



Hampton Circle Area Climate Adaptation Roadmap

ALTERNATIVES ANALYSIS & RESILIENT DESIGN OPTIONS



Weston & SampsonSM



MVP
Municipal Vulnerability
Preparedness

JUNE 2023

ACKNOWLEDGMENTS

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The Town of Hull would like to thank the Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs, Municipal Vulnerability Preparedness Program for their generous support.

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West Side

East Side


01 | INTRODUCTION

The Town of Hull is a barrier beach on a low-lying outer peninsula separating part of Boston Harbor from the North Atlantic Ocean. During storm events, Hull is an important defense system that helps protect inshore coastal communities such as Weymouth, Quincy and Boston. There are several frequently flooded residential areas in Hull that are vulnerable to sea level rise, storm surge, and high tide events that are predicted to increase due to climate change. One of these areas, the Hampton Circle Area (HCA) is a mini-peninsula along the western side of Hull.

The Hampton Circle Area (HCA) is a residential neighborhood with year-round homes between Hampton Hill and Segamore Hill, roughly bounded by Bay Street, Moreland Avenue, Hampton Circle, and Marginal Road. It is located on the harbor-facing side of the barrier beach. Two roadways connect the hills (Marginal Road and Moreland Avenue).

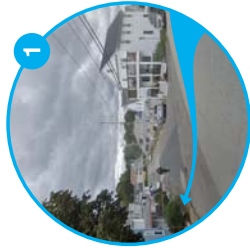
The Town is in the process of developing a Climate Adaptation Roadmap that includes short-term and long-term actions for HCA. These actions intend to address a wide-range of considerations such as shoreline flood mitigation, emergency access, open space improvements, private property adaptation, and ecological restoration.

The Climate Adaptation Roadmap will be a guide for the Town and the community as they envision the future under the conditions of climate change. This report is the culmination of a year's work of community engagement and technical analysis funded by the Municipal Vulnerability Preparedness Program and the Town. Phase 2 will advance concept designs developed during this first phase and continue outreach.

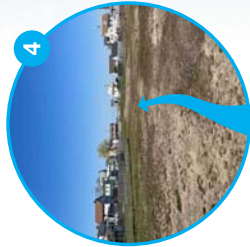


A Climate Adaptation Roadmap is our plan for the future. It includes a variety of strategies that address climate vulnerability to infrastructure, roads, private property, open space, and shorelines. It includes first priority actions as well as long-term visions, accounting for the uncertainty of the future.

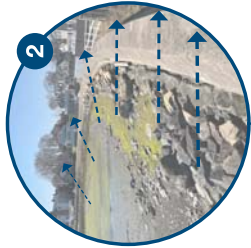
01 | OBSERVED FLOODING



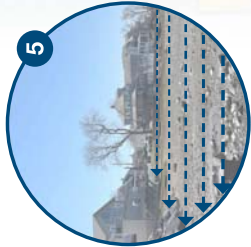
1 Poor drainage causes pooling water at Moreland Ave and Fairmont Way



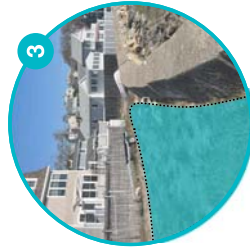
4 Poor drainage causes pooling water in the open green space.



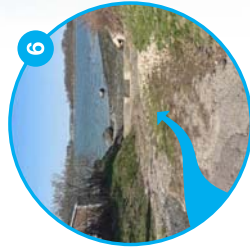
2 Coastal flooding penetrating the existing barrier



5 Coastal flooding along the West side



3 Pooling water behind the barrier wall referred to locally as "Lake Louisa".



6 Poor drainage blocking waterfront access on Hampton Circle



Coastal Flooding
Stormwater Drainage Issues
Coastal Flooding + Drainage Issues

The Town of Hull spoke with residents of the HCA about flooding and poor drainage that they are experiencing. This map highlights the key issues that residents are experiencing: coastal flooding and stormwater drainage issues. Coastal flooding occurs along the East or West coast during a storm event or high tide. Sea Level Rise and changing weather patterns project that these occurrences will be more frequent and consist of higher water levels. Stormwater drainage issues cause pooling water through inability to move water out of a specific area. This is triggered by storm events but can be exacerbated by coastal flooding. The Town of Hull is committed to addressing poor drainage. Additionally, the Town is carefully developing design options that address both coastal flooding and stormwater drainage.

01 | PROJECTED FLOODING

The residents of HCA say that they live life by the tidal cycles. Keeping track of low and high tides drives daily activities and helps residents prepare for flooding. Tides are projected to increase due to climate change, and exceptionally high tides have already been documented in recent years.

Flooding can also occur due to coastal storm events. Sea level rise is causing an increase in flooding during such events. Storm surge from waves can add additional height to flood depths. The Massachusetts Design Standards Tool refers to projected flood elevations from these events as "water surface elevation".

The graphic to the right shows existing ground surface elevations in key points in HCA on the left and projected tides and water surface elevations for future events on the right.

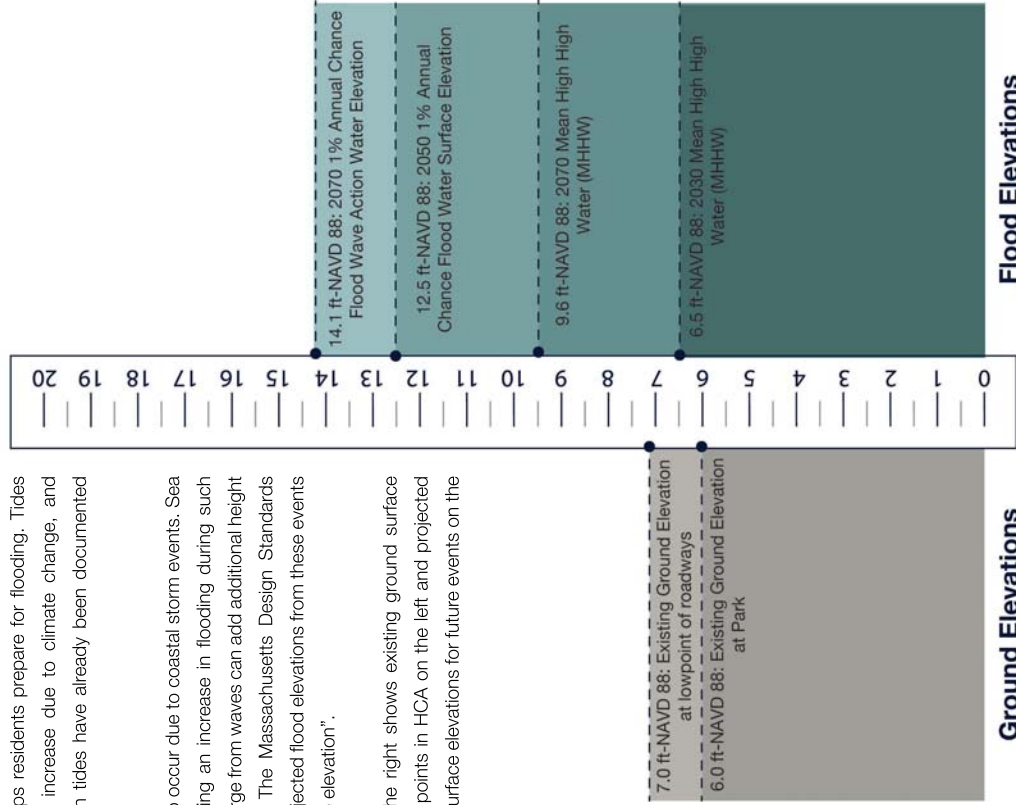


Table 1. Projected Tidal Datums for the Hampton Circle Area site

Tidal Datum	2030 Tidal Datums ft-NAVD88	2050 Tidal Datums ft-NAVD88	2070 Tidal Datums ft-NAVD88
Mean High High Water	6.5	7.8	9.6
Mean High Water	6.1	7.4	9.3
Mean Tide Level	1.2	2.5	4.3
Mean Low Water	-3.6	-2.4	-0.7
Mean Low Low Water	-3.8	-2.7	-1.0

The table above indicates potential future tides based on the Massachusetts Resilient Design Standards Tool. Mean High High Water (MHHW) are elevation datums of exceptionally high tides, while Mean High Water (MHW) are datums for more regularly occurring high tides. Mean Tide Level (MTL) is the mean between low and high tides. Mean Low Low Water (MLLW) is the lowest tide.



02 | PUBLIC ENGAGEMENT SUMMARY

The Town recognizes the complexities and emotions residents are facing when planning for climate change in Hampton Circle Area. Through the engagement process, the Town was able to begin conversations about how best to mitigate flood impacts in the near-term to extend the time residents may be able to stay in the neighborhood. However, based on what is currently known about sea level rise, there are concerns that regular high tides and flooding from storms will impact the ability to live in Hampton Circle. Therefore, the Town is acknowledging that strategies for private residences may be necessary, such as home elevation or planned retreat, via buyouts.

Many residents showed up for the engagement events, and the Town appreciates the time dedicated to these gatherings. Lessons learned and suggestions presented by residents to improve outreach will be utilized in the next phase of this project, if funded. The Town will take feedback into account for the next phase.

Recommendations to improve engagement included:

- sending notices to abutters
- emailing flyers for each event to residents directly
- contacting seasonal residents via their permanent address
- sending follow-up messages
- using meaningful language

The Town of Hull held the following events throughout the course of this project:

Public Workshop on December 7, 2022 - 38 attendees came to the workshop



2 Group Discussions on 4 Topics in March 2023



An Open House with Residents on June 10, 2023



A Site Walk with Residents on June 10, 2023



SUMMARY OF FEEDBACK

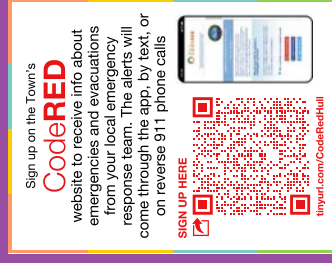
- Residents are concerned about outlier high tides, and they would like the Town to consider the 15.0 ft high tide that was experienced in recent years.
- Residents would like the concept designs to respond to historic tidal events. Several residents stated that if a major project is constructed it should address tidal elevations already experienced. If the infrastructure does not meet those elevations, it could be a waste of money because it does not provide adequate protection.
- Residents stated that poor drainage and stormwater flooding are prevalent problems in the park and at the low-lying areas of the roadways. Recent repaving of the roads has intensified these issues. The park grading causes ponding of water, and residents are concerned that the new playground, which will be built on a mound, will exacerbate flooding and direct water towards private residences.
- Residents are interested to see the profile view of the proposed barrier wall system to better understand the height of the wall at various locations.
- Residents prefer that the wall on the western side of HCA be constructed as a stone revetment that fills in the "gap" between the existing wall to the south and the pump station. However, residents would also like to maintain some access to the small beach at this location.
- Residents responded positively to the concept of a constructed wetland with a boardwalk system. Many individuals said that the proposed re-grading and addition of vegetation would help activate the space and manage tides and stormwater. However,

residents do worry that a wetland will attract mosquitos and other insects.

- Residents are not currently interested in applying for home buyouts to facilitate planned retreat. Several individuals mentioned their concern that the "fair-market value" that would be offered would not match what they paid for their home, or what they could get on the competitive market. Other individuals said that relocation would be a conversation for their children several years down the road, but not for them. As an option to facilitate planned retreat, residents responded well to the concept of a town "right of first refusal".

- Some residents are interested in home elevations and requested more information about the program and application process.
- Residents mentioned that emergency response is a priority, and they would like to share communication networks with one another, early warning systems, protocols for parking in advance of a flood, and evacuation measures.

- Residents are concerned with what can immediately be done in the next 10-years but also acknowledge this is a long-term and complex issue that will need to be studied and evaluated overtime.








03 | OVERVIEW OF FEASIBILITY ASSESSMENT

The Feasibility Assessment provides a summary of the design options developed for the HCA to increase climate resilience in the area. Feasibility for each alternative was considered based on existing site conditions, climate vulnerability, initial community response, effectiveness in reducing flood risk, social impact or benefits, environmental permitting, ecological benefits, and funding potential. These alternatives are not mutually exclusive.

Assessment Criteria

Positive	Negative	Medium / Neutral	Mixed
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Criteria	Description	Comparison Key
Effectiveness	Potential risk reduction from proposed alternative, either through reducing likelihood or consequence of flooding. This may be related to sea level rise/storm surge flooding, extreme precipitation flooding, and/or coastal erosion.	<ul style="list-style-type: none"> Limited: Little risk reduction Moderate: Some risk reduction Significant: Risk substantially reduced
Social	Potential benefits or negative impacts to the public realm, including the neighborhood and individual properties with the proposed alternative.	<ul style="list-style-type: none"> May impact neighborhood and individual properties. May impact neighborhood but benefit several individual properties. May benefit neighborhood but impact several individual properties. May benefit neighborhood and individual properties.
Environmental Permitting	Potential that regulators view the project as less or more favorable based on benefits or negative impacts to the environment, including the ACEC, from the proposed alternative. This can be used as a preliminary indication of feasibility based on regulatory review.	<ul style="list-style-type: none"> Less Favorable: may impact natural resources; will need to demonstrate "no adverse effect" or mitigate impacts. Neutral: natural resources are likely unaffected. More Favorable: may benefit natural physical coastal processes
Funding	Potential eligibility for funding the alternative based on existing grant programs.	<ul style="list-style-type: none"> Limited: One or less grant programs eligible. Some: Two to Four grant programs eligible. Likely: Five or more grant programs eligible.

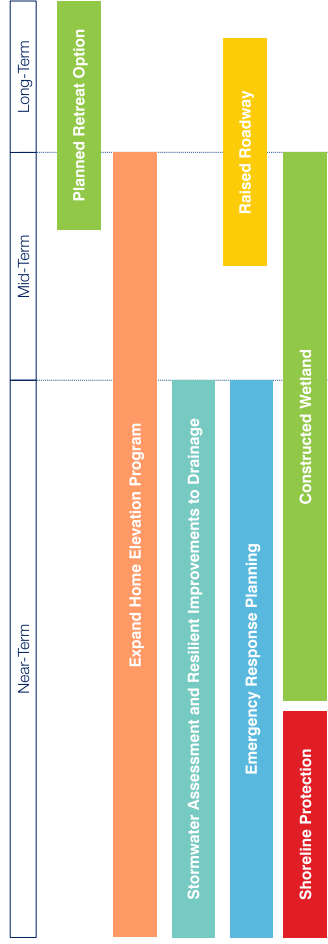
	Effectiveness	Social	Environmental Permitting	Funding
 Shoreline Protection	Limited	May benefit neighborhood May Impact several individual properties	Less Favorable	Limited
 Resilient Drainage Improvements	Limited to Moderate	May Benefit neighborhood May benefit several individual properties	Neutral to Favorable	Likely
 Expand Home Elevation Grant Program	Moderate	May Impact neighborhood May benefit several individual properties	Favorable	Limited
 Raised Roadway	Limited (by itself)	May benefit neighborhood May Impact several individual properties	Less Favorable	Limited
 Planned Retreat + Ecological Restoration	Significant	May Impact neighborhood May Impact several individual properties	More Favorable	Some

04 | POSSIBLE DESIGN VISION

This Climate Adaptation Roadmap includes several design concepts that can be implemented simultaneously, sequentially, or at varying degrees. It is a flexible series of opportunities that will rely on community input and Town leadership to determine the exact path that the HCA will take moving forward.

The options are not mutually exclusive and each have their own optimal timeline or trigger events. These options are intended to support the Town and community in making decisions over the next 50+ years that are beneficial to the safety, wellbeing, and quality of life for all residents.

Overview of Climate Adaptation Roadmap



Shoreline Protection

Conceptual designs for shoreline protection include a concrete barrier and living shoreline solution for both the eastern and western HCA coasts.



Resilient Drainage Improvements

Upgrades to the drainage system will help manage increased precipitation from rainfall events.



Expand Home Elevation Grant Program

The Town of Hull has a partnership program with FEMA to help fund home elevations for private property. Many residences in HCA may be eligible.



Emergency Response

Emergency Response Planning helps the Town and residents understand what to do in an emergency.



Raised Roadway

Raising the existing roadways in the future will help maintain critical access as sea levels rise.



Pursue Planned Retreat and Ecological Restoration

Planned retreat may eventually be necessary if HCA becomes less habitable due to the frequency and severity of flooding. If homes are bought-out parcels may be used for ecological restoration and wetland construction.



2030 POSSIBLE DESIGN VISION

Minimize Impacts on private property in the near-term, while mitigating flooding

The 2030 conceptual design includes two coastal flood mitigation systems comprised of new barrier walls and living shorelines. The new barrier walls would replace and extend the existing sea walls near Marginal Road and Moreland Avenue. The combined system will help mitigate flood impacts while dampening wave action and will be designed to protect HCA up to the 2050 1% annual chance flood elevation – 12.5 ft NAVD88. The 2030 design also includes a proposed retrofit of the HCA park to include constructed wetlands for storing stormwater and a pedestrian path with outdoor seating.

2030 Adaptation Strategies



Shoreline Protection



Resilient Drainage Improvements



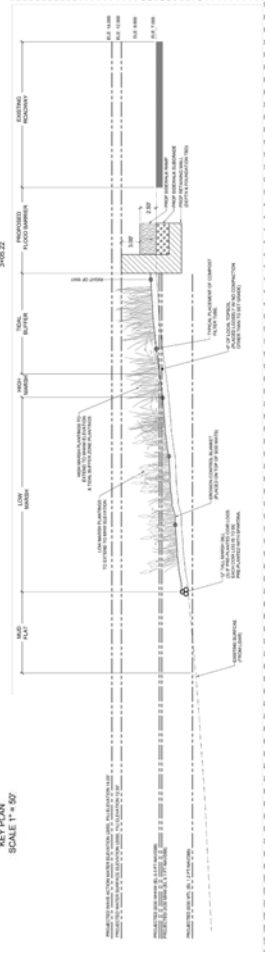
Expand Home Elevation Grant Program



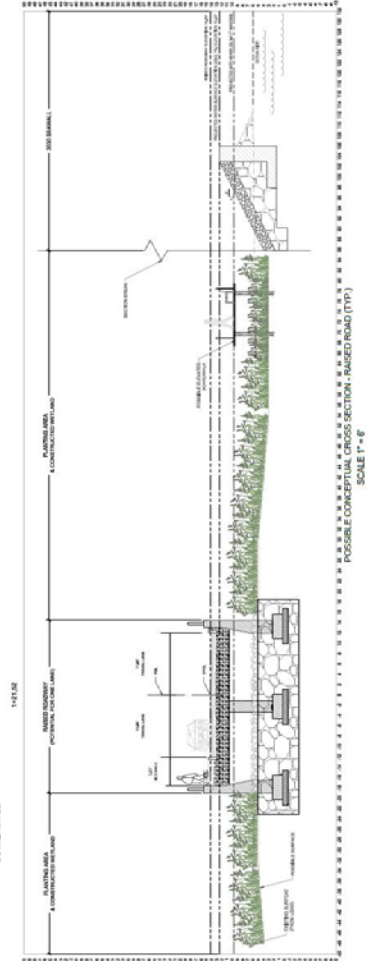
CROSS-SECTIONS



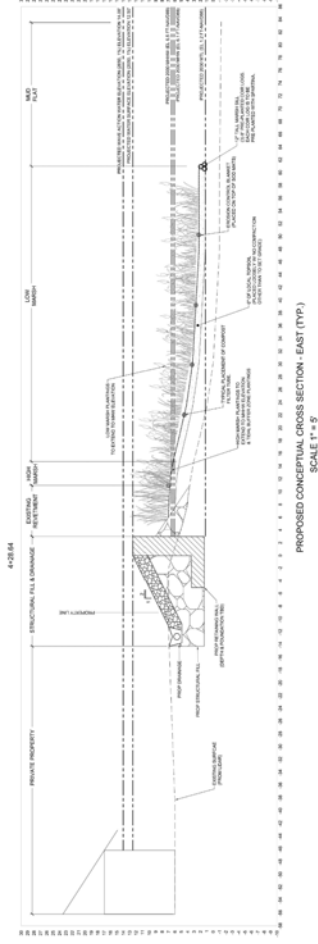
WEST SECTION



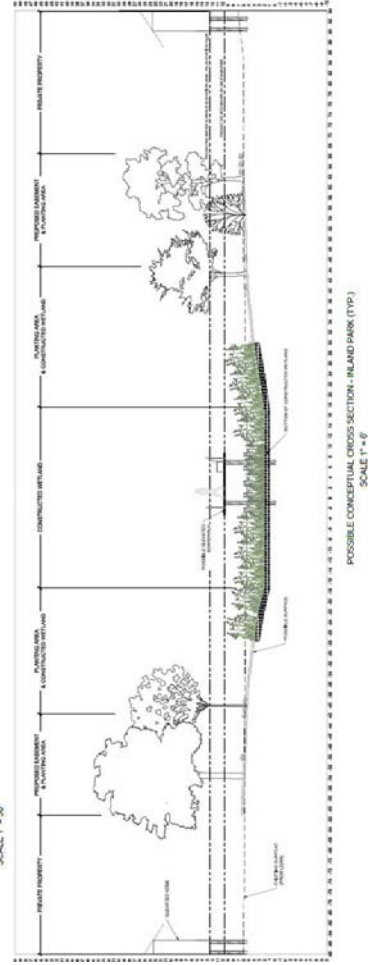
RAISED ROAD



EAST SECTION



INLAND PARK



05 | HOME ELEVATION PROGRAM

To increase the climate resilience of homes at risk of flooding and flood damages, home elevation may be part of the solution. Typically, homes and/or utilities can be elevated above the base flood elevation plus freeboard to help avoid flood damage.

The Town offers a program assisting homeowners in applying for and receiving reimbursement for the costs of home elevation. The Town has also amended the zoning code to help homeowners avoid exceeding height limitations after elevation, allowing property owners to request a special permit to exceed height limitations for elevation retrofits.



IS YOUR HOME IN THE 100 YEAR FLOODPLAIN?



ARE YOU LOOKING TO RAISE YOUR HOME AND/OR UTILITIES TO REDUCE THE RISK OF FLOODING DAMAGES?



INSTALLING HOME RISERS & STAIRS
Putting your risers on risers and adding stairs.



RELOCATING UTILITIES
Getting utilities out of the basement/first floor.



DESIGN & CODE COMPLIANCE
Other changes to meet FEMA's flood resistant design and construction requirements and the local and state building codes.

Elevating one's home or the utilities associated with it can help avoid flood damages, but properties may also require additional changes to address other problems of access during flooding.

In 2023, the Town of Hull will sponsor up to 5 applications on homeowners' behalf for funding to the FEMA's Flood Mitigation Assistance (FMA) Grant Program, for those that meet criteria. Applications are due to the Town by Sept. 20, 2023 to be considered.

Costs to be covered by the FEMA grant can be up to \$205,000 to elevate home and/or utilities, and you will be reimbursed for the approved elevation expenses, if selected.

After Town, state, and federal FEMA review, approved applicants will be notified of selection approximately six to eight months later.

Section diagram depicts home elevated to the FEMA 100-year flood elevation with 2' of freeboard. This is approximately 5 feet above the average ground elevation of the low-lying parts of HCA.



Section diagram depicts home elevated to the FEMA 100-year flood elevation with 2' of freeboard with accommodations for ADA accessibility.



The image to the right shows a recently elevated home in HCA.

This home was elevated onto piles that are hidden by a wood lattice screen.



FAQs



How does the Town of Hull Home Elevation Grant Program work?

The 2023 Home Elevation Grant Program (HEGP) is administered by the Town of Hull through a multi-department committee of Town staff. Its purpose is to assist eligible residents raise their homes (or utilities) in the 100-year floodplain so the risk for flooding is reduced. A guidance document has been written for the HEGP and must be followed by any resident wishing to seek public funding to elevate his or her home. Note that this funding is a nationally competitive program and homes with repetitive flood damage claims are more likely for funding than those that have not reported flood damage.



What percentage of the costs do I have to pay for elevating my home?

The FMA is a reimbursement grant program: if you have been approved, funds are reimbursed to the homeowner AFTER he or she has paid for the work. If the cost of work ultimately exceeds the amount of the grant, the homeowner is responsible for paying the overrun. With most FMA grants, two to four reimbursements are requested during the course of the project. FEMA typically pays up to 75 percent for home elevation projects. Depending on the extent of flood claims filed with the NFIP, up to 90% and 100% of mitigation costs may be covered on this grant program. Any remaining percent-cost is the responsibility of the homeowner. Contact the Conservation Department if you wish to know the extent of past flood insurance claims for your home (as this information is yours only and protected under the Privacy Act of 1974) and the potential cost coverage under this funding opportunity.



What are some things I should consider if I am interested?

- The program is competitive, so there is a chance you may not be funded through the HEGP to elevate your home.
- The application can take a while, and there may be upfront costs.
- Some older homes may have structural issues that make it infeasible to elevate the home.
- Interested property owners need to consider temporary housing, while their home is being elevated. Funding through the HEGP may be applied for 3 months for this temporary housing.
- Home elevation can cause accessibility issues.
- Home owners will be required by W to have flood insurance for the elevated home in perpetuity.

For this guidance and application contact the Town's Climate Adaptation & Conservation at 781.925.8102 or email: okraforst@town.hull.ma.us and/or visit: 2023 Home Elevation Grant Program | Hull MA



Resident Comments about Home Elevation Option ("What we heard")

The home elevation option is relevant only to residents in specific locations - in the 100 year floodplain- and is not widely understood or used. Many residents at the project meetings requested more information about the program, and a few stated that they were considering or planning to pursue the home elevation process and funding opportunity.

Some suggested expanding access to the home elevation program. Residents who expressed interest in the Town helping them with home or utility elevations saw it as an option that would allow them to stay in place longer. Residents in general perceive this as a temporary or incomplete solution.



Next Steps in the Climate Adaptation Roadmap for Home Elevation Program

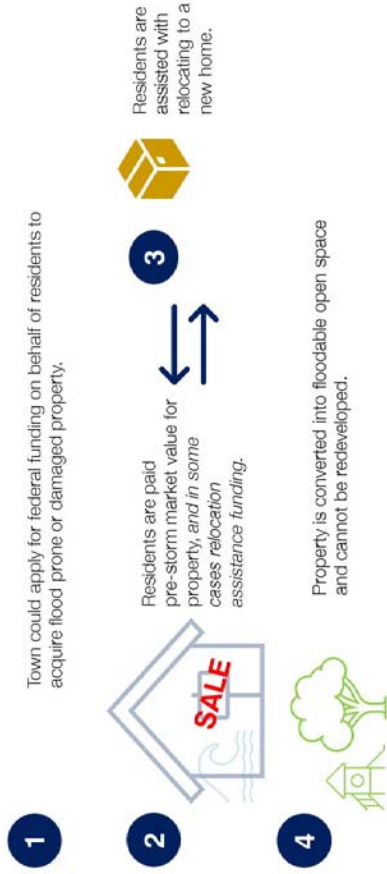
A technical training will take place on home elevation in phase 2 of the grant (pending award).

06 | PLANNED RETREAT

Given the projected flood vulnerability for the Hampton Circle Area, the neighborhood may become less habitable in the future. The area, which already experiences flooding from high tides, storms, and rain events, has limited access when roads become flooded. Planned retreat, is one climate adaptation strategy, in which property owners receive the fair-market value for their property in order to relocate to a safer area.

Buyout programs are programs that include financial and administrative support to facilitate the acquisition of private property. Buyouts enable residents to move outside of an area prone to flood damages, sea level rise, or damages from other climate-related events.

WHAT IS A PLANNED RETREAT?



Voluntary buyouts are a common method for achieving planned retreat, or the act of moving away from vulnerable areas:

"Managed retreat (planned retreat) or the voluntary movement and transition of people and ecosystems away from vulnerable coastal areas, is increasingly becoming part of the conversation as coastal states and communities face difficult questions on how best to protect people, development, infrastructure, and coastal ecosystems from sea-level rise, flooding, and land loss"

Georgetown Climate Center, Managed Retreat Toolkit, 2022

ELIGIBLE PROGRAMS

Planned retreat programs are often funded through federal grants. State agencies or municipalities may submit grant applications for funding, acting as the technical sponsor for individual homeowners. Individual property owners are not eligible to apply independently. Through the case study analysis, the following programs were identified as potential funding sources for HCA:

- FEMA Hazard Mitigation Assistance (HMA) Programs
- USDA Natural Resources Conservation Service (NRCS) Emergency Watershed Program (EWP)

These programs are likely viable for Hull because they do not have income restrictions and they can be used to fund pre-disaster planned retreat, as opposed to post-disaster recovery only. The NRCS EWP is particularly appealing because the program provides land management and floodplain restoration after relocation is complete. This guarantees that the sacrifice made by residents relocating results in the creation of a new ecological restoration area which will help protect adjacent areas of Hull and our environment.

CHARACTERISTICS OF SUCCESSFUL PROGRAM ADMINISTRATION

There are several characteristics which can make planned retreat programs successful. Successful programs often take place over several years, or over several application cycles allowing for a longer planning period and multiple opportunities for property owners to participate. **These**

are difficult decisions, and they require ample time to plan, which is why Hull is embarking on long planning process for Hampton Circle Area.

Community support plays a key role in ensuring the success of planned retreat programs. Due to the voluntary nature of buyout programs, it is imperative that residents are willing to accept a buyout offer.

The Town is considering the best ways to support residents who may be interested in planned retreat in the future. Potential support mechanisms may include:

- Assigning individual residents with a case manager to help navigate the process.
- Selecting funding programs that include relocation cost subsidies.
- Partnering with state agencies to advocate for an ongoing funding program for Massachusetts.
- Implementing local regulations such as a "Town Right of First Refusal" that would provide an opportunity for the Town to purchase properties from residents when they put a property up for sale, or as an alternative to passing on a deed to a family member.

"I evaluate every 5 years whether or not to sell or stay going forward. In the meantime, I make sure that the house is functional – appliances, roof, generator, are all secure from flooding and storms."

Hampton Circle Resident, Focus Group



CASE STUDY SPICKET RIVER FLOODPLAIN ACQUISITION

Location: Lawrence, MA

Program: Funded by Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP) and U.S. Department of Housing and Urban Development (HUD). Administered by the Massachusetts Emergency Management Agency (MEMA) and Department of Conservation and Recreation (DCR)

Year: 1998-2003

Overview:

This case study describes the Spicket River Floodplain Acquisition, a residential managed retreat of twenty-two residents in Lawrence Massachusetts. For years leading up to the Spicket River Floodplain Acquisition, residents of the Arlington neighborhood experienced severe riverine flooding. Residents were forced to evacuate on multiple occasions and properties were repetitively damaged. Because of these impacts, funding was sought from FEMA in 1998 to help residents move to a less flood prone area of Lawrence. By 2003, twenty-two homeowners and tenants were relocated, homes were demolished, and the resulting lots were turned into grassy fields.



The Spicket River Floodplain Acquisition was funded by the U.S. Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program (HMGP) and the U.S. Department of Housing and Urban Development. FEMA HMGP provided 75% of the funding, and 25% of the funds came from HUD. Massachusetts Emergency Management Agency (MEMA) and Department of Conservation and Recreation (DCR) provided state-sponsored technical assistance to Lawrence in administering the program. FEMA acquired the properties, supported relocation costs, and conversion of the parcels into green space for a total of over 1.4 million dollars. The one-acre William Kennedy Community Park is located on the site of fourteen of the acquired properties and connects to the 3.5-mile long Spicket River greenway (Environmental Protection Agency, 2011).

According to the organization Groundworks Lawrence, the Greenway has supported the following co-benefits for the community:

- river restoration
- revitalization of neighborhoods
- linkages between neighborhoods, schools and parks
- increased recreational opportunities
- an improved environment for economic development, jobs and housing
- improved access to the commuter rail station
- connection to health care
- brownfield clean-up and redevelopment

Community Profile

Lawrence is a city in northeastern Massachusetts with a population of approximately 90,000 residents. Over 70,000 residents identify as Hispanic or Latino, and 20% of the population report as two or more races. (United States Census Bureau, 2020). The Arlington neighborhood is a lower middle-class neighborhood with a median household income of approximately \$50,000 and homeownership rate of only 29% (United States Census Bureau, 2020). The Arlington neighborhood, where the Spicket River Floodplain Acquisition took place, has been underserved historically.

FAQs



How is “fair market” value determined?

The price that the seller is willing to accept, and the buyer is to pay on the open market and in an arm's length transaction (FEMA).

An “arm length's transaction” refers to a business deal in which buyers and sellers do not influence one another's decision-making.



Where will I move?

Decisions about where to move and the cost of moving can be overwhelming and prohibitive. The Town is beginning conversations about planned retreat now in case Hampton Circle Area becomes uninhabitable due to the frequency or severity of flooding. The Town also wants residents to be aware that flood events may impact home values or insurance premiums in the future. While the Town is not suggesting that residents relocate today, it is important to consider the financial implications of flooding in the future which may impact the value of your home. Ultimately, safety is the Town's biggest concern and motivation for offering retreat as a potential option.



Why is planned retreat being presented as an option? This is an issue for future generations, not me.

The Town recognizes that many families have lived in Hampton Circle Area for generations. You may plan on passing your home on to a child or other family member or selling it to them. The Town is putting forth the idea that the Town could have a “Right of First Refusal” to purchase the property from you, rather than passing it on, so that your family can receive the equity from the property if the area is less habitable at that time.



Won't the property just be purchased and used by someone else, if I accept a buyout?

Federal law prohibits homes purchased with federal grant funding for the purpose of flood control or disaster recovery from being redeveloped. Therefore, the structure would be demolished, and the property would be held as open space in perpetuity.

07 | EMERGENCY RESPONSE

INTRODUCTION

To improve resident safety, the Town of Hull is planning for future emergency response needs from increased flooding and extreme storm events. Climate-resilient emergency preparedness planning includes expanding access to information, enhancing emergency response and access resources, and improving evacuation options.

PREPARE YOUR FAMILY

- **New Mothers** should always keep a "baby pack" ready with extra diapers, bottles, formula, and at least one change of clothes.
- **Families** should have a "family evacuation kit" with the following: blankets, flashlights with batteries, prescribed medications, toilet paper, and personal hygiene articles (brush, comb, toothpaste, toothbrushes, etc).
- **Senior Citizens** should keep all necessary medications in easily accessible locations along with any special notes or instructions required for their well-being.

PREPARING YOUR HOME

- Build a Shelter in Place Kit with supplies you need if you must stay in your home during an emergency
- Homeowners Preparedness Handbook
- Town of Hull Home Elevation Program

AVOID DRIVING IN STANDING WATER

- Use markers on utility poles to gauge depth of water. Generally, it is unsafe to drive through any standing water.

EMERGENCY PREPAREDNESS RESOURCES FOR HULL

MAKE AN EMERGENCY PLAN

Know where to go:
Shelter Location - Hull Memorial School 81 Central Avenue

Prepare an alternate route to leave your neighborhood if the usual route is blocked or unsafe.

Have a Go Bag ready

WHERE TO GET EMERGENCY INFORMATION

Code Red:

Sign up on the Town's Code Red website to receive info about emergencies and evacuations from your local emergency response team. The alerts will come through the app, by text, or on reverse 911 phone calls.

Get Storm Info at:

- National Oceanic and Atmospheric Administration Storm Prediction Center Alerts (Watch, Warning, and Advisory Display): <https://www.spc.noaa.gov/products/wwa/>
- National Weather Service Active Alerts Page: <https://www.weather.gov/alerts>

Town Emergency Management social media updates will often inform in advance of storms

- Facebook page
- Twitter: <https://twitter.com/HullEmerMgmt>
- Webcam

Power outage info:

- Massachusetts Power Outage Map
- Power Outage Safety Tips
- Tune to radio stations wjda, wbz or local cable channel 10 (Comcast) or channel 35 (Verizon) for continuous bulletins and updates in the Event of a Disaster or impending weather emergency.

MEMA STORM INFORMATION

- The Town's website includes storm information from Massachusetts Emergency Management Agency (MEMA). This webpage includes storm messages, winter storm preparedness tips, and tips for power outages, driving, roof safety, drainage, and other issues: <https://www.town.hull.ma.us/emergency-preparedness/pages/helpful-storm-information-mema>

FAQS



Who do I call if I need help?

Should an Emergency Be Declared, and you need to be evacuated, call (781) 925- 8123 and an evacuation vehicle will be dispatched to your location. This number is for the e.o.c. (emergency operations center). Do not call the police or fire departments for evacuations during emergency!



What is the Town's emergency response protocol in the event of a major storm?

The Town will provide services as practical and safe to do so for all involved. There may be limitations at times due to inaccessibility of vehicles or unsafe conditions. The Town does own one high water vehicle and can use other DPW vehicles if appropriate.



Next Steps in the Climate Adaptation Roadmap for Emergency Response

Town Emergency Services and Fire Department have also made the following preparations:

- Added reflectors on telephone poles that mark the depth of water for floodprone areas for fire engine safety and access.
- Outfitted a high water vehicle to improve ability to respond in floodprone areas.
- Prepared to evacuate individuals with smaller watercraft.
- Can call in the National Guard for supplemental staff and vehicles for high water rescue.
- Internal meetings with departments to improve capacity for emergency response.

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08 | IMPLEMENTATION PLAN

ID	Action	Lead	Potential Funding	Timeline												Lead	
				FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2035	FY2040	FY2045	FY2050	FY2070		
Stormwater Upgrades														DCC	DCC		
A1	Stormwater Assessment (H-H Analysis)	DPW	MVP														
A2	Identification of stormwater system upgrades	DPW	MVP														
A3	Operations and maintenance improvements to stormwater system	DPW	MVP														
A4	Green Infrastructure Identification	DPW/DCC/CDP	MVP														
A5	Green Infrastructure Preliminary Design	DPW/DCC/CDP	MVP														
A6	Green Infrastructure Permitting	DPW/DCC/CDP	MVP														
A7	Green Infrastructure Final Design	DPW/DCC/CDP	MVP														
A8	Green Infrastructure Construction	DPW/DCC/CDP	MVP														
A9	Green Infrastructure Maintenance	DPW/DCC/CDP	MVP														
Home Elevation Program														Town			
B1	Home Elevation Program Priority Outreach	DCC	MVP														
B2	Technical Training on Application Process	DCC	MVP														
B3	Evaluation of Economies of Scale for Program Implementation	DCC	MVP														
B4	Group Application for Home Elevation Program (Cycle 1)	DCC	FEMA														
B5	Permitting for Home Elevation Program (Cycle 1)	DCC	FEMA														
B6	Construction and Elevation of Homes (Cycle 1)	DCC	FEMA														
B7	Annual Evaluation and Application	DCC	FEMA														
B8	Construction and Implementation of Future Cycles	DCC	FEMA														
Retrofit of Neighborhood Park														MVP			
C1	Conceptual Design of Constructed Wetland and Boardwalk Design	DCC/SD/CDP	MVP														
C2	Advancement of Constructed Wetland and Boardwalk Design	DCC/SD/CDP	MVP														
C3	Final Design of Constructed Wetland and Boardwalk Design	DCC/SD/CDP	MVP or FLWCF														
C4	Construction of Constructed Wetland and Boardwalk Design	DCC/SD/CDP	MVP or FLWCF														
C5	Maintenance of Constructed Wetland	DCC/SD/CDP	MVP or FLWCF														
C6	Design of Constructed Wetland Expansion	DCC/SD/CDP	MVP or FLWCF														
C7	Priority Outreach to Property Owners About Easements	DCC/SD/CDP	Town														
C8	Regulatory Assessment and Legal Execution of Easements	DCC/SD/CDP	MVP or FLWCF														
C9	Final Design of Constructed Wetland Expansion	DCC/SD/CDP	MVP or FLWCF														
C10	Construction of Constructed Wetland Expansion	DCC/SD/CDP	MVP or FLWCF														
Design of Living Shoreline and Barrier - East HCA														MVP			
D1	Conceptual Design of Living Shoreline/Barrier System	DCC/SD	MVP														
D2	Design Development of Living Shoreline/Barrier System	DCC/SD	MVP														
D3	Final Design of Living Shoreline/Barrier System	DCC/SD	MVP or CZM														
D4	Construction of Living Shoreline/Barrier System	DCC/SD	FEMA or CZM														
D5	Conceptual Expansion of Barrier System to North and South	DCC/SD	MVP or CZM														
D6	Design Development of Expansion	DCC/SD	MVP or CZM														
D7	Construction of Expansion	DCC/SD	FEMA or CZM														
Design of Living Shoreline and Barrier - West HCA														MVP			
E1	Conceptual Design of Living Shoreline/Barrier System	DCC/SD	MVP														
E2	Design Development of Living Shoreline/Barrier System	DCC/SD	MVP														
E3	Final Design of Living Shoreline/Barrier System	DCC/SD	MVP or CZM														
E4	Permitting of Living Shoreline/Barrier System	DCC/SD	MVP or CZM														
E5	Construction of Living Shoreline/Barrier System	DCC/SD	MVP or CZM														
Pump Station Evaluation and Potential Relocation														CZM			
F1	Evaluation of Climate Vulnerability of Pump Station	SD	CZM														
F2	Consideration of New Locations for Pump Station	SD	CZM														
F3	Design of New Pump Station	SD	CZM														
F4	Permitting of New Pump Station	SD	CZM														
F5	Pump Station Construction	SD	CZM														
Roadway Elevation														DOT/FHA			
G1	2050 Partial Roadway Elevation Design - Moreland Ave	DPW/DCC/SD	DOT/FHA														
G2	2050 Partial Roadway Elevation Permitting - Moreland Ave	DPW/DCC/SD	DOT/FHA														
G3	2050 Partial Roadway Elevation Construction - Moreland Ave	DPW/DCC/SD	DOT/FHA														
G4	2070 Full Roadway Elevation Design - Moreland Ave	DPW/DCC/SD	DOT/FHA														
G5	2070 Full Roadway Elevation Design - Moreland Ave	DPW/DCC/SD	DOT/FHA														
G6	2070 Full Roadway Elevation Construction - Moreland Ave	DPW/DCC/SD	DOT/FHA														
Planned Retreat														MVP			
H1	Outreach to Residents about Tradeoffs of Planned Retreat	DCC	MVP														
H2	Cost Benefit Analysis for Planned Retreat	DCC	USDA NRCS or FEMA														
H3	Application for Federal Funding for Buyouts	DCC	USDA NRCS or FEMA														
H4	Residents work with Case Manager to Navigate Buyout and Relocate	DCC	USDA NRCS or FEMA														
H5	Demolition of Properties	DPW/DCC	USDA NRCS or FEMA														

Next Steps for HCA

The Town has applied for an additional grant through MVP to conduct a second phase of work to advance the following tasks:

- 1. Encourage participation in the Town of Hull Home Elevation Program – a FEMA partnership to receive funding to raise homes and critical systems.**
- 2. Enhance community outreach around emergency response and long-term planned retreat.**
- 3. Further develop designs for flood protection on the eastern and western coastlines of HCA. Flood protection systems are comprised of a barrier and nature-based solutions.**
- 4. Further develop nature-based solutions in the central park space to include bioretention and marsh-grass features to create a floodable area.**
- 5. Conduct a drainage assessment and identifying green and grey infrastructure upgrades.**

The Town will also continue to assess regulatory constraints and have conversations with state agencies about designations like Chapter 97, which protects the central park space in HCA.