

Rockport Flood and Storm Resilience Check list information Dec 2014

The Flood Resilience Checklist was circulated in the Massachusetts Coastal Zone Management August 2014 newsletter. It had been released US Environmental Protection Agency and developed by the State of Vermont.

The state of Vermont is mostly sparsely populated inland of agricultural land. What is regulated at the state level also appears very different from Massachusetts. Considering these differences most of the check list questions relate to or are easily adaptable for Rockport's use. Answering them does give a snap shoot of where the town is with this. Likely this is why it was distributed by CZM.

Comments have been added to some of the check list questions to help clarify the thinking behind some of the answers. It is expected some of these answers can be debated and should be.

"Excerpt From the Coastal Zone Management Newsletter of August 2014

Flood Resilience Checklist - The U.S. Environmental Protection Agency (EPA) has released a [Flood Resilience Checklist](#) (PDF, 430 KB), which helps communities determine whether they are prepared for a flood. The checklist offers strategies that communities can consider, such as conserving land in flood-prone areas, redirecting new development to safer areas, and using green infrastructure approaches, such as installing rain gardens, to manage storm waste"

The following is the information used for answering the questions, link shown if available or the location the hard copy can be found.

Rockport Hazard Mitigation Plan (Approved 2014) DPW ADD ECOPY

Rockport Comprehensive Emergency Management Plan 1998 DPW ADD ECOPY

Rockport Emergency Management Resource Plan 1998 DPW ADD ECOPY

Rockport Storm Water Management Plan. From Rockport Planning Board Office (RPBO)

Water Shed Protection Plan. From RPBO

[Rockport Wetlands Protection By-law](#) (Rockport Code of Bylaws, Chapter 14). RCCO or click on link title

Rockport [town's zoning by-laws](#). [Zoning Map](#). RPBO They have the primary responsibility for the writing of zoning by-laws

[Zoning Bylaws](#)

[Rules and Regulations Governing the Subdivision of Land in Rockport](#) [PDF]

[Massachusetts Board of Building Regulations & Standards](#) Click on title or Rockport Building Inspector Office

Mass Wetland Protection Act Rockport Conservation Commission Office (RCCO) or click on links

[. http://www.mass.gov/eea/agencies/massdep/water/regulations/310-cmr-10-00-wetlands-protection-act-regulations.html](http://www.mass.gov/eea/agencies/massdep/water/regulations/310-cmr-10-00-wetlands-protection-act-regulations.html)

Wetlands Protection Act (G.L. Ch. 131 sec. 40)

Massachusetts Shade Tree Protection FACT SHEET

<http://webcache.googleusercontent.com/search?q=cache:7Cd6nBi9wysJ:www.mass.gov/eea/docs/dcr/stewardship/forestry/urban/statelaw-0301.pdf+&cd=1&hl=en&ct=clnk&gl=us>

Massachusetts General Laws Chapter 87. Protecting public shade trees

<https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXIV/Chapter87>

Flood Resilience Checklist (Town of Rockport Dec 2014)

Is your community prepared for a possible flood? Completing this flood resilience checklist can help you begin to answer that question. This checklist was developed as part of the U.S. Environmental Protection Agency's Smart Growth Implementation Assistance project in the state of Vermont. More information about the project can be found by reading the full report, *Planning for Flood Recovery and Long-Term Resilience in Vermont*, found online at www.epa.gov/smartgrowth/sgia_communities.htm#rec1.

What is the Flood Resilience Checklist?

This checklist includes overall strategies to improve flood resilience as well as specific strategies to conserve land and discourage development in river corridors; to protect people, businesses, and facilities in vulnerable settlements; to direct development to safer areas; and to implement and coordinate stormwater management

practices throughout the whole watershed.

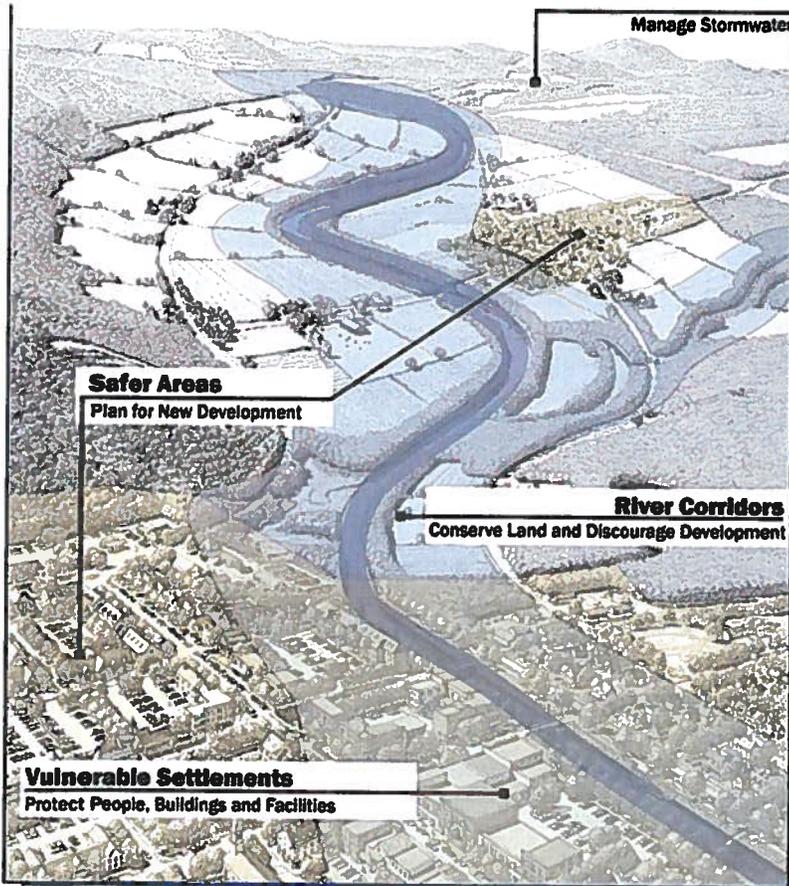
Who should use it?

This checklist can help communities identify opportunities to improve their resilience to future floods through policy and regulatory tools, including comprehensive plans, Hazard Mitigation Plans, local land use codes and regulations, and non-regulatory programs implemented at the local level. Local government departments such as community planning, public works, and emergency services; elected and appointed local officials; and other community organizations

and nonprofits can use the checklist to assess their community's readiness to prepare for, deal with, and recover from floods.

Why is it important?

Completing this checklist is the first step in assessing how well a community is positioned to avoid and/or reduce flood damage and to recover from floods. If a community is not yet using some of the strategies listed in the checklist and would like to, the policy options and resources listed in the [Planning for Flood Recovery and Long-Term Resilience in Vermont](#) report can provide ideas for how to begin implementing these approaches.



This graphic illustrates the four categories of approaches to enhance resilience to future floods.

Credit: Vermont Agency of Commerce and Community Development.

Overall Strategies to Enhance Flood Resilience (Learn more in Section 2, pp. 9-11 of Planning for Flood Recovery and Long-Term Resilience in Vermont)		
1. Does the community's comprehensive plan have a hazard element or flood planning section?	XXX Yes	
a. Does the comprehensive plan cross-reference the local Hazard Mitigation Plan and any disaster recovery plans?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
b. Does the comprehensive plan identify flood- and erosion-prone areas, including river corridor and fluvial erosion hazard areas, if applicable?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
c. Did the local government emergency response personnel, flood plain manager, and department of public works participate in developing/updating the comprehensive plan?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Does the community have a local Hazard Mitigation Plan approved by the Federal Emergency Management Agency (FEMA) and the state emergency management agency?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No

a. Does the Hazard Mitigation Plan cross-reference the local comprehensive plan?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Was the local government planner or zoning administrator involved in developing/updating the Hazard Mitigation Plan?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
c. Were groups such as local businesses, schools, hospitals/medical facilities, agricultural landowners, and others who could be affected by floods involved in the Hazard Mitigation Plan drafting process? <i><u>PUBLIC MEETINGS HELD</u></i>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
d. Were other local governments in the watershed involved to coordinate responses and strategies? <i><u>NORTH SHORE TEAM WHICH INCLUDES GLOUCESTER HAS BEEN DEVELOPED</u></i>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
e. Does the Hazard Mitigation Plan emphasize non-structural pre-disaster mitigation measures such as acquiring flood-prone lands and adopting No Adverse Impact flood plain regulations?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
f. Does the Hazard Mitigation Plan encourage using green infrastructure techniques to help prevent flooding? <i><u>STATE NOW HAS SMART GROWTH PLAN</u></i>	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
g. Does the Hazard Mitigation Plan identify projects that could be included in pre-disaster grant applications and does it expedite the application process for post-disaster Hazard Mitigation Grant Program acquisitions?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
3. Do other community plans (e.g., open space or parks plans) require or encourage green infrastructure techniques? <i><u>MASSACHUSETTS NOW HAS SMART GROWTH PLAN ENCOURAGING GREEN INFRASTRUCTURE</u></i>	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No

4. Do all community plans consider possible impacts of climate change on areas that are likely to be flooded? <i><u>FEMA, BUILDING CODE REQUIREMENTS AND MITIGATION PLAN</u></i>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
5. Are structural flood mitigation approaches (such as repairing bridges, culverts, and levees) and non-structural approaches (such as green infrastructure) that require significant investment of resources coordinated with local capital improvement plans and prioritized in the budget? <i><u>REPAIR OF BREAKWATER'S AND BEACH STUDY IN BUDGET</u></i>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
6. Does the community participate in the National Flood Insurance Program Community Rating System?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
Conserve Land and Discourage Development in River Corridors (Learn more in Section 3.A, pp. 14-19 of <i><u>Planning for Flood Recovery and Long-Term Resilience in Vermont</u></i>)		

1. Has the community implemented non-regulatory strategies to conserve land in river corridors, such as:		
a. Acquisition of land (or conservation easements on land) to allow for stormwater absorption, river channel adjustment, or other flood resilience benefits?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Buyouts of properties that are frequently flooded?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
c. Transfer of development rights program that targets flood-prone areas as sending areas and safer areas as receiving areas?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
d. Tax incentives for conserving vulnerable land? <u>STATE PROGRAMS AND LOCAL DESIGNATION OF LAND USE</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
e. Incentives for restoring riparian and wetland vegetation in areas subject to erosion and flooding? <u>WPA AND TOWN BYLAW</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Has the community encouraged agricultural and other landowners to implement pre-disaster mitigation measures, such as: <u>ONLY TWO FARMS IN ROCKPORT. ONE HAS A STATE APPROVED FARM PLAN</u>		
a. Storing hay bales and equipment in areas less likely to be flooded?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
b. Installing ponds or swales to capture stormwater?	<input type="checkbox"/> Yes	XXX No
c. Planting vegetation that can tolerate inundation?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
d. Using land management practices to improve the capability of the soil on their lands to retain water?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
3. Has the community adopted flood plain development limits that go beyond FEMA's minimum standards for Special Flood Hazard Areas and also prohibit or reduce any new encroachment and fill in river corridors and Fluvial Erosion Hazard areas?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No

4. Has the community implemented development regulations that incorporate approaches and standards to protect land in vulnerable areas, including:		
a. Fluvial erosion hazard zoning?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
b. Agricultural or open space zoning? <u>OPEN SPACE OUTLINED ONLY AS PART OF A SUBDIVISION PLAN</u>	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
c. Conservation or cluster subdivision ordinances, where appropriate?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No

d. Other zoning or regulatory tools that limit development in areas subject to flooding, including river corridors and Special Flood Hazard Areas?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
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Protect People, Buildings, and Facilities in Vulnerable Settlements
 (Learn more in Section 3.B, pp. 19-26 of [Planning for Flood Recovery and Long-Term Resilience in Vermont](#))

1. Do the local comprehensive plan and Hazard Mitigation Plan identify developed areas that have been or are likely to be flooded?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
a. If so, does the comprehensive plan discourage development in those areas or require strategies to reduce damage to buildings during floods (such as elevating heating, ventilation, and air conditioning (HVAC) systems and flood-proofing basements)? <u>BY BUILDING DEPT.</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Does the Hazard Mitigation Plan identify critical facilities and infrastructure that are located in vulnerable areas and should be protected, repaired, or relocated (e.g., town facilities, bridges, roads, and wastewater facilities)?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Do land development regulations and building codes promote safer building and rebuilding in flood-prone areas? Specifically:		
a. Do zoning or flood plain regulations require elevation of two or more feet above base flood elevation?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Does the community have the ability to establish a temporary post-disaster building moratorium on all new development? <u>THROUGH THE STATE?</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
c. Have non-conforming use and structure standards been revised to encourage safer rebuilding in flood-prone areas?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
d. Has the community adopted the International Building Code or American Society of Civil Engineers (ASCE) standards that promote flood-resistant building? <u>IBC BASIS OF STATE CODE</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
e. Does the community plan for costs associated with follow-up inspection and enforcement of land development regulations and building codes?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No

3. Does the community require developers who are rebuilding in flood-prone locations to add additional flood storage capacity in any new redevelopment projects such as adding new parks and open space and allowing space along the river's edge for the river to move during high-water events? <u>BUFFER ZONES OF WPA AND TOWN BY LAW</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No

4. Is the community planning for development (e.g., parks, river-based recreation) along the river's edge that will help connect people to the river AND accommodate water during floods? <u>PUBLIC OCEAN FRONT LAND AND BUFFER ZONES OF WPA AND TOWN BY LAW</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
5. Does the comprehensive plan or Hazard Mitigation Plan discuss strategies to determine whether to relocate structures that have been repeatedly flooded, including identifying an equitable approach for community involvement in relocation decisions and potential funding sources (e.g., funds from FEMA, stormwater utility, or special assessment district)?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No

Plan for and Encourage New Development in Safer Areas
(Learn more in Section 3.C, pp. 26-27 of [Planning for Flood Recovery and Long-Term Resilience in Vermont](#))

1. Does the local comprehensive plan or Hazard Mitigation Plan clearly identify safer growth areas in the community? <u>FLOOD AREAS ARE IDENTIFIED</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Has the community adopted policies to encourage development in these areas? <u>LESS DIFFICULT TO SATISFY BUILDING AND DEVELOPMENT REQUIRMENTS IN NON FLOOD AREAS</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
3. Has the community planned for new development in safer areas to ensure that it is compact, walkable, and has a variety of uses?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
4. Has the community changed their land use codes and regulations to allow for this type of development?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
5. Have land development regulations been audited to ensure that development in safer areas meets the community's needs for off-street parking requirements, building height and density, front-yard setbacks and that these regulations do not unintentionally inhibit development in these areas?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
6. Do capital improvement plans and budgets support development in preferred safer growth areas (e.g., through investment in wastewater treatment facilities and roads)?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
7. Have building codes been upgraded to promote more flood-resistant building in safer locations?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No

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Implement Stormwater Management Techniques throughout the Whole Watershed
(Learn more in Section 3.D, pp. 27-31 of [Planning for Flood Recovery and Long-Term Resilience in Vermont](#))

1. Has the community coordinated with neighboring jurisdictions to explore a watershed-wide approach to stormwater management?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Has the community developed a stormwater utility to serve as a funding source for stormwater management activities? <u>TOWN HAS WATER AND SEWER IN ENTERPRISE ACCOUNT</u>	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
3. Has the community implemented strategies to reduce stormwater runoff from roads, driveways, and parking lots?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
4. Do stormwater management regulations apply to areas beyond those that are regulated by federal or state stormwater regulations?	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
5. Do stormwater management regulations encourage the use of green infrastructure techniques?	<input type="checkbox"/> Yes	XXX <input type="checkbox"/> No
6. Has the community adopted tree protection measures? <u>SHADE TREES ARE PROTECTED BY STATE LAW</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
7. Has the community adopted steep slope development regulations? <u>WETLAND PROTECTION AND STORMWATER RUN OFF POLICIES</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No
8. Has the community adopted riparian and wetland buffer requirements? <u>WETLAND BUFFER ZONES</u>	XXX <input type="checkbox"/> Yes	<input type="checkbox"/> No