

Appendix A: Application Form for Grant and Loan Requests for All Categories

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

Name of Local Government: City of Roanoke, Virginia

Category Being Applied for (check one):

☐ Capacity Building/Planning

☒ Project

☐ Study

NFIP/DCR Community Identification Number (CID) 510130

Name of Authorized Official and Title: Dr. Lydia Pettis Patton, Interim City Manager

Signature of Authorized Official:

Mailing Address (1): 215 Church Ave. SW

Mailing Address (2):

City: Roanoke **State:** VA **Zip:** 24011

Telephone Number: (540) 853-2333 **Cell Phone Number:** ()

Email Address: lydia.patton@roanokeva.gov

Contact and Title (If different from authorized official): Marcus F. Aguilar, Civil Engineer II

Mailing Address (1): 1802 Courtland Rd. NE

Mailing Address (2): _____

City: Roanoke **State:** VA **Zip:** 24012

Telephone Number: (540) 853-5918 **Cell Phone Number:** (540) 580-7209

Email Address: marcus.aguilar@roanokeva.gov

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

Categories (select applicable activities that will be included in the project and used for scoring criterion):

Capacity Building and Planning Grants

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

Study Grants (Check All that Apply)

- ☐ Revising other land use ordinances to incorporate flood protection and mitigation goals, standards, and practices.

- ☐ Conducting hydrologic and hydraulic (H&H) studies of floodplains. *Changes to the base flood, as demonstrated by the H&H must be submitted to FEMA within 6 months of the data becoming available.*
- ☐ 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.
- ☐ Pluvial studies.
- ☐ 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, freeboard, or other higher standards, RiskMAP public noticing requirements, or correcting issues identified in a Corrective Action Plan.

Project Grants and Loans (Check All that Apply – Hybrid Solutions will include items from both the “Nature-Based” and “Other” categories)

Nature-based solutions

- ☒ 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, and where the flood mitigation benefits will be achieved as a part of the same project as the property acquisition.
- ☐ Wetland restoration.
- ☒ Floodplain restoration.
- ☐ Construction of swales and settling ponds.

- ☐ Living shorelines and vegetated buffers.

- ☐ 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, or the acquisition of developed land for future conservation.

- ☐ Dam removal.
- ☐ Stream bank restoration or stabilization.
- ☐ Restoration of floodplains to natural and beneficial function.

Other Projects

- ☐ Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.
- ☐ Dam restoration.
- ☐ Beneficial reuse of dredge materials for flood mitigation purposes
- ☐ Removal or relocation of structures from flood-prone areas where the land will not be returned to open space.
- ☐ Structural floodwalls, levees, berms, flood gates, structural conveyances.
- ☐ Storm water system upgrades.
- ☐ Medium and large-scale Low Impact Development (LID) in urban areas.
- ☐ 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, and where the flood mitigation benefits will **not be** achieved as a part of the same project as the property acquisition.
- ☐ Other project identified in a DCR-approved Resilience Plan.

Location of Project or Activity (Include Maps): 1941 and 1953 Franklin Rd. SW

NFIP Community Identification Number (CID#): 510130

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): Zone AE Floodway

Flood Insurance Rate Map Number(s) (If Applicable): 51161C0164G

Total Cost of Project: \$1,464,000.00

Total Amount Requested \$1,390,800.00

Amount Requested as Grant \$1,390,800.00

Amount Requested as Project Loan (Long-Term, not including short-term loans for up-front costs)
\$0

RVRF Loan Amount Requested as Project Match (Not including short-term loans for up-front costs)
\$0

Amount Requested as Short-Term loan for Up-Front Costs (not to exceed 20% of amount requested as Grant) \$0

For projects, planning, capacity building, and studies in low-income geographic areas: Are you requesting that match be waived? ☐ Yes ☒ No

Ore Branch Phase II – Acquisition, Demolition, Floodplain Restoration

*Virginia Department of Conservation and Recreation (DCR) Community Flood Preparedness Fund (CFPF)
Project Grant Application*

CID510130_RoanokeCity_CFPF-1

Introduction

In this grant proposal, the City of Roanoke, Virginia requests funding from the Department of Conservation and Recreation's (DCR's) Community Flood Preparedness Fund (CFPF) in support of a proposed acquisition, demolition and floodplain restoration project on Ore Branch, a flood prone stream in Roanoke City, Virginia. The scope of this project includes the acquisition of two properties and demolition of all structures, followed by the restoration of the floodplain using natural channel design principles, excavation of a floodplain bench, removal of all impervious surface, and replanting the entire site with the appropriate native grasses, trees and shrubs (see Figure 1, next page). The site would dovetail into the forthcoming stream/floodplain restoration work at the former Ramada site (funded under CFPF Round 4) and would be consistent with the community input survey for this area. This project will provide significant flood risk reduction benefits to the surrounding area and will improve water quality. This project is submitted as a nature-based solution, and as such the City is requesting 95% DCR CFPF funding for the full delivery project cost of \$1,464,000.00. This project will be managed by the City's Stormwater Utility, and we anticipate that this project will be a significant contribution to our goal of transforming the Roanoke River and its tributaries into community assets, focal points, and sources of pride for those that live, work, learn and play in its watershed.

This proposal is organized using the same hierarchy as DCR's Round 5 CFPF grant manual for ease of review. The content in this document mirrors that in the WebGrants Portal, but allows for more robust narrative, tables, figures and appendices.

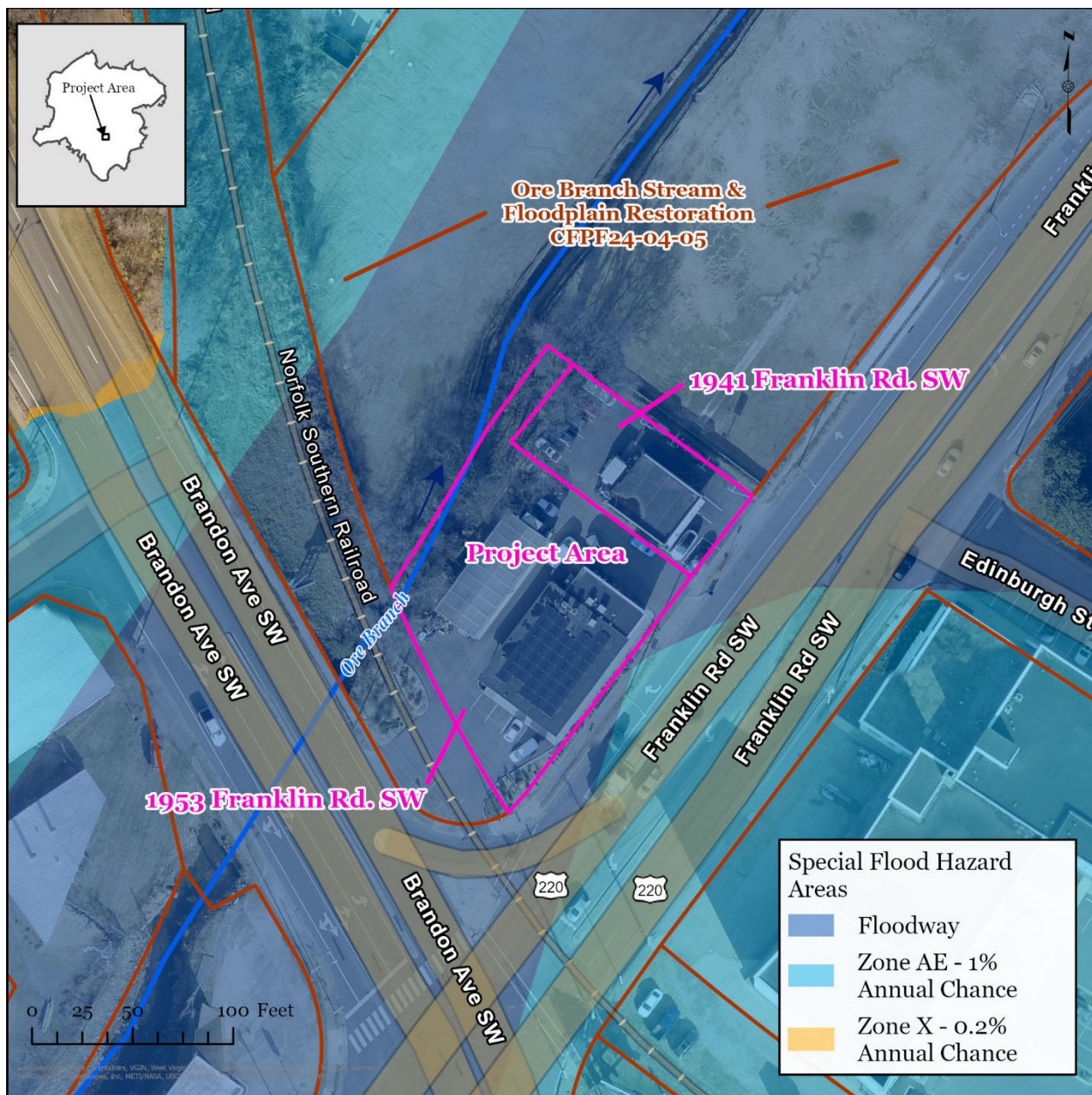


Figure 1 – Map showing proposed project area with FEMA Special Flood Hazard Areas (SFHAs) overlaid.

Scope of Work Narrative

The narrative provided in this section provides the information requested in Part V. B. “Scope of Work Narrative” in the Round 5 CFPF Manual.

General Requirements/Project Information:

A. Specific Problem Being Solved:

The project area is a low-lying confluence of Ore Branch (a small urban tributary) and the Roanoke River (a larger riverine system) and is subject to both pluvial and riverine flooding. As such, the property owners in this area have experienced chronic flooding of structures, parking lots, roadways, etc. subjecting owners and tenants to property damage, vehicle damage and risk to human safety. Flood Insurance Study Profiles indicate that these properties begin flooding at or slightly above the 10-year recurrence interval flood on Ore Branch, and at approximately the 25-year recurrence interval on the Roanoke River.

Flooding also impacts the transportation corridors in the area, including the Franklin Rd. SW /Brandon Ave. SW intersection and the Roanoke River Greenway (a shared use pedestrian path) which convey 20,000 vehicles and 1,000 pedestrians per day (respectively) across the City. Franklin Rd./U.S. Rte 220 is part of a VDOT corridor of statewide significance and this intersection is a primary route to Carilion's Roanoke Memorial Hospital. The area is designated as a Repetitive Loss Area (see the City's [Repetitive Loss Area Analysis](#), “OB-1”), and contains seven floodway structures including three located on the proposed acquisition properties.

B. Factors Which Contribute to the Identified Problem

Ore Branch is a highly flood prone urban waterway that drains from mountains to the south of the City of Roanoke, through highly developed land along the US Route 220 corridor and finally into the Roanoke River immediately downstream of the proposed project area. Maintaining access along a key transportation corridor and access to primary health care facility is a factor in prioritizing this project.

C. Why the activity is needed locally and regionally

This project is needed for its benefits, which are realized in terms of property damages avoided, reduction of traffic impacts, health and access during an emergency event, reduction of safety risk to the heavy pedestrian traffic in the area, and the improved environmental functions of the restored floodplain. The project would also improve water quality by reducing phosphorus loads by an estimated 0.22 lbs/year (see Virginia Runoff Reduction Method, VRRM calculations in “Other Relevant Attachments.PDF”).

D. How the activity decreases the risk to public safety through flood risk reduction

The proposed acquisition and demolition component of this effort would completely mitigate the local risk to the two property owners (estimated as \$14M± in structure damage and business impacts), and the removal of these flow impedances and excavation of floodplain bench would reduce risk to the surrounding businesses and critical traffic corridor.

E. How the activity protects or conserves natural resources

The final state of the project site will be a restored floodplain and riparian area that ties into other City efforts to create natural spaces and floodplains. The project will extend the restoration of the biotic and hydrologic floodplain functions provided in the first phase of the project at the former Ramada site.

F. Who or what is protected

This project would protect the 20,000 vehicles and ~1,000 Greenway pedestrians that use this busy area every day, in addition to the owners, customers, clients and assets of the two commercial properties.

G. Safety threats, or environmental concerns related to flood risk

The primary safety threat is related to the florist shop that presently occupies these two properties. Floodwaters have entered the shop creating unsafe conditions in the building and creating an island that prevents anyone from leaving the property and would require swift water rescue if someone was stranded in the building. The secondary safety threat is the flood risk to the surrounding roadways and the potential for stranded vehicles and swift water rescues.

H. Groups who might benefit directly from this flood risk reduction effort

The benefits would be realized by the owners of the two mitigation properties, the surrounding business owners and their customers and the >20,000 community members that use these roads/Greenways to reach Downtown Roanoke, the Carilion Hospital area, and the surrounding area. Visitors to the Roanoke River Greenway and surrounding park system would also enjoy the finished passive recreation state of the site.

I. What would happen if the applicant does not receive funding.

If this proposed project were not funded, the risk would remain as-is unless mitigation funding could be secured from another program.

J. Alternatives analysis of the viability of the project.

The two mitigation properties proposed (and the surrounding area) are subject to such a high level of flood risk that it would not be feasible to provide the same measure of risk reduction using an alternate strategy because: (1) the volume of detention needed would not be economically feasible; (2) increasing downstream conveyance would be possible but would leave significant residual risk; and (3) floodproofing would need to be installed to 6 – 8 ft. above existing grade according to the City's floodplain ordinance.

The City has used mitigation and floodplain restoration to great effect, including the Roanoke River Flood Reduction Project, which removed \$5.1M of high flood risk structures along the Roanoke River and established 6.2 miles of floodplain benches. The City has completed several similar projects on smaller tributaries, amounting to 28 acres of conserved floodplain land to date. Along perennial waterways, other types of mitigation strategies are not technically or economically feasible, though acquisition/demolition/restoration projects have demonstrated a favorable return-on-investment as they do not create significant maintenance obligation and have an indefinite useful life.

Goals and Objectives

This project has three objectives to be achieved within the three-year period of performance:

1. Eliminate flood risk to the two subject properties by acquiring properties and demolishing existing structures.
2. Reduce flood risk to surrounding flood prone buildings, roadways and greenways by removing impedances to flow (buildings) and opening floodplain.
3. Improve water quality by removing impervious cover, reducing volume of runoff and restoring a natural floodplain area.

Work Plan

Major Activities, Tasks, Responsible Parties, Timeframes, Deliverables:

All major activities/tasks, responsible parties, timeframes and deliverables are presented in Table 1. In general, the City's Stormwater Utility will implement the work in five main tasks. Contracted survey, engineering/design, asbestos abatement, demolition and earthwork/landscaping services will support the project.

Table 1 – Project work plan with responsible party, timeframe and deliverables.

Major Activities/Tasks	Responsible Party	Time-frame	Deliverables
Acquire Properties	City	Year 1	Land Title, Executed Sales Agreement
Survey and Engineering	City and Consultant	Year 1	Plans for demolition and restoration
Abate Asbestos	City + Contractor	Year 2	Executed Final Clearance Report
Demolish Structures + Substructures	City + Contractor	Year 2	Clear site, Signed Final Acceptance
Grade Floodplain Bench, Plant Vegetation	City + Contractor	Year 3	Final Acceptance

Partners:

The key partner in the restoration of this area from high flood risk structures to passive recreation space is the City's Parks and Recreation (P&R) Department. City P&R assisted in shaping a landscape plan for the adjacent former hotel site and in deploying a community input survey on the next phase of this area. The results of this survey (see attached "Reimagining the Ramada Community Survey Report" in Supporting Documents) request a pollinator/wildflower meadow and stream/wetland restoration consistent with the concept proposed in this application. Furthermore, there is an informal business association for this area that has been supportive of each stage of this project.

Maintenance Plan:

The City's Stormwater Utility will be responsible for long-term maintenance of the site. The Stormwater Utility has experience establishing and maintaining stream restoration sites that require more careful upkeep of the highly visible perimeter while allowing native planting areas to mature – one example of this type of maintenance is at the stream restoration project at Washington Park ([hyperlink](#)).

The main elements of the maintenance plan for the proposed work include:

- Routine maintenance along sidewalks, streetscapes, entrances.
- Periodic invasive species management.
- Selective mowing and string-trimming.
- Annual bush-hogging where prescribed
- Reseeding/replanting if needed.
- Quarterly, then annual inspections.

Based on similar stream/floodplain restoration projects performed elsewhere in the City, it is anticipated that the maintenance load will be largest in the first year after the project is completed, but will diminish over time as the ecosystem becomes fully established.

Evaluation

a. Indicators of Success

The most immediate indicator of success for this project is the successful acquisition and demolition of the two flood prone properties and the successful completion of the floodplain bench with riparian vegetation. The second longer term indicator is the successful establishment of vegetation on the site in keeping with the community input survey and consistent with the proposed maintenance plan. In this case, “success” means that the work proposed is completed within the period of performance and budget.

b. Data that will be collected and how the data will be used to measure success

During flood events of significance, the Stormwater Utility collects data on rainfall intensity and return period, stream depths, flooding photographs, surveyed flood extents and impacts, drone photos, etc. and assimilates these data into a post-event report. During these events, staff collect information to identify issues that need to be addressed and to evaluate the performance of completed projects. As such, the proposed project will be included in this post-event review to assure proper function of the site with respect to design objectives.

c. Cost effectiveness Measured Against Specific Outcomes

Cost-effectiveness for this project was evaluated by estimating the reduction in flood damages delivered by the proposed work compared to the total cost to deliver the work using FEMA's Benefit Cost Analysis (BCA) Toolkit v.6.0 (see attachment in “Supporting Documentation” tab). In general, the BCA toolkit estimates project benefits based on modeled flood depths/damages during a range of return period floods; project costs are based on the attached budget narrative.

The overall benefit to cost ratio for this proposed project is 8.16:1 indicating a highly favorable project. Actual flood risk reduction will be observed over time as the property floods under the proposed condition without causing damage to the site. Success for this project as defined by the previously mentioned community survey is in alignment with the proposed finish site condition.

d. What products, services, meetings, and outreach efforts will be conducted and how will success be measured?

In general, community perspective on the future of this area was established through the 2022 community survey which acquired 654 responses and requested a pollinator/wildflower meadow on the upland with a stream/wetland restoration along the stream itself. More specific conversations have been held with the informal business association in this area to assure that the restored floodplain is consistent with the desires of local stakeholders.

Moving forward, the Stormwater Utility will continue to communicate with local stakeholders directly and the community more broadly through individual meetings and social media communication as appropriate to assure project success in terms of broader community perspective.

e. Progress Monitoring

Upon award, the City will develop a Project Management Plan that outlines roles and responsibilities, provides a project schedule based on award date and any additional available information, and defines any potential schedule delays. The project will be managed by a Senior Engineer who is responsible for grant compliance and managing schedule/budget risk. The City support team will include a Junior Engineer, Environmental Specialist and Financial Administrator who will help assure on-time on-budget delivery. The City will also use a contractor for environmental assessment (complete), final site design/demo plan, abatement/demolition, grading and planting to be managed by the City Senior Engineer.

SUPPORTING DOCUMENTS FOR PROJECT APPLICATIONS

Project Information:

a. Population

The US Census Bureau’s estimated population of the City of Roanoke was 97,847 as of July 2022. While it is difficult to exactly estimate the population benefiting from this project, we estimate that the flood risk reduction realized by this project will benefit users of the roadways (~20,000 vehicles per day), greenways (~1,000 pedestrians per day) and nearby business operations. As this proposed project site is adjacent to the City’s most-used section of Greenway, it is also anticipated that the site will provide significant passive recreational benefits (e.g. walking, birdwatching). The median household income of City of Roanoke is \$48,476 while the median household income of Virginia is \$80,615 (both from 2020 U.S. Census); the City’s median income is 60.1% of the statewide median, designating the City as a “Low-income geographic area” as per the DCR definition.

b. Historical Flooding Data and Hydrologic Studies:

The subject properties and all three structures on the properties are located in ZONE AE FLOODWAY according to a 2007 Flood Insurance Study. Estimated flood depths for four recurrence intervals are shown in the bottom four rows of Table 2.

Table 2 – Flood depth information from Elevation Certificates and Flood Profiles from 2007 Flood Insurance Study.

	1941 Franklin Rd. SW	1953 Franklin Rd. SW
Elevation Certificate Data		
Vertical Datum	NGVD29	NGVD29
Base Flood Elevation (BFE, ft.)	938	938.3
Lowest Adjacent Grade (LAG, ft.)	933.03	935.19
LAG adjusted to NAVD88	932.41	934.568
Flood Information Study (2007) Data		
Vertical Datum	NAVD88	
Cross Section	A-B	
Streambed Elevation (ft)	921	922
<i>Water Surface Elevations (ft)</i>		
10% / 10 Year	933.5	933.9
2% / 50 Year	937.0	937.5
1% / 100 Year	938.0	938.5
0.2% / 500 Year	942.0	942.0
<i>Discharges (CFS)</i>		
10% / 10 Year	1,688	1,688
2% / 50 Year	3,354	3,354
1% / 100 Year	4,401	4,401
0.2% / 500 Year	8,229	8,229
Estimated Flood Depths (ft)		
10% / 10 Year	1.1	-
2% / 50 Year	4.6	2.9
1% / 100 Year	5.6	3.9
0.2% / 500 Year	9.6	7.4

The existing properties owners have expressed continued flood impacts, but unfortunately have not kept thorough records of flood damages. However, the owners provided several photos from a flood that occurred on October 11, 2018 that clearly portray the flood impacts as follows:



(A)



(B)

Figure 2 – Standing in front door of 1953 Franklin Rd. SW facing intersection of Brandon Ave. and Franklin Rd. SW. (A) floodwaters approaching front door and (B) floodwaters begin to enter side door.



(A)



(B)

Figure 3 – Standing on sidewalk along Franklin Rd. SW in front of 1953 Franklin Rd. SW facing (A) Brandon Ave./Franklin Rd. SW intersection and (B) northbound Franklin Rd. Floodwaters encroaching on 1941 Franklin Rd. SW can be seen in (B) as water moves off the road to the left of the photograph.



Figure 4 – Cleanup of floodwaters and sediment deposition in 1953 Franklin Rd. SW.

c. No Adverse Impacts:

The removal of structures and fill from the floodplain will result in a lower impedance to flow and will therefore reduce water surface elevations. While the hydraulic analysis to demonstrate these benefits has not yet been performed, this will be completed by a licensed PE/CFM during the development of demolition and grading plans for the site.

d. Ability to Provide Share of Cost:

The total proposed project cost is outlined Appendix B. As the proposed project incorporates nature based solutions and as the City is a low-income community, it is anticipated that the match for this project would be 95% DCR/5% City. This would require a commitment of \$73,200 by the City which would be appropriated out of the Stormwater Utility's Capital Improvement Program. The Stormwater Utility currently has adequate cash on hand to fund the project. If needed, the Utility's annual capital budget is supported by \$3 million in annual bond issuances and at least \$500,000 in cash contributions. This project represents a small portion of the Utility's capital program.

e. Benefit-Cost Analysis:

Although no formal benefit-cost analysis (BCA) is required for this project as the request is less than \$2M, the City completed a FEMA BCA to assure high return-on-investment and the completed printout from FEMA's BCA Toolkit v6.0 is provided in Supporting Documentation. The overall benefit to cost ratio of the project is 8.16:1. Notes to the development of the BCA are as follows:

- The BCA was performed for each of the two properties separately, and then combined into one overall BCA. Costs were divided based on the area proportion of each property/building.
- Flood depths were estimated based on the 2007 Flood Insurance Study Profiles.

- The Owner provided an annual operating budget to estimate loss of function/income due to flood downtime.
- Ecosystem services benefits were estimated based on a 100% riparian configuration and FEMA's standard ecosystem services benefits.

f. Local Floodplain Management Regulations

The City's flood plain management regulations are found in the Floodplain Overlay District of the zoning ordinance. This can be found at:

https://library.municode.com/va/roanoke/codes/code_of_ordinances?nodeId=CORO1979_CH36.2ZO_ART3RESPZODI_DIV5OVDI_S36.2-333FLOVDIF

g. Other Information to Establish Project Priority

– **Repetitive Loss and/or Severe Repetitive Loss:**

Both of the proposed properties are located within a Repetitive Loss Area (see [Repetitive Loss Area Analysis](#), "OB-1") which contains a total of seven Floodway structures.

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

Both of the subject properties are designated for commercial use and the three total structures on the properties are presently occupied by a commercial florist business. The calendar year operating budget for this business was \$4.24M. Both of these structures were built in the late 1950's and do not contribute any historical value, however the current owner is a well-known and respected business owner and community member in the Roanoke Valley and the business is generally seen as an important community asset. City Economic Development staff are currently working to identify a suitable site within the City to move the florist business.

– **Critical Facilities/Infrastructure:**

While the project site does not contain any critical facilities, the adjacent Franklin Rd./US220 is part of VDOT's "North Carolina to West Virginia" Corridor of Statewide Significance. Furthermore, both Brandon Ave. SW and Franklin Rd. SW are an important corridor for emergency vehicle routing to and from the nearby Carilion Roanoke Memorial Hospital. Flooding on these two roadways represents an impediment to emergency vehicles and any reduction in flood frequency and depths would reduce emergency access risk.

Need for Assistance

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

The City's Stormwater Utility has sufficient financial and staff resources to successfully deliver this proposed work, including an annual revenue of nearly \$10M and a robust technical staff including a Stormwater Manager, three senior engineers, one water quality administrator, three junior engineers, one project inspector, two GIS/Asset Management staff and two environmental specialists. The Stormwater Utility also has over 30 front-line operations employees that build and maintain stormwater

assets, and the Stormwater Utility collaborates heavily with the City's Planning Building and Development Department, City Engineer's office, and Emergency Managers.

This particular project will be managed by a senior stormwater engineer (PE), with the support of a junior engineer (EIT, CFM), GIS specialist and project inspector. The consulting design and permitting team includes a senior engineer (PE, CFM), a junior engineer (EIT) and a staff scientist. Modeling for floodplain analysis and permitting will be performed by a consultant using HEC-RAS 1-D Steady State modeling, to be reviewed by the City's Floodplain Administrator. All design work will be performed using AutoCAD Civil3D.

Notwithstanding the funding and capabilities of the Stormwater Utility, external funding is imperative because of the backlog of approximately \$150M in neighborhood drainage projects, \$90M in downtown flooding projects and \$150M in water quality projects. External funding is needed to achieve the long-range goals of flood risk mitigation and improved water quality.

Project Area's Social Vulnerability Index Score

Social Vulnerability Index (SVI) Index: 1.28 - High Social Vulnerability

Alternatives

The two mitigation properties proposed (and the surrounding area) are subject to such a high level of flood risk that it would not be feasible to provide the same measure of risk reduction using an alternate strategy because: (1) the volume of detention needed would not be economically feasible; (2) increasing downstream conveyance would be possible but would leave significant residual risk; and (3) floodproofing would need to be installed to 6 – 8 ft. above existing grade according to the City's floodplain ordinance. If no action was taken, flood risk would remain as-is as there is no alternative means of mitigating the risk.

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

This project has three objectives to be achieved within the three-year period of performance:

1. Eliminate flood risk to the two subject properties by acquiring properties and demolishing existing structures.
2. Reduce flood risk to surrounding flood prone buildings, roadways and greenways by removing impedances to flow (buildings) and opening floodplain.
3. Improve water quality by removing impervious cover, reducing volume of runoff and restoring a natural floodplain area.

The anticipated results of this project would completely eliminate the flood risk to the two subject properties and would reduce flood impacts and related to risk to the adjacent transportation assets.

Approach, Milestones, and Deliverables - Outline a plan of action laying out the scope and detail of how the proposed work will be accomplished with a timeline identifying expected completion dates. Determine milestones for the project that will be used to track progress. Explain what deliverables

can be expected at each milestone, and what the final project deliverables will be. Identify other project partners.

All major activities/tasks, responsible parties, timeframes and deliverables are presented in Table 1. In general, the City's Stormwater Utility will implement the work in five main tasks. Contracted survey, engineering/design, asbestos abatement, demolition and earthwork/landscaping services will support the project.

Table 3 – Project work plan with responsible party, timeframe and deliverables.

Major Activities/Tasks	Responsible Party	Time-frame	Deliverables
Acquire Properties	City	Year 1	Land Title, Executed Sales Agreement
Survey and Engineering	City and Consultant	Year 1	Plans for demolition and restoration
Abate Asbestos	City + Contractor	Year 2	Executed Final Clearance Report
Demolish Structures + Substructures	City + Contractor	Year 2	Clear site, Signed Final Acceptance
Grade Floodplain Bench, Plant Vegetation	City + Contractor	Year 3	Final Acceptance

The key partner in the restoration of this area from high flood risk structures to passive recreation space is the City's Parks and Recreation (P&R) Department. City P&R assisted in shaping a landscape plan for the adjacent former hotel site and in deploying a community input survey on the next phase of this area. The results of this survey (see attached "Reimagining the Ramada Community Survey Report" in Supporting Documents) request a pollinator/wildflower meadow and stream/wetland restoration consistent with the concept proposed in this application. Furthermore, there is an informal business association for this area that has been supportive of each stage of this project.

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

The proposed project is located adjacent to and extends the benefits of the Ore Branch Stream and Floodplain Restoration project, funded under DCR Community Flood Preparedness Fund (CFPF) Round 4, award 24-04-05. In addition, the first step towards resilience along Ore Branch began with a 2019 FEMA Pre-Disaster Mitigation grant for acquisition/demolition of a flood prone hotel and conference center at the adjacent parcel.

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

As this project uses nature-based solutions, it is anticipated that maintenance at the site will require the following:

- Invasive species identification and removal – once every two months during growing season
- Selective mowing and string trimming – once every two months during growing season
- Bush hogging of meadow areas – once per year
- Reseeding and replanting of site if/when needed.
- Inspect site annually to assure conformance with design

Maintenance will be the responsibility of the City of Roanoke's Stormwater Utility. The Stormwater Utility has dedicated funding through a Stormwater Fee. The Utility has two Green Infrastructure Crews (one added in this fiscal year) to support this and similar projects. With two crews, the Utility presently has the capabilities to maintain this site, and has the capacity to adjust resources to provided needed maintenance for the next 10 years. Note that after the first 10 years, it is anticipated that the site should be largely self-sustaining.

Criteria - Describe how the project meets each of the applicable scoring criteria contained in Appendix D.

The data in Table 4 clarifies the scoring of this project.

Table 4 – DCR CFPP Grant Criteria from Round 5 Manual

Criteria	Points Available	Proposed Project	Description	Reference
Eligible Projects	30	30	Project acquires high flood risk property	-
Social Vulnerability Index Score	10	8	VFRIS "High"	VFRIS
Community scale of benefits	30	30	Project will reduce flood depths in Block 3003, along Brandon Ave. (Block 3002/3006), and across Franklin Rd. (Block 5002). US Rte. 220 has 20,000 trips/day and is the primary route to the main hospital.	Attached "Community Scale Benefits.pdf"
Expected lifespan of project	10	10	Over 20 years; nature-based projects expected to have indefinite useful lives	Scope of Work Narrative
Remedy for NFIP probation/ suspension	5	0	No, City is in good standing with NFIP	-
Proposed project part of a low-income geographic area	10	10	Entire City of Roanoke designated as low income	-
Proposed project implements a Chesapeake Bay TMDL	5	5	Project reduces pollutant loading in accordance with VRRM 4.1 towards local TMDL	"Other Relevant Attachments.pdf" VRRM calcs

TOTAL 100 93

Appendix B: Budget Narrative Template

***See Engineer's Estimate, next page for detailed cost summary*

Applicant Name: City of Roanoke, VA
Grant Application ID: CID510130_RoanokeCity_CFPF-1
Project Name: Ore Branch A/D + Floodplain Restoration Phase II

Period of Performance Start: 1/1/2026 End Date: 12/31/2028
Submission Date: 12/23/2024

Project Type: Nature Based
DCR Match: 95%

Grand Total State Funding Request \$1,390,800.00

Grand Total Local Share of Project \$73,200.00
Federal Funding (if applicable) \$0.00
Project Grand Total \$1,464,000.00
Locality Cost Match 5%

Breakout by Cost Type	Personnel	Fringe	Travel	Equipment	Supplies	Contracts	Indirect Costs	Other Costs	Total
Federal Share									\$0.00
Local Share						\$72,840.00			\$72,840.00
State Share - CFPF Grant						\$1,383,960.00			\$1,383,960.00
State Share - RVRP Match Loan									\$0.00
Pre-Award/Startup						\$7,200.00			\$7,200.00
Maintenance									\$0.00
<i>Total</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$1,464,000.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$1,464,000.00</i>

Ore Branch Phase II - Acquisition, Demolition, Floodplain Restoration - 1941/1953 Franklin Rd. SW

Engineer's Estimate 12/6/2024

Item	Unit	Unit Cost	# of Units	Total Cost	Source
Survey, Engineering, Permit Development	LS	\$50,000.00	1	\$50,000.00	WSSI Estimate, 12/4/2024
City Land Disturbance Permit	LS	\$2,000.00	1	\$2,000.00	Typical cost
Land Purchase - 1941 Franklin Rd. SW	LS	\$240,000.00	1	\$240,000.00	Appraised + Real Estate Valuation Increase through estimated closing 4/2026
Land Purchase - 1953 Franklin Rd. SW	LS	\$600,000.00	1	\$600,000.00	Appraised + Real Estate Valuation Increase through estimated closing 4/2026
Mobilization	LS	\$16,000.00	1	\$16,000.00	5% of construction costs
Erosion & Sediment Control	LS	\$5,000.00	1	\$5,000.00	Typical bid costs
Contents Removal	LS	\$5,000.00	1	\$5,000.00	Based on conversations with owners and Ramada contents removal costs
Abatement Monitoring	LS	\$10,000.00	1	\$10,000.00	Based on EI Group bid 11/11/2024
Asbestos and Haz Mat Abatement	LS	\$50,000.00	1	\$50,000.00	Based on A&A bid from 11/11/2024
Structure Demolition	LS	\$45,000.00	1	\$45,000.00	Based on A&A bid from 11/11/2024
Excavation, Disposal, Grading	CY	\$50.00	3388	\$169,400.00	Based on A&A bid from 11/11/2024 - grade to Ramada site + floodplain bench
18" Topsoil	CY	\$42.50	387.2	\$16,500.00	Typical bid costs
Tree Planting	EA	\$50.00	24	\$1,200.00	Typical bid costs
Seeding	AC	\$3,000.00	0.36	\$1,100.00	Typical bid costs

SUBTOTAL: \$1,211,200

~10% CONTINGENCY: \$121,300

TWO YEAR INFLATION @ ~5%: \$124,300

POST-AWARD TOTAL: \$1,456,800.00

Pre-Award Costs 12/6/2024

Item	Unit	Unit Cost	# of Units	Total Cost
Appraisal - 1941 Franklin Rd. SW	LS	\$2,300.00	1	\$2,300.00
Appraisal - 1953 Franklin Rd. SW	LS	\$2,300.00	1	\$2,300.00
Environmental Assessment	LS	\$2,626.20	1	\$2,600.00

PRE-AWARD TOTAL \$7,200.00

TOTAL PROJECT BUDGET \$1,464,000.00