letters of Map Amendment covering portions of this panel, and digital versions of this panel may be available. Contact the **FIRMA Map Services Center** at the following phone numbers and Internet address for information on all related products available from FEMA.

Phone: 800-368-9616
FAX: 800-368-9600
<http://fima.fema.gov>

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-8282 or visit the FEMA website at <http://www.fema.gov/nationalflood>

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRMA for this jurisdiction. The floodways and floodways that were contained from the previous FIRMA may have been adjusted in conformance to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

ZONE X
1% Annual chance flood elevation, with an average depth of 1 to 3 feet (locality areas of ponds); base flood elevations determined.

ZONE AE
Flood depths of 1 to 3 feet (locality areas of ponds); base flood elevations determined.

ZONE AN
Area of special flood hazard formerly protected from the 1% annual chance flood by a levee system that is no longer maintained. Zone AN indicates that the former flood control system is a levee that is no longer maintained.

ZONE VE
Coastal flood zone with velocity based wave action; base flood elevations determined.

FLOODWAY AREAS IN ZONE AE
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of obstructions so that the 1% annual chance flood can be carried without elevation increases to flood heights.

OTHER FLOOD AREAS

ZONE 1
Areas of 0.2% annual chance flood area of 1% annual chance flood with average depths of less than 1 foot or with average areas less than 1 square mile and with areas less than 1% annual chance.

OTHER AREAS

ZONE 2
Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D
Areas in which flood hazards are unrepresented, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

BOUNDARIES

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary

BASE FLOOD ELEVATION (BFE) AND WATER LEVELS

- 0.2, 1, 10, 100
Base Flood Elevation (BFE) and water elevations in feet
- 0.2, 1, 10, 100
Water Level (WL) and water elevations in feet

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

- 0.2, 1, 10, 100
Base Flood Elevation (BFE) and water elevations in feet
- 0.2, 1, 10, 100
Water Level (WL) and water elevations in feet

OTHERWISE PROTECTED AREAS (OPAs)

- 0.2, 1, 10, 100
Base Flood Elevation (BFE) and water elevations in feet
- 0.2, 1, 10, 100
Water Level (WL) and water elevations in feet

MAP INFORMATION

Refer to Regulatory Listing on Index Map

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP: SEPTEMBER 17, 2010

EFFECTIVE DATES OF REVISIONS TO THIS PANEL:

10/17/07, 12/12/07

1000-meter Universal Transverse Mercator UTM zone 18
North-south line explanation is None to UTM zone 18
Datum: NAD83

MAP SCALE 1" = 1000'

0 500 1000 2000 METERS

0 500 1000 2000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0235E

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 235 OF 450

SEE MAP INDEX FOR FIRM PANEL LAYOUT

ADDITIONAL INFORMATION:

COMMUNITY	NAME	PANEL	DATE
FAIRFAX COUNTY	02350235E	0235	07

Refer to the **Map Index** for information on all other panels in this map.

MAP NUMBER 51005C0235E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in determining the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The information shown on this map should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevation (BFE)** and/or **Flowway Data** have been determined, users are encouraged to consult the Flood Profiles and Flowway Data sheets contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that the data shown on the FIRM are not necessarily current. Flood insurance rates are intended for flood insurance using purposes only and should not be used for the sole source of flood elevation information. Accordingly, flood insurance data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevation (CBFE) shown on this map apply only landward of 0.5 National Geospatial Vector Datum (NGVD) shore of the FIRM. Users should be aware that coastal flood elevations may also be provided in the community. Elevations shown in the Summary of Significant Elevations table for the community. Elevations shown in the Summary of Significant Elevations table should be used for construction, water floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **Flowways** were computed at cross sections and interpolated across sections. The flowways were based on hydraulic computations with regard to topography of the National Flood Insurance Program. Flowway widths and other pertinent boundary data are provided in the Flood Insurance Study report of the community.

Certain areas not in Special Flood Hazard Areas may be protected by **seawall structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The information used in the preparation of this map is derived from the National Geospatial Vector Datum (NGVD) zone 18. The horizontal datum is NAD83, GRS1980 datum. Differences in datum, elevation, adjustment or 1980 datum used in the production of FIRM, for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the National Geospatial Vector Datum of 1929. These elevations must be converted to structure and ground elevations referenced to the same vertical datum. The relationship regarding conversion between the National Geospatial Vector Datum of 1929 and the North American Vertical Datum of 1988, used in the National Geospatial Survey website at www.ngs.noaa.gov or contact the National Geospatial Survey at the following address:

National Geospatial Survey
National Geospatial Survey, NOAA
Four Corners Building
Silver Spring, Maryland 20910
301-713-3343

Telephone number, address, and/or location information for **benchmarks** shown on this map, please contact the Information Services Branch of the National Geospatial Survey at (301) 713-3343, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the County of Fairfax GIS Department, including hydrographic and political boundaries. These data were compiled at a scale of 1:2400 based on the available 2000-2006 aerial photography. Additional information may have been derived from other sources.

Complete maps shown on this map are based on the best data available at the time of publication. Because changes due to alterations or to annotations may have occurred since this map was published, they users should contact appropriate community officials to verify current corporate limit locations.

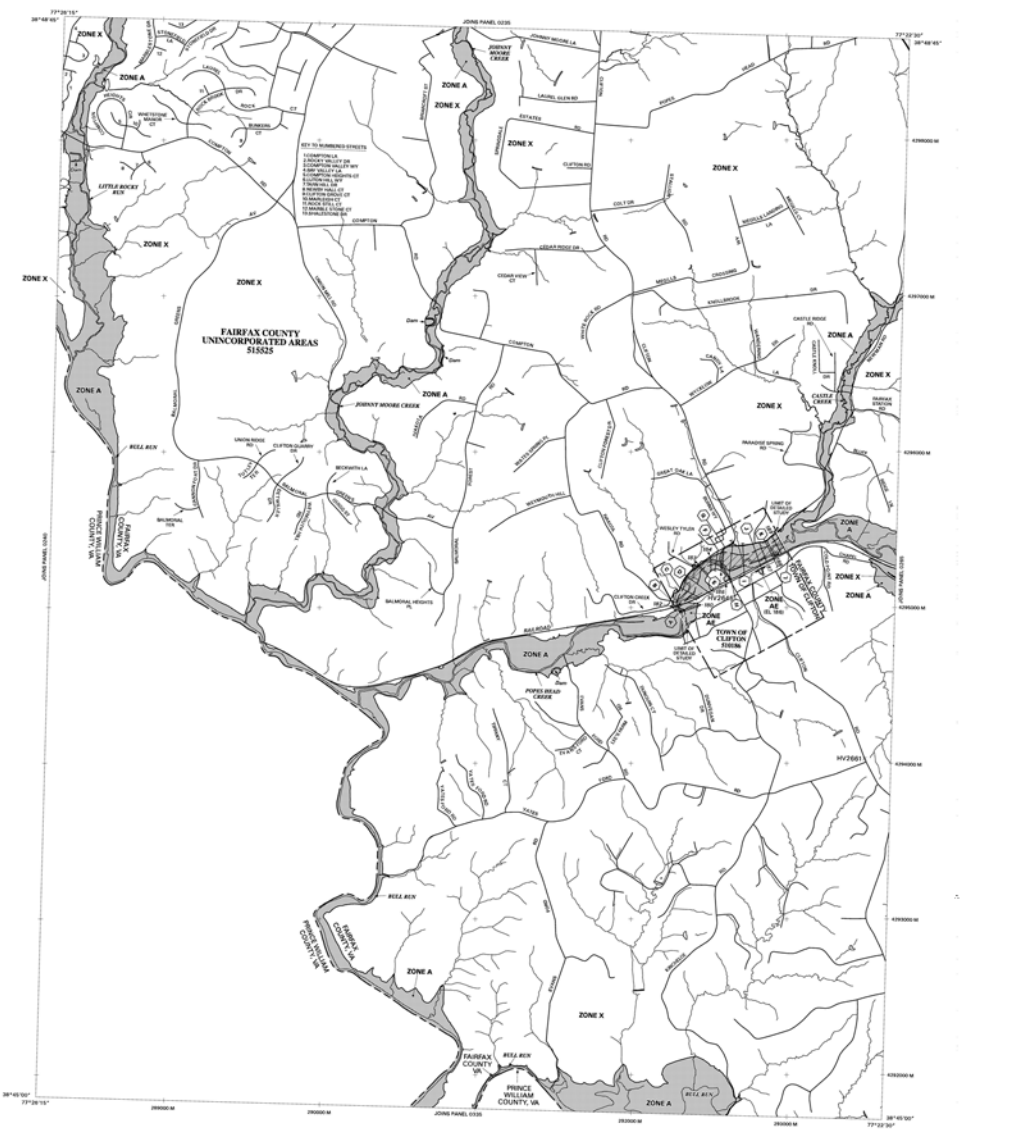
Please refer to the separate general Map Index for an overview map of the county showing the location of map panels, community map repository addresses, and a listing of Communities being covered National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment covering portions of the area. The digital version of this PANEL may be available. Contact the FEMA Map Service Center at the following phone numbers and Internet address for information on all related products available from FEMA.

Phone: 800-358-9416
Fax: 800-358-9820
<http://www.fema.gov>

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2537) or visit the FEMA website at <http://www.fema.gov>.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The boundaries and flowways that were transferred from the previous FIRM may have been adjusted to reflect these new stream channel configurations. As a result, the Flood Profiles and Flowway Data tables in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO MODIFICATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood depth (Flood Profile) is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Areas on this map are defined as follows: ZONE X, ZONE A, ZONE AE, ZONE AR, ZONE AN, ZONE V, ZONE VE, ZONE D, ZONE S, ZONE B, ZONE C, ZONE E, ZONE F, ZONE G, ZONE H, ZONE I, ZONE J, ZONE K, ZONE L, ZONE M, ZONE N, ZONE O, ZONE P, ZONE Q, ZONE R, ZONE S, ZONE T, ZONE U, ZONE V, ZONE W, ZONE X, ZONE Y, ZONE Z.

ZONE X
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE A
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE AE
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE AR
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE AN
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE V
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE VE
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE D
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE S
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE B
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE C
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE E
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE F
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE G
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE H
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE I
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE J
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE K
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE L
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE M
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE N
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE O
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE P
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE Q
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE R
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE S
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE T
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE U
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE V
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE W
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE X
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE Y
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

ZONE Z
Special Flood Hazard Area subject to modification by the 1% annual chance flood event.

OTHER FLOOD AREAS

ZONE X
Areas determined to be outside the 1% annual chance floodplain.

ZONE A
Areas in which flood hazards are unassessable, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)

OPAs are areas currently located within or adjacent to Special Flood Hazard Areas.

BOUNDARIES

Flowway boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary

BASE FLOOD ELEVATION LINE AND STATION INFORMATION

EL. 800'
Stationed to the National Geospatial Vector Datum of 1929

TRANSIT LINES

17°47'30", 17°47'30"
Longitude: 78°00'00", 78°00'00"

SCALE

4300000 M
4300000 M
4300000 M

MAP REPOSITORY

Refer to Repository Listing on Index Map
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
SEPTEMBER 17, 2010
EFFECTIVE DATES OF REVISIONS TO THIS PANEL

MAP SCALE 1" = 1000'

100 500 1000 2000 4000 8000 16000

NFIP PANEL 0245E

FIRM FLOOD INSURANCE RATE MAP FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 245 OF 450

SEE MAP INDEX FOR FIRM PANEL LOCATION

COMMUNITY: JAMES PANEL 0245E

MAP NUMBER S105C0245E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The preliminary map requires that the community be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevation (BFE)** and **Highway Data** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data sheets contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that the BFE shown on this map is based on the National Flood Insurance Study (NFIS) and is intended for flood insurance rating purposes only and should not be used for the site-specific design of flood elevation management. Accordingly, flood insurance data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevation (CBFE) shown on this map apply only to land within the Coastal Flood Hazard Areas (CFHA) shown on this map. Users of this FIRM should be aware that coastal flood elevations may also be provided in the Summary of Information Report (SIR) for the Flood Insurance Study for the community. Elevations shown in the Summary of Information Report should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **Highways** were computed at cross sections and intermediate cross sections. The boundaries were based on hydrologic computations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent roadway data are provided in the Flood Insurance Study report for the jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **sewer structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projection used in the preparation of this map is Universal Transverse Mercator (UTM) zone 18. The horizontal datum is NAD83, GRS1980 without. Differences in depth, vertical separation or UTM zone used in the production of FIRM for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1929. These elevations must be converted to structure and ground elevations referenced to the same vertical datum for information regarding construction between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988. Use the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

National Geodetic Survey
Special Reference System Division
National Geodetic Survey, NOAA
Silver Spring, Maryland 20910
1715 South Highway
Silver Spring, Maryland 20910
20211-1524

To obtain current elevation, description, and/or location information for **benchmarks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (202) 713-3342, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the County of Fairfax GIS Department, including hydrography and political boundaries. These maps were compiled at a scale of 1:5000 based on the available 2000 USGS topographic data. Additional information may have been derived from other sources.

Computer files shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred since this map was published, map users should contact appropriate community officials to verify current corporate limits locations.

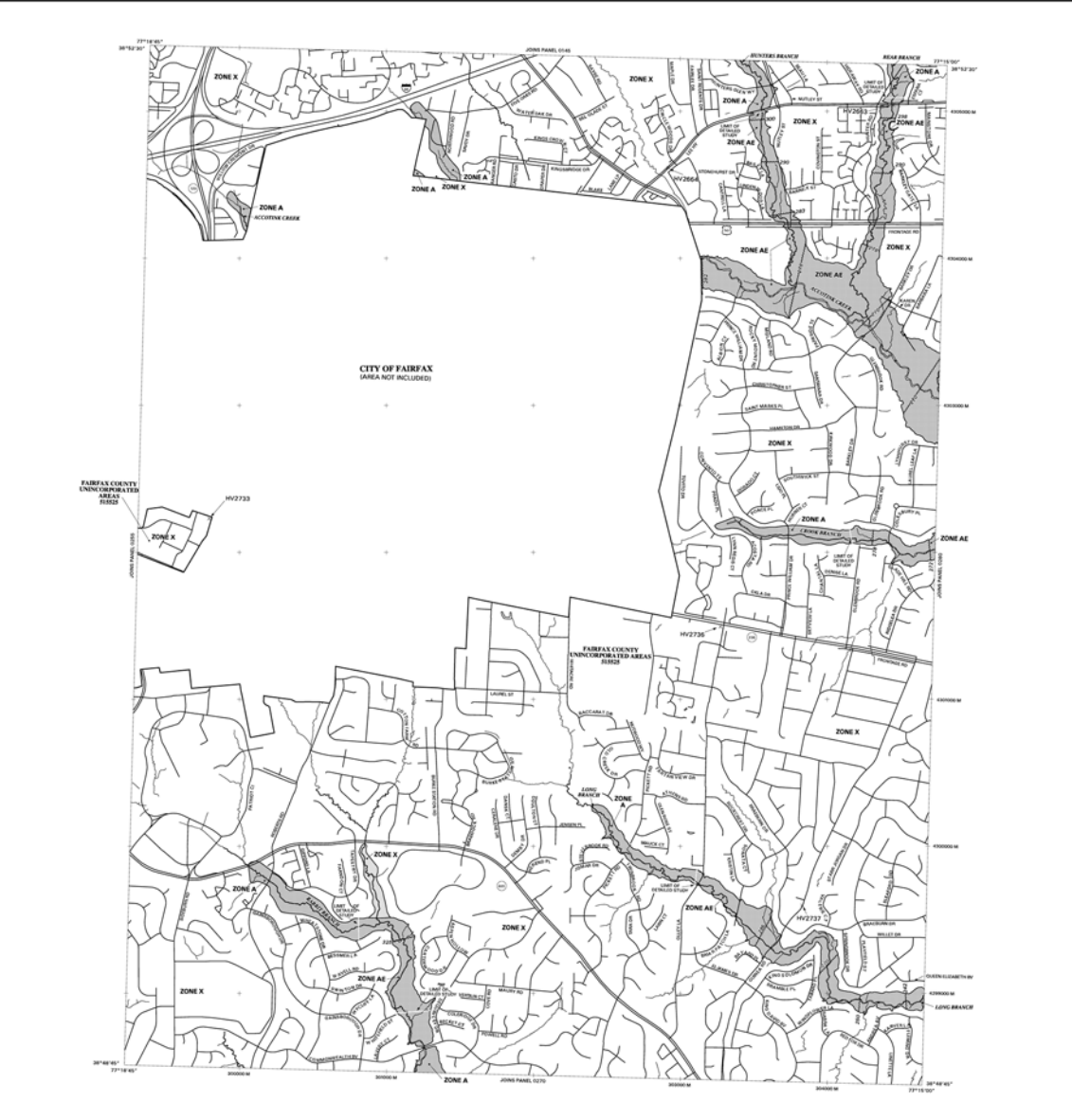
Please refer to the appropriate general Map Index for an overview map of the county showing the extent of map panels, community map repository addresses, and a listing of Communities having National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment listing panels of this report, and digital versions of this FIRM, may be available. Contact the FEMA Map Service Center at the following phone numbers and Internet address for information on all related products available from FEMA:

Phone: 800-368-5848
FAX: 800-368-5825
<http://www.fema.gov>

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-1347 (1-877-366-2347) or visit the FEMA website at <http://www.fema.gov>.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodway and floodway boundaries that were transferred from the previous FIRM may have been adjusted to continue to better meet stream channel configurations. As a result, the Flood Profiles and Floodway Data sheets in the Flood Insurance Study report may reflect stream channel dimensions that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

Zone AE: Area of special flood hazard (shaded) provided from the 1% annual chance flood elevation shown on this map. The 1% annual chance flood elevation is the elevation of the flood that has a 1% chance of being equaled or exceeded in any given year. The flood elevation is based on the data shown in the FIS. The 1% annual chance flood elevation is the elevation of the flood that has a 1% chance of being equaled or exceeded in any given year. The flood elevation is based on the data shown in the FIS.

Zone A: Area of flood hazard (shaded) provided from the 1% annual chance flood elevation shown on this map. The 1% annual chance flood elevation is the elevation of the flood that has a 1% chance of being equaled or exceeded in any given year. The flood elevation is based on the data shown in the FIS.

Zone X: Area of flood hazard (shaded) provided from the 1% annual chance flood elevation shown on this map. The 1% annual chance flood elevation is the elevation of the flood that has a 1% chance of being equaled or exceeded in any given year. The flood elevation is based on the data shown in the FIS.

FLOODWAY AREAS IN ZONE AE

Zone AE: Area of special flood hazard (shaded) provided from the 1% annual chance flood elevation shown on this map. The 1% annual chance flood elevation is the elevation of the flood that has a 1% chance of being equaled or exceeded in any given year. The flood elevation is based on the data shown in the FIS.

OTHER FLOOD AREAS

Zone X: Area of flood hazard (shaded) provided from the 1% annual chance flood elevation shown on this map. The 1% annual chance flood elevation is the elevation of the flood that has a 1% chance of being equaled or exceeded in any given year. The flood elevation is based on the data shown in the FIS.

OTHER AREAS

Zone X: Area of flood hazard (shaded) provided from the 1% annual chance flood elevation shown on this map. The 1% annual chance flood elevation is the elevation of the flood that has a 1% chance of being equaled or exceeded in any given year. The flood elevation is based on the data shown in the FIS.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

Zone X: Area of flood hazard (shaded) provided from the 1% annual chance flood elevation shown on this map. The 1% annual chance flood elevation is the elevation of the flood that has a 1% chance of being equaled or exceeded in any given year. The flood elevation is based on the data shown in the FIS.

OTHERWISE PROTECTED AREAS (OPA)

Zone X: Area of flood hazard (shaded) provided from the 1% annual chance flood elevation shown on this map. The 1% annual chance flood elevation is the elevation of the flood that has a 1% chance of being equaled or exceeded in any given year. The flood elevation is based on the data shown in the FIS.

MAP REPOSITORY

Refer to Repository Listing on Index Map

EFFECTIVE DATE OF CURRENT FLOOD INSURANCE RATE MAP

September 11, 2010

EFFECTIVE DATES OF RESPONSES TO THIS PANEL

None

MAP SCALE 1" = 1000'

0 100 200 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 030E

FIRM
FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY,
VIRGINIA
AND INCORPORATED AREAS

PANEL 260 OF 450
SEE MAP INDEX FOR FIRM PANEL LAYOUT

COORDINATE: NUMBER: DATE:

COMMUNITY: NAME: PANEL: DATE:

DATE OF PREVIOUS EDITION: DATE: SHEET: OF:

Notes to User: This Map Number shows panels that are subject to the National Flood Insurance Program. The Flood Insurance Study report for the community is available in the Flood Insurance Study report for the jurisdiction. To determine if flood insurance is available in this community, contact your insurance agent or visit the National Flood Insurance Program at 800-638-6622.

MAP NUMBER 51093C030E

EFFECTIVE DATE: SEPTEMBER 11, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or small creeks. The emergency map together with the information provided on this map should be used for planning purposes only and should not be used for the site source of flood elevation information. Accordingly, flood insurance data presented in the FIS should be utilized in conjunction with the FIS report for purposes of construction and/or floodplain management.

To obtain more detailed information in areas where **Base Flood Elevation (BFE)** and **Boundary Flood Elevation (BFE)** have been determined, users are encouraged to contact the Flood Insurance Study report that accompanies this FIRM. Users should be aware that this information is for informational purposes only and should not be used for the site source of flood elevation information. Accordingly, flood insurance data presented in the FIS should be utilized in conjunction with the FIS report for purposes of construction and/or floodplain management.

Coastal Base Flood Elevation (CBFE) shown on this map apply only to landward of 650 National Geospatial Intelligence (NGI) Zone 1. The CBFE should be used to determine if coastal flood elevations may also be provided in the Summary of Flood Elevation Data for the Flood Insurance Study report for the community. Elevations shown in the Summary of Flood Elevation Data should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the Floodways were computed at cross sections and measured at various cross sections. The Floodways were based on hydrologic computations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent boundary data are provided in the Flood Insurance Study report for the jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projection used in the preparation of this map is Universal Transverse Mercator (UTM) zone 18. The horizontal datum is NAD83. GRS1980 vertical. Differences in depth, vertical, elevation in UTM zones used in the production of FIRM for adjacent jurisdictions may result in slight differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the National Geospatial Vertical Datum of 1929. These elevations must be compared to structure and ground elevations referenced to the same vertical datum for information regarding construction between the National Geospatial Vertical Datum of 1929 and the North American Vertical Datum of 1988. Use the National Geospatial Survey website at www.ngs.noaa.gov or contact the National Geospatial Survey at the following address:

National Reference System Division
National Geospatial Survey, NOAA
Silver Spring Metro Center
1215 Cliff Road
Silver Spring, Maryland 20910
301/713-3242

To obtain current elevation, description, and/or location information for **benchmarks** shown on this map, please contact the Information Services Branch of the National Geospatial Survey at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the County of Fairfax GIS Department, including hydrographic and political boundaries. These data were compiled as a state of 1:2500 based on the available 2000 USGS digital photography. Additional information may have been derived from other sources.

Corporate boundaries shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred since this map was published, map users should contact appropriate community officials to verify current corporate limits locations.

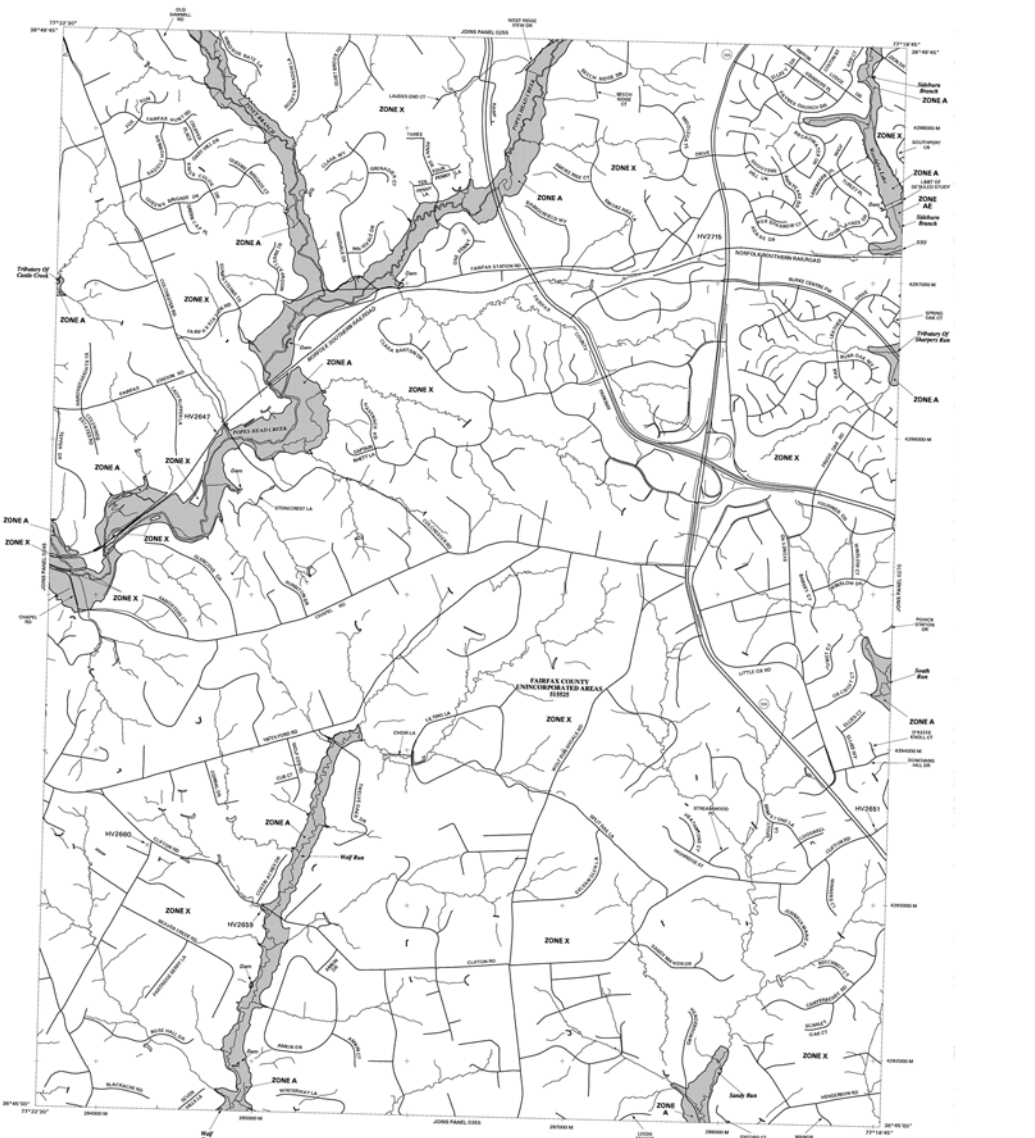
Please refer to the appropriate general map index for an overview map of the county showing the extent of map panels; community map repository addresses, and a listing of Communities having participating National Flood Insurance Programs for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment covering portions of this panel, and digital versions of this PANEL may be available. Contact the FEMA Map Service Center at the following phone numbers and Internet address for information on all related products available from FEMA.

Phone: 800-255-8016
FAX: 800-358-8620
<http://www.fema.gov>

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2837) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodway boundaries were transferred from the previous FIRM map. Any changes to the floodplains and floodway boundaries were made as a result of the Flood Profiles and Floodway Data studies in the Flood Insurance Study report map reflect stream channel distances that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

Zone A
Zone X

Zone AE
Zone AR

Zone AVB
Zone AV

Zone VE
Zone V

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

Zone X
Zone X

OTHER AREAS
Zone X

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)

Map Scale
1" = 1000'

Map Number
51050C026E

Effective Date
SEPTEMBER 11, 2010

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0256

FIRM
FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY,
VIRGINIA
AND INCORPORATED AREAS

PANEL 265 OF 450
SEE MAP INDEX FOR FIRM PANEL LAYOUT

DATE MAP INDEX FOR FIRM PANEL LAYOUT:

JURISDICTION	NUMBER	PANEL	DATE
FAIRFAX COUNTY	0256	026E	9

MAP NUMBER
51050C026E

EFFECTIVE DATE
SEPTEMBER 11, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or small creeks. The responsibility map preparator should be assumed for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevation (BFE) Study Boundaries** have been determined, users are encouraged to consult the Flood Insurance Study report that accompanies the FIRM. Users should be aware that the FIRM shown on this map is the current FIRM. Users should be aware that the FIRM shown on this map is the current FIRM. Users should be aware that the FIRM shown on this map is the current FIRM. Users should be aware that the FIRM shown on this map is the current FIRM.

Coastal Base Flood Elevation (CBFE) shown on this map apply only to land within 100 feet of the National Oceanic and Atmospheric Administration (NOAA) 1985 National Tidal High Water Line. The CBFE shown on this map is the current CBFE. Users should be aware that the CBFE shown on this map is the current CBFE. Users should be aware that the CBFE shown on this map is the current CBFE.

Special Flood Hazard Areas (SFHA) shown on this map are based on the National Flood Insurance Study (NFIS) Report of the National Oceanic and Atmospheric Administration (NOAA). The SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA.

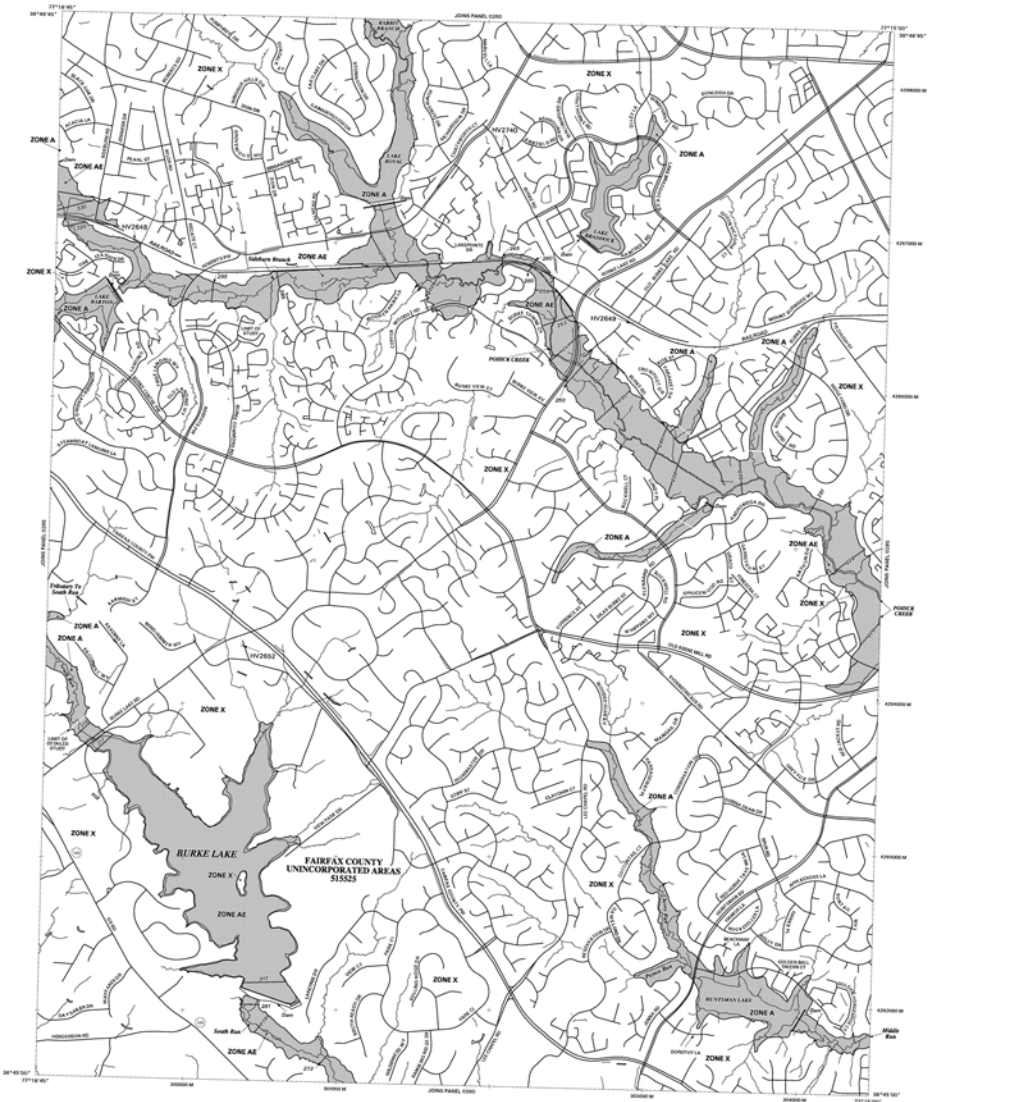
Other Flood Hazard Areas (OFHA) shown on this map are based on the National Flood Insurance Study (NFIS) Report of the National Oceanic and Atmospheric Administration (NOAA). The OFHA shown on this map is the current OFHA. Users should be aware that the OFHA shown on this map is the current OFHA. Users should be aware that the OFHA shown on this map is the current OFHA.

Other Areas shown on this map are based on the National Flood Insurance Study (NFIS) Report of the National Oceanic and Atmospheric Administration (NOAA). The Other Areas shown on this map is the current Other Areas. Users should be aware that the Other Areas shown on this map is the current Other Areas. Users should be aware that the Other Areas shown on this map is the current Other Areas.

Coastal Barrier Resources System (CBRS) Areas shown on this map are based on the National Flood Insurance Study (NFIS) Report of the National Oceanic and Atmospheric Administration (NOAA). The CBRS Areas shown on this map is the current CBRS Areas. Users should be aware that the CBRS Areas shown on this map is the current CBRS Areas. Users should be aware that the CBRS Areas shown on this map is the current CBRS Areas.

Otherwise Protected Areas (OPA) shown on this map are based on the National Flood Insurance Study (NFIS) Report of the National Oceanic and Atmospheric Administration (NOAA). The OPA shown on this map is the current OPA. Users should be aware that the OPA shown on this map is the current OPA. Users should be aware that the OPA shown on this map is the current OPA.

Map Scale 1" = 1500'



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

ZONE A Special Flood Hazard Areas (SFHA) subject to flooding by the 1% Annual Chance Flood Event. The 1% Annual Chance Flood Event is the flood that has a 1% chance of being equaled or exceeded in any given year. The SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA.

ZONE AE Areas of special flood hazard (Zone AE) are those areas that are subject to flooding by the 1% Annual Chance Flood Event. The SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA.

ZONE X Areas of special flood hazard (Zone X) are those areas that are subject to flooding by the 1% Annual Chance Flood Event. The SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA.

ZONE V Areas of special flood hazard (Zone V) are those areas that are subject to flooding by the 1% Annual Chance Flood Event. The SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA.

ZONE VE Areas of special flood hazard (Zone VE) are those areas that are subject to flooding by the 1% Annual Chance Flood Event. The SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA. Users should be aware that the SFHA shown on this map is the current SFHA.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

OTHER AREAS

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)

Map Scale 1" = 1500'

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0270E

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 270 OF 450

MAP NUMBER 5109C0270E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or small creeks. The emergency map operators should be consulted for possible updates or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevation (BFE) data are available, users should refer to the Flood Insurance Study Report for the community. Flood elevations may also be provided in the Summary of Flood Elevations within the Flood Insurance Study report for the community. Elevations shown in the Summary of Flood Elevations table should be used for construction and flood management purposes when they are higher than the elevations shown on the map.

Coastal Flood Elevation (CFE) shown on this map apply only to land west of 0.2° National Geospatial Vertical Datum (NGVD). Users of this map should be aware that coastal flood elevations may also be provided in the Summary of Flood Elevations within the Flood Insurance Study report for the community. Elevations shown in the Summary of Flood Elevations table should be used for construction and flood management purposes when they are higher than the elevations shown on the map.

Boundaries of floodways were computed at cross sections and measured between cross sections. The floodways were based on hydraulic computations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for the jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.6 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projection used in the preparation of this map is Universal Transverse Mercator (UTM) zone 18. The horizontal datum is AD83. The vertical datum is NAVD83. Distances in decimal, surface projection in UTM zones with the projection of UTM for surface projection may result in slight positional differences in map feature across jurisdiction boundaries. These differences do not affect the accuracy of the map.

Flood elevations on this map are referenced to the National Geospatial Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations measured to the same vertical datum. For information regarding elevation differences between the National Geospatial Vertical Datum of 1988 and the North American Vertical Datum of 1988, visit the National Geospatial Survey website at www.ngs.noaa.gov or contact the National Geospatial Survey at the following address:

National Reference Station Division
National Geospatial Survey
1315 South College Avenue
Fort Belvoir, Maryland 20719
(301) 713-3242

To obtain current information, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the National Geospatial Survey at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

Base map information shown on this map was provided in digital format by the County of Fairfax GIS Department, including hydrography and jurisdiction boundaries. These files were compiled at a scale of 1:2400 based on the available 2000-2005 aerial photography. Additional information may have been derived from other sources.

Copyright notice shown on this map are based on the best data available at the time of publication. Because changes due to encroachment or developments may have occurred after this map was published, map users should contact appropriate community officials to verify current proposed land locations.

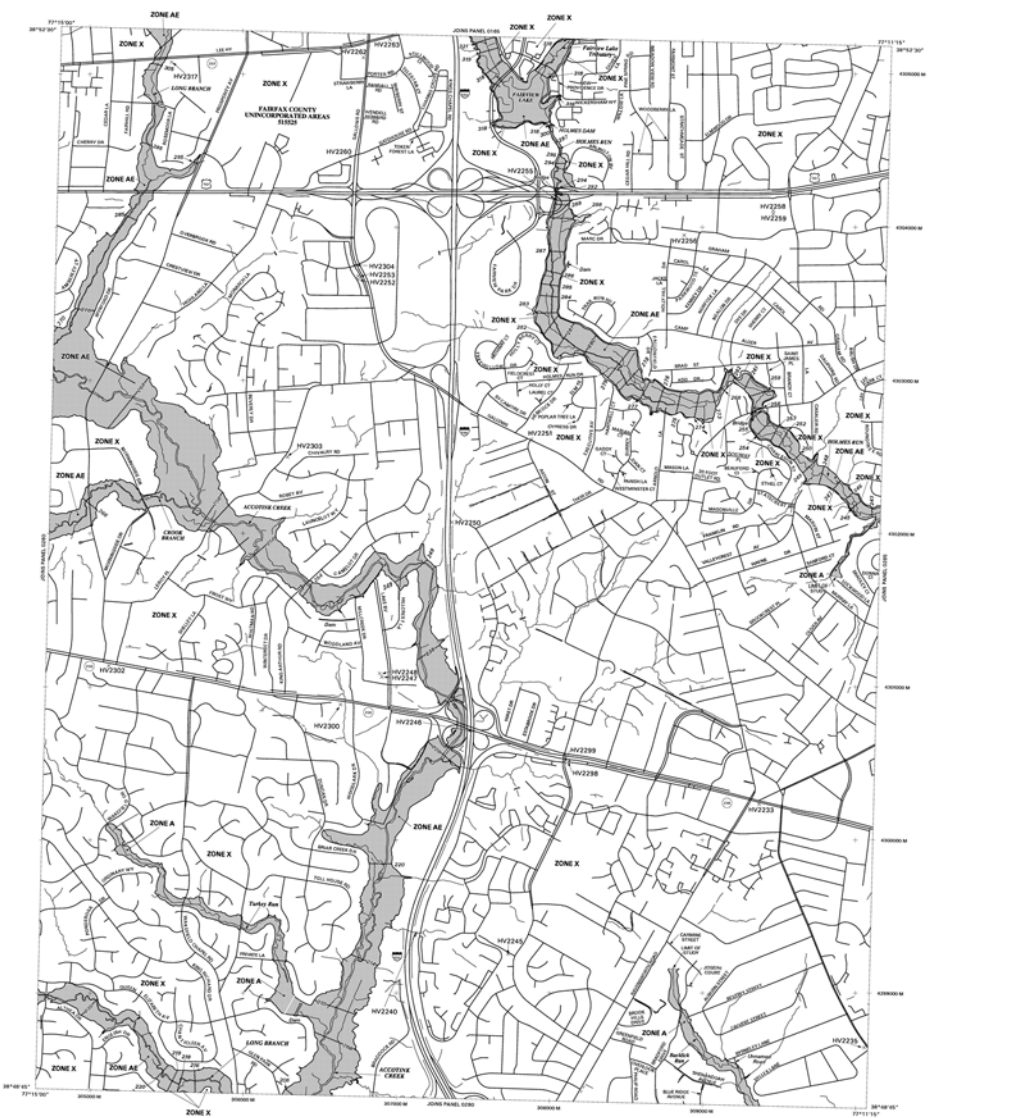
Please refer to the separately printed Map Index for an overview map of the county showing the location of map sheets, community map boundaries, and a Listing of Communities with National Flood Insurance Program data on its community as well as a listing of the sheets on which each community is located.

An accompanying Flood Insurance Study report, Letter of Map Revision or Letter of Map Amendment covering portions of this county, and digital elevation data of the FIRM, may be available. Contact the FIRM Map Service Center at the following phone numbers and Internet address for information on all related products available from FEMA.

Phone: 800-283-8816
FAX: 800-283-9920
www.firm.gov

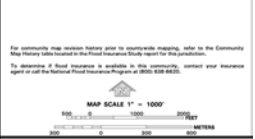
If you have questions about this map or questions concerning the National Flood Insurance Program in general, contact the FIRM Map Service Center at 1-877-336-2827 or visit the FEMA website at <http://www.fema.gov/business/>.

This map depicts revised stream and stream channel configurations from those shown on the previous FIRM for this jurisdiction. The boundaries and floodways that were published from the previous FIRM map have been adjusted to conform to these new stream channel configurations. As a result, the Flood Hazard and Floodway Data tables in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT
ZONE AE
ZONE AH
ZONE AD
ZONE A
ZONE AR
ZONE ANB
ZONE AV
ZONE VE
FLOODWAY AREAS IN ZONE AE
OTHER FLOOD AREAS
ZONE X
OTHER AREAS
ZONE G
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPA)
Map Repository
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
EFFECTIVE DATE OF REVISIONS TO THIS PANEL



NATIONAL FLOOD INSURANCE PROGRAM
PANEL 2808E
FIRM FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS
PANEL 280 OF 450
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP: SEPTEMBER 17, 2010

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or small creeks. The emergency map preparator should be consulted for possible updates or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevation (BFE)** symbols have been determined, users are encouraged to consult the Study Report that accompanies the FEMA Users Guide. Users should be aware that BFE shown on the FEMA Users Guide is not intended for use in the design of flood insurance rating systems and should not be used as the sole source of flood elevation information. Additionally, flood elevation data presented in the FID should be utilized in conjunction with the FEMA for purposes of construction and/or floodplain management.

Coastal Base Flood Elevation (CBFE) shown on this map apply only to land west of 121° 30' West Longitude, Vertical Datum 1985. Users of this map should be aware that coastal flood elevations may also be provided in the Summary of Elevation Elevations data in the Flood Insurance Study report for the community. Elevation shown in the Summary of Elevation Elevations data should be used for construction and/or floodplain management purposes where they are higher than the BFE shown on this map.

Boundaries of the floodways were computed at cross sections and interrelated between cross sections. The floodways were based on hydraulic computations with regard to requirements of the National Flood Insurance Program. Floodway walls and other pertinent floodway data are provided in the Flood Insurance Study report for jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projection used in the preparation of this map is Universal Transverse Mercator (UTM) Zone 18, the horizontal datum is NAD83, and the vertical datum is NAVD83. Differences in datum, spheroid, projection or UTM zones used in the production of FIMS for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIMS.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1985. These flood elevations are computed to structures and ground elevations referenced to the same vertical datum. For information on the North American Vertical Datum of 1985, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

National Geodetic Survey
 National Oceanic and Atmospheric Administration
 1315 East-West Highway
 Silver Spring, Maryland 20910
 (301) 713-3242

To obtain communication, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the County of Fairfax GIS Department, including hydrographic and topographic data. Flood data were compiled at a scale of 1:50,000 based on the original 1:50,000 aerial photography. Additional information may have been derived from other sources.

Corporate limits shown on this map are based on the best data available at the time of publication of this map. Changes due to annexation or de-annexations have been shown after this map was published. Map users should contact appropriate community officials to verify current corporate limit locations.

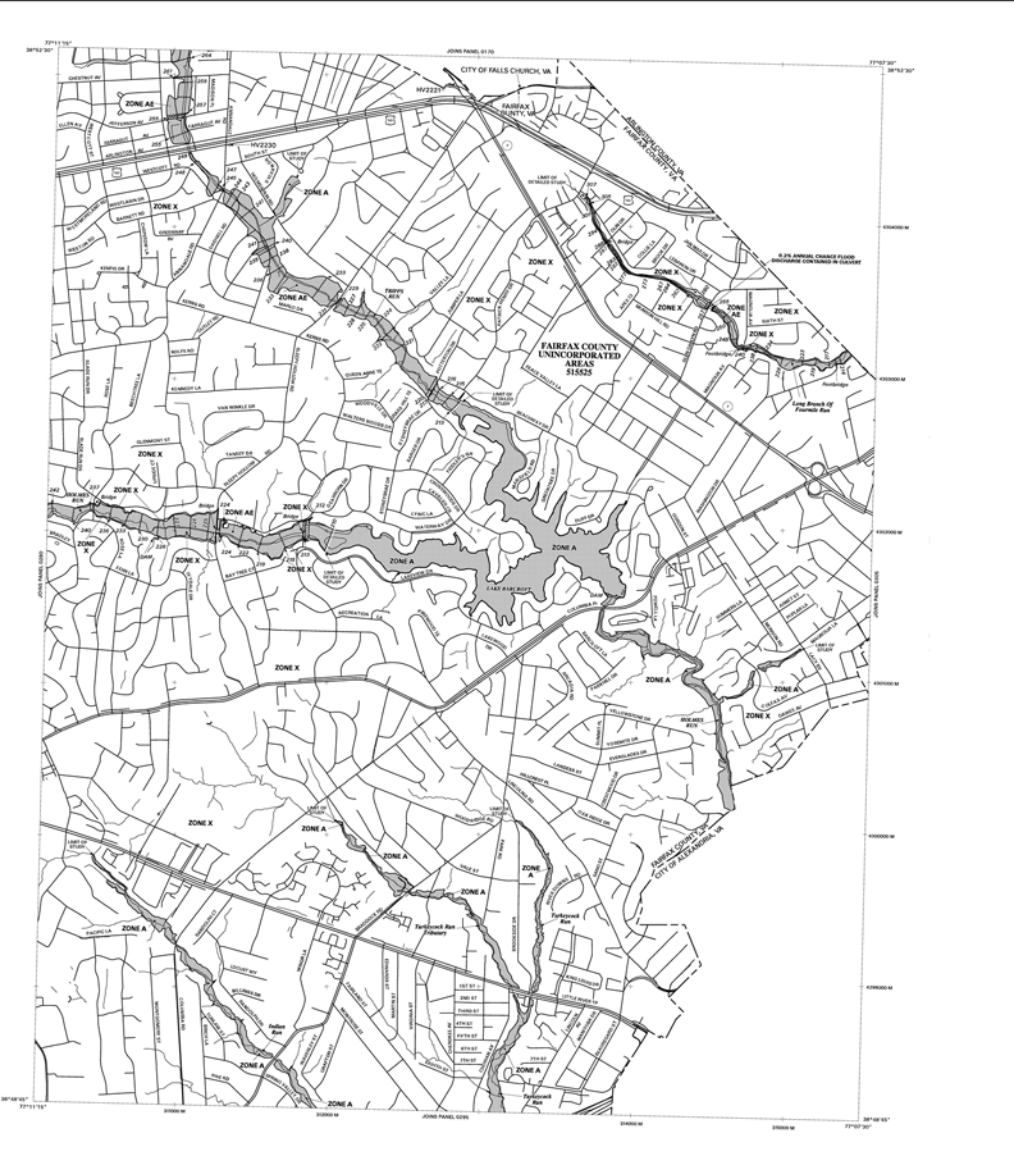
Please refer to the separately printed **Map Index** for an overview map of the county showing the location of map sheets, community and regulatory addresses, and a listing of Communities with continuing National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment relating portions of this area, and digital versions of the FIRM may be available. Contact the **FEMA Map Service Center** at the following phone numbers and internet address for information on all related products available from FEMA.

Phone: 800-254-8816
 Fax: 800-254-8820
<http://fema.maps.gov>

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2827) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodways and floodways that were transferred from the previous FIRM map have been updated to reflect the more detailed stream channel configurations. As a result, the Flood Profile and Floodway Data tables in the Flood Insurance Study report may reflect stream channel locations that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

ZONE A
 Area of special flood hazard boundary protected from the 1% annual chance flood event by a 1-foot vertical elevation above the base flood elevation. The base flood elevation is the water surface elevation of the 1% annual chance flood.

ZONE AE
 Area of special flood hazard boundary protected from the 1% annual chance flood event by a 1-foot vertical elevation above the base flood elevation. The base flood elevation is the water surface elevation of the 1% annual chance flood.

ZONE AR
 Area of special flood hazard boundary protected from the 1% annual chance flood event by a 1-foot vertical elevation above the base flood elevation. The base flood elevation is the water surface elevation of the 1% annual chance flood.

ZONE ARR
 Area to be protected from 1% annual chance flood event by a Federal Flood Insurance Policy endorsement, no base flood elevation determination.

ZONE V
 Coastal flood zone with velocity hazard (waves action), base flood elevation determination.

ZONE VE
 Coastal flood zone with velocity hazard (waves action), base flood elevation determination.

FLOODWAY AREAS IN ZONE AE
 The boundary is the elevation of a structure and adjacent foundation area that must be kept free of accumulation of water the 1% annual chance flood can be carried without substantial damage to the structure.

OTHER FLOOD AREAS

ZONE X
 Area of 0.2% annual chance flood, area of 1% annual chance flood with average depth of not more than 1 foot or with average wave height less than 1 foot high, and areas protected by levees with 1% annual chance of failure.

OTHER AREAS

ZONE K
 Areas identified by the county as 0.2% annual chance floodplain.

ZONE D
 Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPFA)
 CBRS areas and OPFA areas only shown when adjacent to Special Flood Hazard Areas.

BOUNDARIES
 Floodplain boundary
 Floodway boundary
 Base Flood Elevation (BFE) boundary
 CBRS and OPFA boundary
 Boundary showing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or velocities
 Base Flood Elevation line and water elevation in feet
 US 8471
 Horizontal to the National Geodetic Vertical Datum of 1985
 Vertical Datum Line
 Transport Line
 17°07'30", 17°07'30"

4300000 M
 1000-meter Universal Transverse Mercator grid values, zone 18

435110
 North map grid explanation in NAD83 datum system of 100-meter increments.

0.1 M
 Meter

MAP INFORMATION
 Refer to Regulatory Listing on Index Map
EFFECTIVE DATE OF COUNTYWISE FLOOD INSURANCE RATE MAP
 SEPTEMBER 17, 2010
EFFECTIVE DATES OF RESPONSES TO THIS PANEL

MAP SCALE 1" = 1000'
 0 100 200 300 METERS
 0 100 200 300 FEET

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 025E

FIRM FLOOD INSURANCE RATE MAP
 FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 285 OF 450
 SEE MAP INDEX FOR FIRM PANEL LAYOUT

COMMUNITY
 FAIRFAX, PANEL 285E

MAP NUMBER
 51050C025E

EFFECTIVE DATE:
 SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The information was prepared using the best available data and is subject to change. The information was prepared using the best available data and is subject to change. The information was prepared using the best available data and is subject to change.

To obtain more detailed information in areas where Base Flood Elevation (BFE) and Floodway have been determined, users are encouraged to consult the Flood Profile and Floodway Study Report. Users should be aware that BFE shown on the FIRM represents only and should not be used as the sole source of flood elevation information. Floodway data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or flood management purposes when they are higher than the elevations shown on the FIRM.

Coastal Base Flood Elevation (CBFE) shown on this map apply only to land west of the National Geographic Vertical Datum (NGVD) used at the FIRM should be aware that coastal flood elevations may also be provided in the Summary of Flood Elevations upon request. Floodway data shown on this map should be used for construction, and/or flood management purposes when they are higher than the elevations shown on the FIRM.

Locations of the Floodway were computed at cross sections and interpolated between cross sections. The Floodway were based on hydraulic computations with regard to encroachments of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projection used in the preparation of this map is Universal Transverse Mercator (UTM) zone 18. The horizontal datum is NAD83. GRS1980 spheroid. Elevation in datum, depth, elevation or UTM zone used in the production of FIRM for adjacent jurisdictions may result in slight vertical differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referred to the National Geodetic Vertical Datum of 1989. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1989 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

National Geodetic Survey
National Geodetic Survey Division
National Geodetic Survey, NGA
Silver Spring, MD 20910
1315 East-West Highway
Silver Spring, Maryland 20910
202-775-1342

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the information services branch of the National Geodetic Survey at (800) 713-3342, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the County of Fairfax, Virginia, including hydrology and other information. These files were compiled at a scale of 1:2400 based on the available 2000 DOQ00 aerial photography. Additional information may have been derived from prior sources.

Contours shown on this map are based on the best data available at the time of publication. Accurate contours due to alterations or encroachments may have occurred after this map was published. Map users should contact appropriate community officials to verify current conditions and locations.

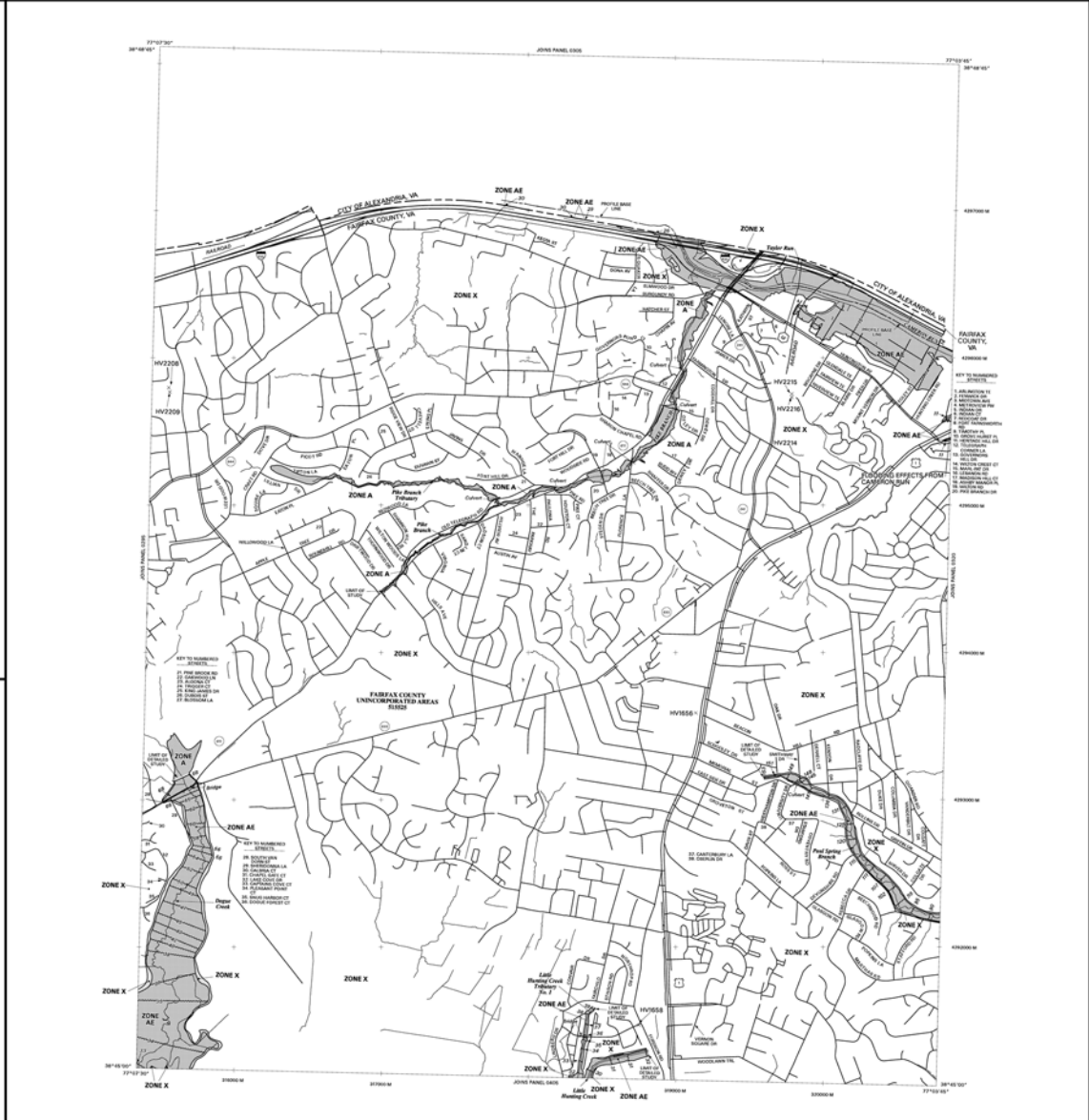
Please refer to the separately printed Map Index for an overview map of the county showing the location of this community map (including addresses) and a listing of communities with adjoining National Flood Insurance Program areas for each community as well as a listing of the parts of which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment covering portions of this panel, and digital versions of this panel, may be available. Contact the FEMA Map Service Center at the following address, telephone number, and internet address for additional information.

FEMA Map Service Center
1675 Lincoln Boulevard
Ft. Belvoir, VA 22061
Phone: 800-368-5616
1800-255-5848
FAX: 800-368-5620
<http://www.fema.gov>

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-5454 (1-877-335-2623) or visit the FEMA website at <http://www.fema.gov>.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The Floodway and Floodway data were transferred from the previous FIRM. The Floodway and Floodway data were transferred from the previous FIRM. The Floodway and Floodway data were transferred from the previous FIRM.



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT
- ZONE AE: Area of special flood hazard (average depth of 1 to 3 feet) subject to inundation by the 1% annual chance flood.
- ZONE X: Area of special flood hazard (average depth of 1 to 3 feet) subject to inundation by the 1% annual chance flood.
- ZONE A: Area of special flood hazard (average depth of 1 to 3 feet) subject to inundation by the 1% annual chance flood.
- FLOODWAY AREAS IN ZONE AE
- OTHER FLOOD AREAS
- ZONE X: Area of special flood hazard (average depth of 1 to 3 feet) subject to inundation by the 1% annual chance flood.
- ZONE A: Area of special flood hazard (average depth of 1 to 3 feet) subject to inundation by the 1% annual chance flood.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
- OTHERWISE PROTECTED AREAS (OPAs)
- Map symbols for Floodway boundary, Zone 2 boundary, Zone 3 boundary, Flood Elevation value, Cross Section Line, Turned Line, and other features.

NEIP PANEL 031E

FIRM FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 315 OF 450

SEE MAP INDEX FOR FIRM PANEL LAYOUT

CONTRACT NUMBER: JAMES P. HALL, DATE: 10/20/00

MAP NUMBER: 5100G0315E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or inland seas. The community map preparator should be consulted for possible updates or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevation (BFE)** and/or **Coastal High Water (CHW)** have been determined, users are encouraged to consult the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that the FIS report is intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevation (CBFE) shown on this map apply only to land within the National Oceanic and Atmospheric Administration's (NOAA) Coastal High Water (CHW) zone. Flood elevations may also be provided in the Summary of Elevation Data Tables in the Flood Insurance Study report for the community. Elevations shown in the Summary of Elevation Data Tables should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **Headwaters** were determined at cross sections and interrelated between cross sections. The headwaters were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **Real Estate Elevation**. Refer to Section 2.6, "Real Estate Elevation," of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map is Universal Transverse Mercator (UTM) zone 18. The **horizontal datum** is NAD83, GRS1980, unless otherwise noted. **Vertical datum** is IGLD 85. Users should be aware that the projection of FISs for adjacent jurisdictions may result in slight elevation differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of FISs.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1985. These flood elevations must be compared to structure and ground elevations referenced by the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1985 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

National Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1215 Silver Spring Parkway
Silver Spring, Maryland 20910
(301) 713-3242

To obtain current elevation, description, and/or location information for **benchmarks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the County of Fairfax GIS Department, including hydrography and political boundaries. These maps were compiled at a scale of 1:2400 based on the available 2000 DOQs and photography. Additional information may have been derived from other sources.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexation or de-annexation may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

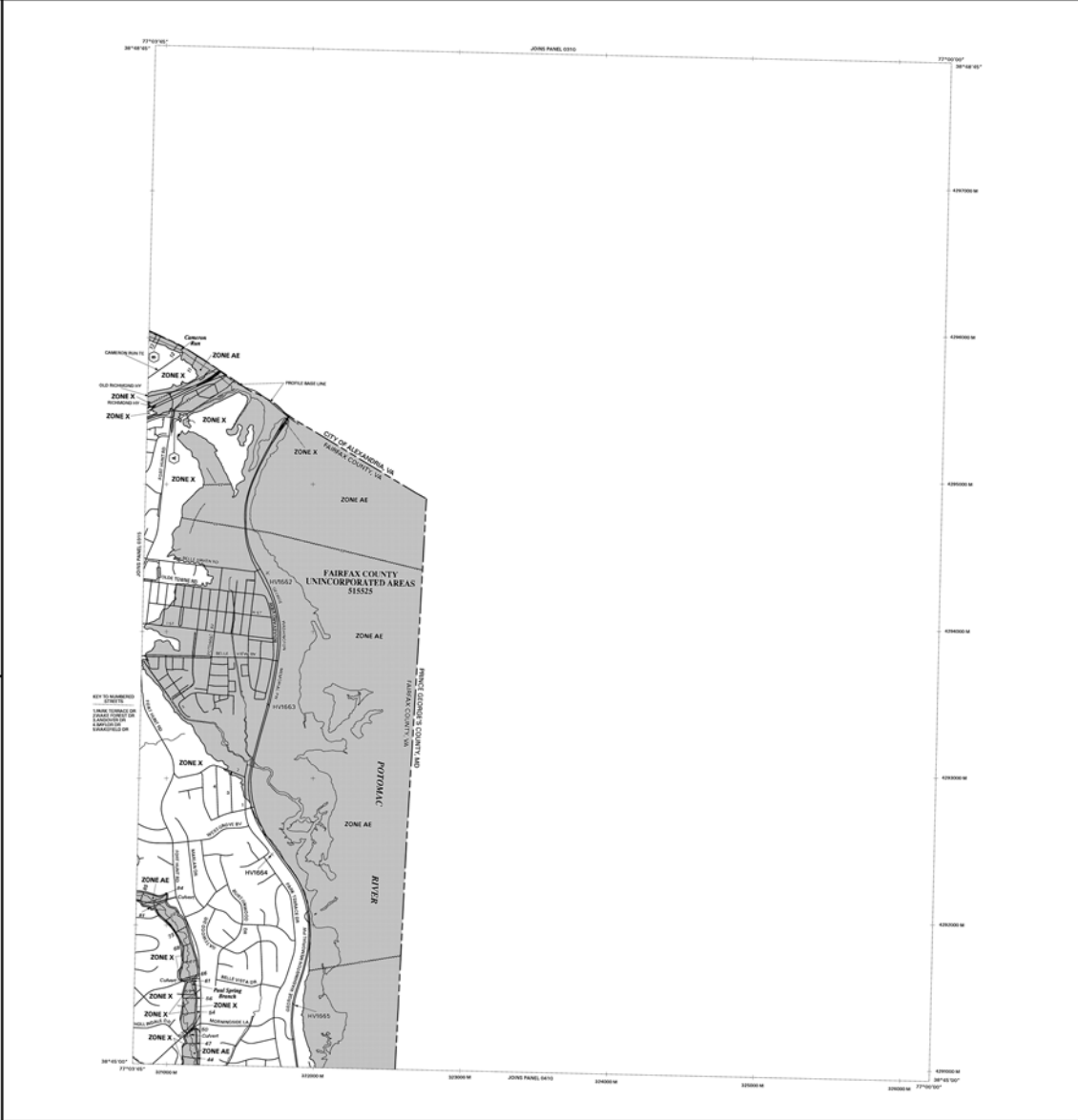
Please refer to the separately printed **Map Index** for an overview map of the county showing the location of map sheets, community map regulatory agencies, and a listing of Communities Table containing National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying **Flood Insurance Study report**, Letter of Map Revision or Letter of Map Amendment covering portions of this panel, and digital versions of the FIRM, may be available. Contact the **FEMA Map Service Center** at the following phone numbers and internet address for information on all related products available from FEMA.

Phone: 800-368-9816
FAX: 800-358-9600
<http://www.fema.gov>

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-Map (1-877-326-2822) or visit the FEMA website at <http://www.fema.gov/nationalmap/>.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The hydrology and bathymetry data were transferred from the previous FIRM map. Flood elevations, if available, in this map, or other related configurations, do not represent the most current data. Changes in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood is shown on the community map panel. The flood depth is 1% chance of being equal to or exceeded in any given year. The Special Flood Hazard Area is the area subject to being by the 1% annual chance flood. Flood elevation is the water surface elevation of the 1% annual chance flood.

ZONE A - 1% annual chance flood elevation

ZONE AE - Base Flood Elevation determined

ZONE AH - Flood depths of 1 to 3 feet (severity areas of ponding); base flood elevation determined

ZONE AO - Flood depths of 3 to 6 feet (severity areas of ponding); base flood elevation determined

ZONE AR - Area of special flood hazard boundary protected from the 1% annual chance flood depth by a flood control system that was substantially completed by jurisdiction date from the 1% annual chance flood elevation boundary.

ZONE ARB - Area to be protected from 1% annual chance flood event by a Federal flood reduction system under construction; base flood elevation determined.

ZONE AV - Coastal Flood zone with velocity hazard (waves action); base flood elevation determined.

ZONE VE - Coastal Flood zone with velocity hazard (waves action); base flood elevation determined.

FLOODWAY AREAS IN ZONE AE

The hydrology and bathymetry of streams and other floodplain areas that result in high flow of water from the 1% annual chance flood can be used to determine floodway areas in floodplains.

OTHER FLOOD AREAS

ZONE X - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depth of one foot 1 foot or less; average water less than 1 meter (3ft), and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE B - Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D - Areas of special flood hazard are unincorporated for purposes.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)

OPA areas and OPAs are currently located within or adjacent to Special Flood Hazard Areas.

- OPA boundary
- Floodway boundary
- Zone boundary
- CBRS and OPA boundary
- Boundary showing Special Flood Hazard Areas of different Base Flood Elevation (BFE) and/or water surface elevation
- Open Section Line
- Topographic Contour
- Spot heights (elevation referenced to the North American Datum of 1985 (NAD 85))
- UTM 18N
- Base Flood Elevation value where uniform within zone
- 1000-meter Universal Transverse Mercator tick values, zone 18
- North-south line orientation in Note to Users section of the Information Map
- 1:2400
- Base Map

MAP REPOSITORY
Refer to Reservoirs Listing on Index Map

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
SEPTEMBER 17, 2010

EFFECTIVE DATES OF REVISIONS TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for the jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or visit the National Flood Insurance Program at (800) 368-9816.

MAP SCALE 1" = 1000'

0 500 1000 2000 FEET

0 500 1000 2000 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0310

FIRM
FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY,
VIRGINIA
AND INCORPORATED AREAS

PANEL 320 OF 450

SEE MAP INDEX FOR FIRM PANEL LAYOUT

REVISIONS:

NO.	DATE	NUMBER	PANEL	DATE
1				

MAP NUMBER
51059C0320E

EFFECTIVE DATE:
SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly those local drainage basins or wetland areas. The emergency map preparer should be consulted for possible updates or additional flood hazard information.

To obtain more detailed information or areas where Base Flood Elevation (BFE) and/or Floodway (FW) have been determined, users are encouraged to consult the Flood Insurance Study report that accompanies this FIRMs Users should be aware that the BFE shown on the FIRMs represents hydraulic model results. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIRMs should be utilized in conjunction with the FIRMs for purposes of construction and/or floodplain management.

Coastal Base Flood Elevation (CBFE) shown on this map apply only to land west of 0.0 National Geospatial Vertical Datum (NGVD). Users of this map should be aware that coastal flood elevations may also be provided in the Summary of Stationer Elevations table in the Flood Insurance Study report for the community. Elevations shown in the Summary of Stationer Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this map.

Boundaries of the Floodways were computed at cross sections and interpolated between cross sections. The Floodways were based on hydraulic computations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent Floodway data are provided in the Flood Insurance Study report for the jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4, Flood Protection Measures, of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projection used in the preparation of this map is Universal Transverse Mercator (UTM) zone 18. The horizontal datum is NAD83. (561580, 4684000). Coordinates in decimal, not in degrees, minutes, and seconds. For information regarding differences between the National Geospatial Vertical Datum of 1988 and the North American Vertical Datum of 1988, visit the National Geospatial Survey website at www.ngs.noaa.gov or contact the National Geospatial Survey at the following address:

National Reference System Division
National Geospatial Intelligence Agency
Signal Support Center
1215 San Diego Highway
Silver Spring, Maryland 20910
301 713 3242

To obtain current elevation, description, and/or location information for levees shown on this map, please contact the Information Services Branch of the National Geospatial Survey at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRMs was provided in digital format by the County of Fairfax GIS Department, including hydrography and political boundaries. These files were compiled at a scale of 1:2400 based on the available 2000 USGS aerial photography. Additional information may have been derived from other sources.

Copyright notice shown on this map are based on the best data available at the time of publication. Because changes due to construction or other structures may have occurred after this map was published, map users should contact appropriate community officials to verify current proposed land locations.

Please refer to the separately printed Map Index for an overview map of the county showing the extent of map sheets, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program data on each community as well as a listing of the sheets on which each community is located.

An accompanying Flood Insurance Study report, Letter of Map Revision or Letter of Map Amendment covering portions of this county, and digital versions of this FIRM, may be available. Contact the FEMA Map Service Center at the following phone numbers and Internet address for information on all related products available from FEMA.

Phone: 800-266-8616
FAX: 800-338-9020
<http://www.fema.gov>

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FIRMs website at <http://www.fema.gov/firms>.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRMs for this jurisdiction. The boundaries and Floodways that were transferred from the previous FIRMs may have been adjusted to conform to these new stream channel configurations. As a result, map Flood Profiles and Floodway Data tables in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO FLOODATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

ZONE AE Base flood elevation determined.

ZONE AE Flood depths of 1 to 3 feet (usually areas of ponds); base flood elevation determined.

ZONE AD Areas of shallow flood hazard normally protected from the 1% annual chance flood by a flood control system that was substantially being maintained prior to the 1% annual chance flood event.

ZONE AN Areas of general flood hazard normally protected from the 1% annual chance flood by a flood control system that was substantially being maintained prior to the 1% annual chance flood event.

ZONE ABB Areas to be protected from 1% annual chance flood event by a Federal flood protection system (such as levees); base flood elevation determined.

ZONE AV Coastal flood areas with velocity hazard (wave action); base flood elevation determined.

ZONE VE Coastal flood areas with velocity hazard (wave action); base flood elevation determined.

FLOODWAY AREAS IN ZONE AE

The Floodway is the channel of a stream plus adjacent floodplain areas that must be kept free of obstruction so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depth of less than 1 foot or average depth less than 1 foot in areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE X Areas in which floodplains are unincorporated and unclassified.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)

OPA areas and OPAs are not subject to special Flood Hazard Areas.

----- Floodway boundary
----- Floodway boundary
----- Zone B boundary
----- CBRS and OPA boundary

----- Boundary showing Special Flood Hazard Areas of different Base Flood Elevations, Flood depths or velocities.
----- Base Flood Elevation line and velocity information*
----- 0.2% Annual Chance Flood Elevation
----- 1% Annual Chance Flood Elevation
----- 1% Annual Chance Flood Elevation
----- 1% Annual Chance Flood Elevation
----- 1% Annual Chance Flood Elevation

*Referenced to the National Geospatial Vertical Datum of 1988

○ Ocean-adjacent areas
----- Transit Line
○ Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)

4300000 M 1000-meter Universal Transverse Mercator tick values, zone 18
DXS510, 4684000 M
4300000 M
4684000 M
4684000 M

MAP INFORMATION
Refer to Regulatory Listing on Index Map
EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP
SEPTEMBER 17, 2010
EFFECTIVE DATES OF REVISED TO THIS PANEL

For community map updates, please refer to applicable regulations, refer to the Community Map History table located in the Flood Insurance Study report for the jurisdiction.
To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at (800) 658-8620.

MAP SCALE 1" = 1000'

100 0 100 200 300 400 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL E030E

FIRM
FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY,
VIRGINIA
AND INCORPORATED AREAS

PANEL 335 OF 450
SEE MAP INDEX FOR FIRM PANEL LAYOUT

COMMUNITY: JAMES PANEL 335E
EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

MAP NUMBER 57050303E

EFFECTIVE DATE: SEPTEMBER 17, 2010

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or areas not shown. This emergency map necessarily should be considered for possible updates or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevation (BFE) and/or Floodway boundaries have been determined, contact an engineering or architectural firm to obtain more detailed information in areas where BFE and/or Floodway boundaries have been determined. This information is available in the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that the FIS report is the primary source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or flood management.

Coastal Base Flood Elevation (CBFE) shown on this map may only be used in areas of 0.2% Annual Chance Flood Hazard (ACFH). Users of the map should be aware that coastal flood elevations may also be provided in the Summary of Significant Elevations table in the Flood Insurance Study report for the community. Elevations shown in the Summary of Significant Elevations table should be used for construction and/or flood management purposes where they are higher than the BFE shown on this map.

Boundaries of the Floodways were computed at cross sections and intersected between cross sections. The Floodways were based on hydraulic computations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for the community.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 3.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projections used in the preparation of this map is Universal Transverse Mercator (UTM) zone 18, the horizontal datum is NAD83, the vertical datum is Mean Sea Level (MSL). Differences in datum, reference projection or UTM zones used in the production of FISs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIS.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1929. Flood elevations must be converted to either the datum or datum elevation referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

National Geodetic Survey
National Geodetic Survey, NOAA
Beacon Station
1315 Sea View Highway
Beacon, Maryland 20681
(301) 713 3242

To obtain current information, description, and/or location information for beach nourishment on this map, please contact the Aquatic Resources Branch of the National Geodetic Survey at (301) 713 3242, or visit their website at www.ngs.noaa.gov.

Base flood information shown on this FIRM was generated on digital terrain data from the County of Fairfax GIS Department, including topography and political boundaries. These data were compiled at a scale of 1:500 based on the available 2000 USGS aerial photography. Additional information may have been derived from other sources.

Coastline limits shown on this map are based on the high tide position at the time of publication. Because changes due to accretion or other processes may have occurred after this map was published, map users should contact appropriate community officials to verify current coastline limits locations.

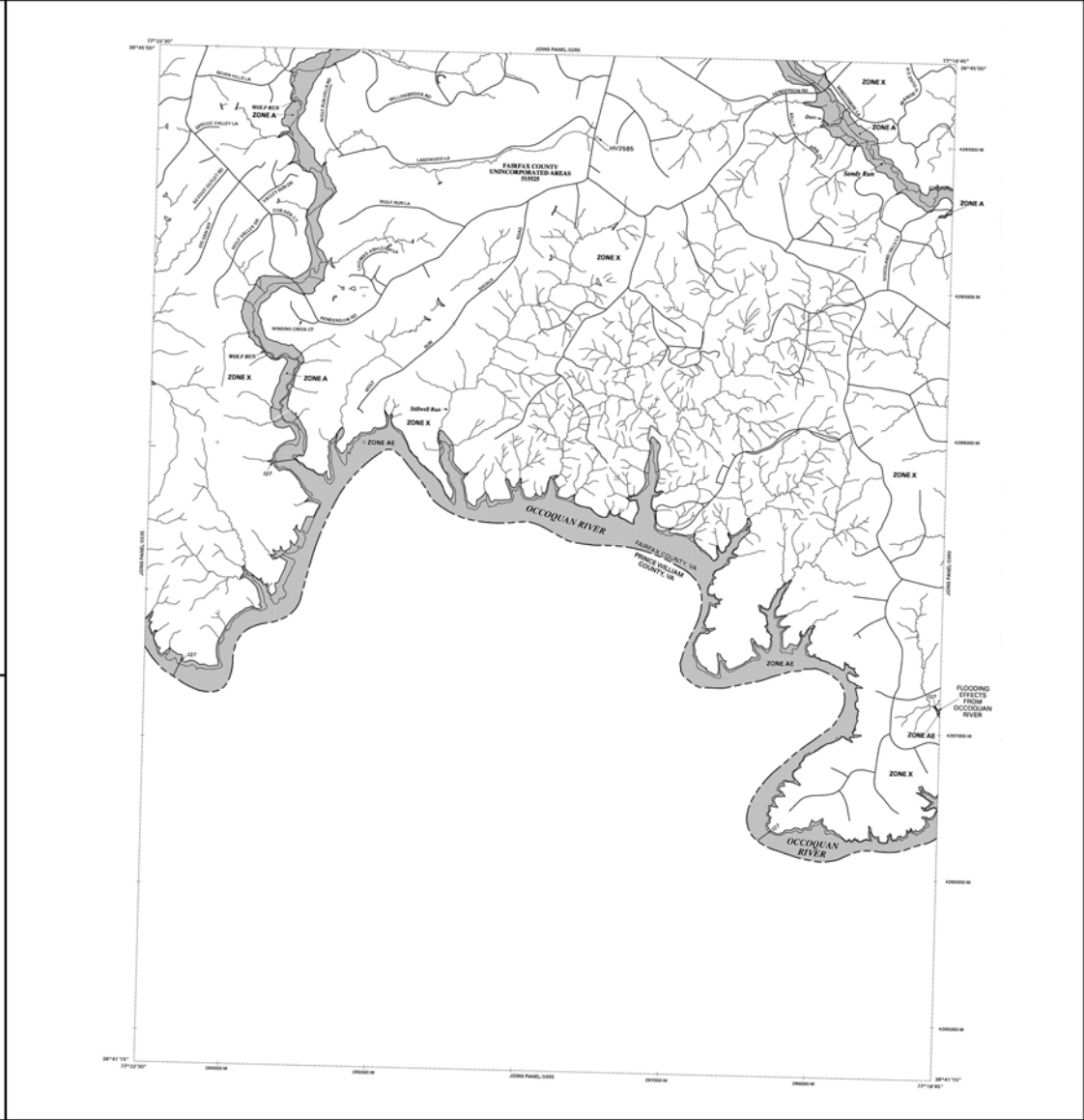
Please refer to the appropriate project title below for a complete map of the county showing the extent of map panels, community map repository addresses, and a listing of Commission units covering National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment, covering portions of this panel, and digital elevation of this panel may be available. Contact the FEMA Map Service Center at the following phone numbers and internet address for information on all related products available from FEMA.

Phone: 800 368 8616
Fax: 800 368 8620
<http://www.fema.gov>

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1 877 FEMA MAP (1 877 336 2637) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than flood elevations on the previous FIRM for this jurisdiction. Floodway boundaries and Floodway data were transferred from the previous FIRM and have been updated to reflect the more detailed stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report may reflect stream channel locations that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood event is the maximum flood that the flood hazard zone has a 1% chance of being equaled or exceeded in any given year. The flood hazard zone is the area shown on this map that is subject to the 1% annual chance flood event. The flood hazard zone is the area shown on this map that is subject to the 1% annual chance flood event.

ZONE A Base flood elevations determined.

ZONE AE Flood elevations of 1 to 3 feet (locality areas of ponds); base flood elevation of 1 to 3 feet (locality areas of ponds); base flood elevation of 1 to 3 feet (locality areas of ponds); base flood elevation of 1 to 3 feet (locality areas of ponds).

ZONE AO Areas of special flood hazard boundary protection from the 1% annual chance flood event by a flood control structure with an average storage capacity of 100,000 cubic feet.

ZONE AR Areas of special flood hazard boundary protection from the 1% annual chance flood event by a flood control structure with an average storage capacity of 100,000 cubic feet.

ZONE ARB Areas of special flood hazard boundary protection from the 1% annual chance flood event by a flood control structure with an average storage capacity of 100,000 cubic feet.

ZONE AV Coastal flood zone with velocity hazard (waves action); base flood elevation determined.

ZONE VE Coastal flood zone with velocity hazard (waves action); base flood elevation determined.

FLOODWAY AREAS IN ZONE AE

The Floodway is the channel of a stream and adjacent floodplain area that must be kept free of obstructions so that the 1% annual chance flood can be carried without substantial overbanking.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of less than 1 foot or with average wave height less than 1 foot.

OTHER AREAS

ZONE X Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of less than 1 foot or with average wave height less than 1 foot.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Boundary Shading Special Flood Hazard Areas of different return periods (e.g., 100-year, 500-year, etc.)

Base Flood Elevation (line and value elevation in feet)

0.2% Mean Annual Exceedance return value within panel.

1% Mean Annual Exceedance return value within panel.

Reference to the National Geodetic Vertical Datum of 1929

0.2% Mean Annual Exceedance return value within panel.

1% Mean Annual Exceedance return value within panel.

4300000 M 1000-meter Universal Transverse Mercator UTM value, zone 18.

4860000 M 1000-meter Universal Transverse Mercator UTM value, zone 18.

4900000 M 1000-meter Universal Transverse Mercator UTM value, zone 18.

MAP REPOSITORY

Refer to Regulatory Listing on Index Map

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP: SEPTEMBER 17, 2010

EFFECTIVE DATE OF REVISIONS TO THIS PANEL:

For community map revision before prior to subsequent revisions, refer to the Community Map History information on the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program (NFIP) 800 368 8616.

MAP SCALE 1" = 1000'

0 100 200 300 400 METERS

NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 395 OF 450

SEE MAP INDEX FOR FIRM PANEL LAYOUT

COMMUNITY: FAIRFAX COUNTY, VIRGINIA

DATE OF ISSUE: 09/17/2010

MAP NUMBER: 5109C0395E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or areas that are not necessarily mapped. Responsibility should be assumed for possible updated or additional flood hazard information.

To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Service Branch of the National Geodetic Survey at (800) 753-3342, or visit their website at www.ngs.noaa.gov.

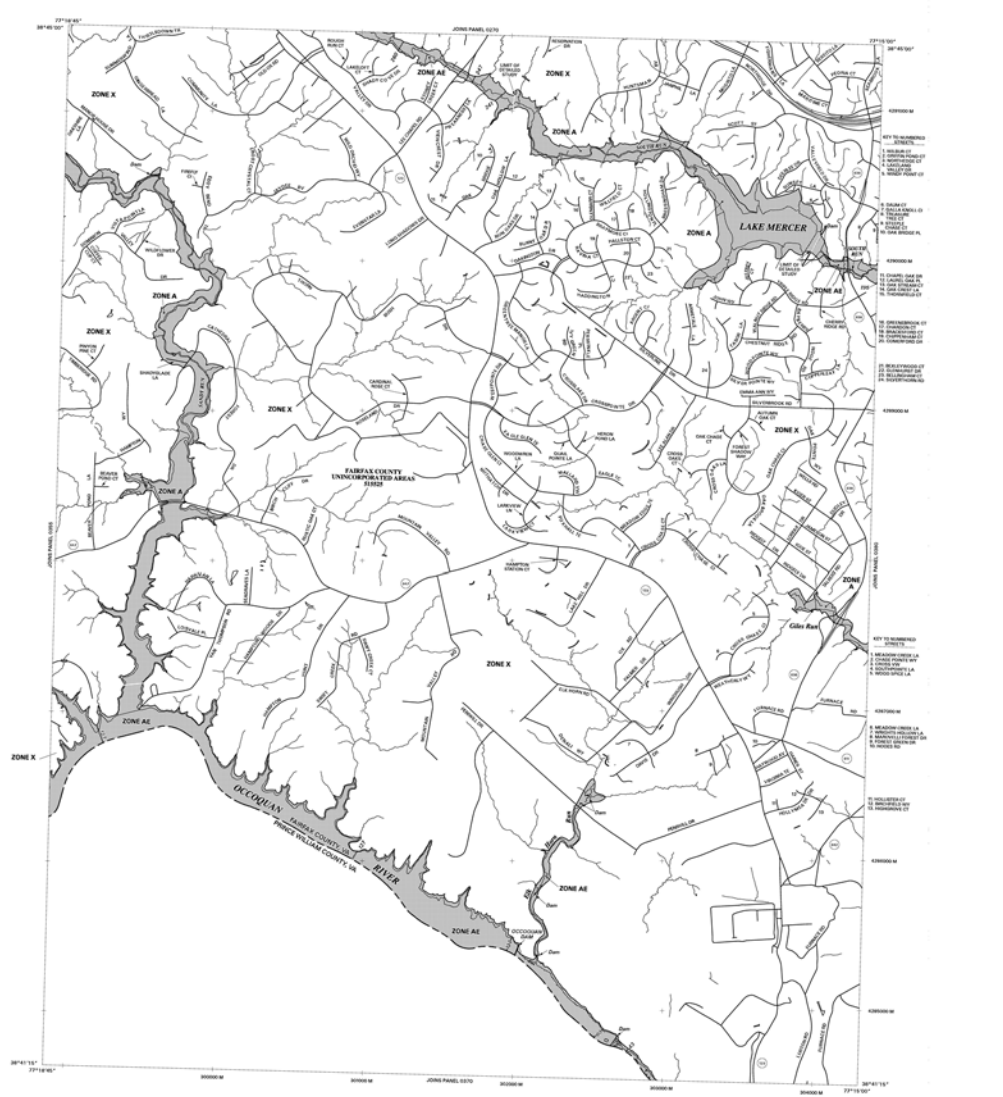
Base map information shown on this FEMA map was provided in digital format by the County of Fairfax Department, including the original master plan boundaries. This data was compiled at a scale of 1:2500 based on the available 2000 USGS digital photography. Additional information may be derived from other sources.

Coastal limits shown on this map are based on the best data available at the time of publication. Because changes can be determined on an on-going basis, users should refer to the appropriate period. Map labels for an overview map of the County including the names of map sheets, community map regulatory jurisdiction, and a listing of Communities with National Flood Insurance Program status for each community as well as a listing of the parties on which each community is located.

An accompanying Flood Insurance Study report, Letter of Map Revision or Letter of Map Amendment covering portions of this jurisdiction, the floodplain boundaries, and other information, may be available. Contact the FEMA Map Service Center at the following phone numbers and Internet address for information on all related products available from FEMA.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-5847 (1-877-336-2827) or visit the FEMA website at <http://www.fema.gov/businessmap/>.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FEMA map for this jurisdiction. The floodplain boundaries that were established for the previous FEMA map have been updated to conform to these new stream channel configurations. As a result, the Flood Plain and Floodway Data shown in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood) area, also known as the base flood, is the flood that has a 1% chance of occurring in any given year. The 1% annual chance flood is the flood that has a 1% chance of occurring in any given year. The 1% annual chance flood is the flood that has a 1% chance of occurring in any given year.

ZONE A
Areas of special flood hazard having a potential for a Federal Flood Insurance premium from 1% annual chance flood event for a Federal Flood Insurance premium from 1% annual chance flood event.

ZONE AE
Areas of special flood hazard having a potential for a Federal Flood Insurance premium from 1% annual chance flood event for a Federal Flood Insurance premium from 1% annual chance flood event.

ZONE AD
Areas of special flood hazard having a potential for a Federal Flood Insurance premium from 1% annual chance flood event for a Federal Flood Insurance premium from 1% annual chance flood event.

ZONE AO
Areas of special flood hazard having a potential for a Federal Flood Insurance premium from 1% annual chance flood event for a Federal Flood Insurance premium from 1% annual chance flood event.

ZONE AN
Areas of special flood hazard having a potential for a Federal Flood Insurance premium from 1% annual chance flood event for a Federal Flood Insurance premium from 1% annual chance flood event.

ZONE V
Coastal flood zone with velocity hazard (wave action); has been flood elevation determined.

ZONE VE
Coastal flood zone with velocity hazard (wave action); has been flood elevation determined.

FLOODWAY AREAS IN ZONE AE
The boundary is the elevation of a stream plus any additional floodway areas that must be included in the 1% annual chance flood event. The 1% annual chance flood event is the flood that has a 1% chance of occurring in any given year.

OTHER FLOOD AREAS

ZONE X
Areas determined to be outside the 1% annual chance flood event.

ZONE D
Areas in which flood hazard is unincorporated, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHER PROTECTED AREAS (OPAs)
OPAs are normally located within or adjacent to Special Flood Hazard Areas.

KEY TO BENCHMARKS

4300000 M
North-south line application in feet to base section of the Flood Map.

MAP SCALE 1" = 1000'

EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP
SEPTEMBER 12, 2016

EFFECTIVE DATES OF REVISIONS TO THIS PANEL

NATIONAL FLOOD INSURANCE PROGRAM

PANEL EDGE

FIRM FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY,
VIRGINIA
AND INCORPORATED AREAS

PANEL 380 OF 450
SEE MAP INDEX FOR FIRM PANEL LAYOUT.

MAP DEPOSITORY
Refer to Regulatory Listing on Inside Map

EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP
SEPTEMBER 12, 2016

EFFECTIVE DATES OF REVISIONS TO THIS PANEL

MAP NUMBER
5106C0306E

EFFECTIVE DATE:
SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage systems, or used for the emergency map repository should be constructed for possible updated or additional flood hazard information.

1% Annual Chance Flood Hazard (ZF1) and Floodway Areas: Flood Hazard (ZF1) and Floodway Areas have been determined, as well as encouraged to contact the FEMA Region 4 office for more information. Flood Hazard (ZF1) and Floodway Areas are shown on this map. Users should be aware that this map is for informational purposes only and should not be used as the sole source of flood hazard information. Accordingly, flood elevation data presented in this map should be utilized in conjunction with the FEMA for purposes of construction and/or floodplain management.

Coastal Flood Hazard Areas (ZF1A): Users of this map should be aware that coastal flood information may also be provided in the National Flood Insurance Study for the Flood Insurance Study report for the community. Elevation data in the boundaries of Flood Hazard Areas should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this map.

Boundaries of the Floodways are computed at cross sections and interpolated between cross sections. The Floodways were based on hydraulic computations with regard to encroachment of the National Flood Insurance Program. Floodway widths and other pertinent boundary data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **Roof eave structures**. Refer to Section 2.4, "Roof Eave Structures," of the Flood Insurance Study report for information on flood eave structures in this jurisdiction.

The **projections** used in the preparation of this map is Universal Transverse Mercator (UTM), zone 18. The **horizontal datum** is NAD83. (GEOID 1985) ellipsoid. Differences in datum, ellipsoid, projection or UTM zones used in the production of FEMA for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FEMA.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1985. These flood elevations must be adjusted to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1985 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

National Geodetic Survey
National Geodetic Survey, NOAA
Signal Staffing Center
1115 East-West Highway
Coffey Building, Maryland 20755
20777-7524

Additional current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3343, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FEMA was provided in digital format by the County of Fairfax GIS Department, including hydrography and political boundaries. These data were compiled at a scale of 1:2500 based on the available 2000 Census aerial photography. Additional information has been derived from other sources.

Complete maps shown on this map are based on the best data available at the time of publication. Because changes due to encroachments or developments may have occurred after this map was published, map users should contact appropriate community officials to verify current encroachment locations.

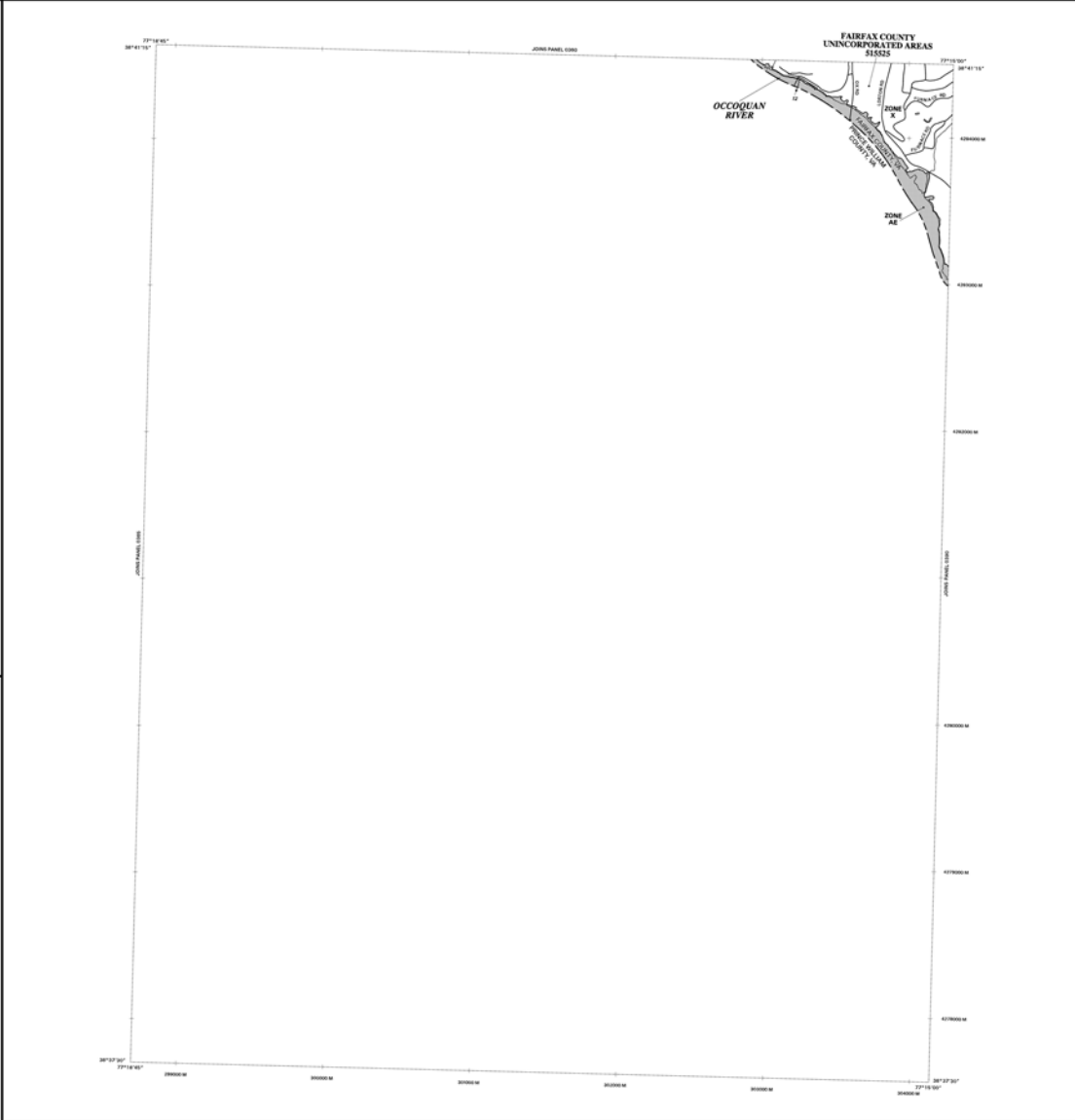
Please refer to the supporting project **Map Index** for an overview map of the county showing the extent of map panels, community map repository addresses, and a listing of Communities with participating National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment covering portions of this panel, and digital versions of this panel, may be available. Contact the FEMA Map Service Center at the following address, numbers and internet address for information on all related products available from FEMA.

FEMA 500-368-8616
FAX: 800-368-8620
www.fema.gov

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-368-2622) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FEMA for this jurisdiction. The Floodways and Floodways that were transferred from the previous FEMA may have been updated in addition to those map stream channel configurations. As a result, the Flood Hazard and Floodway Data shown in the Flood Insurance Study report may reflect stream channel changes that differ from what is shown on this map.



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT**
- The 1% annual chance (100-year) flood hazard is shown on this map. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood.
- ZONE AE:** Area of special flood hazard boundaries, provided from the 1% annual chance flood hazard. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood.
- ZONE AR:** Area of special flood hazard boundaries, provided from the 1% annual chance flood hazard. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood.
- ZONE AA:** Area of special flood hazard boundaries, provided from the 1% annual chance flood hazard. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood.
- ZONE ABB:** Area of special flood hazard boundaries, provided from the 1% annual chance flood hazard. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood.
- ZONE V:** Coastal Flood Zone with velocity hazard (wave action). See Flood Hazard (ZF1) for information.
- ZONE VE:** Coastal Flood Zone with velocity hazard (wave action). See Flood Hazard (ZF1) for information.
- FLOODWAY AREAS IN ZONE AE:** The Floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increase in flood stage.
- OTHER FLOOD AREAS:**
- ZONE X:** Area of special flood hazard boundaries, provided from the 1% annual chance flood hazard. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood.
 - ZONE D:** Area of special flood hazard boundaries, provided from the 1% annual chance flood hazard. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood. The Flood Hazard (ZF1) is the water surface elevation of the 1% annual chance flood.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS:** CBRS areas and OFAs are normally located within or adjacent to Special Flood Hazard Areas.
- OTHER AREAS:**
- Zone A boundary:** Indicated by a solid line.
 - Zone B boundary:** Indicated by a dashed line.
 - Zone D boundary:** Indicated by a dotted line.
 - CBRS and OFA boundary:** Indicated by a line with cross-ticks.
- Base Flood Elevation (BFE) and value addition in feet:**
- 0.5 FT: Indicated by a line with a circle containing '0.5'.
 - 1 FT: Indicated by a line with a circle containing '1'.
 - 1.5 FT: Indicated by a line with a circle containing '1.5'.
 - 2 FT: Indicated by a line with a circle containing '2'.
 - 2.5 FT: Indicated by a line with a circle containing '2.5'.
 - 3 FT: Indicated by a line with a circle containing '3'.
 - 3.5 FT: Indicated by a line with a circle containing '3.5'.
 - 4 FT: Indicated by a line with a circle containing '4'.
 - 4.5 FT: Indicated by a line with a circle containing '4.5'.
 - 5 FT: Indicated by a line with a circle containing '5'.
 - 5.5 FT: Indicated by a line with a circle containing '5.5'.
 - 6 FT: Indicated by a line with a circle containing '6'.
 - 6.5 FT: Indicated by a line with a circle containing '6.5'.
 - 7 FT: Indicated by a line with a circle containing '7'.
 - 7.5 FT: Indicated by a line with a circle containing '7.5'.
 - 8 FT: Indicated by a line with a circle containing '8'.
 - 8.5 FT: Indicated by a line with a circle containing '8.5'.
 - 9 FT: Indicated by a line with a circle containing '9'.
 - 9.5 FT: Indicated by a line with a circle containing '9.5'.
 - 10 FT: Indicated by a line with a circle containing '10'.
- Map Repository:** Refer to the Map Repository for more information on the map repository. The repository is located at the following address: FEMA 500-368-8616. The repository is located at the following address: FEMA 500-368-8616.
- Map Scale:** 1" = 1000'. The map scale is 1 inch equals 1000 feet. The map scale is 1 inch equals 1000 feet.
- Map Number:** 500368030E. The map number is 500368030E. The map number is 500368030E.
- Effective Date:** September 17, 2010. The effective date is September 17, 2010. The effective date is September 17, 2010.

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0370E

FIRM FLOOD INSURANCE RATE MAP

FAIRFAX COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 370 OF 450

SEE MAP INDEX FOR THIS PANEL (LAYOUT)

JURISDICTION: FAIRFAX COUNTY, VIRGINIA

COMMUNITY: UNINCORPORATED AREAS

DATE: 09/17/10

MAP NUMBER: 500368030E

EFFECTIVE DATE: SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources or at low tide. This **approximate map boundary** should be consulted for specific updated or additional flood hazard information.

To obtain more detailed information on areas within Special Flood Hazard (SFHA) and/or Floodway areas, users are encouraged to consult the Flood Profile and Floodway Data files contained within the Flood Insurance Study (FIS) report that accompanies the FIRM. Users should be aware that data shown on the FIRM represent reported elevation information. Flood profiles are not intended to be used as the sole source of flood elevation information. Additionally, flood elevation data presented in the FIS should be utilized in conjunction with the FEMA for purposes of construction and/or floodplain management.

Coastal Storm Flood Elevation (CSFE) shown on this map apply only landward of 0.2 National Geospatial Vertical Datum (NGVD), areas of the FIRM that are subject to coastal storm flood elevation may also be identified in the Summary of Elevation Data table in the Flood Insurance Study report for this community. Elevation shown on the Summary of Elevation Data table should be used for construction and/or floodplain management purposes when this is higher than the elevation shown on the FIRM.

Boundaries of the Floodway were computed at cross sections and interpolated between cross sections. The boundaries were based on hydraulic computations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided on the Flood Insurance Study report for this jurisdiction.

Coastal storm surge or Special Flood Hazard Areas may be presented in the Flood Elevation Information. Refer to Section 2.4 "Flood Elevation Information" of the Flood Insurance Study report for information on flood special structures in this jurisdiction.

The **probable inlet** in the preparation of this map is located at Stationing 100+00 (Elev. 18. The **horizontal datum** is NAVD83, GRS1980. Vertical datum is based on the mean sea level. The FIRM data used in the production of FIRM for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the National Geospatial Vertical Datum of 1989. These flood elevations must be converted to structure and ground elevations referenced to the same vertical datum for comparison regarding compliance between the National Geospatial Vertical Datum of 1989 and the North American Vertical Datum of 1988. Visit the National Geospatial Survey website at www.ngs.noaa.gov or contact the National Geospatial Survey at the following address:

National Reference System Division
National Geospatial Survey, NOAA
Silver Spring Metro Center
1215 Jefferson Davis Highway
Suite 1204
Silver Spring, Maryland 20910
(301) 713-3242

To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the National Geospatial Survey at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

Base map information shown on the FIRM was provided in digital format by the County of Fairfax GIS Department, including hydrographic and cadastral boundaries. These data were compiled at a scale of 1:500 based on the available 3000-0000 and 6000-0000. Additional information may have been derived from other sources.

Coastline shown on this map are based on the best data available at the time of publication. Because changes due to accretion or the construction of new flood defense walls, this map may not reflect the actual coastline. Users should contact appropriate community officials to verify current coastline locations.

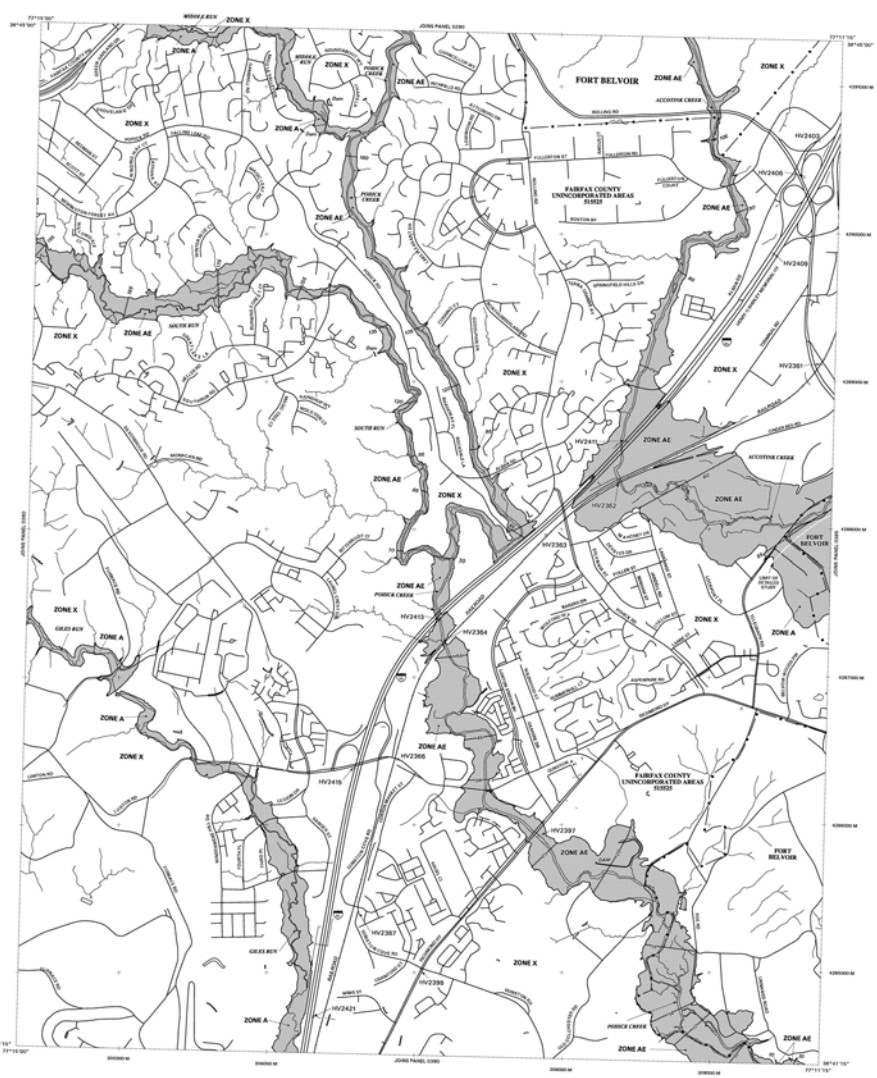
Please refer to the separately printed **Map Index** for an overview map of the county showing the location of map sheets, community map, jurisdiction boundaries, and a listing of Communities being administered National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment, covering portions of this panel, and digital versions of this panel, may be available. Contact the FEMA Map Service Center at the following phone number and internet address for information on all report products available from FEMA:

Phone: 800-286-8816
Fax: 800-286-8820
www.fema.gov

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-369-2622) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The boundaries and floodway data were transferred from the previous FIRM may have been updated by changes to these more up-to-date stream channel configurations. As a result, the Flood Profile and Floodway Data tables in the Flood Insurance Study report may reflect stream channel depths that differ from what is shown on this map.



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT
- The 1% annual chance flood (100-year flood) area shown on the base flood map is the flood elevation that is the maximum water depth that is expected to be reached by the 1% annual chance flood. Flood profiles in the water surface elevation of the 1% annual chance flood.
- Base Flood Elevation Area
- Floodway Area
- OTHER FLOOD AREAS
- ZONE AE
- ZONE X
- ZONE K
- ZONE A
- FLOODWAY AREAS IN ZONE AE
- OTHER AREAS
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
- OTHERWISE PROTECTED AREAS (OPA)
- Boundary of Special Flood Hazard Area of different flood hazard zones
- Base Flood Elevation Line and Stationation in Feet
- Elevation in Feet
- North Arrow
- Scale Bar
- MAP REVISION SYMBOL
- EFFECTIVE DATE OF COMMUNITY FLOOD INSURANCE RATE MAP
- EFFECTIVE DATE OF MAPPING TO THIS PANEL

REIP PANEL 030E

FIRM
FLOOD INSURANCE RATE MAP
FAIRFAX COUNTY,
VIRGINIA
AND INCORPORATED AREAS

PANEL 388 OF 450
SEE MAP INDEX FOR FIRM PANEL LAYOUT

DATE: JUNE 17, 2010
ISSUED: JUNE 17, 2010

MAP NUMBER
510503030E

EFFECTIVE DATE:
SEPTEMBER 17, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage basins or areas. This administrative map repository should be consulted for possible updates or additional flood hazard information.

The office of Regional Flood Elevation (RFE) and/or Floodways have been determined, areas are delineated in detail and the County Flood Insurance Study (CFIS) has been completed within the Flood Insurance Study (FIS) report that accompanies the FIS. Users should be aware that the areas shown on the FIS report represent the FIS. Areas should be aware that the areas shown on the FIS report represent the FIS. Areas should be aware that the areas shown on the FIS report represent the FIS.

Coastal Storm Flood Elevation (CSFE) shown on this map apply only to land west of U.S. National Geographic Vertical Datum (NGVD). Users of this map should be aware that coastal flood elevations may also be provided in the County of Arlington Flood Insurance Study or the Flood Insurance Study report for the community. For areas shown on the boundaries of different locations, users should be aware that the areas shown on the FIS report represent the FIS.

Boundaries of the Floodways were computed at cross sections and interpolated between cross sections. The Floodways were based on hydraulic computations with regard to requirements of the National Flood Insurance Program. Floodway widths and other specific Floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **Flood Control Structures**. Refer to Section 2.4, "Flood Protection Measures", of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projections** used in the preparation of this map is Universal Transverse Mercator (UTM), zone 18. The horizontal datum is NAD83, GRS1980 spheroid. Differences in datum, elevation, projection or UTM zones used in the preparation of FISs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIS.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1929. These flood elevations must be converted to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

National Geodetic Survey
 National Oceanic and Atmospheric Administration
 1315 East-West Highway
 Silver Spring, Maryland 20910
 (301) 713-3326

Tide gauge location, description, and location information for **benchmarks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3326, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIS was provided in digital format by the County of Fairfax GIS Department, including hydrographic and political boundaries. Base map data was compiled as a raster of 1:2500 based on the existing 2000 DOQs and imagery. Additional information may have been derived from other sources.

Composite maps shown on this map are based on the best data available at the time of publication. Because changes due to annexations or disannexations may have occurred after this map was published, map users should consult appropriate governmental agencies for any current jurisdictional boundaries.

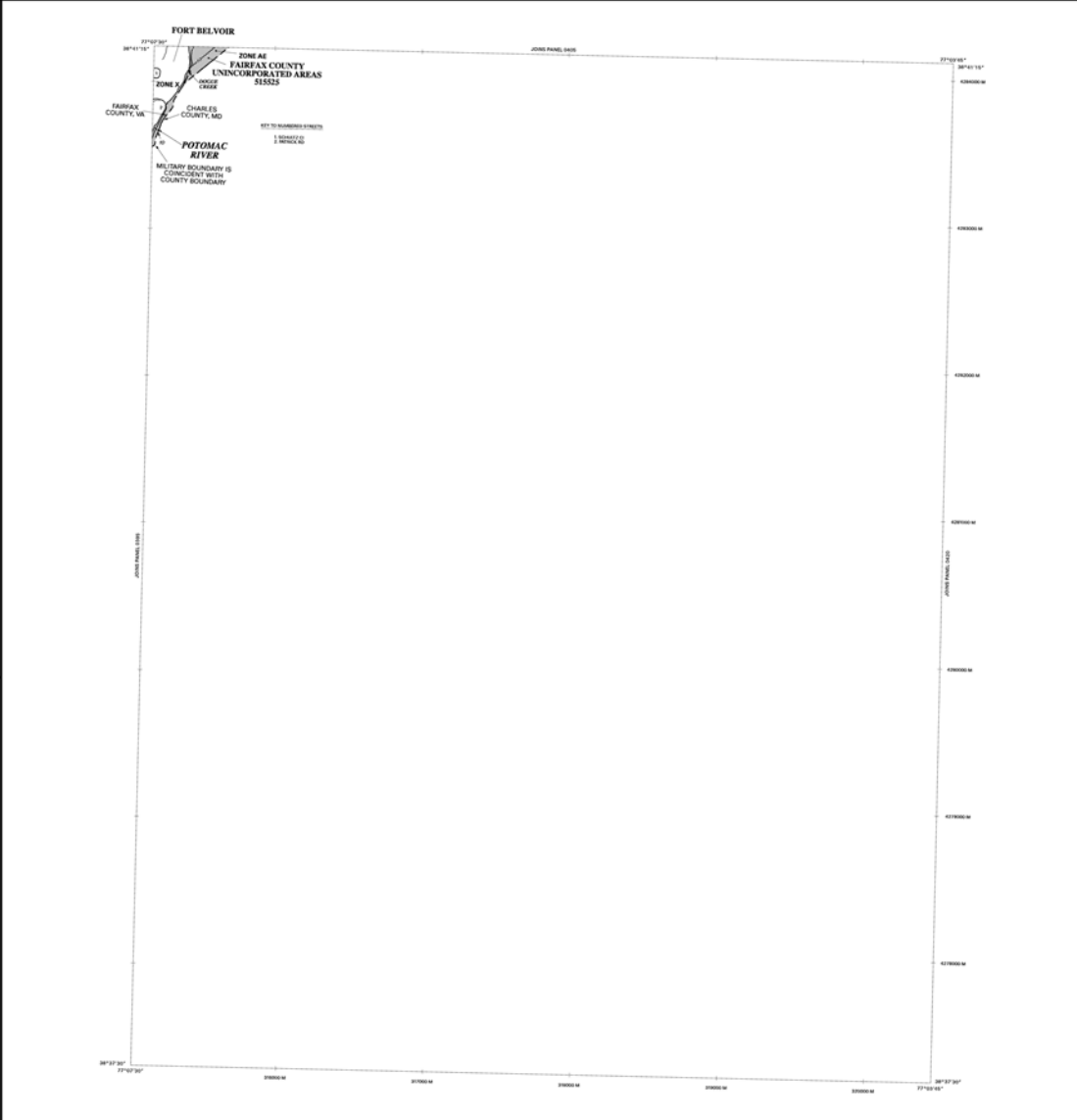
Please refer to the separately printed **Map Index** for an overview map of the county showing the extent of map sheets, community map repository addresses, and a listing of Commission units covering National Flood Insurance Program areas for each community as well as a listing of the panels on which each community is located.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment covering portions of this panel, and digital versions of this FIS, may be available. Contact the **FEMA Map Service Center** at the following phone numbers and Internet address for information on all related products available from FEMA.

Phone: 800-368-9618
 FAX: 800-368-9622
www.fema.gov

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-HELP (1-877-336-2337) or visit the FEMA website at <http://www.fema.gov/publicaffairs/>.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIS for this jurisdiction. The boundaries shown on this map represent the most current FIS. The previous FIS may have been updated to reflect changes in stream channel configurations. As a result, the Map Number and Floodway Date shown in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT
- The 1% annual chance flood (100-year flood) was based on the National Flood Insurance Study (NFIS) Report for the community. The 1% annual chance flood is the flood that has a 1% chance of being equaled or exceeded in any given year. The 1% annual chance flood is the flood that has a 1% chance of being equaled or exceeded in any given year. The 1% annual chance flood is the flood that has a 1% chance of being equaled or exceeded in any given year.
- ZONE AE** Areas with flood elevations determined.
- ZONE A** Areas with flood elevations determined.
- ZONE AN** Areas of special flood hazard formerly protected from the 1% annual chance flood by a levee system that is no longer maintained. The 1% annual chance flood is the flood that has a 1% chance of being equaled or exceeded in any given year.
- ZONE ANR** Areas to be protected from 1% annual chance flood event by a Federal Flood Insurance Study report, under construction, no base flood elevation determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action), no base flood elevation determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action), base flood elevation determined.
- FLOODWAY AREAS IN ZONE AE**
- The Floodway is the channel of a stream plus an adjacent floodplain area that must be maintained to carry the 1% annual chance flood with no lateral overbank water increases in flood height.
- OTHER FLOOD AREAS**
- ZONE X** Areas of 1% annual chance flood zone with a 1% annual chance flood with an average depth of less than 1 foot or with damage less than \$1,000 per acre and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE D** Areas determined to be outside the 1% annual chance floodplain.
- ZONE B** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- Floodway Boundary**
- Floodway Boundary**
- Zone D Boundary**
- CSFE and OFA Boundary**
- Special Flood Hazard Areas of different Base Flood Elevations, Flood depths or velocities**
- Base Flood Elevation value within uniform within areas, elevation in feet**
- Other Section Line**
- Transmit Line**
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)**
- 4300000 M** 1000 meter Universal Transverse Mercator 18k value, zone 18
- 0X55+0.0** Bench mark (see explanation in Notes to Users section of this FIS report)
- M.S.** Map Sheet
- MAP REPOSITORY**
 Refer to Repository Listing on Index Map
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP**
 SEPTEMBER 15, 2016
- EFFECTIVE DATES OF REVISIONS TO THIS PANEL**



FIRM FLOOD INSURANCE RATE MAP
 FAIRFAX COUNTY,
 VIRGINIA
 AND INCORPORATED AREAS

PANEL 415 OF 450
 SEE MAP INDEX FOR THIS PANEL, LA5015

CONTACT: NUMBER, PANEL, DATE

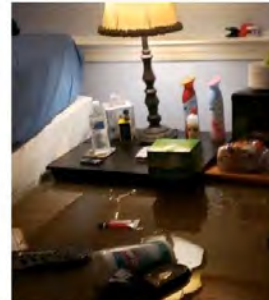
MAP NUMBER
 SY806C415E

EFFECTIVE DATE:
 SEPTEMBER 17, 2010

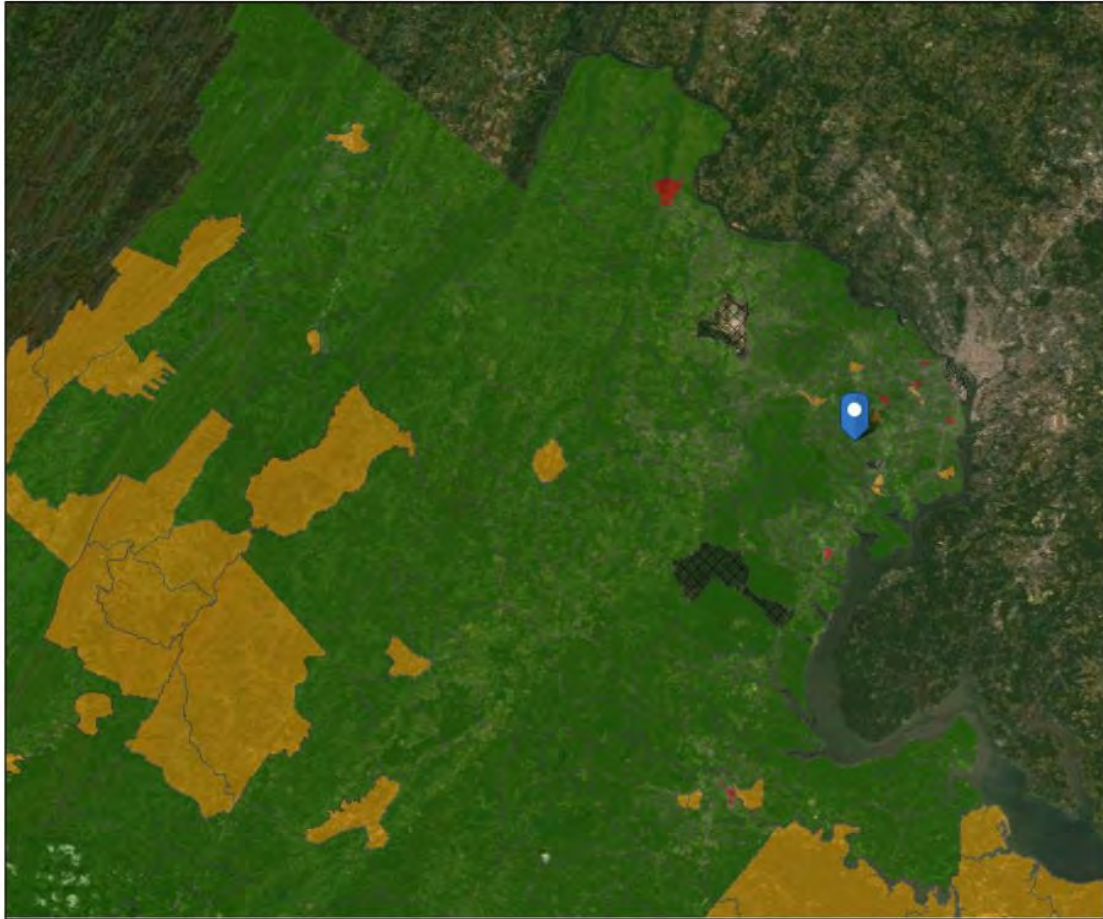
Federal Emergency Management Agency

Fairfax County Historic Flood Damage Examples

ATTACHMENT C



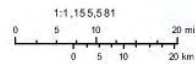
Attachment D. Social vulnerability index score from ADAPT VA's Virginia Vulnerability Viewer



March 8, 2022

Social Vulnerability Classification

-  High Social Vulnerability
-  Moderate Social Vulnerability
-  Not Socially Vulnerable
-  Not included in the analysis



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Created from the Virginia Vulnerability Viewer



Attachment E. Approved Resilience Plan

Ann Jennings
Secretary of Natural and Historic
Resources and Chief Resilience Officer



Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

January 10, 2022

Joni Calmbacher, PE, CFM
Project Manager II
DPWES, Stormwater Planning Division
Watershed Projects Implementation Branch – South
12000 Government Center Parkway Fairfax, VA 22035

RE: Fairfax County Resilience Plan Submission - CFPP

Dear Ms. Calmbacher,

Thank you for providing an overview of your Resilience Plan, and informing DCR of the various plans that Fairfax County will be utilizing to fulfill the Resilience Plan submission requirements. After careful review and consideration, the Virginia Department of Conservation and Recreation has deemed the Plan complete and meets all the criteria outlined in the 2021 Community Flood Preparedness Grant Manual. This approval will remain in effect for a period of three years, ending on January 11, 2025.

The following elements were evaluated as part of this review:

1. Element 1: It is project-based with projects focused on flood control and resilience. DCR RESPONSE

Meets criteria as written.

- a. Project-based: Fairfax County is divided into 30 watersheds which have been addressed in 11 major watershed management plans. Each of the watershed management plans contains projects and watershed management area restoration strategies. The 2017 *Northern Virginia Hazard Mitigation Plan* was a regional effort involving nineteen counties, including Fairfax County, and outlines specific mitigation projects for each participating community in order to reduce vulnerability and exposure to future hazards, including flooding events. The *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management* contains projects at various locations throughout Fairfax County. The projects included and described in the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management* align with the established *Comprehensive Plan* objectives. The *Resilient Critical*

600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

State Parks • Soil and Water Conservation • Outdoor Recreation Planning
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation

Infrastructure Roadmap for Northern Virginia contains a database of resilience projects throughout northern Virginia, including Fairfax County.

2. Element 2: It incorporates nature-based infrastructure to the maximum extent possible. DCR RESPONSE

Meets criteria as written.

- a. The 2020 *Regional Collaboration to Build Community Resilience in Northern Virginia* expanded upon *The Roadmap*, to include maximization of green infrastructure. Nature-based solutions are also presented in the *Fairfax County Watershed Management Plan* and the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management*.

3. Element 3: It includes considerations of all parts of a locality regardless of socioeconomics or race. DCR RESPONSE

Meets criteria as written.

- a. All parts of a locality: The *Northern Virginia Hazard Mitigation Plan* discusses the demographic and economic trends throughout the entirety of Fairfax County.
- b. Social vulnerability: The *Regional Collaboration to Build Community Resilience in Northern Virginia* presents a more comprehensive approach that includes an assessment of the socioeconomic impacts of infrastructure disruptions on vulnerable populations that will be taken into account as well as the socioeconomic benefits of infrastructure investment. This expanded upon objectives contained within *The Roadmap*, to ensure equitable access to resilient critical infrastructure.
- c. Demographic Analysis: Population and demographic characteristics outlined within the *Northern Virginia Hazard Mitigation Plan*. The *Fairfax County Comprehensive Plan* also looks at demographics and social factors and utilizes this information to support the Human Services section of the *Comprehensive Plan*.

4. Element 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. DCR RESPONSE

Meets criteria as written.

- a. Coordination with other local and inter-jurisdictional projects, plans and activities: Objective 4: Strengthen Regional Resilience Through Innovative Partnerships, Programs, and Pilots contained within *Resilient Critical Infrastructure Roadmap for Northern Virginia* focuses on coordination with local and inter-jurisdictional agencies and aligning strategies and programs. The *Comprehensive Plan for Fairfax County, Virginia* was adopted by the Board of Supervisors, Planning Commission, The Department of Planning and Zoning, and the Department of Transportation, and guides all of the plans presented in the Resilience Plan

submission for Fairfax County. The *Northern Virginia Hazard Mitigation Plan* was a collaborative effort that was adopted by all impacted localities.

- b. Clearly articulated timeline or phasing plan for implementation: Timeline for deliverables is presented within the *Regional Collaboration to Build Community Resilience in Northern Virginia*. Timeline presented within the *Fairfax County FY 2022 - FY 2026 Capital Improvement Program, Stormwater Management*. Phased implementation plans presented in the *Fairfax County Watershed Management Plans*.


5. Element 5: Is based on the best available science, and incorporates climate change, sea level rise, storm surge (where appropriate), and current flood maps.

Meets criteria as written.

- a. The 2018 *Resilient Critical Infrastructure Roadmap for Northern Virginia (Roadmap)* incorporates best available science and identifies actions to potentially decrease the severity of future consequences emanating from climate and extreme weather, to include sea level rise and storm surge. *Sea Level Rise: Impact on Northern Virginia* is an interactive story map and dashboard that was created in 2019 to convey the impact of sea level rise scenarios. The *Northern Virginia Hazard Mitigation Plan* includes analyses of natural hazards based on best available science to include flooding, sea level rise and land subsidence, tropical and coastal storms, and shoreline erosion.

VA DCR looks forward to working with you as you work to make Fairfax County a more resilient community. If you have questions or need additional assistance, please contact us at cfpf@dcr.virginia.gov. Again, thank you for your interest in the Community Flood Preparedness Fund.

Sincerely,



Wendy Howard Cooper, Director
Dam Safety and Floodplain Management

cc: Darryl Glover, DCR

Appendix A: Application Form for Grant Requests for All Categories

Virginia Department of Conservation and Recreation
Virginia Community Flood Preparedness Fund Grant Program

Name of Local Government:

Fairfax County

Category of Grant Being Applied for (check one):

Capacity Building/Planning

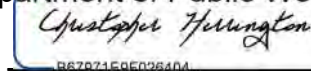
Project

Study

NFIP/DCR Community Identification Number (CID) 515525

If a state or federally recognized Indian tribe, Name of tribe N/A

Name of Authorized Official: Christopher Herrington, Director
Department of Public Works and Environmental Services

Signature of Authorized Official: 
867871595026404

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 448

City: Fairfax **State:** VA **Zip:** 22035

Telephone Number: (703) 324-5033 **Cell Phone Number:** () N/A

Email Address: christopher.herrington@fairfaxcounty.gov

Contact Person (If different from authorized official): Craig Carinci

Mailing Address (1): 12000 Government Center Parkway

Mailing Address (2): Suite 449

City: Fairfax **State:** VA **Zip:** 22035

Telephone Number: (703) 324-5500 **Cell Phone Number:** () N/A

Email Address: craig.carinci@fairfaxcounty.gov

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes No

Categories (select applicable project):

Project Grants (Check All that Apply)

- Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- Wetland restoration.
- Floodplain restoration.
- Construction of swales and settling ponds.
- Living shorelines and vegetated buffers.
- Structural floodwalls, levees, berms, flood gates, structural conveyances.
- Storm water system upgrades.
- Medium and large scale Low Impact Development (LID) in urban areas.
- Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool.
- Dam restoration or removal.
- Stream bank restoration or stabilization.
- Restoration of floodplains to natural and beneficial function.
- Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.

Study Grants (Check All that Apply)

- Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.
- Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.
- Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.
- Studies and Data Collection of Statewide and Regional Significance.
- Revisions to existing resilience plans and modifications to existing comprehensive and hazard.
- Other relevant flood prevention and protection project or study.

Capacity Building and Planning Grants

- Floodplain Staff Capacity.
- Resilience Plan Development
 - Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans.
 - Resource assessments, planning, strategies and development.
 - Policy management and/or development.
 - Stakeholder engagement and strategies.

Location of Project (Include Maps): 27 Fairfax County Watersheds

NFIP Community Identification Number (CID#):(See appendix F 515525)

Is Project Located in an NFIP Participating Community? Yes No

Is Project Located in a Special Flood Hazard Area? Yes No

Flood Zone(s) (If Applicable): SFHA Zones A and AE

Flood Insurance Rate Map Number(s) (If Applicable): See spreadsheet

Total Cost of Project: \$640,000

Total Amount Requested \$320,000

FEMA FIRM Panels

Panel	Effective Date
51059CIND0A	9/17/2010
51059C0020E	9/17/2010
51059C0040E	9/17/2010
51059C0045E	9/17/2010
51059C0065E	9/17/2010
51059C0095E	9/17/2010
51059C0110E	9/17/2010
51059C0115E	9/17/2010
51059C0120E	9/17/2010
51059C0130E	9/17/2010
51059C0135E	9/17/2010
51059C0140E	9/17/2010
51059C0145E	9/17/2010
51059C0155E	9/17/2010
51059C0160E	9/17/2010
51059C0165E	9/17/2010
51059C0170E	9/17/2010
51059C0180E	9/17/2010
51059C0190E	9/17/2010
51059C0210E	9/17/2010
51059C0230E	9/17/2010
51059C0235E	9/17/2010
51059C0240E	9/17/2010
51059C0245E	9/17/2010
51059C0255E	9/17/2010
51059C0260E	9/17/2010
51059C0265E	9/17/2010
51059C0270E	9/17/2010
51059C0280E	9/17/2010
51059C0285E	9/17/2010
51059C0290E	9/17/2010
51059C0295E	9/17/2010
51059C0315E	9/17/2010
51059C0320E	9/17/2010
51059C0335E	9/17/2010
51059C0355E	9/17/2010
51059C0360E	9/17/2010
51059C0370E	9/17/2010
51059C0380E	9/17/2010
51059C0385E	9/17/2010
51059C0390E	9/17/2010
51059C0395E	9/17/2010
51059C0405E	9/17/2010
51059C0410E	9/17/2010
51059C0415E	9/17/2010
51059C0430E	9/17/2010
51059C0435E	9/17/2010

Appendix C: Scoring Criteria for Studies

Virginia Department of Conservation and Recreation
Virginia Community Flood Preparedness Fund Grant Program

Applicant Name:	Fairfax County	
Eligibility Information		
Criterion	Description	Check One
1. 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)?		
Yes	Eligible for consideration	X
No	Not eligible for consideration	
2. Does the local government have an approved resilience plan and has provided a copy or link to the plan with this application?		
Yes	Eligible for consideration under all categories	X
No	Eligible for consideration for studies, capacity building, and planning only	
3. If the applicant is <u>not a town, city, or county</u>, are letters of support from all affected local governments included in this application?		
Yes	Eligible for consideration	
No	Not eligible for consideration	
4. Has this or any portion of this project been included in any application or program previously funded by the Department?		
Yes	Not eligible for consideration	
No	Eligible for consideration	X
5. Has the applicant provided evidence of an ability to provide the required matching funds?		
Yes	Eligible for consideration	X
No	Not eligible for consideration	
N/A	Match not required	

Studies Eligible for Consideration		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Applicant Name:	Fairfax County		
Scoring Information			
Criterion	Point Value	Points Awarded	
6. Eligible Studies (Select all that apply)			
Revising floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.	30	30	
Creating tools or applications to identify, aggregate, or display information on flood risk or creating a crowd-sourced mapping platform that gathers data points about real-time flooding. This could include a locally or regionally based web-based mapping product that allows local residents to better understand their flood risk.	15		
Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA).	35	35	
Studies and Data Collection of Statewide and Regional Significance. Funding of studies of statewide and regional significance and proposals will be considered for the following types of studies:			
<input type="checkbox"/> Updating precipitation data and IDF information (rain intensity, duration, frequency estimates) including such data at a sub-state or regional scale on a periodic basis.	45		
<input type="checkbox"/> Regional relative sea level rise projections for use in determining future impacts.	45		
<input type="checkbox"/> Vulnerability analysis either statewide or regionally to state transportation, water supply, water treatment, impounding structures, or other significant and vital infrastructure from flooding.	45		
<input type="checkbox"/> Flash flood studies and modeling in riverine regions of the state.	45		
<input type="checkbox"/> Statewide or regional stream gauge monitoring to include expansion of existing gauge networks.	45		

<input type="checkbox"/> New or updated delineations of areas of recurrent flooding, stormwater flooding, and storm surge vulnerability in coastal areas that include projections for future conditions based on sea level rise, more intense rainfall events, or other relevant flood risk factors.	45	
<input type="checkbox"/> Regional flood studies in riverine communities that may include watershed-scale evaluation, updated estimates of rainfall intensity, or other information.	50	
<input checked="" type="checkbox"/> Regional hydrologic and hydraulic studies of floodplains.	45	45
<input type="checkbox"/> Studies of potential land use strategies that could be implemented by a local government to reduce or mitigate damage from coastal or riverine flooding.	40	
<input type="checkbox"/> Other proposals that will significantly improve protection from flooding on a statewide or regional basis	35	
7. Is the study area socially vulnerable? (Based on ADAPT VA's Social Vulnerability Index Score.)		
Very High Social Vulnerability (More than 1.5)	15	
High Social Vulnerability (1.0 to 1.5)	12	
Moderate Social Vulnerability (0.0 to 1.0)	8	
Low Social Vulnerability (-1.0 to 0.0)	0	0
Very Low Social Vulnerability (Less than -1.0)	0	
8. Is the proposed study part of an effort to join or remedy the community's probation or suspension from the NFIP?		
Yes	10	
No	0	0
9. Is the proposed study in a low-income geographic area as defined in this manual?		
Yes	10	
No	0	0
10. 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?		
Yes	5	
No	0	0
Total Points		110

Appendix D: Checklist All Categories

Virginia Department of Conservation and Recreation

Community Flood Preparedness Fund Grant Program

Scope of Work Narrative	
Supporting Documentation	Included
Detailed map of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
FIRMette of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Historic flood damage data and/or images (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current floodplain ordinance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Non-Fund financed maintenance and management plan for project extending a minimum of 5 years from project close	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
A link to or a copy of the current hazard mitigation plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current comprehensive plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If applicant is not a town, city, or county, letters of support from affected communities	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Completed Scoring Criteria Sheet in Appendix B, C, or D	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Budget Narrative	
Supporting Documentation	Included
Authorization to request funding from the Fund from governing body or chief executive of the local government	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Signed pledge agreement from each contributing organization	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A



Howard-cooper, Wendy <wendy.howard-cooper@dcr.virginia.gov>

Re: FW: CFPF grant re-applications

1 message

Wells, Matthew <matthew.wells@dcr.virginia.gov>

Mon, Nov 28, 2022 at 3:49 PM

To: "Carinci, Craig A." <Craig.Carinci@fairfaxcounty.gov>

Cc: Wendy Howard-cooper <wendy.howard-cooper@dcr.virginia.gov>, Darryl Glover <darryl.glover@dcr.virginia.gov>, Joni.Calmbacher@fairfaxcounty.gov

Craig,

Thanks for reaching out on this. DCR will accept the County Executive's certification regarding the availability and provision of matching funds for Fairfax's proposed projects when evaluating your applications. However, any grant awards based on this certification would be issued conditionally, with a requirement that the Board of Supervisors vote to specifically approve matching funds for the projects receiving CFPF funds no later than February 1, 2023.

Additionally, we noted that the linked county plan has five year timetables for these two and several other projects. As a reminder, please be advised that all CFPF grants are conditioned on project completion within three years. Applications must reflect only the portion of the project that will be completed during the grant period.

Thanks, and please let me know if you have any additional questions,
Matt

On Fri, Nov 18, 2022 at 4:36 PM Carinci, Craig A. <Craig.Carinci@fairfaxcounty.gov> wrote:

From: Carinci, Craig A.

Sent: Friday, November 18, 2022 4:14 PM

To: Mathew.wells@dcr.virginia.gov

Cc: wendy.howard-cooper@dcr.virginia.gov; Calmbacher, Joni <Joni.Calmbacher@fairfaxcounty.gov>

Subject: CFPF grant re-applications

Matt

Thanks for taking some time to discuss the email that we received from Wendy today, how Fairfax County funds stormwater projects and that with rare exception, specific projects are not identified in our published CIP. I have included a link to the Stormwater CIP below. I also have attached the cover letters for two of the grant applications that also refer to the County Executive's commitment to fund the project subject to County Board approval. We trust that the information in these letters demonstrate our commitment to fund the projects if the grants are approved. Please let Joni Calmbacher (703) 324-2183 and I know if you have any questions or need any additional information.

[Stormwater Management - Adopted Capital Improvement Program \(CIP\) FY 2023- FY 2027 \(fairfaxcounty.gov\)](#)

Thanks again for your quick response and taking the time to discuss our concerns.

Craig

Craig Carinci, Director

Stormwater Planning Division, DPWES

[12000 Government Center Parkway, Suite 449](#)

[Fairfax, VA 22035](#)

Phone: (703) 324-5865

Email: Craig.Carinci@fairfaxcounty.gov

Calmbacher, Joni

From: Wells, Matthew <matthew.wells@dcr.virginia.gov>
Sent: Monday, November 28, 2022 3:49 PM
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Cc: Wendy Howard-cooper; Darryl Glover; Calmbacher, Joni
Subject: Re: FW: CFPF grant re-applications

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Craig Carinci, Director

Stormwater Planning Division, DPWES

12000 Government Center Parkway, Suite 449

Fairfax, VA 22035

Phone: (703) 324-5865

Email: Craig.Carinci@fairfaxcounty.gov