

**HAZARD MITIGATION PLAN
ANNEX
FOR
VOLUNTOWN, CONNECTICUT**

**An Annex of the
Southeastern Connecticut
Regional Hazard Mitigation Plan**

PREPARED FOR:

**Southeastern Connecticut
Council of Governments**

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I. INTRODUCTION

A. Setting

The Town of Voluntown is 39.7 square miles in area and is located in the northeastern portion of New London County, approximately 53 miles from Hartford, Connecticut. It is bordered by the Towns of Hopkinton, Exeter, and West Greenwich, Rhode Island, to the east; the Town of North Stonington to the south; the Town of Griswold to the west; and the Towns of Sterling and Plainfield to the north.

Voluntown was incorporated in 1721 and is a rural town with a 2000 U.S. Census population of 2,528 people. Voluntown has a wide range of businesses that offer services such as carpentry, construction, antiques, and dairy and tree farming. The Pachaug State Forest is located in Voluntown and attracts numerous tourists during the summer months. Many recreational opportunities such as camping, hiking, as well as boating and fishing on Beach Pond are available.

Two major rivers that flow through Voluntown are the Pachaug River and Green Falls River. Dennison Brook and Great Meadow Brook are the principal tributaries to the Pachaug River. These rivers are mostly within the Pachaug State Forest.

B. Purpose of Annex

The purpose of this annex is to provide hazard risk assessment, capability assessment, hazard mitigation measures, and a hazard mitigation project ranking for the Town of Voluntown. Hazards such as earthquakes and windstorms which affect the entire region are addressed in the Southeastern Connecticut Council of Governments Regional Hazard Mitigation Plan.

The First Selectman shall be responsible for implementing and maintaining the Hazard Mitigation Plan Annex for the Town of Voluntown.

C. Plan Development Process and Public Involvement

The Regional Hazard Mitigation Plan and this annex were developed through a series of meetings and the completion of written questionnaires, personal interviews, and workshops. To provide oversight of the plan development process and maximize local involvement, all member communities in the region and the two tribal affiliate members were invited to appoint a representative to serve on the Hazard Mitigation Steering Committee. Committee members and chief elected officials received notices of all the committee meetings and were encouraged to attend. Meeting notices and agendas were also sent to area media and to town and city clerks for posting in each community. Steering committee meetings were held in public at the Southeastern Connecticut Council of Governments office in Norwich. Three steering committee meetings were held during the development of the hazard mitigation plan. Verbal reports on progress were given to monthly meetings of the Southeastern Connecticut Council of Governments, which are routinely attended and covered by area press in local newspapers. Articles describing the planning process have appeared in the three issues of the SCCOG Quarterly Newsletter since March, 2003. This newsletter is mailed to 285 officials, organizations, and media within the region.

II. HAZARD RISK ASSESSMENT

A meeting was conducted with representatives of the Town of Voluntown on August 17, 2003 to develop a risk assessment for the town. Based on the results of this meeting and additional risk assessment research it was determined that a natural hazard of concern in Voluntown is flooding.

Floods in Voluntown have occurred in every season of the year. Spring floods are common and are caused by rainfall combined with snowmelt. Floods in late summer and fall are usually the result of hurricanes or other storms moving northeast along the Atlantic coast. Winter floods result from occasional thaws, particularly in years of heavy snow cover.

There are no flood protection measures in the town at the present time, and none are currently planned for the future.

The Town of Voluntown has no formalized program currently in place to identify the location or the number of structures that are susceptible to flooding in Voluntown. Such information would be valuable in directing hazard mitigation efforts to locations with the greatest risk. A potential hazard mitigation project would involve the review of all existing available data regarding flood hazards and the preparation of an inventory and assessment of structures at risk in the flood hazard areas.

Such an inventory program would be the first step in completing a Flood Audit, which would provide early flood warning, guidance and technical information regarding flood risks to property owners, as well as prioritize future property protection projects. The completion of a Flood Audit would be an important step in the National Flood Insurance Program Community Rating System by which towns can qualify for a reduction in flood insurance rates.

A. Residential

Based on a review of the Voluntown Flood Insurance Rate Maps and topographic maps, residential structures that are subject to flooding during significant flood events are located primarily along the Pachaug River.

One area of concern raised by local officials is in the remote area north of Bailey Pond where two elderly residents live. This area may not be accessible to emergency vehicles because of a narrow bridge which leads into the property. Bailey Pond Road is the only access in the town, to the area near Bailey Pond and may potentially be flooded by Wood River and Bailey Pond during severe storms. Emergency services must travel through Rhode Island to access the site. There are several residential structures located south of Bailey Pond as well.

Several residential structures are in a flood zone where the Pachaug River crosses Forge Hill Road. Structures are located along Wylie School Road as well as along the shoreline of Beach Pond.

B. Commercial/Industrial

The majority of commercial properties in Voluntown are located along Route 138 in the "Village area." This area is in between Doaneville Pond and Sawmill Pond. None of the structures in this area appear to be located in a flood zone. However, expanding development may lead to structures built in flood zones.

Several scattered industrial facilities are located throughout the town in areas outside the floodplain. A notable industry in Voluntown is logging. Hodge Pond Road is an access road for a State authorized commercial logging operation. Erosion control is an issue in this area as Hodge Pond Road has been washed out in the past due to heavy storms, disrupting the logging operation as well as creating a hazard for motorists and emergency crews.

C. Critical Facilities

Approximately 75% of Voluntown's land is made up of the Pachaug State Forest. Areas of uninhabited land throughout the Pachaug State Forest are located in flood zones. Throughout the forest there are scattered campsite areas as well two large commercial campgrounds that also adjoin the Rhode Island State Forest and Parks.

D. Transportation Corridors

Voluntown has several major transportation routes that include Routes 49, 138, and 165. Flood area mapping suggests that these routes can be affected by flooding. There is a stretch of Route 49 approximately 1/4 mile south from the intersection of Route 49 and Route 165 that has flooded in the past. According to town officials this stretch of road is extremely hazardous when flooding occurs during the winter months because the road becomes covered with ice. Flooding and icing of roads may impact emergency responders and vehicles on the road.

The Flood Insurance Rate Maps for the Town of Voluntown suggest that other areas of potential flooding include Williams Road near Wood River, Gardiner Road near Mount Misery Brook, and Green Falls Road near Dennison Brook, Green Falls Pond, and Green Falls River. Great Meadow Brook has the potential to impact Campbell Road and Wylie School Road.

Town officials have also expressed concern with increased thru-traffic in Voluntown. Specifically, the town is concerned with the transportation of hazardous materials over their roadways and their ability to respond to a major incident regarding a release of such materials.

III. HAZARD MITIGATION MEASURES

The following sections provide a brief description of the types of hazard mitigation measures and programs that are available to address the natural hazards that exist in the Town of Voluntown.

A. Prevention

Hazard prevention includes identification of risks and the use of land-use regulatory and other available management tools to prevent future damage. Voluntown has planning and zoning tools in place that incorporate floodplain management. The town's planning and zoning regulations, inland wetlands and watercourses regulations, and the building department's enforcement of the Connecticut Basic Building Code are all important existing regulatory mechanisms that address hazard prevention and incorporate floodplain management.

The following are examples of how hazard prevention can be accomplished through existing programs:

1. Planning and Zoning

Planning and Zoning Regulations can be tailored to be consistent with hazard mitigation planning. Establishment of Flood Prone Conservancy Districts, Coastal Resource Zones, and River Corridor Preservation Zones are all techniques that can potentially be employed to limit additional development in hazardous locations.

2. Open Space Preservation

Community planning includes open space acquisition and preservation sections can be established or revised in a manner that is consistent with hazard mitigation planning. Acquisition of floodplain and river corridor properties should be encouraged as a municipal priority.

3. Floodplain Development Regulations

The modification of floodplain management regulations to include more restrictive development standards is consistent with hazard mitigation planning. The National Flood Insurance Program Community Rating System gives credit to communities that exceed the minimum floodplain management requirements of the National Flood Insurance Program. Requirements include elevating structures higher than the 100-year base flood elevation, which is an example of a more stringent standard.

4. Stormwater Management

Stormwater management regulations that limit any potential increase in the state of discharge of stormwater and that preserve floodplain storage are examples of the use of stormwater management in a manner consistent with hazard mitigation planning.

5. Wetlands Protection

Wetlands areas are generally also critical flood storage areas. By limiting wetlands development not only are important natural resource areas protected but additional floodplain development is also limited.

6. Erosion and Sediment Control Regulation

Effective implementation of sediment and erosion controls include utilization of detention basins and use of other Best Management Practices to slow the velocity and limit increase in runoff. Strict adherence to these requirements are effective hazard mitigation tools.

B. Property Protection

Property protection measures can address hazards at a single structure or can include multiple structures.

The following list identifies common property protection measures:

1. Relocation
2. Acquisition
3. Building Elevation
4. Utility Protection
5. Flood Proofing

Additional descriptions of property protection measures are provided in Appendix A in the Regional Hazard Mitigation Plan.

C. Emergency Services

Emergency communication is a critical aspect of the hazard response programs currently in place in Voluntown. Emergency Services hazard mitigation measures can be combined with other types of measures to form successful projects, or remain as stand-alone projects.

The major utilities that provide service to the town follow similar procedures. The Connecticut Light and Power Company has emergency operation centers which become operational in the event of any emergency that could impact the utilities.

The interagency communication between the town and independent utilities requires continued coordination to assure the critical communications link between the town operations and the utilities is effectively maintained. A need for improved and continued coordination has been identified during this study.

Aspects of emergency services typically addressed in hazard mitigation include the following:

1. Emergency Communication
2. Flood Warning
3. Flood Response
4. Critical Facilities Protection

With regards to emergency preparedness and communication, town officials have expressed concern with the fact that the Pachaug State Forest is very large and expansive with an unknown changing population throughout the summer. Town officials are interested in coordinating a system with the State that would help account for transient residents on a day to day basis. This would enable the town to better prepare for disasters since the town and state forest share the responsibility of providing emergency services for this expansive area.

This would be especially helpful during the summer months when it becomes very difficult for the Town of Voluntown to guarantee emergency services to the town residents due to the overwhelming amount of emergency calls at the various campsites and campgrounds.

During fire emergencies there is a mutual aid agreement with several towns surrounding Voluntown. This agreement allows the towns to use low band radio frequencies for town to town communication. This has created good communication with the surrounding towns which include Ledyard, Preston, and Griswold.

D. Structural Projects

Structural projects include utilization of the flood control strategies that have been and continue to be applied throughout Connecticut. The potential environmental impacts of structural projects are often a concern.

Structural projects that can be included in hazard mitigation planning include the following:

1. Levees/Floodwalls
2. Bridge & Culvert Replacement
3. Channel Modifications
4. Storm Sewer Improvements
5. Structural Project Maintenance and Repair

Any prospective projects which were identified during the course of assembling this plan are included in the hazard mitigation matrix in Appendix A of this annex report. Additional information on some types of structural projects is provided in Appendix A in the Regional Hazard Mitigation Plan.

E. Public Information

Public information is another type of hazard mitigation measure which, like prevention and resource protection, can be most effectively implemented in conjunction with other hazard mitigation projects.

The Hazard Mitigation Committee has identified the need for a continued and expanded program of public information. Such a program could include providing educational information to the homeowners and business owners in the flood hazard areas. A public education and information component should be included in all hazard mitigation projects undertaken by Voluntown.

The following list includes some common types of public information measures:

1. Map Information

Development of hazard maps for public distribution or posting in public locations. This type of information is easily understood and assists in raising the public's awareness of the natural hazards that exist in their community.

2. Flood Audits

For additional information regarding flood audits refer to Appendix F of the Regional Hazard Mitigation Plan.

3. Real Estate Disclosure

This is a procedure where buyers and sellers of real estate are compelled to provide notice of known hazards affecting the property to be conveyed.

4. Public Library

Libraries can be an effective location of a hazard information center. Town Halls and other public facilities can also serve as information centers. A wide range of hazard mitigation documentation should be compiled for review.

5. Technical Assistance

Local governments can provide technical assistance to homeowners and contractors regarding hazard resistant construction. An appropriate time for such assistance can be at the time of a building permit application.

6. Environmental Education

Private and public schools and adult education programs can offer environmental education classes that include hazard identification and hazard mitigation components.

IV. HAZARD MITIGATION PROJECT RANKING

Based on the hazard risk assessment analysis, the Hazard Mitigation Committee has developed a matrix of several hazard mitigation projects recommended to reduce Voluntown's vulnerability to natural hazards. A matrix depicting potential hazard mitigation projects and a prioritized ranking is included in Appendix A.

Projects identified in the matrix have been prioritized based on the following criteria:

- Safety of the population
- Historical damage
- New development in high risk areas
- Value of property at risk
- Consistency with plan goals and objectives

The projects were also considered on how they relate to potential health risks, structural damage, access/egress for evacuation, and protection of structures that house people with special needs and residential areas housing a large portion of the town's population. For additional information on projects listed in the matrix and for a complete list of criteria used in the prioritization process, please refer to the text and attachments of the Regional Hazard Mitigation Plan.

V. IMPLEMENTATION, MONITORING, AND EVALUATION

The Southeastern Connecticut Council of Governments Regional Hazard Mitigation Plan and this associated community annex report were prepared with the understanding that potential funding sources may not be available within the time frame necessary to implement the recommended actions on a specific schedule. It is therefore necessary to incorporate into the plan a system of monitoring its progress and making necessary adjustments. In addition, the goals and objectives may need to be modified over time in order to meet the demands of a changing community. Accomplished activities will be eliminated, and new ones added.

The staff of the Southeastern Connecticut Council of Governments (SCCOG) serves as coordinator of the Hazard Mitigation Committee that provided oversight of the plan preparations. In accordance with § 201.6 (c)(4)(i) of the Interim Final Rule, it is recommended that the Committee meet on or before the fifth anniversary of the adoption of the plan to review the implementation progress as well as the goals, objectives, and actions outlined in the plan. With input from the Committee, SCCOG staff should prepare a report on the status of plan implementation. The report should include the following: a review of the goals and objectives of the original plan; a review of any disasters or hazards that occurred during the period; a review of each element or objective of the original plan, including what was accomplished the previous year; and recommendations for new projects or revised objectives.

FEMA also recommends that each of the local communities name a person as a local coordinator for the implementation and monitoring of the progress of the plan. This person would act as a contact for the Southeastern Connecticut Council of Governments and the State of Connecticut National Flood Insurance Program Coordinators during the grant application and cost-benefit analysis process.

The Town of Voluntown Hazard Mitigation Projects

Hazard	Vulnerable Locations	Mitigation Projects	Priority
Flooding, Fires, Storms	Pachaug State Forest	Coordinate Program with State for Accounting for Summer Transients	High
Flooding, Icing	Route 49	Raise Section of Route 49 Roadway	High
All Hazards	Town Wide	Evaluate the Hazard Resistant Nature of All Critical Facilities	High
All Hazards	Town Wide	Comprehensive Evaluation of Emergency Communication Capabilities Throughout Town	High
Flooding	Town Wide	Develop a Flood Audit Program	High

The Town of Voluntown Hazard Mitigation Projects

All Hazards	Town Wide	Review of Town Transportation Facilities to Identify Critical Risks	Medium
Hazard	Vulnerable Locations	Mitigation Projects	Priority
Hazardous Materials Spills on Roadways	State Roads	Identify Appropriate Improvements to Traffic Infrastructure and Emergency Response Training and Equipment	Medium
All Hazards	Town Wide	Implement a Reverse 9-1-1 System to Automatically Call Telephones Throughout Town, Relaying Important Information During an Emergency	Low
All Hazards	Town Wide	Distribute or Post Public Information Regarding Hazards in the Town	Low

The Town of Voluntown Hazard Mitigation Projects

All Hazards	Town Wide	Evaluate Emergency Shelters, Update Supplies and Check Communication Equipment	Low
All Hazards	Town Wide	Maintain Emergency Personnel Training as well as Maintaining and Updating Emergency Equipment and Response Protocols	Low
Hazard	Vulnerable Locations	Mitigation Projects	Priority
Wind Hazards	Town Wide	Evaluate and Consider Burying Power Lines Underground and Away From Possible Tree Damage	Low
Earthquake Hazards	Town Wide	Complete an Earthquake Survey of all Critical Facilities and Infrastructures	Low

The Town of Voluntown Hazard Mitigation Projects

Flooding	Town Wide	1) Complete Catch Basin Surveys to Identify Catch Basins in need of Maintenance and/or Replacement 2) Complete Culvert Survey to Determine Priority for Maintenance and/or Replacement Plan	Low
Fire Hazards	Town Wide	Complete a Survey of Fire Hydrants in the Town to Assess Vulnerabilities and Capabilities for Fire Protection Dry Hydrants should be Considered as a means for Emergency Equipment	Low