

# **Barre City Flood Resiliency Plan**

## **Submitted by:**

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**First submitted on June 25, 2024**

**Updated for July 16, 2024**

**Ongoing updates & community outreach through August - October 2024**

**Final Draft for Adoption presented November 12, 2024**

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

This document creates 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 critical areas:

- 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.

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## 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 will engage in best practices in its planning.

## Plan for Follow Through

Following adoption of the plan, 1-2 sections will be scheduled for updates at every Council meeting. With 21 key goals, that will ensure each goal is reviewed at least once every calendar year.

Every six to twelve months, Council will conduct a full review of the plan, making updates and revisions as necessary. Any projects fully completed will be moved out of the plan and replaced with necessary projects from the “future projects” section. Review will also include removing projects that no longer benefit the City or do not pursue the right strategic direction for the City.

## Context

This plan does not replace other important work being done to think strategically about City operations; it aggregates flood resiliency goals in one place so that residents can see clear progress toward a more resilient future. When goals appear in other plans, that is noted and referenced. For complete reading, many other studies and plans are referenced in the appendix.

## Goal 1: Information & Data Gathering

Barre City can best act when it is in possession of solid data about flooding history and patterns as well as scientific modeling of future potential events. To that end, it should pursue clear and useful data in as many ways as possible, but should not become over-reliant on studies or plans so as to hinder its action.

Equally important to expert guidance is resident knowledge. People who live in Barre City, and who have experienced its many floods have on-the-ground information that is vital to understanding flooding patterns. The City will work directly with residents to make sure their knowledge and experiences are captured throughout the process.

Finally, information must not only be gathered - it must be shared. Barre City will commit to ongoing resident education about flood resiliency. Residents will understand the steps that the City is taking, and will also be empowered to take steps in their own neighborhoods and on their own property that contribute to a greater whole.

## 1.1 Citywide Inundation Modeling

The City should commission a hydrology study to fully map movement of water through its neighborhoods and so begin to model different flood mitigation scenarios. This study can also include a broader understanding of the way the watershed in neighboring towns contributes to water in Barre City.

This goal is referenced in the City of Barre's 2024 Local Hazard Mitigation Plan.

### Partners:

- Central Vermont Regional Planning Commission
- SLR Consulting

### City Role:

- The City is the funder and client for such a study.

### Progress:

- On 8/27/24, Council allocated \$80,000 from ARPA funding to commission such a study, and has directed the Manager to work with SLR Consulting or another such group to develop it.
- On 9/24/24, Manager informed the Council that the cost to carry out a hydrology would be \$164,685, considerably more than planned.
- On 10/22/24, Council approved the required funding and directed the City Manager to hire SLR Consulting to begin the hydrology study.

### Next Steps:

- Support SLR Consulting as they develop their study

## 1.2 Stormwater System Analysis & Upsizing

The City should systematically analyze all culverts and stormwater flow across the city for capacity relative to expected flow to ensure they remain clear during flash flood events.

This goal is referenced in the 2020 City Plan under “Community Services.”

### Partners:

- Possible consultant/contractor

### City Role:

- The City’s Department of Public Works should either carry out this work or identify a consultant to carry it out.

### Progress:

- On 9/24/24, Council received a quote for \$95,565 to carry out this work.

### Next Steps:

- Formulate a plan and timeline for this work
- Identify any areas where the Public Works department does not have the capacity to carry the work out

### 1.3 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. Information about likely infill development locations should also include encouraging any development made in the floodplain to be flood-resistant, and should place priority on infill development outside of the floodplain as much as possible.

This goal is referenced within the City of Barre 2020 Municipal Plan, under “Housing.”

#### Partners:

- Central Vermont Regional Planning Commission
- All In for Barre Housing Task Force
- Planning Commission
- Barre Area Development Corporation

#### City Role:

- Convener

#### Progress:

- The Central Vermont Regional Planning Commission has completed an infill development study, identifying areas where lots can be developed for housing

#### Next Steps:

- The Housing Task Force is developing strategies for outreach



## 1.4 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.

This goal is referenced in the City of Barre's 2024 Local Hazard Mitigation Plan.

### Partners:

- Barre residents
- Central Vermont Planning Commission

### City Role:

- Convener

### Progress:

- On 10/28/24, the City of Barre applied for funding through the Vermont Council on Rural Development's Climate Catalyst granting program to fund five neighborhood walks that will identify hyperlocal flood impacts.
- The Central Vermont Planning Commission has agreed to support data collection with GIS and other geographical systems expertise.

### Next Steps:

- Implement programs if funded.

## 1.5 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. Education should include holistic understandings of Barre City's requirements under the National Flood Insurance Program and other federal rules.

This goal is referenced in the City of Barre's 2024 Local Hazard Mitigation Plan.

### Partners:

- Barre residents
- Friends of the Winooski River
- Barre City River Access Task Force
- Lake Champlain Sea Grant
- Vermont River Conservancy

### City Role:

- Convener

### Progress:

- On 10/28/24, the City of Barre applied for funding through the Vermont Council on Rural Development's Climate Catalyst granting program to fund four workshops to help residents better understand stormwater management. Friends of the Winooski River and Lake Champlain Sea Grant have agreed to act as educational partners.

### Next Steps:

- Implement programs if funded.

## Goal 2: Community & Staff Capacity

The City is under-resourced for its size and complexity, and with rapidly changing demographics needs to actively work to rebuild tight community bonds. Increasing the human capacity of both Barre's citizens and staff will pay off in better flexibility, responsiveness, and morale before, during, and after disasters.

## 2.1 Ward Meetings and Street Captains

The City should support the building of a more cohesive program of neighborhood connections. With demographic and population changes in recent years, what was once a series of close-knit neighborhoods have become more fragmented.

Neighbor-to-neighbor connection is a form of social infrastructure in times of disaster or stress: it builds trust, safety nets, and appreciation for the place you live.

### Partners:

- Barre residents
- Existing Neighborhood Watch groups

### City Role:

- Small funding
- Leadership & encouragement

### Progress:

- None yet

### Next Steps:

- Convene interested parties (local community organizations, Neighborhood Watch groups, etc.) to learn what has worked and what has not worked in the past.

## 2.2 Communications Upgrades

Timely, accurate communication is key both in a time of disaster and as Barre citizens go about their day to day lives. The City should make communications upgrades both in emergency alerts as well as day-to-day outreach around regular activities. It should also review emergency communications and plans to make sure that they are effective and ready to implement. Finally, the City should increase and raise awareness of avenues for regular citizen feedback.

This goal is referenced in the 2020 City Plan under “Community Services.”

### Partners:

- Technology vendors
- Barre residents
- Nonprofits & community organizations with the ability to reach Barre residents

### City Role:

- All official communications originate directly from the City

### Progress:

- In November 2024, the City began rollout of a new emergency alert system using the app Regroup.

### Next Steps:

- Plan outreach around the Regroup rollout to make sure as many people are on the system as possible.

## 2.3 Continued Investment in City Staff

Both the immediate and the long term resiliency of the City depend on increasing staff capacity across the board, but especially in key positions related to flood resiliency: planning and grants management.

### Partners:

- Central Vermont Regional Planning Commission
- Vermont League of Cities and Towns

### City Role:

- Hiring, supervising, and effectively implementing a staff recruitment and retention policy for key positions

### Progress:

- In September 2024, the City of Barre hired a Special Projects and Grants Specialist for a two year term using ARPA funding.
- Using grant funding, the City has hired a Housing & Homelessness Coordinator who has been the City's liaison with the Housing Task Force and has been convening conversations around other key issues.

### Next Steps:

- Examine strategies for recruiting for the vacant planner position

## 2.4 Funding Opportunities for Community Building

Barre City currently lacks a staff position to direct recreation in the City, and must rely on its community partners and active citizens to bring together opportunities for recreation and community connection. It should direct funding toward efforts in the form of small, targeted grants.

### Partners:

- The Barre Partnership
- Barre Social Club
- Friends of Mathewson Playground
- Other community organizations
- Parks & Recreation Committee

### City Role:

- Funder and grants manager

### Progress:

- None yet

### Next Steps:

- Identify a funding amount and/or source
- Convene Parks & Recreation Committee
- Develop grant application and RFP

## 2.5 Support the River Access Task Force

Formed as part of the All In for Barre VCRD community forum, the River Access Task Force is an independent but City-allied group that provides access and appreciation of Barre's rivers. Understanding and appreciating Barre's rivers will lay the groundwork for better overall understanding of Barre's flood patterns and environmental challenges.

This goal is referenced in the 2020 City Master Plan under "Natural Environment."

### Partners:

- River Access Task Force
- Friends of the Winooski River
- Vermont River Conservancy

### City Role:

- Support and advocacy

### Progress:

- The River Access Task Force has been meeting and creating events for several years to date.

### Next Steps:

- Identify areas of the [River Access Task Force's 2024 Strategic Plan](#) where the City and its residents can play a role



## Goal 3: Infrastructure & Flood Mitigation

Flooding damaged infrastructure citywide, triggering landslides, overflowing culverts, tearing up paving, and inundating City buildings and structures. Additionally, much of the City's infrastructure is aging and inadequate for the strength and size of flooding that we saw and are likely to continue seeing.

### 3.1 Relocate DPW Garage out of Floodplain

The City's Department of Public Works is currently located in a complex verging on 100 years old that has flooded several times. It must be replaced for the safety and work environment of our City employees as well as the preservation of valuable City equipment.

This goal is referenced in the 2020 City Plan under "Public Utilities."

Partners:

- None as yet

City Role:

- Identify solution
- Fund solution

Progress:

- The City has received drawings of a new DPW garage complex that is estimated to cost \$30 million, and is actively searching for land or existing structures to convert
- City staff has visited and reviewed other municipalities' DPW spaces for comparatives

Next Steps:

- The City's Department of Public Works must identify a best course of action for purchase of a lot that could hold a new DPW complex

### 3.2 Remove Railroad Trestle

The defunct railroad trestle in the Stevens Branch (technically trestle bridge #308) has repeatedly proven to be a flood hazard, collecting debris and leading to inundation flooding in the North End neighborhoods nearby.

This goal is referenced in the City of Barre's 2024 Local Hazard Mitigation Plan as well as the 2020 City Plan under "Transportation."

#### Partners:

- State of Vermont Agency of Transportation
- Central Vermont Regional Planning Commission

#### City Role:

- Ultimately, the City cannot directly order or cause the removal of the trestle. It must work in an advocacy role with the deciding parties

#### Progress:

- On 2/22/24, relevant parties held a public meeting to discuss the future of the trestle; that recording, as well as its slideshow, [is available here](#).
- The railroad has already developed a plan to remove and replace the trestle bridge. City officials are advocating for immediate removal, with replacement to be a future concern & conversation.

#### Next Steps:

- Continue meeting with state & railroad officials

### 3.3 Upgrade Barre Auditorium

The Barre Auditorium is a beloved building within the City, and plays host to many of the City's civic activities. It is also a regional hub for sports and gatherings. During times of disaster, it serves as the regional emergency shelter. It is also deeply inadequate to its current purpose, and must be upgraded with a new HVAC system and better overall building access. Repairs and upgrades should be made with green energy goals in mind.

This goal is referenced in the City of Barre's 2020 City Plan under "Energy."

#### Partners:

- Federal Government / Senator Bernie Sanders
- Vermont Emergency Management

#### City Role:

- The City wholly owns the Auditorium and will be the sponsor and planner for all activities.

#### Progress:

- The City has received funding via a Congressionally Directed Spending grant from the office of Senator Sanders for necessary upgrades.
- The City must find the match funding for this project.
- The City has received a Municipal Energy Resilience Implementation grant for \$500,000 to implement energy efficiency upgrades to the Barre Auditorium as well as other buildings.

#### Next Steps:

- Take steps as outlined in the CDS grant that can be completed with the level of match funding currently available.
- Seek match funding to complete the scope of work identified in the CDS grant.

### 3.4 Resolve Berlin Street Bridge

The Berlin Street bridge is too low for the level of flooding that we are receiving. It traps debris and leads to devastating flooding in their respective neighborhoods. It must either be removed or significantly modified.

This goal is referenced under the City of Barre's 2024 Local Hazard Mitigation Plan.

#### Partners:

- Vermont Emergency Management
- Vermont Agency of Transportation
- Neighborhoods around Berlin Street

#### City Role:

- The City owns and maintains both bridges

#### Progress:

- Removal or replacement of the Berlin Street bridge has been identified as a priority for funding through the Vermont Emergency Management's Hazard Mitigation program

#### Next Steps:

- Apply for funding
- Advance studies that will determine the best outcome for these two bridges

### 3.5 Pursue buyouts that will lead to better floodplain

Several neighborhood clusters throughout the City have been identified as likely buyouts that can lead to permanent greenspace and better floodplain. Criteria will include consultation with river scientists, clustered buyout groups that allow for significant water expansion, impact to the neighborhood, and a cost/benefit analysis on the increase in community safety.

#### Partners:

- FEMA
- VEM
- Property Owners
- Central Vermont Regional Planning Commission
- SLR Consulting
- River Access Task Force

#### City Role:

- The City must identify which buyouts will best serve its needs for flood mitigation.
- The City must work with state and federal partners to process paperwork.
- The City must work with partners to convert now-empty lots to ecologically sound floodplain.

#### Progress:

- The City has determined criteria around FEMA buyouts (permanent greenspace that creates additional floodplain, in clustered groups) and is working with property owners whose parcels fit the criteria.
- The City is applying for funding through the VEM Hazard Mitigation grant program to move forward several buyout clusters.

#### Next Steps:

- Complete the buyouts requested and convert those lots to additional floodplain

### 3.6 Investigate flood impacts outside City limits

Barre City is a small island in a larger watershed, impacted by its neighboring communities and their choices. Its choices also impact communities downstream. The City should participate in all efforts to resolve regional flooding challenges along the breadth of the watershed.

Possible projects include:

- Working with Barre Town and other neighboring communities to address the increase in development that includes impermeable surfaces at elevation, leading to greater runoff into Barre City.
- Investigating solutions for the East Barre Dam and pursuing fixes in partnership with the federal government and other communities.
- Coordinate with communities along the Winooski River watershed to model and implement other regional solutions that will benefit all communities.

Partners:

- Other cities & towns in the Winooski River Watershed
- Vermont Agency of Natural Resources
- Army Corps of Engineers
- Central Vermont Regional Planning Commission
- Friends of the Winooski River

City Role:

- Advocacy for Barre City's interests within the larger watershed
- Work with Barre Town and apply leverage as possible

Progress:

- Barre City has been working with the State Recovery Officer and its neighboring communities
- Friends of the Winooski River [have put out an RFP](#) for the removal of the Jockey Hollow, Habbep, and Brooklyn St. dams on the Stevens Branch.

## Goal 4: Housing Development & Repair

Within its four square miles, Barre City needs to develop creative solutions that increase housing density, quality, and affordability. With expected buyouts from flooding creating empty spaces, it is doubly important to find and support new opportunities.



## 4.1 Prospect Heights Development

Prospect Heights is a joint partnership between the City of Barre, the Barre Area Development Corporation, the Town of Barre, and other key partners to develop a previously planned subdivision off of Prospect Street.

This goal is referenced in the City of Barre's 2020 City Plan under "Housing."

### Partners:

- Barre Area Development Corporation
- Town of Barre
- Downstreet Housing & Community Development
- Central Vermont Medical Center

### City Role:

- City Manager Nicolas Storellicastro sits on the board of Prospect Heights LLC as the representative of the City of Barre.
- The City of Barre is the applicant of record for several funding requests to support planning and infrastructure at the site.

### Progress:

- Received \$2.9 million in grant funding to support permitting, engineering, and infrastructure at the site from the Northern Border Regional Commission ([more information](#)).
- Applied for additional infrastructure funding through a grant from the EPA, as well as partnering with Downstreet Housing & Community Development to fund a small number of single family homes on the lots.

### Next Steps:

- Pursue the permitting and engineering studies for the infrastructure buildout.

## 4.2 Housing Redevelopment and Flood Mitigation Upgrades

The City of Barre should pursue more flood-resilient housing in neighborhoods at high likelihood of repeated flooding. Many homes in those neighborhoods can be upgraded to improve their resiliency or purchased and rebuilt with higher-density, flood-resilient, affordable housing. The City should place an emphasis on keeping neighborhoods intact and working directly with residents to meet their wishes and needs.

This goal is referenced in the City of Barre's 2020 City Plan under "Housing."

### Partners:

- Barre City Homeowners
- Developers

### City Role:

- The City can execute purchase options on properties as appropriate.
- The City can support flood mitigation rebuilding through education about the permitting and federal floodplain requirements.
- The City can re-grant money intended for flood mitigation, such as the elevation grant funding.

### Progress:

- The City has received requests for buyouts from homes in areas that will not meet criteria for full FEMA buyout; these are likely options for potential redevelopment.
- The City has approved criteria for grant applications for a pot of state money to elevate homes in the floodplain.

### Next Steps:

- Identify successful elevation grant applications and carry out the plans.
- Identify other sources of funding that can be used to upgrade housing to meet flood mitigation requirements, such as elevating utilities.

### 4.3 Seminary Street Parking Lot Development

The City of Barre has optioned two adjoining seldom-used parking lots on Seminary Street to Downstreet Housing & Community Development and DEW Construction for \$1, approving plans to build up to 32 units in that space.

This goal is referenced in the City of Barre's 2020 City Plan under "Housing."

#### Partners:

- Downstreet Housing & Community Development
- DEW Construction

#### City Role:

- The City has sold the lots for \$1
- The City continues to work with DEW on permitting

#### Progress:

- DEW is in the final stages of permitting the new building.

#### Next Steps:

- DEW will begin construction in the spring of 2025.

#### 4.4 Housing Revolving Loan Fund

The City of Barre has earmarked \$250,000 in ARPA funding to support a revolving loan fund intended to repair existing housing and potentially develop new housing. Downstreet Housing & Community Development has agreed to develop rules and take on management of this fund.

This goal is referenced in the City of Barre's 2020 City Plan under "Housing."

##### Partners:

- Downstreet Housing & Community Development
- All in for Barre Housing Task Force

##### City Role:

- Approve final rules around lending
- Fund the initial amount of \$250,000 from ARPA funding
- Consider ongoing funding as opportunities arise

##### Progress:

- Downstreet worked with the All In for Barre Housing Task Force to develop criteria for the fund, and [presented an initial draft to Barre City Council on July 2](#). Council gave feedback, and Downstreet is incorporating that feedback for its next draft.
- On 9/24/24, City Council approved the revolving loan fund under terms administered by Downstreet.

##### Next Steps:

- Monitor use and efficacy of the BRLF going forward. Downstreet will report to Council quarterly. Of particular interest is the interest rate and whether the currently listed amounts are the best fit for the program going forward.

## 4.5 Additional Infill Development

The City of Barre should continue to identify areas where infill development is possible within City limits, including but not limited to replacing flood-damaged housing with more resilient & dense units, identifying under-used lots such as parking lots or City-owned land, and working with property owners to upgrade or convert existing buildings and structures.

This work can also include continuing to review City ordinances and zoning regulations to relax density requirements, particularly in neighborhoods where the existing character already supports higher density than zoning regulations allow on paper.

This goal is referenced in the City of Barre's 2020 City Plan under "Housing."

### Partners:

- Housing developers
- Landlords
- All In for Barre Housing Task Force
- Habitat for Humanity

### Progress:

- The Central Vermont Regional Planning Commission has completed an infill study for the City of Barre, showing lots that are high priority targets for development
- The Planning Commission has passed updates to zoning ordinances to increase density citywide and bring zoning into compliance with recently passed statewide changes
- The City has listed additional City-owned lots for sale at locations throughout the City at low prices to encourage development

### Next Steps:

- The All in for Barre Housing Task Force is developing an outreach program to promote ways of building on infill lots that will include resident education, owner outreach, and ready-made architectural plans.

## 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.

### *Types of Flooding*

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](#)

[Central Vermont Regional Planning Commission's Town Bridge and Culvert Condition Inventory Report](#)

[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](#)

## Appendix: Grant & Funding Opportunities

- **Vermont Emergency Management’s Hazard Mitigation Funding Program.** This annual funding opportunity provides large pots of money for major hazard mitigation projects. It is well-suited for buyouts and floodplain replacement.
- **Environmental Protection Agency’s Community Change Grant.** This federal grant provides extremely large pots of money for transformative projects that directly address the causes and consequences of climate change.
- **Congressionally Directed Spending requests.** Barre City will have needs extending through many years 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.
- **Municipal Energy Resilience Grant Program.** The City has already received Phase 1 and Phase 2 funding, but is eligible for Phase 3 funding, Community Capacity Grants.
- **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).** Annual grant program 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.

## Appendix: Future Projects

### Goal 1: Information & Data Gathering

- **Develop a plan for regular maintenance and cleaning out of stormwater systems throughout the city.** Identify any capacity issues in regular maintenance and cleaning, and work to improve them.
- **Review conservation best practices that could be incorporated into City ordinances.** There may be updated recommendations that can improve stormwater uptake around tree planting and removal, regrading, and other things.

### Goal 2: Community & Staff Capacity

- **Consider strategic studies of the City's future needs and how to build that capacity, particularly around the grand list.** Project forward anticipated budget increases, and needed infrastructure and capital spending, and align that anticipate future spending with plans to build the capacity to pursue that spending.
- **Plan community outreach around City buildings and services.** Schedule tours, open houses, and fun engagement events at the water treatment plant, wastewater treatment plant, DPW, emergency services building, etc.
- **Increase resident participation in City committees and build a sense of ownership over City planning.** Some committees lack clear direction and enough members to make quorum.

### Goal 3: Infrastructure & Flood Mitigation

- **Upgrade windows and doors at City Hall.** Replace previously-breached spaces with floodproof upgrades
- **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.
- **Improve emergency access to the public safety building.** When Main Street floods, City emergency vehicles are unable to safely leave the building. The City

should pursue easements and/or property purchases to ensure an emergency right of way.

- **Increase Barre City representation on regional planning boards related to watershed and flood resiliency.** Make sure that Barre City residents are serving and lending their voices to conversations at all levels and in all corners of the many organizations working on these challenges.
- **Resolve Currier Park / Potash Brook flooding.** The City should pursue a comprehensive solution to the channelized Potash Brook as it runs through Currier Park, rebuilding that channel, developing floodplain expansion options, and better protecting residents in that area.

#### Goal 4: Housing Development & Repair

- **Work to repair flood-damaged housing citywide.** Work can include replacing damaged housing as well as making upgrades for flood mitigation. Barre Up and the Hope Coalition are actively working on this in the City.
- **Develop Wobby Park for housing.** The City has negotiated an option with Downstreet Housing & Community Development to support the development of housing in that location, but much remains to be done.
- **Focus on abandoned and derelict housing.** The City can consider whether to increase penalties for abandoned housing, and find avenues to rehabilitate that housing for habitation.

## Appendix: Completed Projects

### Goal 1: Information & Data Gathering

- **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/>
- **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.

### Goal 2: Community & Staff Capacity

- 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.

### Goal 3: Infrastructure & Flood Mitigation

- 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

#### Goal 4: Housing Development & Repair

- The City of Barre [sold a derelict house at 22 Hill Street to Central Vermont Habitat for Humanity](#) for demolition and rebuild on that lot; they are slated to complete that house in 2025.