City of Alexandria
Flood Resilience Plan



Environmental Policy Commission

November 16, 2026

Agenda

- Purpose of the Flood Resilience Plan
- Details of the Plan
- Overall Timeline & Public Comment Period
- Q&A

Flood Resilience Plan Purpose

The Flood Resilience Plan (FRP) provides a framework for understanding flood risks, identifying strategies to reduce flood impacts, and guiding efforts to protect Alexandria's people, environment, and economy.

Flood resilience is a shared responsibility. While the City plays a key role in reducing flood risks, residents and businesses also have a role in preparing for and reducing their own flood impacts.



Resilience is…

"the capability to anticipate, prepare for, respond to, and recover from major hazards while minimizing social, economic, and environmental impacts."

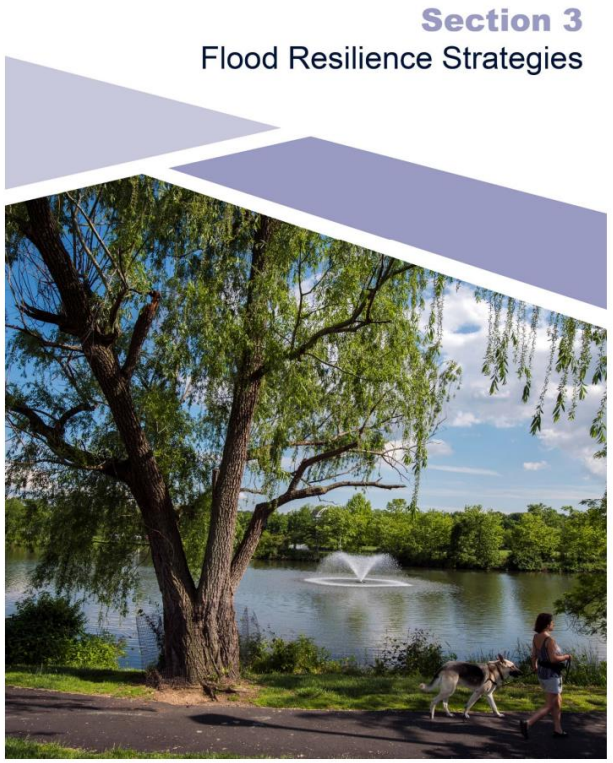
How the Plan is Organized



Pgs. 1-1 to 1-13



Pgs. 2-1 to 2-12



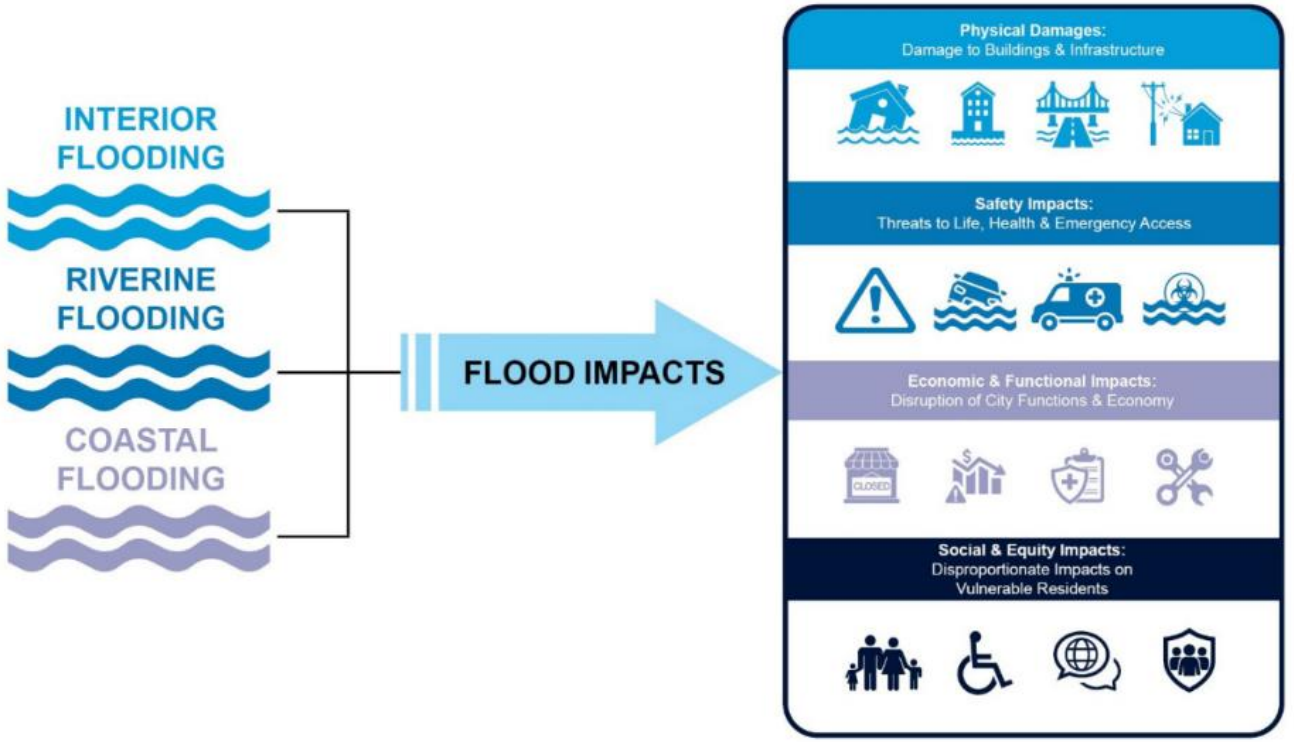
Pgs. 3-1 to 3-24



Pgs. 4-1 to 4-5

Section 1: Introduction

Section 1 provides background on flooding in Alexandria and explains the need for the Flood Resilience Plan.



Section 2: Hazard Identification

Section 2 explains where and why flooding occurs in Alexandria to guide planning, design, and policy.

1) Flood hazards such as rainfall conditions and Potomac River dynamics.

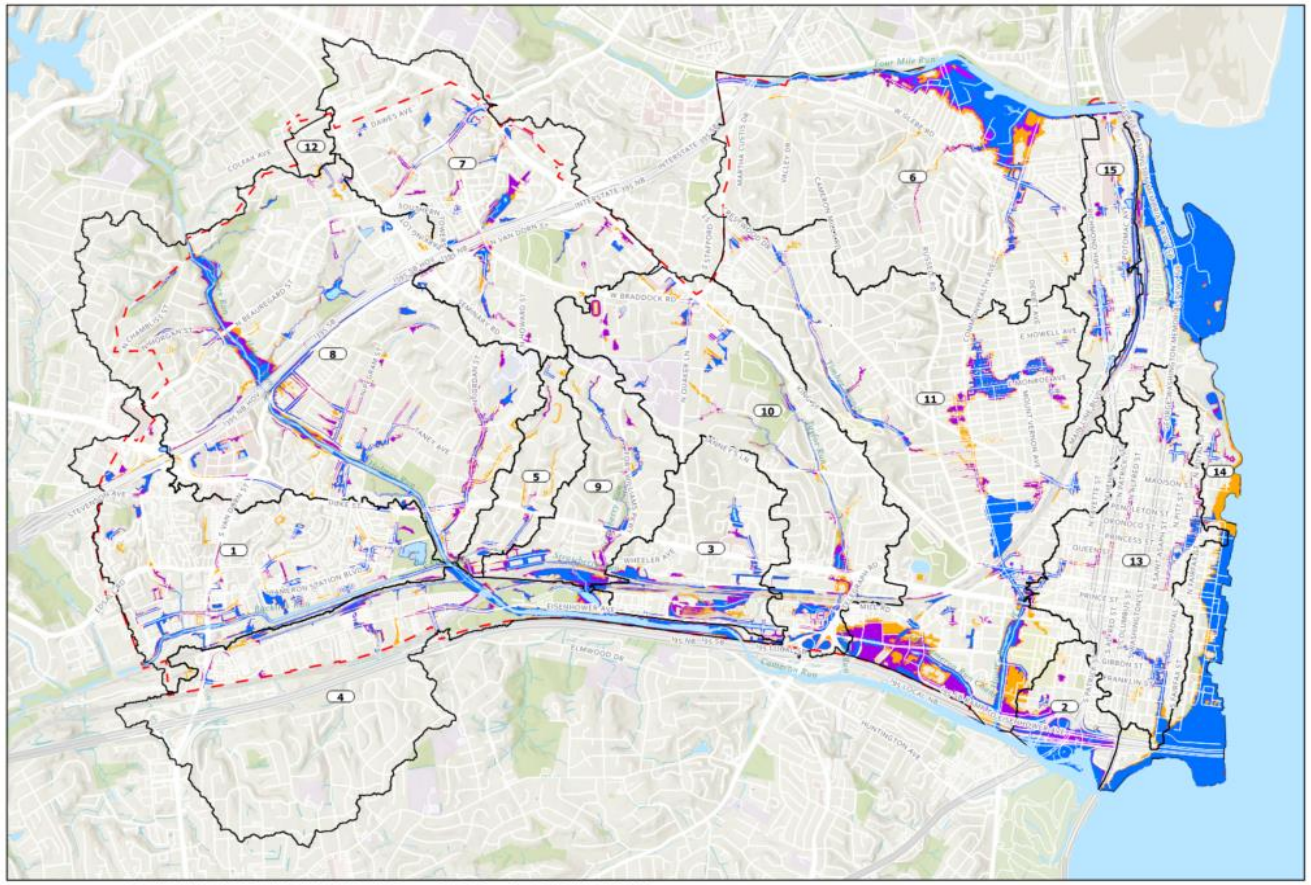
2) Development of flood extent maps based on new and existing models

3) Vulnerability assessment methodology to evaluate the impacts of flooding on specific neighborhoods and identify high-risk areas and populations.

Flood Extents Modeling

Legend

- Alexandria City Boundary
- Watershed Boundary
- Streams
- Waterbody
- 10-year Flood Inundation (2075)
- 100-year Flood Inundation (Baseline)
- 100-year Flood Inundation (2075)



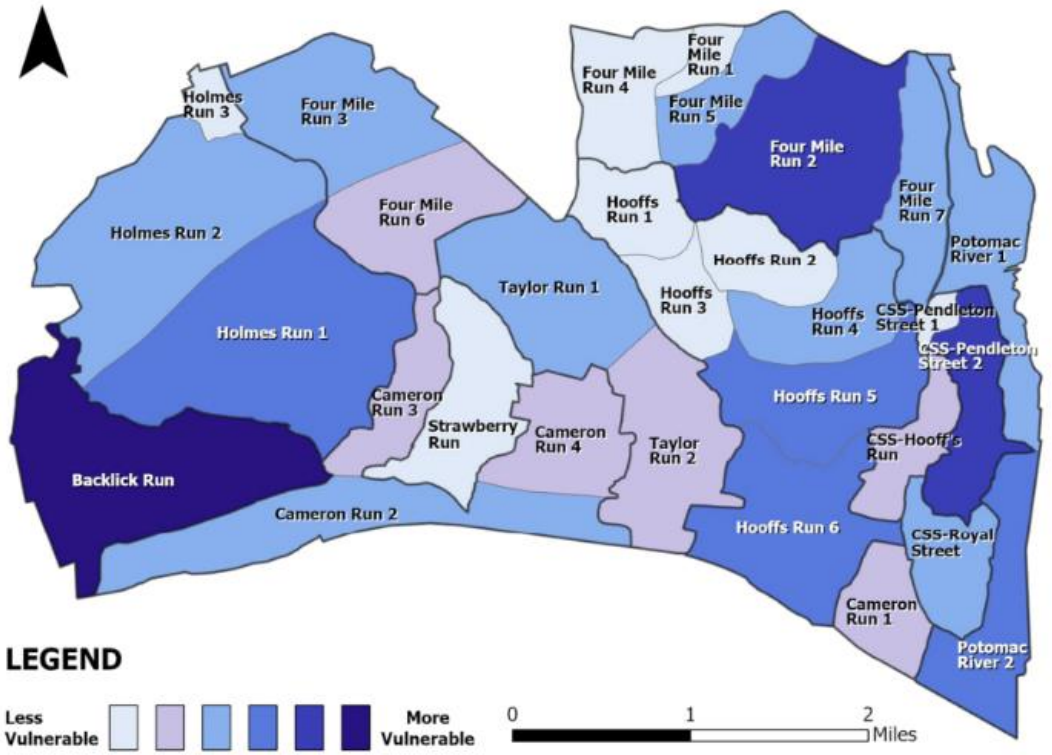
Esri, NASA, NGA, USGS, Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

Vulnerable Subwatersheds

A flood vulnerability assessment identified gaps and priorities for further study and new flood mitigation projects.

- Confirmed known high-risk areas: Potomac River, Four Mile Run, and Hooffs Run Watersheds

- Identified new areas where further study is needed: Holmes Run, Cameron Run, Backlick Run Watersheds



Section 3: Flood Resilience Strategies

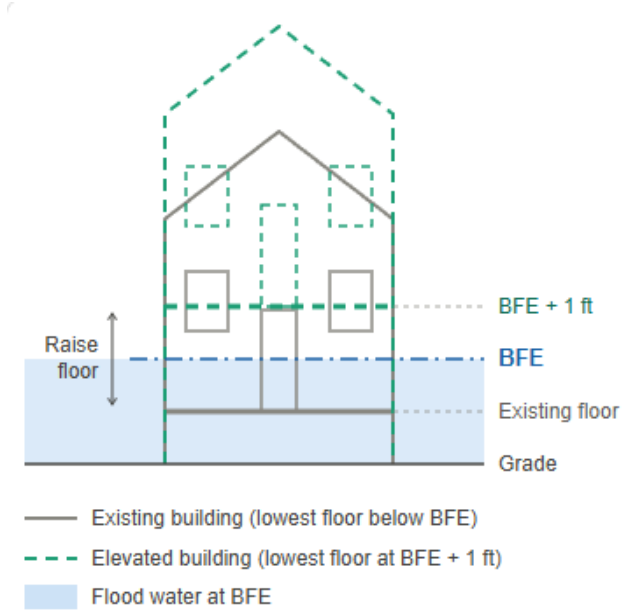
Section 3 outlines existing flood resilience efforts and future goals under eight key focus areas.

- Policies and Ordinances*
- Flood Mitigation Capital Projects*
- Integrating Flood Resilience Across City Programs and Beyond
- Flood Preparedness and Response*
- Asset Management
- Communication and Outreach*
- Socio-Economic Inclusion
- Funding Strategies

* To be discussed in more depth in the following slides.

(1) Policies & Ordinances

Current Freeboard Requirement



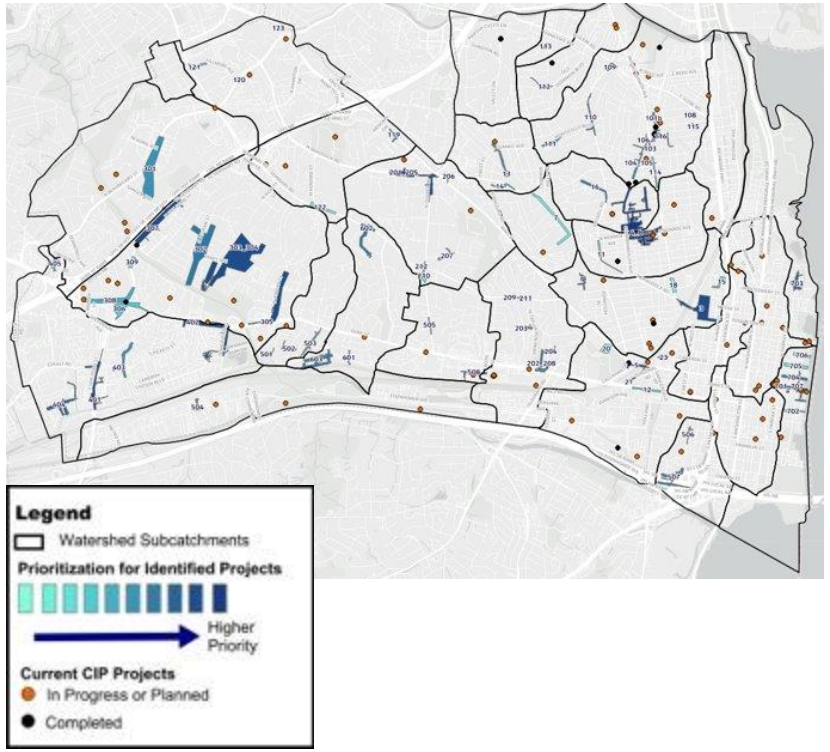
BFE = Base Flood Elevation

Current Practice	Plan Recommendation**	Desired Result
BFE* + 1 ft Freeboard: Buildings in flood zones must sit 1-foot above flood levels (100-year storm event) in alignment with Virginia building code.	**> 1 ft of Freeboard:** Require new development/redevelopment in flood zones to sit higher above expected flood levels.	• Future proofing. • Greater utility protection. • Lower maintenance costs. • Enhanced safety for occupants.
Existing stormwater ordinance: Runoff quantity based on post ≤ pre only holds the line to built out conditions.	**Update the stormwater quantity ordinance:** Require new development / redevelopment to reduce runoff compared to pre-development levels.	• Reduced peak runoff flows. • Decreased cumulative flooding.

*Base Flood Elevation (BFE)
**Refer to the FRP for additional recommendations

(2) Flood Mitigation Capital Projects

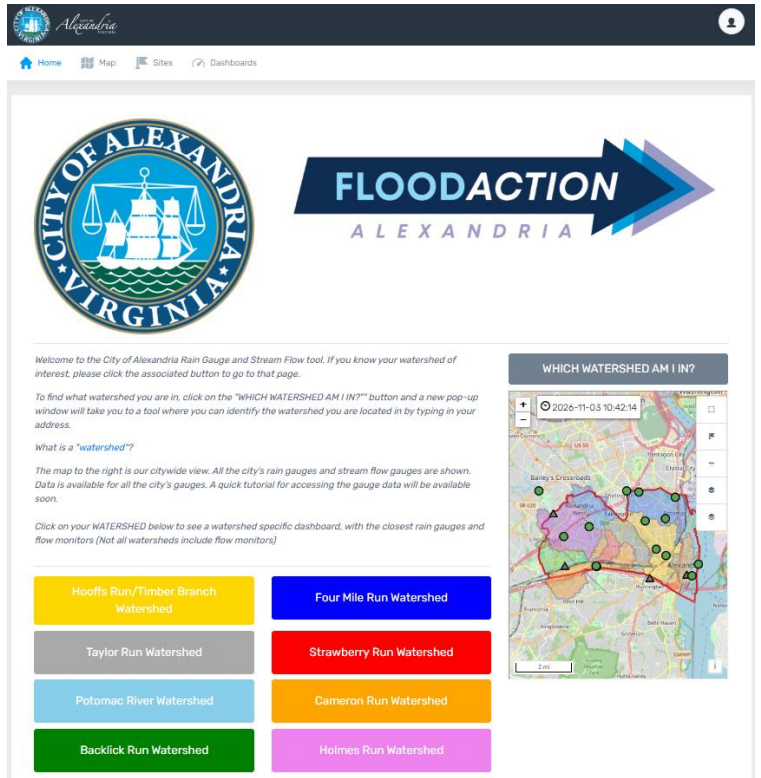
Current Practice	Plan Recommendation**	Desired Result
Flood mitigation projects*: • 16 projects completed • 7 projects in planning • 9 projects in design • 11 projects in construction	**Engineered flood mitigation projects:** Construct flood capacity projects prioritized in the FRP (mid-term).	• Execute projects in priority order based on updated flood modeling data.
2016 Stormwater Study: Prioritization of proposed Large Capacity Projects based on 2016 study data.	**Planning for future projects:** Conduct additional analysis and validation to verify project needs in flood-prone areas (long-term).	• Confirm flood risks in vulnerable areas and implement targeted solutions.



*Since 2021 with Flood Action Alexandria with many before that
**Refer to the FRP for additional recommendations

(3) Flood Preparedness and Response

Current Practice	Plan Recommendation*	Desired Result
Flood Response Plan: Use 2020 plan developed by Office of Emergency Management (OEM).	**Update Flood Response Plan:** Collaborate with OEM to incorporate FRP flood extent data, reflect current risk management practices, and seek formal City Council adoption.	• Optimized flood preparedness, response, recovery, coordination, and communication.
Real-Time Monitoring: Monitor rainfall, stream, and tide levels via ALX Floodwatch that are color coded based on severity.	**Expand monitoring and warnings:** Evaluate installing additional flood sensors and automated alert systems.	• Enhanced data collection. • Timely dissemination of flood warnings.



https://alxfloodwatch.onerain.com

*Refer to the FRP for additional recommendations

(4) Communication and Outreach

Current Practice	Plan Recommendation*	Desired Result
FEMA flood zone information: City Floodplain Administrator provides free FEMA zone assessments; City sends annual mailers to flood zone residents.	**Expand access to flood risk information:** Develop an online map that provides easy access to flood risk information.	• Increased public understanding of flood risks. • Empowered residents that take proactive actions.
Disseminate flood risk information: Updates shared via eNews, website, events, social media, alerts; City collaborates with Stormwater Utility and Flood Mitigation Advisory Committee to liaise with community.	**Reaching residents through multiple channels:** Personalize risk communications and expand inclusive community outreach.	• Strengthened community awareness. •Increased connection to City programs and resources.



*Refer to the FRP for additional recommendations

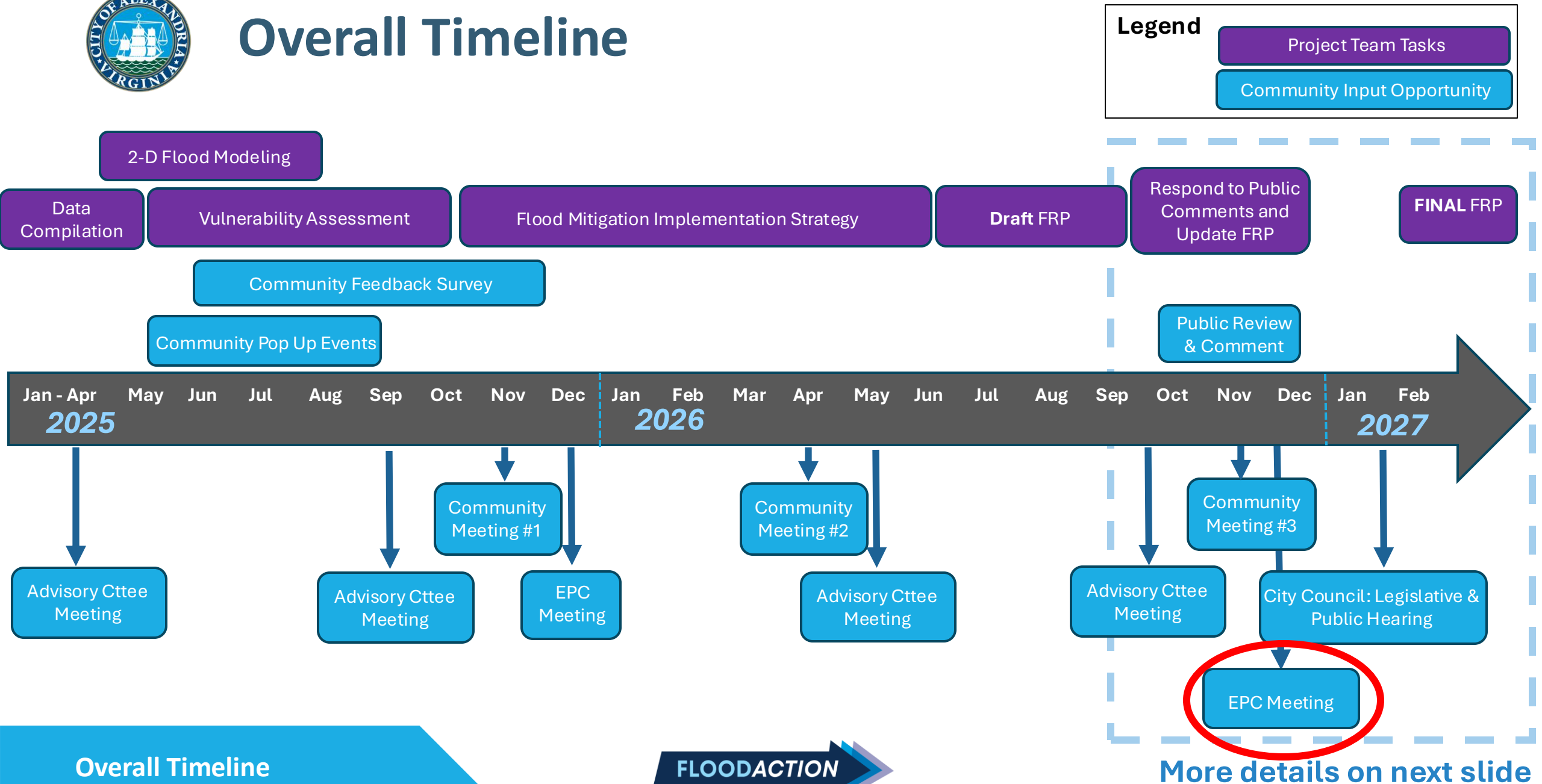
Section 4: The Path Forward

Section 4 outlines how to put the plan into action, track progress, and support accountability.

SHORT TERM ACTIONS (1-5 YEARS)	MID-TERM ACTIONS (5-15 YEARS)	LONG-TERM ACTIONS (15+ YEARS)
Build the Foundation	*Expand Resilience*	*Adapt for the Future*
• Ordinance and policy updates • Update Flood Response Plan • Develop online flood mapper tool and enhance community outreach	• Planning and validation for long-term project areas • Enhance flood monitoring	• Implement long-term projects • Automated flood alert systems

FOUNDATION & READINESS → RISK REDUCTION & EXPANSION → LONG-TERM ADAPTATION

Overall Timeline



More details on next slide

FLOODACTION ALEXANDRIA

Public Comment Period

Legend

- Project Team Tasks
- Community Input Opportunity

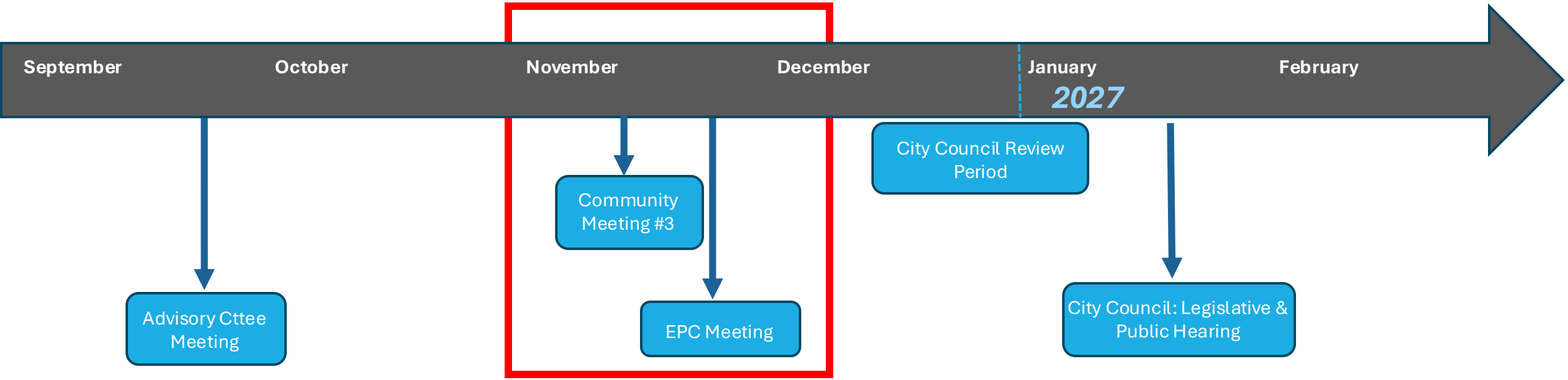
Draft FRP

Respond to Public Comments and Update FRP

Update FRP

Adoption of FINAL FRP

30 Day Public Comment Period
Oct. 30 – Dec. 1



FLOODACTION ALEXANDRIA

How do I Provide Comments on the FRP?

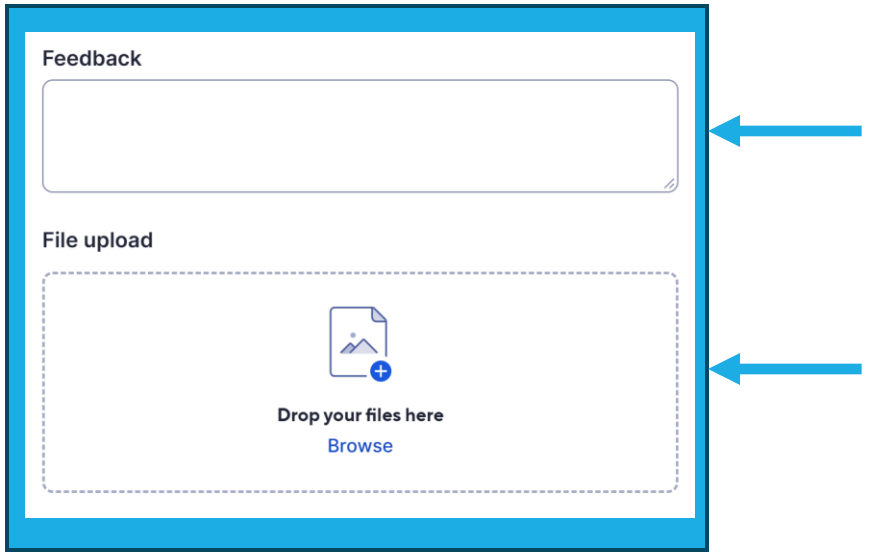
Comments Due by 11:59 pm on December 1, 2026

- Scan the QR code to take you directly to the feedback form. A link to the FRP is available on the feedback form.

OR

- Go to the City's Flood Resilience Plan webpage.
  - Click on "Provide Feedback on the Flood Resilience Plan"

- Comments can either be submitted by typing it under "Feedback" and/or by uploading a document with your comments.



Q&A

Public Comments Due by 11:59 pm on December 1, 2026



Ways to Connect

- Contact us
  - Ami Cobb, P.E. – Ami.Cobb@alexandriava.gov
  - Alex Haptemariam, P.E., CFM – Alex.Haptemariam@alexandriava.gov
- Visit our website for future updates about the project
  - alexandriava.gov/flood-action/flood-resilience-plan
- Sign up to receive the Flood Action Alexandria newsletter
  - alexandriava.gov/eNews

Thank You!

This project received funding from the Virginia Community Flood Preparedness Fund Grant Program through the Virginia Department of Conservation and Recreation (DCR), via CFPF-24-04-38.