

Agenda Item 8-C

August 6, 2024

Draft - Barre City Flood Resiliency Plan

Submitted by:

City Councilors for Ward 2, Amanda Gustin and Teddy Waszazak

June 25, 2024

Updated for July 16, 2024

To the City Council, City Manager, and Barre Community -

This draft document begins a plan for Barre City's long term flood recovery and future resiliency. Council has identified a need to aggregate the programs/initiatives that the City is already pursuing, along with a way to plug in and to explore other opportunities in the following five critical areas:

- Grant/Funding Opportunities
- Information/Data Gathering
- Community Readiness + Staff Capacity
- Infrastructure + Flood Mitigation
- Housing Development + Repair

Throughout this document, Councilors Gustin and Waszazak aim to provide the Council and the community with a high-level view of what the City has done/is doing, options that the City already has its eye on, and add potential new opportunities to address these critical needs.

Table of Contents:

Page:	Section:
2	Guiding Principles
3	Grant/Funding Opportunities
6	Information/Data Gathering
8	Community Readiness + Staff Capacity
9	Infrastructure + Flood Mitigation
11	Housing Development + Repair
13	Geographic Areas
16	Appendix: Resources

Guiding Principles

Barre City seeks to center the perspectives and experiences of its residents in a collaborative planning process toward a more flood-resilient future.

Barre City will work with local, statewide, and federal partners to leverage funding, collaboration, and creative solutions.

Barre City will emphasize an understanding of climate, watershed, and natural resources and engage in best practices in its planning.

Grant/Funding Opportunities

Vermont Emergency Management Grant - Hazard Mitigation Funding Programs:

- [Vermont Emergency Management has \\$90 million available](#)
- Eligible projects include:
 - Buyouts
 - Structural Elevation & Mitigation Reconstruction
 - Natural resource projects - i.e. dam removal or floodplain restorations
 - Infrastructure projects - i.e. upsizing bridges or culverts
 - Floodproofing of municipal or commercial buildings
 - Road relocation, elevation, or soil stabilization
- Pre-Application due by 11:59pm, on August 16th
 - Information requested for pre-application:
 - Applicant's entity type
 - Applicant point of contact
 - Project Type
 - Details for projects:
 - Problem to be addressed by Project (i.e., what is the natural hazard and what are the impacts of the hazard in your project area)
 - Project Description (i.e., what are you proposing to do)
 - Project Location (e.g., address, latitude/longitude, general location of project)
 - Estimated Project Cost
 - Source of estimated cost (e.g., professional quote, qualified government official, past projects, etc.)
 - History of Damages from the natural hazard
 - Current Status of Project Development (e.g., design level, Benefit Cost Analysis, schedule, budget, etc.)
- Some municipal application support available to Barre City through the Rivers program.

EPA Community Change Grants:

- [The EPA has \\$2 billion available in environmental and climate justice projects](#)
- Eligible entities include:
 - A partnership between two community based non-profit organizations
 - A partnership between a community based non-profit organization and one of the following:
 - A federally recognized tribe
 - A local government
 - An institution of higher learning
- Applications will be accepted on a rolling basis until November 21st, 2024

- Depending on the scope and vision for the project, there are two tracks for submission:
 - Track I: Community-Driven Investments for Change, to fund 150 projects at \$10-20 million per project
 - Track II: Meaningful Engagement for Equitable Governance, to fund 20 projects at \$1-3 million per projects
- \$200 million is available for Technical Assistance for municipalities to help guide them through the process. T.A. is available in all stages of this grant, including application.
- The City of Barre has given preliminary approval for a pre-application for the EPA Community Change Grant. While the grant is still being written, and the final scope of the grant is still to be determined, the current draft includes the following projects/requests:
 - Downstreet Housing & Community Development - Flood Resilient Housing
 - 4-5 Units of single family, perpetually affordable, net zero housing at the current Wobby Park location, the City is in the process of selling the land to Downstreet.
 - 8 Units of single family, affordable, net zero housing at the Prospect Heights Development
 - 30 Units of affordable housing in a multi-unit development on Seminary Street, replacing two parking lots that the City is in the process of selling to Downstreet
 - City of Barre - Flood Resilient Housing
 - Grant requests \$3.5 million to match the NBRC grant, focused on expanding the infrastructure needed for a successful Prospect Heights Development
 - Friends of the Winooski - Flood Mitigation Work
 - Removal of 3 dams in Barre, located on the Winooski river
 - Landscaping, public use, tree planting on up to 22 buyout sites in Barre for GreenHouse Gas sequestration, flood mitigation/flood ways, and beautification
 - Additional projects in Montpelier focused on flood resiliency of some residences and the downtown business sector

Other potential funding sources:

- **Congressionally Directed Spending requests.** Pat Moulton has submitted a CDS/earmark request to Senator Sanders office, representing broad scale redevelopment in the North End. Regardless of whether or not this is successful, Barre City will surely have needs extending through the next round of Congressionally Directed Spending. The City should remain in active

conversation with the federal delegation, and routinely submit these requests for large-and-mid sized projects over the coming years.

- **VEM Flood Resilient Communities Fund (State of Vermont).** Funding for this program is currently limited, but there are hopes that the Legislature will allocate more funding to this program during the next legislative session. The City could submit additional projects to this fund, to get on the list if more funding becomes available.
- **Building Resilient Infrastructure and Communities (BRIC) Grants (FEMA).** The Window to apply for FY23 funding has passed, but this is an annual grant program which will open again in the fall of this year. This is for Hazard mitigation projects that do NOT have to be directly tied to a disaster.
- **Community Development Block Grants**
Various funding categories with opportunities from \$50,000 to \$1,000,000 for accessibility, planning, implementation, and site grants. Next pre-application deadline in January 2025.

Information/Data Gathering

What we're doing/have done:

- **Barre Up Forums - Vermont Council on Rural Development:** In the aftermath of the Floods, Barre City officials reached out to the Vermont Council on Rural Development to convene and facilitate city-wide meetings to discuss the impact of the floods on our community, listen to what worked and what didn't work in the immediate response to the floods, and to begin preparation for the work of long-term community recovery. These meetings culminated in the Barre Up Report from the Vermont Council on Rural Development (Oct. 2023), which can be accessed here: <https://www.vtrural.org/barre-up-report-2023/>
 - Key Takeaways:
 - Housing - Address short-term housing needs for flood affected families; support rebuilding/renovating flood affected housing; support long-term new housing development
 - Social and Community Wellbeing - Support community connections; creation of a recovery resource hub; improve the image of Barre City in the rebuilding
 - Infrastructure and Planning - Focus on City, regional, and statewide flood/hazard assessments and planning; Identify and implement City infrastructure improvements to support flood resiliency; Deeper and more inclusive emergency services planning and communication; Advance river corridor and watershed mitigation and restoration plans

- **City of Barre/State of Vermont Neighborhood Meetings:** Following the Barre Up process through VCRD, the State of Vermont partnered with the City of Barre to conduct neighborhood/Ward meetings, multiple events held throughout the City. Pat Moulton, Central VT Recovery Officer, worked with the City Manager and Tess Taylor, Homelessness and Housing Liaison, to organize these meetings. The meetings featured river scientists, City Councilors, City Staff, and other experts convened by the State. Community Members were encouraged to share their opinions on potential flood mitigation efforts, housing developments, and future disaster planning.
 - Key Takeaways:
 - Housing priorities:

- Mixed use developments with nearby services, housing for those navigating buyouts, development of vacant lots/infill in downtown, financial support for repairs to damaged homes
- Resiliency priorities:
 - Fix the low bridges, remove the trestle, upsize culverts, remove defunct/unnecessary dams, work with regional and state partners to take a macro look at the Watershed (what our neighbors upriver do affect us, as what we do affects those downriver, etc

Other opportunities to pursue:

- **Citywide inundation modeling.** Gaining a clear understanding of where, how, and when water flows within the city based on most recent trends will underpin all updated floodplain planning.
- **Stormwater system analysis and upsizing.** Systematically analyzing all culverts and stormwater flow across the city for capacity relative to expected flow to ensure they remain clear during flash flood events.
- **Continued outreach around infill development and downtown vacancies.** Committing to ongoing knowledge-gathering around potential for development within the City, both for housing and for mitigation. The City and partners can conduct surveys, track changes, and use technology and data modeling to get a better real-time picture of possibilities.
- **Citizen-led neighborhood flood knowledge.** Barre City residents are often best placed to know precisely how their neighborhoods flood. Structures across the city - even those at elevation - flooded in July 2023, and some of those could be alleviated by small, hyperlocal fixes.
- **Resident education.** Following on the idea of hyperlocal fixes, the City can lead workshops and informational gatherings to educate residents about small flood mitigation improvements to their own properties in keeping with good stormwater planning and water flow. Additionally, there is more need for clear and consistent education about the permit process, especially as it touches on flood work.

Community + Staff Capacity

What we're doing/have done:

- The City of Barre has committed additional resources to our staff capacity and community readiness over the past year. On top of the many hours that City Staff have spent on flood recovery over the past year, the City Council is aware that staff capacity remains extremely limited, and that additional resources are needed to leverage the state and federal funding that is needed for Barre City to rebuild in a flood resilient way.
- The City has earmarked \$200,000 in ARPA funding for a grant writer/project manager to support the planning department in pursuing whatever State or Federal grant opportunities are available.
- The City has hired a Housing and Homelessness liaison, who has been working closely with the Central Vermont Flood Recovery Officer to identify funding opportunities, conduct outreach, and represent the City with community partners such as the Housing Task Force and Barre Up.
- Directly and indirectly, the City of Barre has supported the foundation and launch of a non-municipal Long Term Recovery Group (LTRG), Barre Up.

Other Opportunities to pursue:

- **Ward meetings and street captains.** Whatever the final form, a more cohesive program of neighborhood connections will help build community resiliency in future disaster scenarios.
- **Communications upgrades.** Adding in more timely, effective communication systems to alert residents quickly and clearly in case of emergency. Making a commitment to sharing full information in an easily accessible form builds community trust and buy-in.
- **Continued investment in City Staff.** 1-time use of ARPA funding to get grant applications out the door is necessary at this time, however the long term resiliency of the City and the long-term grant management needed to ensure that resiliency will require permanent staffing additions to the planners office.
 - Recommendation: Increase the salaries for the vacant planner positions in next cycle's budget, or FY26, considering the ARPA funding for the grant writer/project manager detailed above.
- **Funding opportunities for community building.** The City can pursue grant funding opportunities in partnership with community organizations to support programs that knit residents together.

Infrastructure + Flood Mitigation

What we're doing/have done:

- The City of Barre has been working with multiple property owners who have indicated an interest in buyout. The City Manager has identified these groupings of parcels as potential sites of development.
 - 8 lots in the Vine/Scampini/Berlin St area - Buyout est. \$2.5mil
 - Grand List Impact: \$40,000
 - 5 lots in the Gunners Brook area - Buyout est. \$2.5mil
 - Grand List Impact: \$35,000
 - 7 lots in the River/Granite St area - Buyout est. \$2.1 mil
 - Grand List Impact: \$34,000
 - 5 lots in the North End area - Buyout est. \$4mil
 - Grand List Impact: \$65,000
 - 5 lots across the City due to landslides - Buyout est. \$1.35mil
 - Grand List Impact: \$21,300
 - In total, the buyouts that we are already requesting funding from VEM/FEMA represent \$12,450,000, with Grand List Impact of \$195,300
- Mayor Lauzon worked with the Agency of Transportation in the weeks immediately following the flood to expedite the repaving of North Main St/VT-302.
- The City has invested in the repair of damaged sewer lines that were discovered following the July 2023 floods
- Repaired the Public Safety Building and City Hall, identified improved access to the Public Safety Building in the case of Main Street flooding
- Hauled hundreds of tons of debris away at no charge to residents
- The City of Barre supported the Friends of the Winooski in their applications for Watershed study, as well as a dam removal study/project

Other opportunities:

- **Working with the Central Vermont Recovery Officer and river experts to submit an application to the Community Change grants, for the below properties which have requested buyouts.** These properties have demonstrated a viability for being a flood mitigation project, while also having the potential to develop future, flood resilient housing. The City should work with the State to hire a firm to develop plans for these properties to be bought out and redeveloped. That redevelopment could include flood resilient housing, or increased flood plain with alternate, non-housing developments (parks, playgrounds).
 - 3 lots on Brooklyn St - Buyout est. \$750,000

- Grand List Impact: \$10,000
 - 2 lots on Washington St - Buyout est. \$500,000
 - Grand List Impact: \$5,800
- **Relocate DPW garage out of floodplain.** Identify funding to build a new DPW garage that meets Barre City's 21st century needs. - **Potentially eligible for VEM grant or EPA grant.**
- **Find solutions for Willey & Berlin Street bridges.** Working with the Central Vermont Flood Recovery Officer, conduct engineering work to determine if elevation, redesign, or removal is appropriate, and follow through on recommendations. - **Eligible for VEM grant.**
- **Remove railroad trestle.** Advocate for the state to remove and not replace the defunct railroad trestle. - **Potentially eligible for VEM grant.**
- **Upgrade windows and doors at City Hall.** Replace previously-breached spaces with floodproof upgrades. - **Eligible for VEM grant.**
- **Commit to upgrades to the Barre Auditorium.** As the regional emergency shelter, the Barre Auditorium represents a crucial resource; while the City has already committed to some upgrades through a CDS grant, they should continue to pursue property improvements that make the building a more functional shelter and a revenue-generating opportunity for the city.
- **Update City procurement policy to encourage green, renewable, or other environmentally friendly options.** As possible, the City should choose to invest in new equipment, supplies, and materials with the least climate impact, recognizing that we are part of a greater whole in fighting future climate disasters.

Housing Development and Repair

What we're doing/have done:

- The City of Barre has supported the proposed Prospect Heights project, which could bring up to 128 units of housing, including pathways to home ownership and rental opportunities.
- The City of Barre has entered into a tentative agreement to develop two parking lots on Seminary St into housing units, in partnership with Downstreet Housing and others. These lots would have ground floor parking, with the housing structures built above ground level.
 - 28-30 housing units generated, plus Grand List growth
- The City Council has tentatively allocated \$250,000 to a Housing Trust Fund/Revolving Loan Fund, the details of eligibility and use of this funding will be coming in the form of recommendations to the Council from the All in for Barre Housing Task Force, in partnership with the City of Barre Housing and Homelessness Liaison.
- The City Council posted additional RFPs to develop vacant lots in several areas, including Wobby Park. Those RFPs have not yet been filled but the sites remain identified as potential locations.
- Barre Up is working with residents to repair flood-damaged housing in the near- and long-term, working closely with the City.
- Planning commission is pursuing a series of ordinance updates to ease density and development in compliance with recently passed state law.

Other Opportunities:

- **North End “Clusters”**
 - The Council should approve the buyout of the so-called “North End Clusters” of housing units, and prepare an RFP for the development of two, six unit buildings in that footprint, build to flood resilient standards (utilities on the 1st floor, etc)
 - Eligible for Community Change Grant.
- **Wobby Park**
 - The City should submit a proposal for the Community Change Grant which includes the development of flood resilient housing units.
- **The “One Big Thing”**
 - The Council is awaiting a proposal from the Central Vermont Recovery Officer, Pat Moulton, on a 30-40 unit development in the North End.
- **Congressionally Directed Spending.** On behalf of the City of Barre, Central Vermont Recovery Officer Pat Moulton submitted an earmark request to Senator Bernie Sanders office, around the Governor’s proposed “Gateway” project. The

earmark represents a \$51.4 million-dollar ask, and encompasses the redevelopment of the entire North End en-masse, including the Wobby Park property, the North End “Clusters”, increased floodplain, and playgrounds.

- **Additional parking lot development.** In addition to the Seminary Street lots, the Council should direct the City Manager to determine which other parking lots, regardless of whether The City owns them, could be potential spots for development. If the Manager determines that potential development could occur on privately owned lots, the Council should direct the Manager to engage the property owners in discussion for potential purchase.

Geographic Areas for Focus

North End

The area of Barre often called the “North End” consists, geographically, of neighborhoods to either side of Main Street past the beginning of Beckley Street. This area consists of high-density housing with some commercial properties. Both the Public Safety Building and the wastewater treatment plant are in this area.

Types of Flooding

Inundation: this neighborhood is vulnerable to flooding when the Stevens Branch of the Winooski River reaches flood stage and overflows its banks.

Overflow/Flash Flooding: in a heavy rainfall situation, these neighborhoods are at or close to the lowest elevation in Barre, and subject to flooding when heavy water flow comes downhill seeking the river.

Granite St. & River St

This neighborhood consists of homes and businesses flanking the Granite Street bridge over the Stevens Branch of the Winooski River on Granite and River Streets.

Types of Flooding

Inundation: this neighborhood is vulnerable to flooding when the Stevens Branch of the Winooski River reaches flood stage and overflows its banks.

Overflow/Flash Flooding: due to its low-lying location by the river, this neighborhood is vulnerable to the flow of water as it seeks the river

Brook Street / Maple Avenue

This neighborhood, shaped like a slim triangle, runs along the north side of Maple Ave and includes many small side streets off of Maple Ave as well as the lower half of Brook Street and North Seminary Street. It consists primarily of residential buildings, both single-family and multi-family, with some businesses. It has already been the target of flood remediation after the 2015 flooding, with buyouts to achieve a floodplain and bollards installed for a trash collector.

Inundation: Gunner Brook goes through the middle of this neighborhood and can quickly overflow its banks after a heavy rain event.

Overflow/Flash Flooding: the neighborhood is a low-lying area between two neighborhoods at elevation (Pleasant Street area & Seminary / Warren Street areas) and is subject to flash flooding from overflow coming down from those heights

Currier Park

Currier Park is one of the gems of Barre City, and the neighborhood around it consists of East, Currier, Park, Academy, Cliff, and North Streets. It is almost exclusively residential.

Types of Flooding

Inundation: the Potash Brook runs alongside Cliff Street and then underneath East and Park Streets and through several properties. It has been channelized, or directed to flow within a narrow channel delineated by large granite blocks. In times of heavy rainfall, the Potash swells quickly and overflows its channel, leading to flooding throughout the neighborhood. The Potash is also a major channel for water reaching downtown.

Downtown

The downtown corridor consists of commercial properties and large apartment blocks on either side of Main Street from its intersection with Elm Street to Maple Ave. It also includes parking lots and some side streets behind and off of Main Street such as Enterprise Alley. City Hall and the Public Works Garage are both in this area.

Types of Flooding

Overflow/Flash Flooding: this area is most vulnerable to high-intensity rain events that overwhelm the stormwater system and drainage, especially in its lowest-lying areas at Depot Square and Maple Ave.

Brooklyn Street

This small neighborhood consists of several houses along Brooklyn Street, primarily where it begins from Prospect Street.

Types of Flooding

Inundation: this neighborhood floods when the Stevens Branch, which runs alongside Brooklyn Street, overflows its banks.

Other Areas

Many other spots in Barre City experience flooding, erosion, or slides in highly specific localities. Generally, one or two houses in a given neighborhood are vulnerable because of their placement within the infrastructure / elevation change of that neighborhood, and all are subject to overflow or flash flooding.

These locations may experience one or more of the following factors:

- Elevation Change: a structure may be at the lowest point in a neighborhood, even if it is still at substantial elevation, or it may be situated on a slant down which water flows quickly. Conversely, it may be positioned at the high point directly near a steep dropoff or cliff that is subject to rapid erosion.
- Infrastructure / Hardscape: a structure may be positioned relative to a paved street, curb that serves as a channel, or stormwater drain in such a way that directs water toward it
- Ground Instability: a structure may be built into or on old fill, often waste granite blocks mixed with topsoil at a time in the further distant past without best practices; with enough water saturation, the land itself can become unstable and contribute to structural damage
- Failed Stormwater System: a structure may be near or downhill from a poorly sized culvert or poorly positioned or cleaned out drain
- Older / Not Upgraded Housing Stock: Barre City has the second-oldest housing stock in the state, and many of its structures have 50 or 100 year old foundations, grading, and systems; if a house has not been upgraded for a better understanding of water flow, it is vulnerable

It is important to note that basement flooding in a house far from a floodplain can be extremely serious if it damages core building systems such as electrical panels, hot water heaters, and furnaces. These systems are expensive to replace especially in a home without flood insurance, and skilled tradespeople for installation are in short supply, especially after a disaster.

Appendix: Resources for Reference

In this section, we will include links to relevant studies, plans, and surveys that have helped to inform this plan and contain a wealth of detailed information that should further inform its implementation.

[Central Vermont Stormwater Master Plan \(2018\)](#)

[Winooski River Tactical Basin Plan \(2018\)](#)

[Barre City Municipal Plan \(2020\)](#)

[City of Barre Flood Hazard Area Regulations \(2010\)](#)

[Barre City Unified Development Ordinance \(2020\)](#)

[Barre City GIS Parcel Map](#)

[Barre City River Access Task Force Strategic Plan \(2024\)](#)

[State of Vermont Stormwater Program](#)

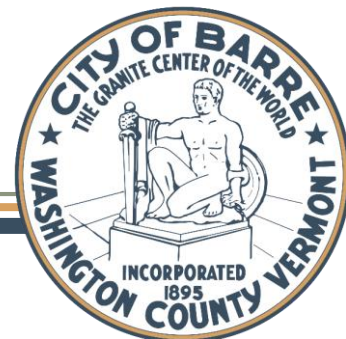
[Vermont Council on Rural Development's "Barre Up" Public Forum Report \(2023\)](#)

[State of Vermont/Barre City Report on Flood Forums on February 27th, 2024](#)

[Managers Report on Buyouts as of June 20th, 2024](#)

FLOOD RESILIENCY PLAN: UPDATES AND NEXT STEPS

AUGUST 6, 2024



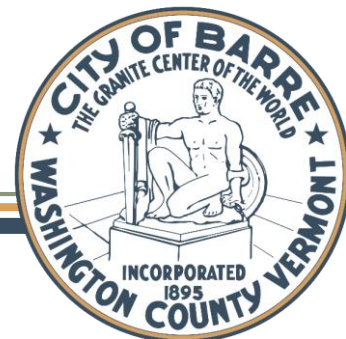
KEY UPDATES

- Integration of EPA grant specifics
- Addition of suggested green procurement policy to "Infrastructure"
- Fixed links
- Light wordsmithing



WHAT'S NEXT?

- Integrate identified RIVER projects
- Write timeline of previous flooding, response, and recovery for reference
- Meet with mayor, councilors, and key City officials for direct feedback on specific parts of the plan
- Offer individual one-on-one resident meetings for feedback
- Schedule open resident forums by theme/section for facilitated conversation about pieces of the plan; VCRD funds/help?
- Establish appendix with ongoing list of potential projects
- Finished plan by end of October 2024



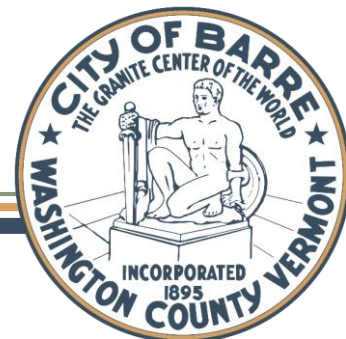
SUGGESTED FINAL PLAN FORMAT

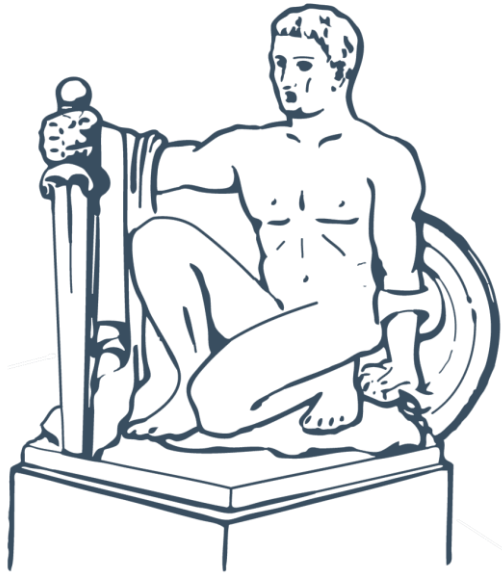
- Each section of the plan should have an introduction detailing the overall philosophy of that section
- Each project can have its own page with: description of project, identified partners, role for the City to play, resources needed, and current status of project
- Appendix with completed projects; front page a checklist table of contents. As projects are completed, they can be moved to this section, checked off, and kept as a record of progress



HOW CAN COUNCIL FOLLOW UP?

- Following adoption of the plan, 1-2 projects can be scheduled for updates at every Council meeting
- Full review, updates, and revisions to the plan conducted every 6 months, with projects adjusted or moved to completed





THANK YOU

QUESTIONS/DISCUSSION?

WWW.BARRECITY.ORG



@BARRECITYVT

