

# 2732 - City of Fairfax Large-Scale Storm Event Study (CID515524\_CityofFairfax\_CFPF-3)

## Application Details

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**Funding Opportunity:**  
2337-Virginia Community Flood Preparedness Fund - Study Grants - CY24 Round 5

**Funding Opportunity Due Date:** Jan 24, 2025 11:59 PM

**Program Area:** Virginia Community Flood Preparedness Fund

**Status:** Under Review

**Stage:** Final Application

  

**Initial Submit Date:** Jan 23, 2025 2:51 PM

**Initially Submitted By:** Michelle Manfrey

**Last Submit Date:**

**Last Submitted By:**

## Contact Information

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### Primary Contact Information

**Active User\*:** Yes

**Type:** External User

**Name\*:** Ms. Michelle Middle Name Manfrey  
Salutation First Name Last Name

**Title:**

**Email\*:** michelle.manfrey@kimley-horn.com

**Address\*:** 11400 Commerce Park Drive  
#400  
  
Reston Virginia 20191  
City State/Province Postal Code/Zip

**Phone\*:** 813-957-0638 Ext.  
Phone  
###-###-####

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

**Comments:**

## Organization Information

**Status\*:** Approved

**Name\*:** Kimley-Horn

**Organization Type\*:**

**Tax ID\*:** 56-0885615

**Unique Entity Identifier (UEI)\*:** V8PKGG6NLKV6

**Organization Website:**

**Address\*:** 421 Fayetteville Street Suite 600

**Phone\*:** Raleigh North Carolina 27601-  
City State/Province Postal Code/Zip  
919-677-2000 Ext.  
###-###-####

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

**Benefactor:**

**Vendor ID:**

**Comments:**

## VCFPF Applicant Information

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### *Project Description*

**Name of Local Government\*:** City of Fairfax

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

**NFIP/DCR Community Identification Number (CID)\*:** 515524

If a state or federally recognized Indian tribe,

**Name of Tribe:**

**Authorized Individual\*:** Melanie Zipp  
First Name Last Name

**Mailing Address\*:** 10455 Armstrong St  
Address Line 1  
Room 316  
Address Line 2  
Fairfax Virginia 22030  
City State Zip Code

**Telephone Number\*:** 703-385-7850

**Cell Phone Number\*:** 703-385-7850  
**Email\*:** melanie.zipp@fairfaxva.gov

Is the contact person different than the authorized individual?

**Contact Person\*:** Yes

**Contact:** Satoshi Eto  
First Name Last Name  
10455 Armstrong St  
Address Line 1  
Room 316  
Address Line 2  
Fairfax Virginia 22030  
City State Zip Code

**Telephone Number:** 703-273-6073

**Cell Phone Number:** 571-641-0839

**Email Address:** Satoshi.Eto@fairfaxva.gov

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

**Project Description\*:**

The City of Fairfax is requesting funding for a study to update existing FEMA floodplain model data to evaluate the effect of the 100-year, 500-year, and 1,000-year storms on City floodplain areas, infrastructure, residential and commercial areas, utilities, critical facilities, and FEMA defined City lifelines. Observing the significant damage caused by Hurricane Helene in 2024 was the City's motivation to assess its own resilience in a similar-caliber storm.

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

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

**Benefit a low-income geographic area\*:** No

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

**Census Block(s) Where Project will Occur\*:**

1000 1001 1002 1003 1004 1005...(proposed study will take place throughout City)

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

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

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

## Flood Insurance Rate Map

### Number(s)

(if applicable):

5155240001E, 5155240002E, 5155240003E, 5155240004E, 5155240005E, 5155240006E

## Eligibility - Round 4

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### ***Eligibility***

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

**Local Government\*:**

Yes

Yes - Eligible for consideration

No - Not eligible for consideration

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

**Letters of Support\*:**

N/A

Yes - Eligible for consideration

No - Not eligible for consideration

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

**Previously Funded\*:**

No

Yes - Not eligible for consideration

No - Eligible for consideration

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

**Evidence of Match Funds\*:**

Yes

Yes - Eligible for consideration

No - Not eligible for consideration

N/A - Match not required

## Scope of Work - Studies - Round 4

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### ***Scope of Work***

#### **Upload your Scope of Work**

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

**Scope of Work\*:**

CID515524\_CityofFairfax\_CFPF-3\_Scope of Services.pdf

**Comments:**

A detailed breakdown of Kimley-Horn's fee estimate and rate schedule information has been redacted from this application package.

### ***Budget Narrative***

**Budget Narrative Attachment\*:**

CID515524\_CityofFairfax\_CFPF-3\_Budget Narrative.pdf

**Comments:**

A detailed budget narrative is included in this document and contains the required information outlined in the 2024 Funding Manual for the Virginia Community Flood Preparedness Fund.

# Scoring Criteria for Studies - Round 4

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## Scoring

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.

Revising Floodplain Ordinances\*: No  
Select

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.

Mapping Platform\*: No  
Select

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).

Hydrologic and Hydraulic Studies\*: Yes  
Select

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:

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.

Updating Precipitation Data and IDF Information\*: No  
Select

Regional relative sea level rise projections for use in determining future impacts.

Projections\*: No  
Select

Vulnerability analysis either statewide or regionally to state transportation, water supply, water treatment, impounding structures, or other significant and vital infrastructure from flooding.

Vulnerability Analysis\*: Yes  
Select

Flash flood studies and modeling in riverine regions of the state.

Flash Flood Studies\*: Yes  
Select

Statewide or regional stream gauge monitoring to include expansion of existing gauge networks.

Stream Gauge Monitoring\*: No  
Select

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.

Delineations of Areas of Recurrent Flooding\*: No  
Select

Regional flood studies in riverine communities that may include watershed-scale evaluation, updated estimates of rainfall intensity, or other information.

**Regional Flood Studies\*:** Yes  
Select

**Regional Hydrologic and Hydraulic Studies of Floodplains**

**Regional Hydrologic and Hydraulic Studies of Floodplains\*:** Yes  
Select

**Studies of potential land use strategies that could be implemented by a local government to reduce or mitigate damage from coastal or riverine flooding.**

**Potential Land Use Strategies\*:** No  
Select

**Pluvial Studies**

**Pluvial Studies\*:** No  
Select

**Other proposals that will significantly improve protection from flooding on a statewide or regional basis.**

**Other Proposals\*:** No  
Select

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

**Social Vulnerability Scoring:**

Very High Social Vulnerability (More than 1.5)

High Social Vulnerability (1.0 to 1.5)

Moderate Social Vulnerability (0.0 to 1.0)

Low Social Vulnerability (-1.0 to 0.0)

Very Low Social Vulnerability (Less than -1.0)

**Socially Vulnerable\*:** Low Social Vulnerability (-1.0 to 0.0)

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

**NFIP\*:** No

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

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

**Low-Income Geographic Area\*:** No

**Projects eligible for funding may also reduce nutrient and sediment pollution to local waters and the Chesapeake Bay and assist the Commonwealth in achieving local and/or Chesapeake Bay TMDLs.**

**Does the proposed project include implementation of one or more best management practices with a nitrogen, phosphorus, or sediment reduction efficiency established by the Virginia Department of Environmental Quality or the Chesapeake Bay Program Partnership in support of the Chesapeake Bay TMDL Phase III Watershed Implementation Plan?**

**Reduction of Nutrient and Sediment Pollution\*:** No

**Comments:**

The proposed study will occur throughout the City, so a composite Social Vulnerability value was calculated by computing the average of all Social Vulnerability scores within the City.

## Scope of Work Supporting Information - Studies

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## ***Scope of Work Supporting Information***

**Is the proposed study a new study or updates on a prior study?**

**New or Updated Study\*:** Updates on a Prior Study

**Describe the relationship of the study to the local government's needs for flood prevention and protection, equity, community improvement, identification of nature-based solutions or other priorities contained in this manual**

**Relationship of Study to  
Priorities Contained in this  
Manual\*:**

The results of the study proposed as part of this grant application package are crucial to understanding flood risk within the City, ensuring preventative and emergency response efforts are equitable, and making informed decisions when prioritizing high impact flood mitigation projects to protect the City's residents, property owners, businesses, and natural areas that lie within the inundation limits of the 1,000-year storm.

**Describe the qualifications of the individuals or organizations charged with conducting the study or the elements of any request for proposal that define those qualifications**

**Qualifications of Individuals  
Conducting Study\*:**

Kimley-Horn will be conducting the study in collaboration with the City of Fairfax. The Kimley-Horn study team will consist of the following core members, with the following qualifications and roles:

Jon D'Alessandro, P.E. - Project Manager  
Jared Hodes, P.E., CFM - Modeling Lead  
Michelle Manfrey, EIT - Modeling Analyst  
Chrystal Delius, EIT - Modeling Analyst

**Describe the expected use of the study results in the context of the local resilience plan or, in the case of regional plans, how the study improves any regional approach**

**Expected use of Study Results\*:**

In the context of the City's Resilience Plan, this study is particularly relevant to Community Rating System (CRS) Category 1 activities. The CRS definition of Category 1 activities is provided below:

Category 1 - Floodplain Management - These activities keep flood problems from getting worse. Examples include floodplain mapping and data, open space preservation, floodplain regulations, erosion setbacks, planning and zoning, stormwater management, drainage system maintenance, and building codes.

As part of the City's Resilience Plan, potential activities were identified that could prevent or reduce the severity of the flooding challenges faced by the City and assist in achieving the City's flood resilience goals. The following potential activities identified in the City's Resilience Plan would benefit from the results of study proposed as part of this grant application package. For additional information on these potential activities, please refer to the City's Resilience Plan, which has been included as an attachment in this section.

- o Floodplain Resilience Model
- o Transportation Network Resilience Assessment and Prioritization
- o Establishment of Flood Control Districts
- o Historic Site Risk Assessment
- o Strategic Buyouts
- o Floodplain Restoration Program
- o Project Impact Optimization
- o Improve City Emergency Preparedness and Response

- o At-Risk Infrastructure Identification and Post-Flood Assessment Program
- o Enhanced Flood Resilience Outreach and Education

If applicable, describe how the study may improve Virginia's flood protection and prevention abilities in a statewide context (type N/A if not applicable)

**Statewide Improvements\*:**

The City of Fairfax is a highly urban constituency in Northern Virginia and the modeling results generated as part of the proposed study can be shared with organizations such as the Office of Emergency Management and the Northern Virginia Regional Commission to improve flood protection and prevention abilities in a local, regional, and statewide context.

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

**Repetitive Loss and/or Severe** CID515524\_CityofFairfax\_CFPF-3\_Repetitive Loss Properties.pdf

**Repetitive Loss Properties\*:**

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

**Residential and/or Commercial Structures\*:**

The intent of this study is to identify high-risk areas and quantify the scale differences between the 100, 500, and 1,000-year storms with regards to impact to residential and commercial properties. As such, data regarding these impacted structures can be provided in graphical and tabular format upon the completion of the study.

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

**Critical Facilities/Infrastructure\*:**

Existing City-wide critical facility and infrastructure information can be found in the City of Fairfax Resilience Plan (2024), which has been included as an attachment in this section.

The intent of this study is to pair critical infrastructure information from the City's Resilience Plan with updated modeling efforts to identify how critical infrastructure within the City is impacted by the 100, 500, and 1,000-year storms. This information will be made available after the completion of the study and can be provided in graphical and tabular format.

## Budget

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***Budget Summary***

**Grant Matching Requirement\*:** Flood Prevention and Protection Studies - Fund 50%/Match 50%

Is a match waiver being requested?

**Match Waiver Request** No

Note: Only low-income communities are eligible for a match waiver

\*:

**Total Project Amount (Request + Match)\*:** \$45,162.64  
\*\*This amount should equal the sum of your request and match figures

**REQUIRED Match Percentage Amount:** \$22,581.32



BUDGET TOTALS

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

Match Percentage:

50.00%

Verify that your match percentage matches your required match percentage amount above.

Total Requested Fund Amount:	\$22,581.32
Total Match Amount:	\$22,581.32
TOTAL:	\$45,162.64

Personnel

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

Fringe Benefits

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

Travel

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

Equipment

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

Supplies

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

Construction

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

Contracts

Description	Requested Fund Amount	Match Amount	Match Source
	\$22,581.32	\$22,581.32	

Description	Requested Fund	Match	Match Source
	Amount	Amount	
Kimley-Horn Citywide Floodplain Evaluation	\$22,581.32	\$22,581.32	Stormwater Utility Fund FY25 Adopted Budget
	<b>\$22,581.32</b>	<b>\$22,581.32</b>	

### ***Pre-Award and Startup Costs***

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

### ***Other Direct Costs***

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

## Supporting Documentation

### ***Supporting Documentation***

Named Attachment	Required Description	File Name	Type	Size	Upload Date
Detailed map of the project area(s) (Projects/Studies)	The study proposed as part of this grant application package will be City-wide, so the project area map includes the FEMA special flood hazard areas for the entirety of the City.	CID515524_CityofFairfax_CFPF-3_Project Area Map.pdf	pdf	3 MB	01/22/2025 08:29 PM
FIRMette of the project area(s) (Projects/Studies)	The study proposed as part of this grant application package is a City-wide initiative. FIRMs covering the extents of the City have been included in place of FIRMettes.	CID515524_CityofFairfax_CFPF-3_FIRMs.pdf	pdf	156 MB	01/22/2025 08:39 PM

Named Attachment	Required Description	File Name	Type	Size	Upload Date
Historic flood damage data and/or images (Projects/Studies)	The following images have been sourced from the City's flood resilience questionnaire and serve as documentation of flooding throughout the City. Personally Identifiable Information, such as names and addresses of residents who have submitted questionnaire data, has not been included as part of this grant application.	CID515524_CityofFairfax_CFPF-3_Historic Flooding Documentation.pdf	pdf	1 MB	01/22/2025 08:40 PM
A link to or a copy of the current floodplain ordinance	Link to City of Fairfax Floodplain Ordinance	CID515524_CityofFairfax_CFPF-3_Floodplain Ordinance.pdf	pdf	313 KB	01/22/2025 08:41 PM
Maintenance and management plan for project	The Project Background & Need section of the grant application has been included as reference for this attachment. This study is intended to identify areas vulnerable to catastrophic storms and will be used to drive project selection and emergency planning efforts. As such, a maintenance plan is not applicable to this study at this time.	CID515524_CityofFairfax_CFPF-3_Maintenance and Management Information.pdf	pdf	419 KB	01/22/2025 08:49 PM
A link to or a copy of the current hazard mitigation plan	City of Fairfax Hazard Mitigation Plan	CID515524_CityofFairfax_CFPF-3_Hazard Mitigation Plan.pdf	pdf	2 MB	01/22/2025 08:41 PM

Named Attachment	Required Description	File Name	Type	Size	Upload Date
A link to or a copy of the current comprehensive plan	Link to City of Fairfax Comprehensive Plan	CID515524_CityofFairfax_CFPF-3_Comprehensive Plan.pdf	pdf	302 KB	01/22/2025 08:45 PM
Social vulnerability index score(s) for the project area	Social Vulnerability Map for the City of Fairfax. This is a City-wide initiative so a map of the entire City has been included.	CID515524_CityofFairfax_CFPF-3_SVI.pdf	pdf	2 MB	01/22/2025 08:46 PM
Authorization to request funding from the Fund from governing body or chief executive of the local government	Melanie Zipp, Acting City Manager, has authorized the City of Fairfax Department of Public Works to request funding.	CID515524_CityofFairfax_CFPF-3_Funding Request Authorization.pdf	pdf	39 KB	01/23/2025 02:42 PM
Signed pledge agreement from each contributing organization					
Maintenance Plan	The Project Background & Need section of the grant application has been included as reference for this attachment. This study is intended to identify areas vulnerable to catastrophic storms and will be used to drive project selection and emergency planning efforts. As such, a maintenance plan is not applicable to this study at this time.	CID515524_CityofFairfax_CFPF-3_Maintenance and Management Information.pdf	pdf	419 KB	01/22/2025 08:49 PM

*Benefit-cost analysis must be submitted with project applications over \$2,000,000. in lieu of using the FEMA benefit-cost analysis tool, applicants may submit a narrative to describe in detail the cost benefits and value. The narrative must explicitly indicate the risk reduction benefits of a flood mitigation project and compares those benefits to its cost-effectiveness.*

Benefit Cost  
Analysis

Named Attachment	Required Description	File Name	Type	Size	Upload Date
Other Relevant Attachments	This document is the compiled grant application package, including all scoring criteria requirements outlined in Appendix D of the CFPF Grant Manual.	CID515524_CityofFairfax_CFPF-3_Compiled Grant Application Package.pdf	pdf	248 MB	01/23/2025 02:43 PM

### ***Letters of Support***

Description	File Name	Type	Size	Upload Date
	No files attached.			