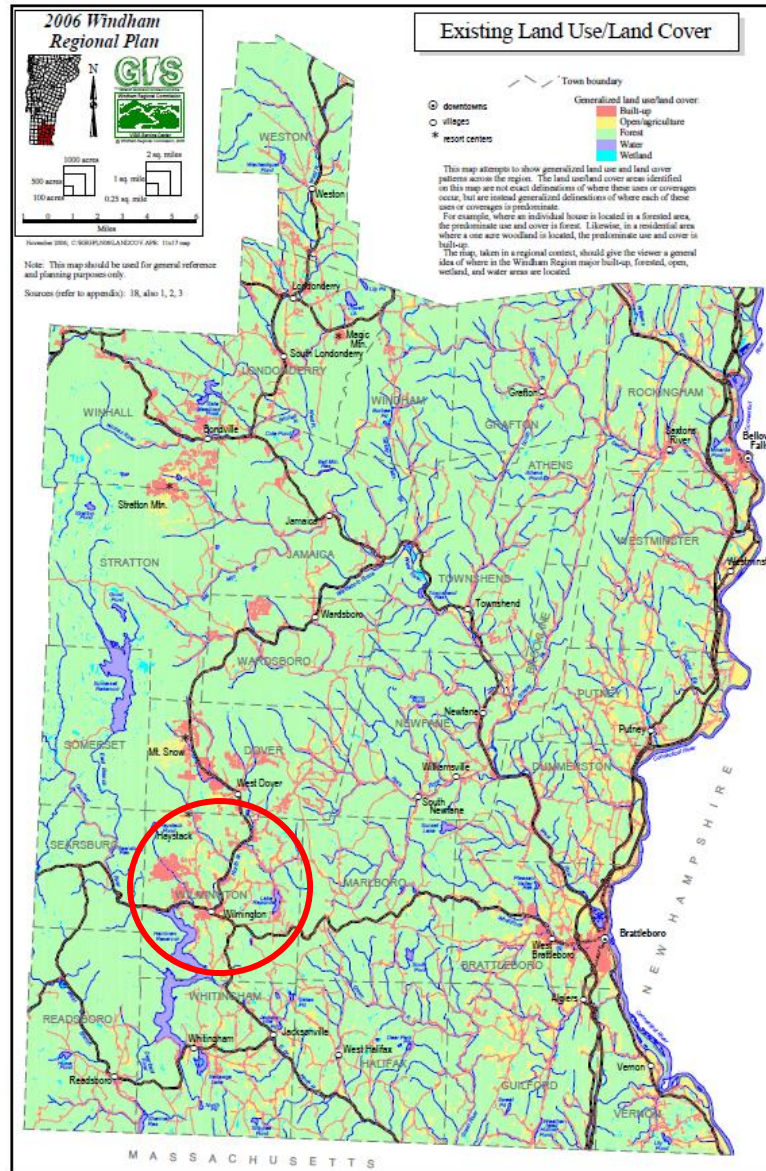


Single Jurisdiction Hazard Mitigation Plan Town of Wilmington, Vermont



Prepared for:
Town of Wilmington, VT
Main Street, Route 9, Wilmington, VT 05363
Windham County

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DRAFT: March 14, 2014

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INTRODUCTION AND PURPOSE

This Single Jurisdiction Hazard Mitigation Plan is an update to a FEMA approved and town adopted annex to the Windham Region Multi-Jurisdiction All Hazard Mitigation Plan that expired on December 5, 2012. The town has decided to update to a Single Jurisdiction Plan.

The purpose of this plan is to assist the Town of Wilmington in identifying all of the hazards facing the town and to identify strategies to begin reducing risks from identified hazards.

Hazard mitigation is any sustained action that reduces or eliminates long-term risk to people and property from natural and human-caused hazards and their effects. Based on the results of previous Project Impact efforts, FEMA and state agencies have come to recognize that it is less expensive to prevent disasters than to repeatedly repair damage after a disaster has struck. This plan recognizes that communities have opportunities to identify mitigation strategies and measures during all of the other phases of Emergency Management – preparedness, response and recovery. Hazards cannot be eliminated, but it is possible to determine what the hazards are, where the hazards are most severe and identify local actions that can be taken to reduce the severity of the hazard.

Hazard mitigation strategies and measures alter the hazard by eliminating or reducing the frequency of occurrence, averting the hazard by redirecting the impact by means of a structure or land treatment, adapt to the hazard by modifying structures or standards or avoid the hazard by stopping or limiting development, and could include projects such as:

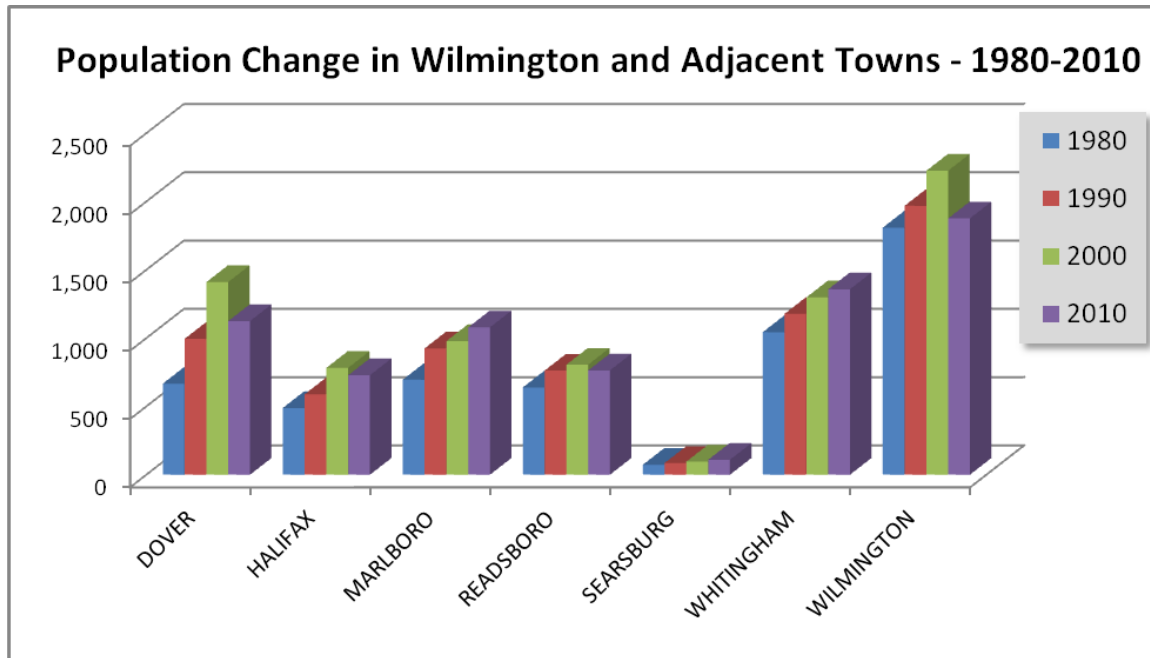
- Flood-proofing structures
- Tying down propane/fuel tanks in flood-prone areas
- Elevating furnaces and water heaters
- Identifying and modifying high traffic incident locations and routes
- Ensuring adequate water supply
- Elevating structures or utilities above flood levels
- Identifying and upgrading undersized culverts
- Proactive land use planning for floodplains and other flood-prone areas
- Proper road maintenance and construction
- Ensuring critical facilities are safely located
- Establish and enforce appropriate building codes
- Public information

WINDHAM REGION GEOGRAPHY

The Region includes the towns of Athens, Brattleboro, Brookline, Dover, Dummerston, Grafton, Guilford, Halifax, Jamaica, Londonderry, Marlboro, Newfane, Putney, Rockingham, Stratton, Townshend, Vernon, Wardsboro, Westminster, Whitingham, Wilmington, and Windham in Windham County; the neighboring towns of Readsboro, Searsburg, and Winhall are in Bennington County; and Weston is in Windsor County. Situated in Vermont's southeastern corner, the Region is bordered by Bennington and Windsor Counties to the west and north, Massachusetts to the south and New Hampshire to the east. The Region's area is nearly 600,000 acres, or over 900 square miles.

The topography is generally hilly, with steep slopes on the river valleys on the east slopes on the Green Mountains. The Connecticut River Valley contains areas of relatively flat and gently rolling land. The Green Mountains form the western edge of the region with a landscape of ridges and mountain peaks with narrow stream valleys. Stratton Mountain is the highest point in the region at 3,936 feet. The lowest point is along the Connecticut River in Vernon at 200 feet.

In addition to the Connecticut, other major rivers of the region are the Deerfield, Green, North, Saxtons, West, and Williams, all tributaries of the Connecticut. There are two major flood control reservoirs on the West River, Ball Mountain and Townshend, and two major storage reservoirs for hydropower generation on the Deerfield River, Somerset and Harriman.



Town	1980	1990	2000	2010	Ave % Change 1960-2010	% Change 2000-2010
DOVER	666	994	1,410	1,124	28.16%	-20.28%
HALIFAX	488	588	782	728	24.42%	-6.91%
MARLBORO	695	924	978	1,078	27.40%	10.22%
READSBORO	638	762	805	763	0.27%	-5.22%
SEARSBURG	72	85	96	109	9.06%	13.54%
WHITINGHAM	1,043	1,177	1,298	1,357	10.30%	4.55%
WILMINGTON	1,808	1,968	2,225	1,876	9.52%	-15.69%

Source: Windham Regional Plan updates 2013-2014, www.census.gov

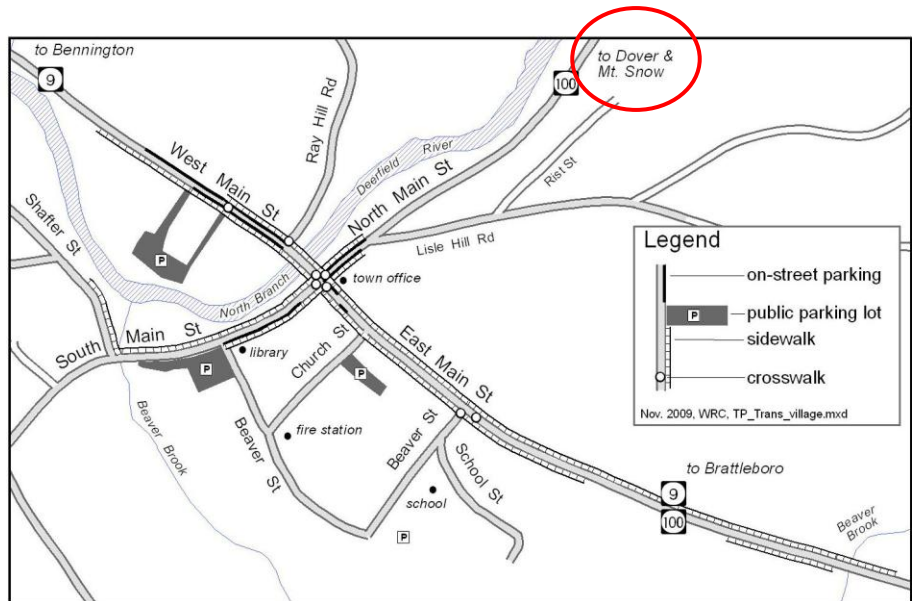
WILMINGTON GEOGRAPHY & TOWN PROFILE

The Town of Wilmington is laced with many streams, each with its own set of lesser tributaries which divide the Town into a branching group of hills and ridges of considerable relief and separated by narrow, intervening valleys. The Village itself is situated at the confluence of the Beaver Brook valley from the East and the Deerfield valley from the North. It is the dominance of the Deerfield River, with its adjacent fertile flood plain, that allows the whole region to be known as "The Valley". The highest and most visible feature of the landscape is the distinctive peak of Haystack Mountain, elevation 3420 feet above sea level. Conversely, the lowest area is the surface of Harriman Reservoir whose variable level is at about 1500 feet in elevation. Thus, the local vertical relief is about 1900 feet, much of which is quite steep with slopes greater than 15%; the word *rugged* is appropriate.

The Town of Wilmington has a unique situation in that a major crossroad of two state highways, Rt. 9 and Rt. 100, is at the very center of the village. The built environment constricts the tight intersection, preventing greater flow of traffic. Wilmington Village functions as the center of town government, public services, and community affairs. The Village is an area of clustered mixed

land use containing residential, commercial, professional, institutional, municipal, recreational, and cultural uses and activities. There is a greater density of dwellings (including multifamily dwellings) found in Wilmington Village compared to outlying lands.

This intersection is also the main route to the Mt. Snow Ski Resort for anyone traveling from southern Vermont, Connecticut or Massachusetts. A typical weekend in winter has traffic backed up for a mile from the east (Rt. 9) and as far back as the Dover town line to the north (Rt. 100). The bottleneck creates an emergency response problem for the volunteer Fire Department.



A route that is used to bypass Wilmington village center when travelling west bound on VT Rte 9 from Brattleboro is Higley Hill Road, in the adjacent Town of Marlboro. Higley Hill is paved from the Marlboro town line west bound through Wilmington all the way to the intersection at VT Rte 100. The Town of Wilmington may want to revisit a discussion with the Town of Marlboro with regard to paving Higley Hill in Marlboro to connect with the paved road in Wilmington. This would provide a safer bypass around the Wilmington village center for both commerce and for evacuation and emergency use. Similarly, although it presents difficulties, the Town of Wilmington may want to consider paving Lake Raponda Road for the same reasons.

The map on the next page shows the intersection at Rt. 9 and Rt. 100 in the village center. In the past the town has used a traffic cop at the intersection, but this has not proven to be an adequate mitigation strategy.

A public meeting was held on November 26, 2012 at the Wilmington Town Offices to discuss impacts of traffic at the intersection. The meeting was held to offer those who live, work and do business in the area a chance to discuss the current and historic effects of traffic associated with this intersection. The public meeting saw attendance from Wilmington residents, Dover residents, business owners, town officials, VTrans, Mount Snow and Haystack resort affiliates, and the Mount Snow Chamber of Commerce. The Windham Regional Commission compiled a report from the input gathered during the meeting as a summary record of the public meeting. The report can be found on the website, www.windhamregional.org.

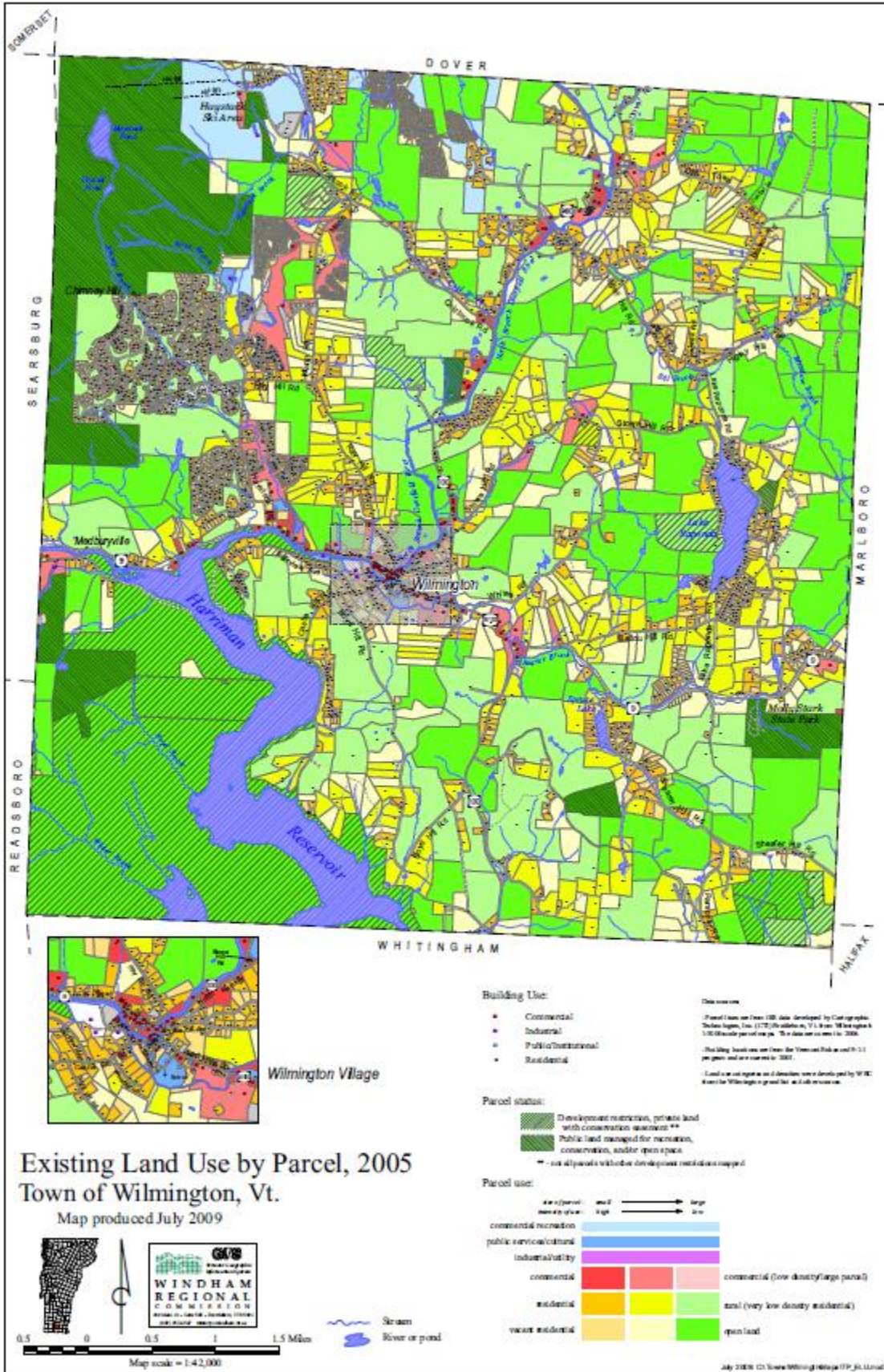
The map shows not only the tight restrictive intersection in the center of the village, but how close the North Branch of the Deerfield River is to Main Street. According to the EMD/Fire Chief, flood protocol is declared for the town on average three times a year. Flood protocol entails; closing flood doors to all buildings in the floodplain (or near river), moving cars, moving dumpsters, and shutting down all propane tanks. In the recent flood event as a result of Tropical Storm Irene (August 28, 2011), the entire downtown village area experienced inundation flooding from the Deerfield River.

Typically, out-of-towners who come to the region to ski, rather than staying overnight, come for day trips. The town signed up (May 2011) to have high speed fiber optic cable come into the region. The town hopes, looking ahead to the next few years, people coming from more urban

areas will decide to make their stays longer in the region. Once they have the capacity to do business via high speed Internet from their second homes/vacation homes, they will spend more time in the region during both winter and summer seasons.

Residential land use occupies the outlying areas, is random in its settlement pattern, and is predominantly single-family dwellings. Many home occupations and cottage industries are associated with permanent residences. Vacation dwellings account for 71% of the housing stock, and although many are concentrated at or near the ski resort, others are located along the shores of Raponda Lake, near Harriman Reservoir, at Chimney Hill development or dispersed throughout the Town. Commercial and industrial land use is located in the Village and along Routes 9 and Route 100 approaching the Village. A large concentration of commercial development is located along both sides of Route 100 from the intersection of Higley Hill Road north to the intersection of East Dover Road. A smaller concentration is located along Route 100 near the Deerfield Valley Elementary School. Scattered commercial development is also found along Coldbrook Road on the way to Haystack-Mount Snow resort. Institutional land uses outside of the Village are the health center on Route 100 South, Deerfield Valley Elementary School on Route 100 North and the medical facility on Coldbrook Road.

Lands in public ownership consist of the Green Mountain National Forest, Molly Stark State Park, Wilmington Town Forest and Glebe land. Much of the remaining land provides important recreational and scenic resource in the Town, as it is commonly used for hunting and fishing, cross country skiing, snowmobiling, hiking, and other outdoor activities.



PREREQUISITES

Adoption by the Local Governing Body

Certificate of Adoption

Town of Wilmington, VT
Board of Selectmen

A Resolution Adopting the Single Jurisdiction Hazard Mitigation Plan, for the Town of Wilmington, VT

WHEREAS, the Town of Wilmington, VT has worked with the Windham Regional Commission to identify natural hazards, analyze past and potential future damages due to natural disasters, and identify strategies for mitigating future damages; and

WHEREAS, The Town of Wilmington, VT Hazard Mitigation Plan analyzes natural hazards and assesses risks within the community; and

WHEREAS, the Town of Wilmington, VT Hazard Mitigation Plan recommends the implementation of action(s) specific to the community to mitigate against damage from natural hazard events; and

NOW, THEREFORE BE IT RESOLVED that the Town of Wilmington, VT adopts the Hazard Mitigation Plan for the Town of Wilmington, VT.

Duly adopted this _____ day of _____.
date month, year

Selectboard Members

James Burke, Chair

Jacob White

Diane Chapman

Thomas Fitzgerald

Susan Haughwout

ATTEST

Susan Haughwout , Town Clerk & Selectboard

PLANNING PROCESS

Stakeholder Group Participation

Ken March, the current Fire Chief in Wilmington, acted as the Interim Town Manager from Oct. 2010 – April 2011. Fred Ventresco was hired as Town Manager April 2011, but left the post in November 2011, after Tropical Storm Irene impacted the Town of Wilmington. Paul Meyer, a new Interim Town Manager was put in place. Finally, in March 2012, the town hired Scott Murphy as the new Town Manager.

For the update process of the Single Jurisdiction Hazard Mitigation Plan in 2013, the Town Manager convened a mandatory meeting of stakeholders to work on the update. The people chosen for the stakeholders were those who work in planning, zoning, public works, road and highway, and schools, for the Town of Wilmington. Individuals were called by phone and/or emailed.

Town residents who took part in the planning process for developing the Single Jurisdiction Hazard Mitigation Plan for Wilmington are affiliated with more than one association for the town. In rural areas of Vermont, it is typical that people who are most interested in the safety, health and welfare of their community will preside on more than one board, and for example, hold the role of Fire Chief, or school teacher, or be a small business owner, in addition to owning personal property in the town. Therefore, although the meeting may not have as many in attendance as in a more populated community, those present at the meeting are representing not only a variety of roles, but many roles that would be held by individuals in a more populated town or city. The following people were involved in the hazard mitigation planning process:

Stakeholder	Affiliations
Gretchen Haverluk	Small Business Development Center, Interim Economic Development Specialist for Town of Wilmington, Southeastern VT Long Term Recovery Committee
Harriet Maynard	Historical Society of Wilmington
Susie Haughwout	Wilmington Town Clerk, Wilmington Selectboard, Coldbrook Fire district, Prudential Committee, DVTA Moover Board President
Adam Grinold	School Board Member, Director Chamber of Commerce, Owner Wahoo's Eatery, Landlord, Bi-Town Chair
Bobby Maynard	Deerfield Valley Rescue, Wilmington Fire Department
Paul Meyer	Interim Town Manager (November 2011 – March 2012)
Lynne Matthews	Planning Commission and Lister
Jim Burke	Selectboard, Cemetery Sexton, Head Coach Varsity Baseball
Fred Ventresco	Former Town Manager (April 2011 – November 2011)
Ken March	Fire Chief / EMD – interim Town Manager (October 2010 – April 2011)
Bill Hunt	Wilmington Highway Supervisor / Lawn Care & Excavating Work
Dennis Richter	Wilmington School Board / Computer Consulting Business
Joseph Szarejko	Wilmington Police Chief

John Lazelle	Wilmington Wastewater Department
Dinah Reed	Planner at the Windham Regional Commission

Documentation of the Planning Process

The Town Manager and WRC staff met on February 20, 2014 to address FEMA Region 1 revision requests.

WRC staff met with a Stakeholder Group in Wilmington on Feb. 26, 2013 at the Town Offices to have a long discussion analyzing the natural hazard risks and vulnerabilities to the town, identifying mitigation strategies, and next steps to update the original annex to a Single Jurisdiction Hazard Mitigation Plan. The meeting lasted about over four hours. The town historian attended the meeting and was able to provide numerous newspaper clippings from past flooding events. The road foreman identified areas in town that have reoccurring flooding, and there was a discussion about the fact that the town offices and most importantly the Town Clerk records, are stored in a vault that is below BFE. Ultimately the town needs to relocate the town offices and records. A location has been identified, the high school, which has been vacated after consolidating schools with a neighboring town.

The Tropical Storm Irene event occurred on August 28, 2011 and severely impacted the Town causing inundation flooding of the entire downtown Village of Wilmington caused not only turmoil for businesses and residences, but also for the town government which had their offices at the intersection next to the Deerfield River. The Town Offices, along with the Police Department, were moved from their location to a strip mall location about ½ mile east of the village center. WRC staff met with the new Interim Town Manager, members of the Selectboard, a FEMA expert representing community development for the village, and a local legislative representative on December 9, 2011 to discuss mitigation strategies and actions in the wake of Tropical Storm Irene.

The Town of Wilmington will continue to work with the Windham Regional Commission to monitor, evaluate, and update the plan throughout the next 5 year cycle. A review of the plan will take place each year by the emergency planner at the Windham Regional Commission along with the Town's EMD and Town Manager, to update any funding received from FEMA, to record any hazard related events, review mitigation strategies completed, deleted, and determine new strategies.

The following hazard mitigation planning meetings were held for the first planning process:

- June 2, 2011 – Twin Valley High School, Wilmington, VT
- June 22, 2011 – Wilmington Town Offices
- October 31, 2011 – Phone call discussions with Dept. heads of Wastewater Treatment Plant, Road Crew, and Fire Department regarding past hazard related events
- December 9, 2011 – Temporary Town Offices, Wilmington, VT

The Wilmington Annex expired in December 2012 when the Regional Hazard Mitigation Plan expired. On February 26, 2013 the Stakeholder group met to update the plan to a Single Jurisdiction Hazard Mitigation Plan. The Town Manager met with the WRC staff in February 2014, to address revision requests made by FEMA Region 1 when the plan was returned on 2/3/2014.

While proactively planning for emergency response and long term recovery, the Town of Wilmington Planning Commission has taken a good look at properties along their rivers and streams that have loose objects that could easily be swept away down river. The investigation is being done with an eye toward possibly revising floodplain regulations for future land use decision

making. These discussions are being done at the Planning Commission level and have not yet reached the Selectboard level.

The Fire and Police Departments are fine tuning an identification system process for which persons can come and go into the Village after a major hazard event. A process was set up during TS Irene, but they realize it needed greater attention to detail and to be standardized. The Fire and Police Department are well trained in the Incident Command System, therefore use it effectively.

Town Officials in Wilmington had numerous visits to help in planning for the future, by state agencies. VT Department of Environmental Conservation (DEC) Agency of Natural Resources (ANR) river scientists division hosted a forum at the Red Mill in town, to educate as many in the region as attended, about planning while living next to rivers. The meeting topics were geared toward recovery and future planning with the floodplain. Many were in attendance. ANR also made site visits to look at properties that were cliff hangers, and discuss debris problems in the river.

The Army Corps of Engineers made a visit to the Wilmington Selectboard meeting, giving a presentation on ice jams and how to plan for potential flooding due to this hazard.

Public Participation

The Wilmington Single Jurisdiction Hazard Mitigation Plan is made available for public comment via the following efforts:

- The plan is posted to the Town website for public comment opportunity
<http://www.wilmingtonvermont.us/>
- Hard copy of the plan has been made available at the Town Office and Library

Representatives from Wilmington also participated in regional public participation planning events held by the Local Emergency Planning Commission (LEPC 6). Since the Windham Regional Commission is working on Hazard Mitigation Plans for a total of 20 towns within its region, two public participation events were scheduled as “joint events” to be held at the monthly meeting of the LEPC 6. Typically, members of most of the regions communities come to the monthly LEPC meeting. In the effort to give those attendees an opportunity to make comment on plans, LEPC programs for both the months of September and October 2010 were dedicated to the Hazard Mitigation Plan Process for all towns in the Windham Region. A presentation was made at the September meeting explaining the process and the meaning of a hazard analysis, with questions to follow. The October 2010 meeting provided an informal map exercise where numerous maps were posted for each town, and comment sheets provided for participants to write ideas/comments about areas in their towns facing potential negative impacts from hazards. (See attached flyer advertising October meeting, sign-in sheets and photos of map exercise).

Public Participation meetings held:

- September 21, 2010 – Brattleboro Memorial Hospital – Topic: *Local Hazard Mitigation Planning Process*
- October 19, 2010 – Brattleboro Retreat – Topic: *Interactive Map Viewing and Hazard Analysis Comments from Local Jurisdictions*

New public participation efforts for 2013-2014 update:

- ❖ The plan was advertised in the local newspaper, *Deerfield Valley News*
- ❖ The plan was made available on Town Meeting Day in early March
- ❖ Notices were placed on every other chair at Town Meeting Day informing folks where they can view the plan and make comment, in addition to “why” the plan is important and why their input is important.
- ❖ The Plan is located on the Town website for an opportunity to comment.

- ❖ The Plan was sent out in Wilmington's email newsletter.

Planning with Neighboring Towns

Wilmington's Single Jurisdiction Hazard Mitigation Plan was provided by email to Town Officials and Emergency Management personnel in its adjacent communities of Whitingham, Dover, Marlboro, Readsboro and Halifax, for an opportunity to make comment. See *Appendix C* for documentation.

SAFE COMMUNITIES—RESILIENT TOWNS

Meeting Oct. 19th—Windham Region VT Towns Pre-Disaster Hazard Mitigation Plans

WHAT'S HAPPENING?

The Windham Regional Commission is working with 18 towns to complete their Pre-Disaster All Hazard Mitigation Plans. The plans will address flooding, winter storms, wildfire/structure fire, power failures, high winds and other emergencies that towns may face.

WHY PARTICIPATE?

Local Knowledge is important!
We want to know:



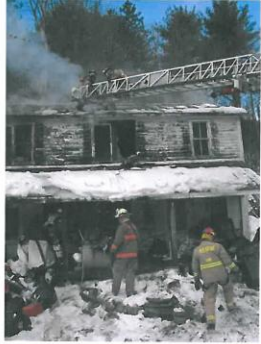
- The hazards of greatest concern to you;
- How have natural hazards affected you or your community in the past;
- How you think damage can be prevented or mitigated in the future?

HOW CAN YOU PARTICIPATE?

Come to the LEPC 6 Meeting on Tuesday, October 19th

LOCATION: Brattleboro Retreat – Edu. Conf. Ctr. In Admin. Bldg. (75 Linden Street)

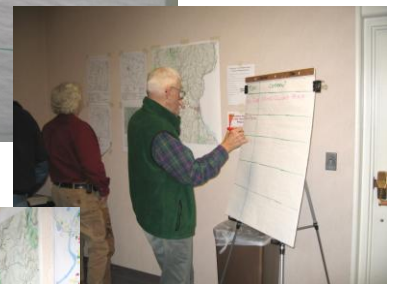
- 5-5:30 pm LEPC Business Meeting
- 5:30—8 pm Public Participation Opportunity
- 5:30 pm: Dinner Buffet (Complementary)
- 5-7 pm: View New Red Cross Moving Shelter

TOWN	COMMENT
Dover	CONSENSUS HAVE TWO DIFFERENT WEATHER SYSTEMS HIGH WINDS AND SUPERSTORM LIVING BEHIND ACROSS TO THE EAST Top of High Hill Rd / Lake Knapton Rd High Elevation → Freezing Rain frequently icy roads
Wilmington	

In October, 2010, a meeting was held via the LEPC 6 to have cross-town discussions about proactively planning for hazards between neighboring towns.

TOWN	COMMENT
Guilford	Needs Culvert MAP
Guilford FLOOD HAZARD (WATERBURY)	1ST 1/2 mile West on SLATE ROCK Rd RIVER Rd - 1 mile SO OF HINCHBURG Rd (East Side) BROAD BROOK Rd - between Rte 58 I 91 gage
NEWFANE	JAMES Hill Rd DAM SMITH BROOK SHAW'S BROOK BRIDGE DAM NORTH BRIDGE SOUTH FANE STONE BRIDGE



RISK ASSESSMENT

The risk assessment portion of a Hazard Mitigation Plan contributes to the decision-making process for allocating available resources to mitigation projects. 44 CFR Part 201.6(c)(2) of FEMA's mitigation planning regulations requires local municipalities to provide sufficient hazard and risk information from which to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.

Identifying and Profiling Hazards – The community has identified and focused mitigation action items on the following hazards; Flood, Winter Storm/Ice Storm and High Wind events. It should be noted that Earthquake, Landslide, Avalanche and Extreme Heat, Drought, Wildfire and Tornado/Microburst, are profiled in the State All Hazard Mitigation Plan. This local plan will only profile and analyze natural hazards that have been deemed as having a “highly likely” impact on the Town of Wilmington.

In the “Assessing Vulnerability: Overview” section on page 21, a “Highly Likely” occurrence is one that has a 100% probability of occurring every year. The methodology is fully explained in that section.

The following hazards include a narrative explaining Location/Geographic Area and Extent (magnitude or severity), Probability, and discussion of Past Occurrences of all natural hazards that affect the planning area.

REGIONAL FLOODING

August 28, 2011 - The latest Presidentially Declared Disaster, DR-4022, resulted from Tropical Storm Irene. Tropical Storm Irene tracked north northeast across eastern New York and western New England during Sunday, August 28th, producing widespread flooding, and damaging winds across the region. Irene tracked from a position over New York City around 8 AM EST Sunday, to approximately 65 miles south of Rutland, VT at 4 PM EST. The greatest impact from Irene across southern Vermont was due to heavy to extreme rainfall, which resulted in catastrophic flooding. Rainfall amounts generally averaged 4 to 8 inches. Much of the rain which fell occurred within a 12 hour period, beginning early Sunday morning, and ending Sunday evening. This heavy to extreme rainfall resulted in widespread flash flooding and river flooding across southern Vermont. Strong winds also occurred across southern Vermont, with frequent wind gusts of 35 to 55 mph, along with locally stronger wind gusts exceeding 60 mph. The strongest winds occurred from the north to northeast during the morning hours, then from the west to northwest during Sunday evening. The combination of strong winds, and extremely saturated soil led to numerous downed trees and power lines across the region. This also resulted in widespread long duration power outages. In particular, the approximate number of customers affected by power outages included: Windham County 18,000.

During 1978, flooding occurred throughout New England causing millions of dollars in damage. In 1996, flooding ravaged communities in northern New England resulting in significant damage and a Presidential Declaration of Emergency.

The Vermont Flood of 1927 was the deadliest natural disaster in the history of the State; eighty-four people were killed with over \$28 million in property damage. The Spring Floods of 1936, which had an effect on all of New England, caused \$113 million in damage, killed 24 people and made 77,000 people homeless. During this flood alone, the main street of Hooksett, New Hampshire was 18 to 20 feet underwater.

LOCAL FLOODING

Description and Geographic Area of Hazard

The Village area as well as Route 100 along the North Branch of the Deerfield River have seen some of the most recent damage from springtime rain on snow events. Due to their proximity to the Deerfield River, flash floods can potentially cause severe flood damage in these areas of Town. Flash floods typically occur in high elevation drainage areas as a result of summer thunderstorm activity. Damage from flash floods is difficult to predict since flash flood areas are not mapped at this time. Infrastructure and structures along higher elevation streams and drainage areas are most susceptible to damage from flash flooding. Drainage ditches and culverts are the biggest concern for local flash flooding events.

Extent

Wilmington experienced constant rain fall at the end of August and early September in 2011 that affected the area causing the Deerfield River to exceed its banks and flood the entire downtown area of Wilmington. The magnitude and severity of that flood was the highest to date when the water level of the Deerfield River rose to 27 feet above the base flood elevation.

Probability

According to the town emergency committee, floods are deemed 'Highly Likely' to occur in Wilmington.

Past Occurrences

Listed below are areas in town that have reoccurring, smaller flood events. Also, please see *Appendix D* for photographs and newspaper articles from the many past flood events that were not so small.

- Coldbrook Road – At an area where two rivers/streams cross, the culverts are undersized and flood perpetually is there is as much as 4-5 inches of rain. Hydraulic studies have been down stating that larger culverts are needed.
- Haystack Mountain Development – this reopening of Haystack Mountain Ski Resort and new condominium construction associated with it, will include a lot of infrastructure of roads and driveways, greatly increasing the impermeable surface run-off, and the problems associated with increased amounts water not able to percolate into the ground.
- Culvert at Route 9 and Wahoo's Eatery – Just east of town of Rt 9, in a low lying area near a stream is an area that pools with water with hard rains, flooding Wahoo's Eatery. A larger culvert with guided run-off would help alleviate this flood issue.

August 28, 2011 - Rains from Tropical Storm Irene caused inundation flooding of the downtown portion of the village of Wilmington and fluvial erosion hazard events along the Deerfield River in Southeast Vermont. This event was Presidential Disaster Declaration DR 4022.

- Wilmington is in the process of recording all documentation to receive Public Assistance for this hazard event. The downtown village area of Wilmington experienced inundation flooding for at least 24 hours, but the lower lying areas had residual flooding for a few days. The water level rose to 27 feet above base flood elevation which was 8" higher than the 1938 flood water levels. There was over 3 ½ feet of water in the first floor of the Police Department/Town Clerk's office of the Town Hall and over five feet of water in the Fire Department. The Memorial Hall on Main Street has over 10 feet of water.

March 11, 2011 – There was 24 inches of water in the basement of the Town Hall due to an ice jam (insurance claim made).

April 15-21, 2007 - A flooding event occurred which was associated with flash floods and inundation flooding over a period of several days in the spring. Rain and snow caused damage to roads and utility lines across Windham County and Wilmington. Across, the State, nearly 3.6

million dollars was obligated as part of the FEMA Public Assistance Program. While it is not normal for the a Town to receive this type of damage from severe flooding and thunderstorms on an annual basis, road washouts and culvert repairs from these associated events have ranged in the ballpark of \$200,000 to \$400,000.

August 12 – Sept. 12, 2004. A severe period of flooding and thunderstorms, which lasted from engendered Presidential Disaster Declaration DR – 1559. This event allowed for funding from the FEMA Public Assistance Program to flow into town and help pay for debris removal as well as overtime for emergency response workers.

July 21- August 18, 2003 - There have been several Presidentially Declared Disasters in recent years for Windham County which have included severe thunderstorms and associated flooding, Windham County, including the Town of Wilmington. In 2003 nearly constant rain and thunderstorms affected Wilmington. FEMA Declaration DR – 1488 was associated with this event. Many roads were washed out and culverts needed replacing throughout Town.

July 2000 – 14 inches of flood water in basement of Town Hall and elevator shaft due to heavy rains.

March 11, 1992 – 12 inches of flood water in Town Hall.

1983 – Over 20 inches of flood water in Town Hall

August 5, 1976 – 7feet of water in Town Hall basement

June 29, 1973 – unknown water amounts. Fire Department records were lost. Photos from newspaper clippings show the water covering the deck of the bridge downtown. This was not as devastating as TS Irene, but there was a lot of damage to basements of buildings downtown, culverts and bridges.

Dec. 1948 – 3 feet of water in homes on Beaver Street south of the light, also near Fire Station.

Dec. 1938 – Over 11 feet of flood water in Town Hall filling the basement and damaging the Town Clerk's office and records.

Beaver Dams

In the 1970s a huge beaver dam broke on Old Ark Road, a class 3 town highway which is unpaved, next to Rt. 100 north of the village center. When the beaver dam broke in the 1970s it took out bridges and culverts. The dam has been re-built and is presently quite large, and a potential hazard waiting to happen.

Money that the Town of Wilmington has received from FEMA money from past flood events -

- 2011 Flood, money received to date: \$1.1 M
- 2007 Flood, money received in August & October 2007 - \$191,077.13
- 2001 Flood, money received in October 2001 - \$10,493.35
- 2000 Flood, money received in November 2000 & May 2001 - \$70,197.25

Sources used

Local town knowledge and records.

FEMA website for past Presidential Declarations

<http://www4.ncdc.noaa.gov/cgi-win/wwwcgi.dll?wwevent~ShowEvent~307631>

Tropical Storm Irene Impacts after August, 2011:

The Village intersection in Wilmington was inundated by flood waters causing major economic impacts to the Village. The following lists those adverse impacts:

Affected Business <u>Buildings</u> – 4 of these buildings were closed to the public	65
Affected business	68
Landlords	10
Churches	4
Town Offices / Police Dept. / Fire Dept.	3
Business Closed Permanently – 4 of these business reopened after the flood and have subsequently closed	8
Businesses to Reopen	4
Businesses moved out of Wilmington	2
Businesses that moved within Wilmington	5
New Businesses	2
Building & Property / Equipment / Inventory Losses	\$6,527,632

REGIONAL SEVERE WINTER STORM

The Region has a long history of severe winter storms and blizzards and usually experiences at least one or two Nor'easters each year with varying degrees of severity. There have been 114 winter storms in the Region since March 1960 that have resulted in \$5,133,582.00 in property damages. A typical event begins as a low-pressure system that moves up the Atlantic Coast on a December morning and into the Canadian Maritimes dumping heavy snow across parts of Vermont. Snow typically begins in the morning and then changes over to sleet and rain in the valleys during the day, and then changes back to snow during the evening. Snowfall accumulations are generally three to six inches in the valleys and 6 to 12 inches in the mountains.

LOCAL WINTER STORM / ICE STORM*Description and Geographic Area of Hazard*

Winter storms, with snow, ice and freezing temperatures in varying combinations, are fairly commonplace in Wilmington and occur town wide. Heavy wet snows of early fall and late spring, as well as ice storms, often result in loss of electric power, leaving people without adequate heating capability. The other threat from these storms is downed trees, resulting in power failures and impassable roads or driveways.

The Town of Wilmington often requests to have a crane 'on call' to mitigate against ice dams which regularly form along the Deerfield River, to mitigate against flash flooding when the dams break.

Damage from heavy snow and ice storms can vary depending upon wind speeds, snow or ice accumulation, storm duration, and structural conditions (such heavy snow and ice accumulation on large, flat roofed structures).

- Power failure is a condition that can occur anywhere in town. Power failures are typically the result of power lines damaged by high winds or heavy snow/ice storms. During Ice Storms the higher elevation locations in Town are most susceptible to power failures. Shearer Hill Rd. Ballou Hill Rd. and properties along State Route 9. are areas of Town that commonly have line failures to occur and cause power disruptions to residential dwellings. Power failures also result from disruptions in the New England or national

power grid, as indicated by the widespread power outages in 2003. Dead or dying trees in close proximity to power lines pose a particular threat for power failure.

Extent

According to past events, the severity or magnitude of winter storm to occur in southeast Vermont can experience as many as 124.3 inches of snowfall as it did in the winter of 2010-2011.

Probability

The town hazard emergency committee has stated that winter storm/ice storm is 'Highly Likely' to occur in Wilmington every winter.

Past Occurrences

March 11, 2011 – There was 24 inches of water in the basement of the Town Hall due to an ice jam (insurance claim made).

Feb. 25, 2011 - A storm system produced a widespread swath of heavy wet snow across southern Vermont during the day Friday. Snowfall rates of 1 to 2 inches per hour occurred, beginning during the early morning hours, and persisting until late afternoon. Snowfall amounts of 12 to 17 inches occurred across much of southern Vermont. The heavy wet snow created treacherous travel conditions for both the morning and evening commutes on Friday, and also led to numerous school and business closings.

Jan. 19, 2011 - Snow and sleet accumulations across southern Vermont varied from 3 to 9 inches, with ice accumulations of up to a half of an inch.

Jan. 12, 2011 - Heavy snow fell across southern Vermont with snowfall accumulations ranging from 14 inches up to 3 feet. A mesoscale snowband set up across the western New England, including southern Vermont, Wednesday morning resulting in snowfall rates of 3 to 6 inches an hour.

Mar. 8, 2008 - An ice jam loosened on the Deerfield River in Wilmington when heavy rainfall occurred. Flooding resulted, beginning around 19:30 EST Saturday, and affected the lower levels of an apartment building, a bar and restaurant, and the parking lot and racquetball court of a motel. This heavy rainfall loosened an ice jam on the Deerfield River in Wilmington, which led to flooding in low lying areas in Wilmington's downtown area.

December 2008 - An Ice Storm which crossed the region in December of 2008 caused widespread downed trees and power outages in Windham County. The total cost of damages across the region crossed the one million dollar threshold which allowed for a Presidential Disaster Declaration DR-1816. Damage across the region mostly consisted of roads being blocked for short periods of time due to downed trees and utility lines. Thousands lost power for varying lengths of time and several shelters were opened in Windham County. Compared to neighboring southern New Hampshire communities, Wilmington and Windham County fared relatively well from the damage inflicted by the Ice Storm.

November 22, 1997 - A low pressure system south of Long Island on November 22, 1997 produced heavy wet snow across southern Vermont. Snowfall averaged 4 to 8 inches in Bennington and Windham Counties. The heavy wet snow downed trees and power lines, which produced scattered power outages. The power outages were most widespread in Windham County.

Nov. 26, 1996 - On November 26, a low pressure system brought a combination of snow and freezing rain to southern Vermont. Over Bennington and Windham Counties, snow and heavy freezing rain downed trees and power lines and caused numerous accidents. Across southern Vermont approximately 10,000 customers lost power.

Jan. 2, 1996 - A major winter storm developed over the Gulf coast states on January 2nd and tracked northeast along the eastern seaboard during January 3rd. Heavy snow fell across southern Vermont with the average snowfall ranging from 10 to 12 inches.

Dec. 19, 1993 -- Low pressure moved through central Pennsylvania and off the New Jersey Coast on the morning of the 19th resulting in 3 to 6 inches of snow across parts of southern Vermont.

Money that the Town of Wilmington received from FEMA for past winter storm events -

- 2008 Ice Storm, money received in April & July 2009 - \$97,991.71

Sources used

www.usatoday.com/wheather/storms/winter/2011-03-08-vermont-snow-reocrds

<http://www4.ncdc.noaa.gov/cgi-win/wwwcgi.dll?wwevent~ShowEvent~307631>

Local knowledge and town records

REGIONAL HIGH WIND / TROPICAL STORM / HURRICANE/TORNADO

Windstorms are high-wind events that are sufficient enough to cause damage to property and can occur at anytime during a year. These include high winds in conjunction with a thunderstorm and high winds that sweep through the Region after the passage of a weather front. During the past forty-six (46) years, the Region has had seventy (70) windstorms that have caused significant damages.

LOCAL HIGH WIND / TROPICAL STORM / HURRICANE

Description and Geographic Area of Hazard

High wind events are highly likely in Wilmington, with the potential for limited resulting damage. The mostly likely local threats for high winds are from nor'easters, hurricanes, downbursts or wind shear. Trees downed by high winds can block roads, and down power and communications lines. Mobile home parks and houses on ridge lines are at greater risk from wind damage. Most high winds events in Wilmington have resulted in minor damage from downed trees and power lines.

Extent

In 1938 winds from Hurricane Igor were recorded at 100 mph and in recent years winds have been recorded at 60 mph in the Southeast region of Vermont, to include the Town of Wilmington. The Town anticipates high wind events in this realm of magnitude to occur any given year. Extent/magnitudes of Hurricanes and Tropical Storms are ranked using the Saffir-Simpson Scale in the Western Hemisphere, as follows: CAT1=74-95 mph winds, CAT2=96-110 mph winds, CAT3=111-130 mph winds, CAT4=131-155 mph winds, Tropical Storm=39-73 mph winds, Tropical Depression=0-38 mph winds.

Probability

The emergency committee in Wilmington deems high wind events as being 'Highly Likely' any given year.

Past Occurrences

Summer 2001 – A category 2 tornado went over the northeast corner of Wilmington and Marlboro and took out a barn and a swath of trees. Weather services employees have stated that Wilmington is in a protected geographic region from tornado because of its numerous ridgelines, but downed trees are an often occurrence in high wind events.

Aug. 28, 2011 - Tropical Storm Irene tracked north northeast across eastern New York and western New England during Sunday, August 28th, producing widespread flooding, and

damaging winds across the region. Strong winds occurred across southern Vermont, with frequent wind gusts of 35 to 55 mph, along with locally stronger wind gusts exceeding 60 mph. The strongest winds occurred from the north to northeast during the morning hours, then from the west to northwest during Sunday evening. The combination of strong winds, and extremely saturated soil led to numerous downed trees and power lines across the region. This also resulted in widespread long duration power outages. In particular, the approximate number of customers affected by power outages included: Windham County, 18000.

Mar. 10, 2002 - The pressure gradient between deep low pressure over Ontario, and high pressure off the southeast coast, produced a strong southerly flow across southern Vermont on the evening of March 9. Then, a strong cold front moved across the region shortly after midnight, early on March 10th. A line of showers and embedded thunderstorms accompanied the front. Strong winds ahead of and along the front produced some damage across Windham County. Law enforcement personnel reported a large number of trees and power lines down throughout the county.

Nov. 27, 1997 - The passage of a cold front produced strong winds across southern Vermont during the early morning hours of November 27. Winds gusting to 40-50 miles an hour downed trees and power lines in Bennington and Windham Counties. Approximately 1,500 customers lost power for a six to eight hour period.

Jan 19, 1996 - An intense area of low pressure located over the Mid-Atlantic Region on Friday morning January 19th produced damaging winds across southern Vermont. This storm was associated with a strong southerly flow which resulted in scattered reports of downed trees, limbs and power lines.

Feb. 24, 1996 - A rapidly deepening low pressure system moved from southern New Jersey northeast to northern Maine by the morning of February 25. This system brought damaging winds to southern Vermont including Bennington and Windham counties, which downed many trees across the area and produced scattered power outages.

Jul 20, 1996 - An unusually intense low pressure system tracked across the northern Great Lakes to Quebec, Canada during July 19 and 20. The system generated strong northwest winds, which downed trees and power lines over parts of Windham County in southern Vermont.

July 1995 - High wind-shear occurred in town, which resulted in numerous road obstructions, tree destruction, and damage to town highway #2.

Sept. 21, 1938 - Hurricane Igor hit the region of Southeast Vermont paralyzing it for weeks. As it was coming, packing winds over 100 miles an hour, authorities were unaware of the magnitude so no evacuation procedures were instituted and very few precautions were taken. As a result over 600 people lost their lives and tens of thousands were left homeless. Wind, rain and flash flooding wiped out trees, church steeples and buildings, leaving behind nearly \$400 million in damage.

The Wastewater Treatment Plant recent records show that past events have caused power outages on these dates – in the village center which is a low lying area, so these dates/time only reflect a small percentage of the town:

- 9/10/04 – 5 hours
- 6/9/05 – 2 hours
- 4/20/06 – 1.5 hours
- 6/23/06 – 1 hour
- 6/27/06 – 2 hours
- 7/2/06 - 6 hours
- 11/6/08 – 1.5 hours

12/12/08 – 2.75 days ice storm
5/8/10 – 2 hours

The longer lasting power outage on July 2, 2006, saw a loss in millions of food. Expecting a large turn-out for the July 4th celebration, restaurateurs' had stocked up on an abundance of frozen, perishable items that went bad. Since that event, private business owners in the Village who would lose inventory due to a power outage, have been encouraged to get generators.

Sources used

Local knowledge – records kept by Chief Operator of the wastewater treatment plant.
<http://www4.ncdc.noaa.gov/cgi-win/wwcgui.dll?wwevent~ShowEvent~307631>

Landslide

An existing hazard related to a possible landslide or road erosion hazard is located on Rt. 100 just north of the village center intersection by the Red Mill which sits on the edge of the Deerfield River. Just west of the Village on Rt. 9 there is an area susceptible to a slide. West Main Street and Shaftner Street have an old retaining wall that needs attention.

Landslide are not a common occurrence and there isn't a history of landslides as a hazard in Wilmington. But the particular sites mentioned above are a new landslide possibility as a result of the 100 year flood event of Irene.

Hazardous Materials & Trucking along VT Rt. 9 – a National Highway System Route

Although hazardous materials and trucking on Rt. 9 are not listed as “highly likely” in the risk assessment matrix, it needs to be mentioned as a potential hazard. Since VT Rt. 9 is classified as being on the National Highway System for economic development purposes, approximately 600 trucks are coming through the village center intersection every day. It is estimated that approximately 50% of those trucks contain hazardous materials. Additionally, the structural foundation of the historical buildings residing along Rt. 9 and Rt. 100 are suffering as a result from the truck traffic. Route 9 is a designated scenic byway, and Rt. 100 will become a designated scenic byway in March 2013.

Wildfire / Structure Fire

According to the Fire Chief and the “law of averages” in the area, there is potential for wildfire in the surrounding hinterlands because of the amount of debris causing a greater than average fuel load that is still left on the forest floor from the 2008 ice storm. Additionally, more and more off-road recreational vehicle activity is occurring in the region, adding to the potential of a human induced wildfire hazard. However, a wildfire situation is unlikely to occur unless the region experiences an extended severe drought. Historically, for decades, there have not been wildfire events other than minor brush fires in the Town.

Assessing Vulnerability: Overview

Methodology

A vulnerability analysis for each community begins with an inventory of possible natural hazards and an assessment of the risk that they pose. These are the questions to be answered. What hazards can affect your community? How bad can it get? How likely are they to occur? What will be affected by these hazards? How will these hazards affect you? The magnitude (percentage of the community affected) of the impact of the hazard can be classed as follows:

- Negligible: < 10% of properties damaged/Minimal disruption to quality of life.
- Limited: 10% to < 25% of properties damaged/Loss of essential facilities/services for up to 7 days/few (< 1% of population) injuries possible.

- Critical: 25% to 50% of properties damaged/Loss of essential facilities/services for > 7 days < 14 days/Major (< 10% of population) injuries/few deaths possible.
- Catastrophic: > 50% of properties damaged/loss of essential facilities/services for > 14 days/Severe (> 10% of population) injuries/multiple deaths possible.

The **frequency** of occurrence (Likelihood) is classified as shown:

- Unlikely: < 1% probability in the next 100 years.
- Possible: 1% to 10% probability in the next year, or at least one chance in the next 100 years.
- Likely: 10% to 100% probability in the next year, or at least one chance in the next 10 years.
- Highly Likely: Near 100% probability in the next year.

Additionally, seasonal patterns that may exist are considered, what areas are likely to be affected most, the probable duration of the hazard, the speed of onset (amount of warning time taking into consideration the existing warning systems).

The combination of the **magnitude** of the hazard and the **frequency** was used to determine the **community vulnerability** as HIGH, MODERATE or LOW. For example, a flood event is highly likely (nearly 100% probability in the next year) in many communities but the degree of impact varies. A highly likely flood with critical or catastrophic impact rates the community vulnerability as HIGH. Another community with a highly likely or likely (at least one chance in the next 10 years) flood with a limited impact would receive a vulnerability rating of MODERATE. The vulnerability of a community having the occurrence of an event as possible or unlikely with limited or negligible impact would be LOW.

Likelihood:

U = unlikely

P = possible

L = likely

HL = highly likely

Impact:

N = negligible

L = limited

CR = critical

CA = catastrophic

Possible Hazard	Likelihood	Impact	Community Risk	Vulnerability
Wind Shears / Microbursts	P	L	Low	Roads, Bridges, Culverts
Flood	HL	CR	High	Low Lying Hills, Drainage Ditches, North Branch of the Deerfield River / Entire Downtown, Bridges, Culverts
Fire	L	L	Moderate	Residences, Businesses, Town wide
Winter & Ice Storm	HL	L	Moderate	Residences, Businesses, Infrastructure
High Wind	HL	L	Low	Residences, Businesses, Utilities
Hurricane	U	CR	Low	Town-wide
Earthquake	U	CR	Low	Town-wide
Drought	P	L	Moderate	Residents, Farms, Businesses, private wells
Landslide	L	CR	Moderate	Rt. 100 just past intersection of Rt. 9 & Rt. 100 in town

Assessing Vulnerability: Addressing Repetitive Loss Properties

According to the State Hazard Mitigation Officer, Wilmington has two repetitive loss properties:

- 1) 10 West Main Street, Memorial Hall

2) 30 West Main Street, Commercial Building

The definition of severe repetitive loss as applied to this program was established in section 1361A of the National Flood Insurance Act, as amended, 42 U.S.C. 4102a. An SRL property is defined as a **residential property** that is covered under an NFIP flood insurance policy and:

- (a) That has at least four NFIP claim payments (including building and contents) over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or
- (b) For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

For both (a) and (b) above, at least two of the referenced claims must have occurred within any ten-year period, and must be greater than 10 days apart. <http://www.fema.gov/severe-repetitive-loss-program>

The village intersection experienced high water of the Deerfield River flood in 1938 and again with Tropical Storm Irene in 2011. Other flood events include water covering the deck of the bridge downtown in 1973, also flooding multiple basements along the river in the village. Similar serious flood damage occurred in the flood event of 1976. Basements along the river took in water in 1948, 1983, 1992 and 2000. This is known by the water levels in the basement of the Town Hall, which is at a higher elevation than the buildings along the river.

Assessing Vulnerability: Identifying Structures

Structure	How Many	≈ Value
All Houses in Wilmington (does not include condo's, camps, mobile homes or businesses)	1,946	\$528,279,229
Condo's	183	\$42,223,825
Mobile Homes	72	\$2,363,000
Businesses	144	\$64,835,306
Total # of Structures including Town buildings	2,405	\$642,328,460

	Total Wages	Total Employed	Average Wage
2011	\$27,092,785	941	\$28,779
2000	\$19,488,468	997	\$19,541

Below is a list of the most critical structures in Wilmington:

Locations of facilities within walking distance of intersection of Rt. 9, Rt. 100 and the Deerfield River. These facilities are either on the floodplain or very close and would be difficult or impossible to access when a major flooding event occurs:

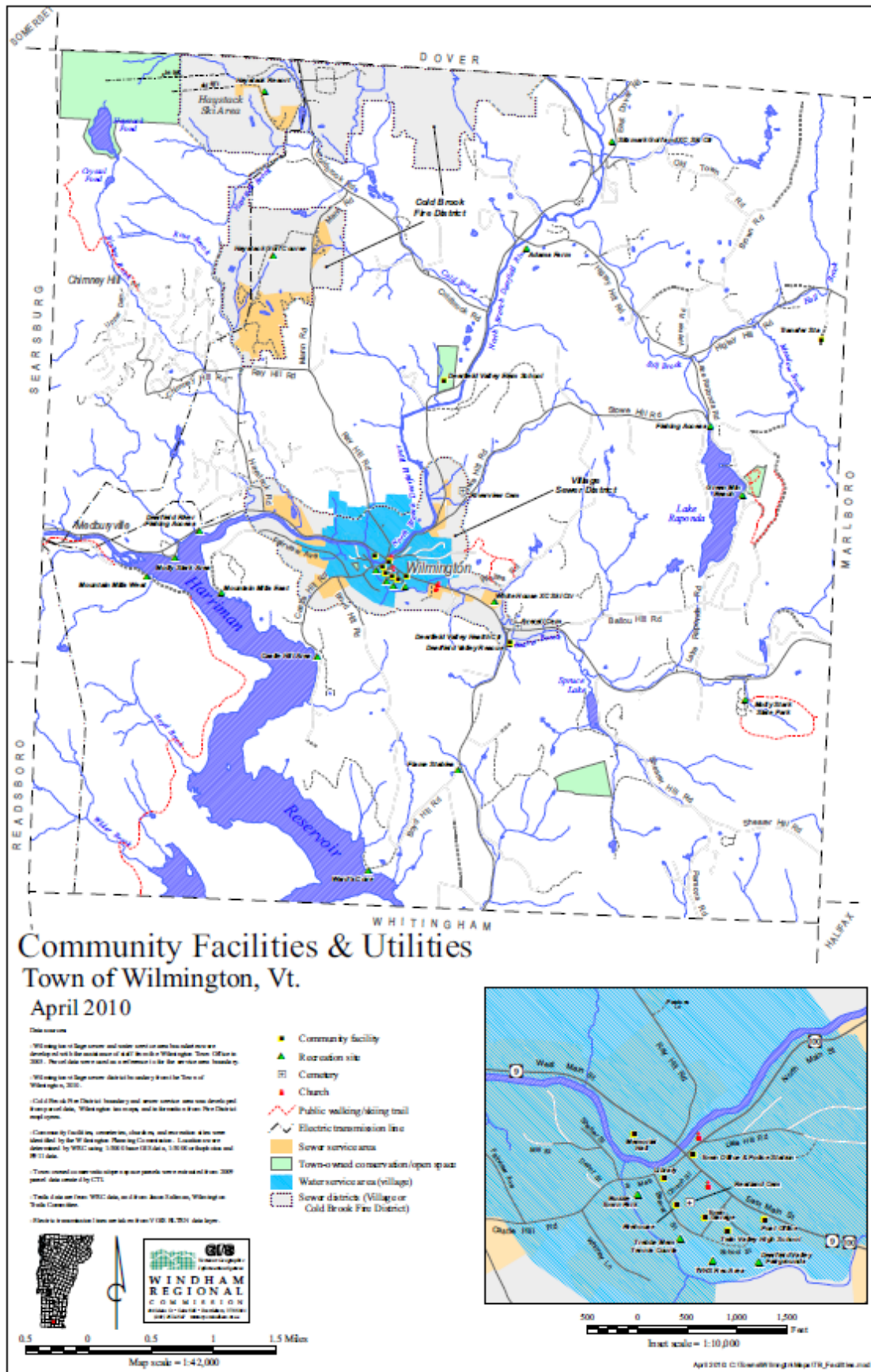
- Town Office/Police Department
- Fire Department
- Schools – Twin Valley High School and Elementary School
- Telephone relay equip. for Fairpoint
- Gasoline Station
- EOC
- Deerfield Valley Energy

- Highway Garage
- #1 Pumping Station

Locations of facilities that are on the edges of the village:

- Town Garage
- Propane Gas Supply Depot
- Rescue Barn
- Water Treatment Plant – above ground storage tanks, spring fed making it under the influence of groundwater
- Health Center
- Power Stations on Rt. 9
- #2 Pumping Station
- Wastewater Treatment Plant
- Coldbrook Fire District – water/sewer

A current map of the community facilities and utilities in Wilmington is on the next page.



Assessing Vulnerability: Analyzing Development Trends

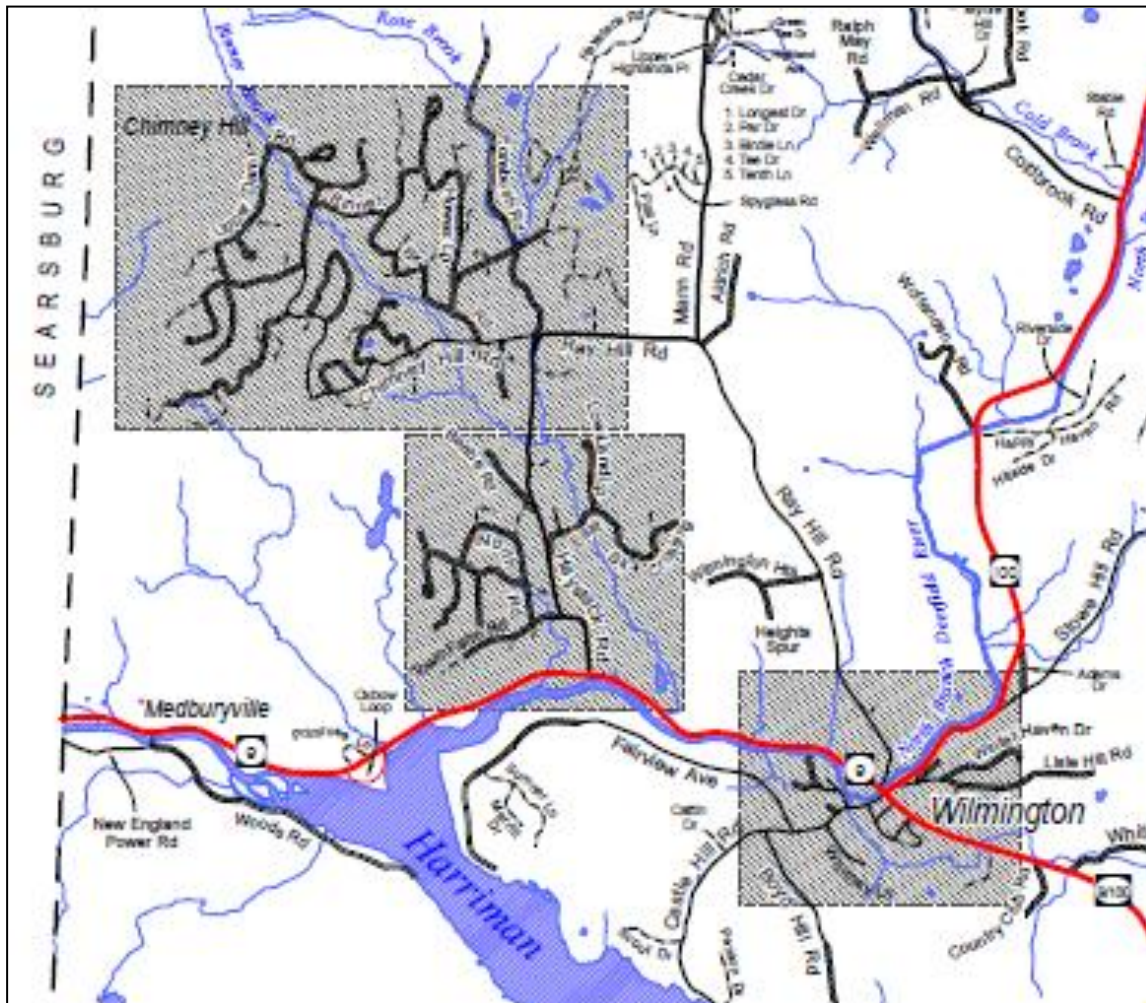
Below are figures taken from census.gov showing the population change in Wilmington from 1990 census to the 2010 census. The growth rate in Wilmington has decreased since 2000 by 15.7%, or 349 individuals.

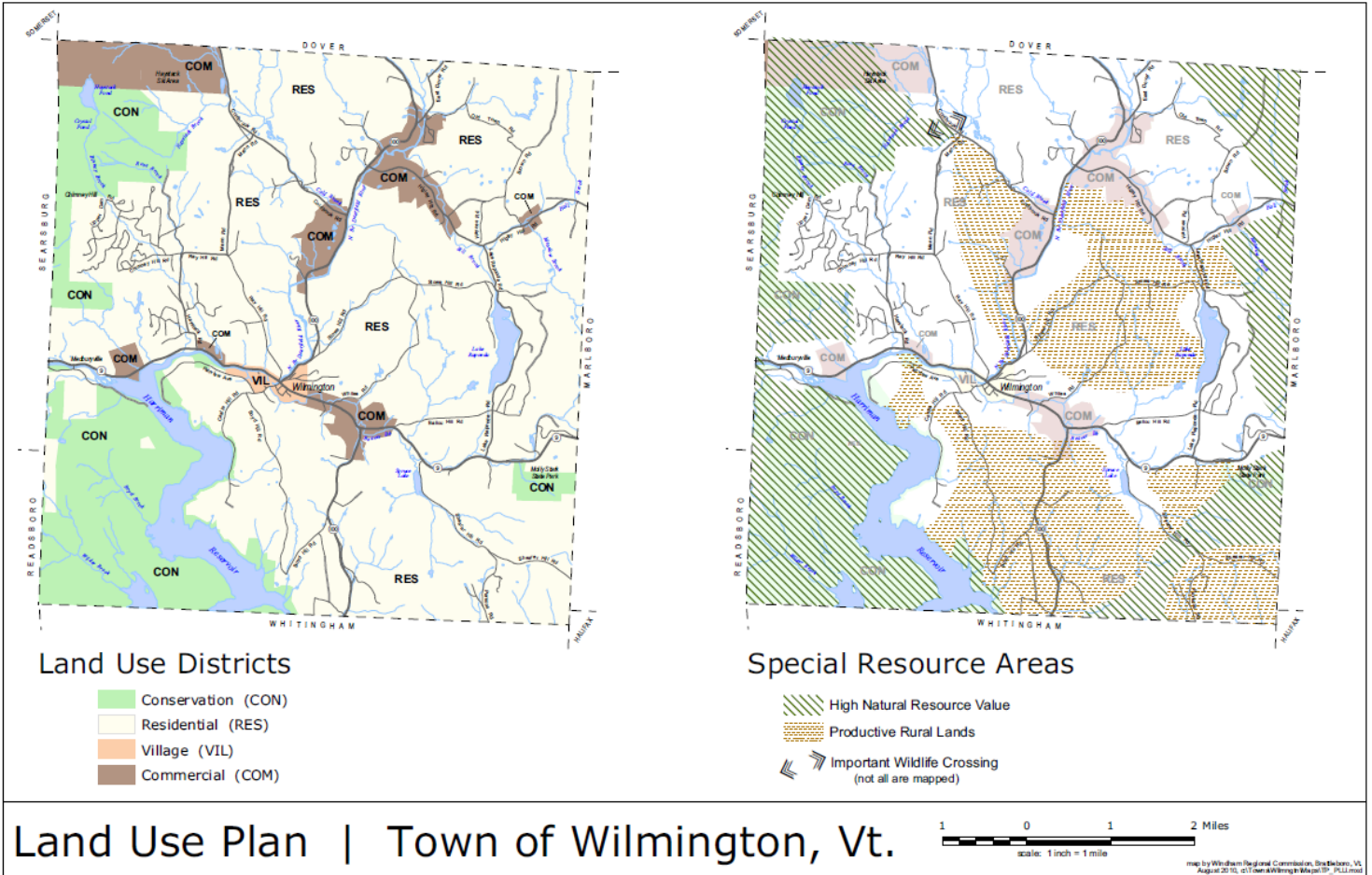
Adjacent to Wilmington to the north is the Town of Dover which has the major Mt. Snow Master Plan in the works. Over the past five years, portions of the 150 multi-unit planned development have been constructed. Two significant planned developments are off both the north and south access roads to Mt. Snow. The bulk of the remaining residential units will be located around the existing base area of Mt. Snow. These proposed developments will increase the impacts to the intersection of Rt. 9 and Rt. 100 along Main Street in Wilmington.

To the northwest of the village of Wilmington is a residential area called Chimney Hill. The area has 150 remaining lots that are buildable.

Haystack Mountain Development – A master plan was permitted in 2005/2006. There are currently new permits again for construction.

Zoning Bylaw – Two draft zoning articles just went through the public hearing process, but have not been voted in yet. The changes mostly have changes in performance standards and district changes.





MITIGATION STRATEGY

Local Hazard Mitigation Goals

The Hazard Mitigation Goals as outlined below were developed by consensus among the emergency management stakeholder group.

Problem Statement:

The Town does not have a good flow of communication between emergency/road departments, who are practiced at responding to hazard events, and the town official/administrative level who are not as familiar with the ICS command structure and system of responding to hazard events. The town does not have a COOP & COG, nor an emergency notification tree. Communication going to and from the State Emergency Management office is unclear at best, which means that the town does not have a proper conduit to State emergency personnel. The Town would like to have a way to inform everyone when a possible hazard event is expected, particularly before a wide spread power outage.

Goal 1:

To make Wilmington more autonomous for at least 96 hours – able to function and respond via local emergency personnel and help from adjacent communities – without need for State aid.

Strategy 1:

Train Town Officials in ICS NIMS – so people will know the proper flow of command.
Designate a Red Cross Emergency Shelter
Continue to have coordination and informational meetings prior to any potential hazard event.

Goal 2:

To move Fire Department and Police Department into new buildings out of the floodplain.

Goal 3:

To move the Town Clerks Office and records out of the floodplain.

Strategy 2 & 3:

Relocate Fire, Police and Town Offices to newly closed down Twin Valley High School, which is a large enough facility for these offices, and out of the floodplain.

General Goals:

- Reduce the loss of life and injury resulting from all hazards.
- Reduce the impact of hazards on the town's water bodies, natural resources, and historic resources.
- Reduce the economic impacts from hazard events.
 - Minimize disruption to the road network and maintain access,
 - Mitigate financial losses incurred by municipal, residential, industrial, agricultural and commercial establishments due to disasters,
 - Ensure that community infrastructure is not significantly damaged by a hazard event.
 - Being proactive in implementing any needed mitigation projects for public infrastructure such as roads, bridges, culverts, municipal buildings, etc.
- Encourage hazard mitigation planning to be incorporated into other community planning projects, such as the Town Plan, Capital Improvement Plan, and Town Basic Emergency Operation Plan
- Ensure that members of the general public continue to be part of the hazard mitigation planning process.

Identification and Analysis of Mitigation Actions

The Wilmington Hazard Mitigation Stakeholder Group identified the following new hazard mitigation activities as strategies mitigating for existing and future buildings and infrastructure.

- 1) Replace 72" culvert with hydraulically correct size #157 on Coldbrook Road. **(upgrade denied by FEMA)**
- 2) Replace 132" culvert with Hydraulically correct size #158 on Coldbrook Road. **(upgrade denied by FEMA)**
- 3) Road and embankment repair and stabilization on Smith Road. **(Recently completed)**
- 4) Bridge failure – complete replacement of bridge on Haynes Road. **(Recently completed)**
- 5) Floodproofing of Town Hall.
- 6) Acquisition of 130 Rt. 100 North.
- 7) Acquisition of 3 Shafter Street
- 8) Relocation of Fire and Police Departments out of the floodplain.
- 9) Relocation of Town Clerks Office and records out of floodplain
- 10) North Star Bowl, North on Rt. 100 – dry floodproofing

Other properties in the Village that the Town realizes need future mitigation because they are in the floodplain:

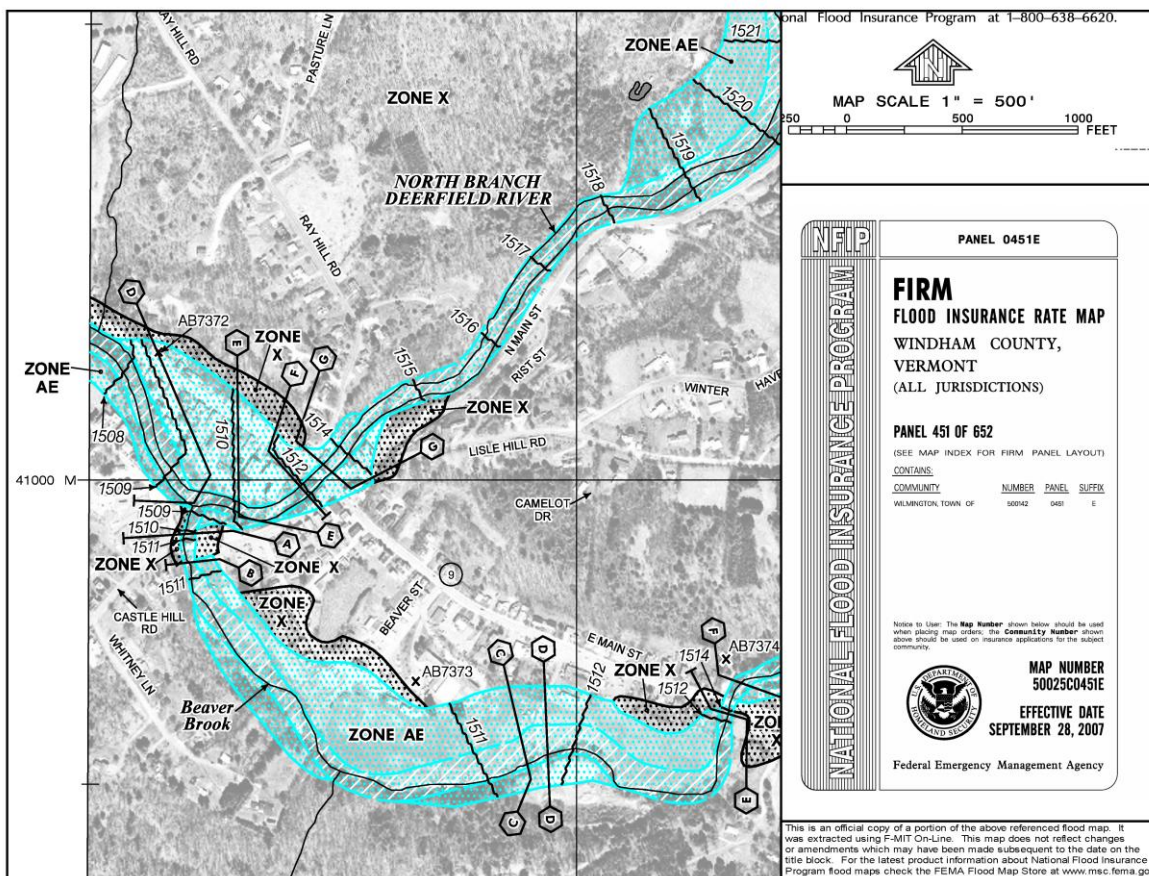
- 1) Dot's Restaurant
- 2) Bartelby's Bookstore
- 3) Red Mill Inn
- 4) Craft's Inn
- 5) Coleman's

The Town is planning to re-examine the areas of the town directly impacted by the floods from Tropical Storm Irene with regards to the zoning bylaw. No new structures are being planned at this time.

Identification and Analysis of Mitigation Actions: National Flood Insurance Program (NFIP) Compliance

NFIP Description: The Town of Wilmington has Flood Hazard Area Regulations as a stand-alone ordinance and currently participates in the National Flood Insurance Program which was updated in 2007. Additionally, Wilmington has no repetitive loss properties per FEMA's definition.

NFIP Action: The Town works with the elected officials, the state and FEMA to correct existing compliance issues and prevent any further NFIP compliance issues through continuous communications, training and education.



Implementation of Mitigation Actions

Mitigation actions are listed in priority order, with the most critical needs listed at the top of the list. The following criteria were used in establishing project priorities. The ranking of these criteria is largely based on the best available information and best judgment as many projects are not fully scoped out at this time.

- Does the action reduce damage?
- Does the action contribute to community objectives?
- Does the action meet existing regulations?
- Does the action protect historic structures or structures critical to town operations?
- Can the action be implemented quickly?
- Is the action socially acceptable?
- Is the action technically feasible?
- Is the action administratively possible?
- Is the action politically acceptable?
- Is the action legal?
- Does the action offer reasonable benefits compared to its cost of implementation?
- Is the action environmentally sound?

The following list of mitigation strategies/action items were discussed at a meeting on June 22, 2010 by the emergency planning committee. An updated list of mitigation strategies came after the Tropical Storm Irene event of August 28, 2011. **In addition, a possible revision of the Town zoning ordinance and Town Plan to deal with the floodplain was identified.**

The Table and Actions (Cost / Benefit) addresses the priorities for the mitigation strategies in the Matrix below. Priorities for the strategies did not change, however progress has been made and completed priorities are indicated.

Table of Actions - Costs

High	= >\$100,000
Medium	= \$25,000 – 100,000
Low	= < \$25,000

Table of Actions – Benefits

High	Public Safety
Medium	Infrastructure/General Maintenance
Low	Aesthetics/Functionality

HAZARD MITIGATED	ACTION	RESPONSIBLE PARTY	TIMEFRAME	FUNDING SOURCE	PROJECT PRIORITY	Cost / Benefit	Status of Project
Flood	Denied by FEMA - Replace 72" culvert with hydraulically correct size #157 on Coldbrook Road	Highway Dept.	12-24	Highway Budget	High	High / High	Awaiting funding
Flood	Denied - Replace 132" culvert with correct hydraulic size #158 on Coldbrook Road	Highway Dept.	12-24	Highway Budget	High	High / High	Awaiting Funding
Flood	Completed - Road and embankment repair and stabilization on Smith Road	Highway Dept.	n/a	FEMA Public Assistance Funding	High	High / High	Complete
Flood	Completed - Bridge failure – complete	Highway Dept.	n/a	FEMA Public Assistance	High	High / High	Complete

	replacement, Haynes Road			Funding			
HAZARD MITIGATED	ACTION	RESPONSIBLE PARTY	TIMEFRAME	FUNDING SOURCE	PROJECT PRIORITY	Cost / Benefit	Status of Project
Flood	Relocation of Town Clerk Office for the safe keeping of the Town Records. Digitization of Town Records	Town Manager	12-36	Town Budget	High	High / Medium	Awaiting Funding
Flood	Beaver Mitigation	Highway Dept.	Annually – as needed	Highway Dept. Budget	Medium	Low / Medium	Ongoing, as needed
Flood	Acquisition Project of 130 Rt. 100 North	Town Manager	Immediate – 2013	HMGP Funding	High	Low / High	Completed
Flood	Buy out/Acquisition of 3 Shafter Street	Town Manager	Immediate – 2013	HMGP Funding	High	Low / High	Completed
Flood	Relocation of Fire and Police Department out of floodplain	Town Manager	0-12	Not sure	High	High / High	Planning study ongoing presently
Flood	Dry Flood Proof North Star Bowl & Pizza	Town Manager	0-12	HMGP Funding	High	Low / Medium	HMGP Application in process
All Hazards	NIMS/ICS Training for Town Officials (Town Mgr. and Selectboard)	Town Manager	2013/2015	Provided by HSU	Medium	Low / Low	Completed
High Winds	Potentially Hazardous Tree Assessment – Remove dead or dangerous tree limbs near power lines	Road Foremen	Continual Basis - Annually	Highway Dept. Funding	Medium	Low / Low	80% Complete
High Winds	Retrofit municipal buildings and infrastructure vulnerable to structural damage from wind or ice	Selectboard	Continual Basis – Annually	Town's building Maintenance Fund	Medium	Low / Low	Ongoing
Winter Storm / Ice Storm	Checking of Culverts for debris removal and ice jams	Road Foreman	Continual Basis - Annually	Highway Dept. Funding	High	Low / Medium	Ongoing
Winter Storm / Ice Storm	Education to citizens to keep emergency kits in cars, at home, etc. Education to location of emergency shelter.	Fire Department	Annually	Fire Dept. Budget	Medium	Low / High	Ongoing
All Hazards	Radio Communications Interoperability for all Town Departments; roads, Emergency Services and Town Officials	Selectboard	2013-2014	HSU funding	High	Medium / High	Completed

At the time of applying for FEMA's PDM-C, FMA or HMGP grant programs, each project listed below will undergo the full benefit-cost analysis methodology (BCA version 4.8 and higher) to maximize savings.

Fluvial Erosion Hazard Zones (FEH)

Fluvial Erosion Mapping has not yet been done for the Town of Wilmington, but Stream Geomorphic Assessments (SGAs) have been done on the North Branch of Deerfield River. In

acknowledgement that existing technical resources and land use guidance or regulatory authorities, such as the National Flood Insurance Program, do not adequately identify high risk areas for development along riparian corridors with respect to fluvial erosion hazards it is therefore deemed a high priority of this Hazard Mitigation Plan to provide the technical support for, and to develop and implement protection mechanisms at the local level that will serve to avoid land use investments that would be, over time, endangered by, incompatible or in conflict with fluvial adjustment and erosion processes. Fluvial assessments shall be conducted as guided by the VT ANR Fluvial Geomorphic Assessment Protocols, in the Town of Wilmington, as VT ANR deems necessary.

No later than one year after completion of the fluvial geomorphic assessment, the town, under contract with the Regional Planning Commission, or other GIS mapping service provider, shall develop a fluvial erosion map. Such map shall be consistent with mapping standards and protocols developed by VT ANR.

The Windham Regional Commission has recently been awarded grant funding for FY 2013-2014 under the Ecosystem Restoration Grant Program to conduct Phase 1 & Stream Geomorphic Assessments on the Winhall River, Wardsboro Brook and the Green River, all within the Windham Region.

PLAN MAINTENANCE PROCESS

Monitoring, Evaluating, and Updating the Plan

The Planning Commission Chair is charged with convening a meeting every other year after Town Meeting Day to review the Single Jurisdiction Hazard Mitigation Plan. During that meeting the Road Foreman will provide updates to the mitigation Table of Actions for completion % and additions. The stakeholder group will assess any development changes that need to be incorporated.

Additionally, all plan review meetings will be publicized and open to the public. Public hearings will be held prior to any significant revisions to the plan. The plan and any proposed revisions will be on the jurisdictions' website with information on how the public can direct questions/comments to the planning team or emergency committee.

Incorporating into Existing Planning Mechanisms

The following policies, programs and activities related to hazard mitigation are currently in place and/or being implemented in the town of Wilmington. The Committee analyzed these programs for their effectiveness and noted improvements needed. Wilmington uses all of the plans listed below to help plan for current and future activities with the town. For example: the Basic Emergency Operation Plan has a contact list that is used for response purposes in the case of a hazard event. The Town Plan guides the goals that include Natural Resources and Land-Use. Road Standards are followed by the town and they do an annual culvert and bridge inventory that is mapped by the WRC. The town is compliant with the NFIP.

The Town of Wilmington feels that the Hazard Mitigation Plan is one of several plans that informs and influences reasonable land use decisions. Wilmington is also engaged in planning mechanisms to spur economic development, create traffic calming in the Village, and capitalizing on their natural resources to plan for the future.

As Wilmington goes through the update process for other plans, the will look to the Hazard Mitigation Plan's Table of Actions and Risk and Vulnerability Assessments to help guide land use district decisions, and guide goals and policies for those districts.

Type of Existing Protection	Description	Effectiveness/Enforcement /Hazard that is addressed	Gaps in Existing Protection/Improvements Needed
Town Plan	Plan for coordinated town-wide planning for land use, municipal facilities, etc.	Flooding Addressed	New Town Plan adopted in 2010
Town Basic Emergency Operation Plan	Municipal procedures for emergency response	Incident Command; Hazard Annexes included	BEOP to be completed in 2013 and adopted by Town Select board
School Emergency Response Protocol	School procedures for emergency response	<i>2013 – Consultant hired to update the School Crisis Plan</i>	School Crisis Planning Team Facilitator currently meeting with schools and First Responders to asses gaps and offer solutions
LEPC 6 Hazardous Materials Plan	Procedures for hazmat emergency response at regional level	LEPC 6 has the plan	Continued involvement with the LEPC
Mutual Aid – Emergency Services	Agreement for regional coordinated emergency services	Keene (NH) Mutual Aid – written agreement/contract for Fire/Ambulance and HazMat – dispatched through Keene Mutual Aid system.	None identified
Mutual Aid – Public Works	Agreement for regional coordinated emergency highway maintenance services	Public Works MAA signed 06/18/03 – <i>Currently being updated.</i>	None identified
Road Standards	Design and construction standards for roads and drainage systems	Generally Vtrans Standards Bridge and Culvert Inventory work	No major gaps identified
Subdivision Regulations	Regulates the division of land, standards for site access and utilities	NA	NA
Sewage Regulations	Regulates on-site sewage systems	State Regulations apply	None Identified
Flood Hazard Area Regulations	Regulates development in FEMA flood hazard areas	Town Zoning Bylaw attachment.	Revised in 2007 to include new FEMA DFIRM's.
Site Plan Review (SPR)	Site development standards	n/a	n/a
National Flood Insurance Program (NFIP)	Provides ability for residents to acquire flood insurance	NFIP member updated September 2007	None Identified

Maintenance Programs	Bridge & Culvert Inventory	Updated in 2012 Completed Annually	None Identified
Building Code	Regulates building construction standards	Through Labor and Industry	NA
Wetland protection – VT Wetland Rules	Protected by 1990 Vermont Wetland Rules	Protection of environment, water resources, wildlife, biota	None Identified
ICS based Plan for annual July 4 th Event	Purpose of plan is to mitigate traffic and safely shuttle people between location of event and their vehicles so as not to block Rt. 9 & Rt. 100 from emergency vehicle access	Traffic / Crowd Control & Safety	Needs minor revisions – Plan can be used for other major town events (parades, etc.) – would be modified and updated after those events occurred.
Wastewater Treatment Plant – Spill Prevention Plan & Emergency Power Failure Plan	See description below	Updated annually	None identified
Zoning Ordinance	Land Use Classifications and Zoning	Updated to Conform to the Town Plan 2010	Adopted January 2014

The Town of Wilmington has a wastewater treatment plant that has two hazard mitigation plans in place. The first is a Spill Prevention Plan that identifies components of the Treatment Facility and collection system that may be prone to failure, which if it did fail, would cause a significant release of untreated or partially treated sewage into waterways.

The Town also has an Emergency Action Electric Power Failure Plan to deal with potential long term power outages. This plan includes the Treatment Plan and each pumping station calculating the amount of storage each location has and how long of a period they can go without power before pumping is needed. There is back up power at the treatment plant and a portable generator that can be taken to each pumping station to provide enough power to pump down to a normal level.

At the Town Meeting every March, policies and action items in the Town Plan are reviewed and integrated into hazard mitigation as needed. The Basic Emergency Operations Plan contact list is updated after Town Meeting each year, including updates to vulnerable geographic locations, as well as locations of vulnerable populations.

APPENDICES

- A. Sign-in Sheets for Emergency Planning Committee Meeting
- B. Public Participation Documentation
- C. Historical Flood Documentation

Appendix A: Sign in sheet from Feb. 26, 2013 -- location Town Offices.

WILMINGTON, VT - LOCAL HAZARD MITIGATION PLAN MEETING February 26, 2013 Location: Wilmington Town Offices SIGN IN SHEET		
Name	Affiliations – Please list all	Town where you live
Gretchen Hawreluk	Small Business Development Center Interim Economic Development Specialist Southeastern VT Dev. Long Term Recovery Committee Wilmington	Jacksonville
Bill Hunt	Wilmington Highway Supervisor	Jacksonville
HARRIET MAYNARD	Historical Society of Wilmington	Wilmington
SUSIE HAUGHOUT	WILM TOWN CLERK/WILM SELECTBOARD COLDBROOK FIRE DIST PRUDENTIAL COMAL DVTA MODER BOARD PRESIDENT	WILMINGTON
Bobby Maynard	Deerfield Valley Rescue Wilmington Fire Department	Wilmington
Keri March	Wilmington Fire Department / Fire Chief Emergency Management Director	Wilmington
Adam Grinold	school Board, Director Chamber of commerce, owner wahoo's bakery, Landlord, BSI-Town chair	

Sign in sheet from June 2, 2011 Meeting – Location Twin Valley High School in
Wilmington, VT

June 2, 2011

Sign in Wilmington Hazard Plan Mtg.

<u>NAME</u>	<u>AFFILIATION</u>
LYNNE MATTHEWS <small>VTGATEWAYPARK@AOL.COM</small>	PLANNING + LISTER
Jim Burke	SELECT BOARD, LEADERSHIP SEED, HEAD COACH
Fred Ventrescu	Town Manager
Ken March	Fire Chief / EMD.
Bill Hunt	Road Highway Supervisor - (side work Lenoire) Excavating
Dennis Richter	Wilmington School Board - Captain Cindy Brown
JOSEPH SZARZYKO	Wilmington Police Chief

Sign in sheet from June 22, 2011 Meeting – Location Town Offices in
Wilmington, VT.

WILMINGTON – PRE-DISASTER HAZARD MITIGATION PLAN
June 22, 2011
Location: Wilmington Town Offices

SIGN IN SHEET

Name	Affiliations – Please list all	Town where you live	Phone	email
Bill Hunt	Wilmington Highway	Jacksonville	802-362-7669 Cell 802-374-5515	
John Lazelle	Wastewater Dept.	Wilmington	404-3062 380-4475	
Ken March	Fire Department	Wilmington	464-8022	
Joe Stoney	Police Dept	Wilmington	404-8583	
Paul Ventresca	Town Mgr.	Wilmington	464-8591	
LYNNE MATTHEWS	PLANNING	"	464 8317	
Jim Burke	SELECT BOARD	Wilmington	780-304-6 464-0790 M VT Cellular 810-519	
Dinah Beck	WRC	Battleboro, VT		

Appendix B. Public Participation Opportunity

Are you ready to weather the next ice storm? Flood event? Extended power outage?



The Town of Wilmington is developing a Hazard Mitigation Plan to address potential future hazards in our community.

As the Town is taking action to be prepared for whatever hazard event strikes, won't you join us in preparations? Your input is important! **We would like to know your feedback.** Let us know if you have suggestions or comments about the plan. Your local knowledge is critical to making the plan effective for Wilmington.

Hazard Mitigation Goals

- Reduce the loss of life and injury resulting from all hazards.
- Reduce the impact of hazards on the town's water bodies, natural resources, and historic resources.
- Reduce the economic impacts from hazard events.
 - Minimize disruption to the road network and maintain access,
 - Mitigate financial losses incurred by municipal, residential, industrial, agricultural and commercial establishments due to disasters,
 - Ensure that community infrastructure is not significantly damaged by a hazard event.
- Ensure that members of the general public continue to be part of the hazard mitigation planning process.



The Plan is available for review at the following locations:

- Town Office & Library – Hard Copy available



Please review sections of the plan that interest you and return comments to:

- Town Clerk, Susan Haughwout wilmclrk@sover.net
- Dinah Reed, Windham Regional Commission @ dreed@windhamregional.org , or (802) 257-4547 ext. 109



The neighboring towns of Dover, Searsburg, Marlboro, Halifax and Whitingham were sent an email by Wilmington's Economic Development Specialist, asking to review the Single Jurisdiction Hazard Mitigation Plan for Wilmington, and to make comment if necessary.

Dinah Reed

From: Gretchen Havreluk [ghavreluk@gmail.com]
Sent: Tuesday, April 09, 2013 3:58 PM
To: rwerner@dps.state.vt.us; josieki2@yahoo.com; Glenn Herrin; townclerk@halifaxvermont.com; whitinghampublicworks@yahoo.com
Cc: Dinah Reed
Subject: Wilmington Hazard Mitigation Plan
Attachments: 3-26-2013 WilmingtonVT_HazMitPlan_SingleJuris (1).pdf

I have attached our Hazard Mitigation Plan for the Town of Wilmington. Statue states that we are to send this to our surrounding towns. Please feel free to contact me at the town offices at 464-8591 ext 117 or the below numbers if you have questions.

Thank you and Happy Spring to you all!

Best Regards,
Gretchen
Economic Development Specialist
Town of Wilmington

--
Gretchen M. Havreluk
P.O. Box 364
Jacksonville, VT 05342
(802)368-7059 Home
(802)779-2905 Cell

Town of Wilmington, Vermont

Nestled in the heart of the Greenfield Valley in Southern Vermont

Home

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[Contact Info and Rates](#)
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[Photo Gallery](#)
[EMPLOYMENT](#)
[Links](#)

Welcome to the Town of Wilmington's Official Website!



Memory Bricks in River Bank Park - click to enlarge

Welcome Page LINK

Scroll down to bottom center and both sides of page so you don't miss anything!

[More Photos](#)

[More Power Photos](#) - Find YOUR brick!

[LINK to Proposed Joint Agreement - Wilmington and Whitingham](#)

WARNING WILMINGTON TOWN SCHOOL DISTRICT 12 JULY 2011

The legal voters of the Wilmington Town School District are hereby notified and warned to meet at the High School Gymnasium in said Town of Wilmington, Vermont on Tuesday, July 12, 2011 between 10:00 a.m. (at which time the polls open) and 7:00 p.m. (at which time the polls close) to act upon the following articles by Australian Ballot.

ARTICLE I

Shall the Wilmington Town School District approve the proposed amendment to the Joint School Agreement between the Whitingham Town School District and the Wilmington Town School District, as approved by the Boards of School Directors of the Whitingham Town School District and the Wilmington Town School District on June 8, 2011 and June 8, 2011, respectively? (Australian Ballot Polls open at 10:00 a.m. and close at 7:00 p.m.)

[Public Meeting Version](#)

[Sign up for our weekly E-Newsletter](#)

The Town is in the process of drafting its Pre-Disaster Hazard Mitigation Plan and strongly encourages public comment/input. [LINK](#)

Green Mountain's Beach OPEN for Swimming water test results

Summer Recreation Programs for Elementary and Middle School Children [LINK](#)

Available Jobs

Summer Recreation Part-Time Lifeguard and Counselors-in-Training

[School Facilities Info Site & FACEBOOK "Wilmington/Whitingham School Options"](#)

Sign Ordinances adopted 5/18/11 will become effective 7/28/11 unless petitioned by 7/1/11 Info

[GARAGE Page with Site Plan & Garage Plans](#)

[2011 Grievance Results posted](#)

[2011 Preliminary Grand List now posted GRAND LIST LINK and TAX MAPS LINK](#)

Appendix C: Historical Flood Events / documentation

August 28, 2011 Flood – Village Center

Town Offices &
Police Dept. / Town
Clerk Records at
lowest level



1987 Flood

VOLUME 74 NO. 21 USPS 063-400 1987 WEDNESDAY, APRIL 1, 1987 BRATTLEBORO, VERMONT 26 PAGES 30 CENTS

Flooding rains down on valley

Homes evacuated as rivers rise

By CHRISTOPHER ROWLAND

Heavy rains Tuesday caused the Whitehall Brook to swell up and spill over its banks in several West Brattleboro locations, forcing the evacuation of several trailers at the Mountain Home Park and sending sand-bag crews to the area.

The National Weather Service in Connecticut reported that the Connecticut River in southern Vermont was observed at 35.7 feet Tuesday night with the flood stage at 35 feet. The spokesman said the river is expected to crest at 35 feet this afternoon.

Power outages were reported throughout Windham County and in New Hampshire as strong winds combined with the rains. About 3,000 customers lost power in New Hampshire's Cheshire County, officials said.

Brattleboro fire crews sandwiched at Matruce Terrace off Western Avenue in an attempt to block rushing waters from occupying the West Brattleboro development.

Along the western end of Marlboro Road, the water swept across fields and into the street.

Fields behind the Fitness Barn, the Country Kitchen restaurant and the Brattleboro West shopping center were flooded. Across the brook, water flowed past and under several mobile homes at the Mountain Home Park.

The farmers' market near the Greenway Bridge on Western Avenue was under water.

Brooks and streams were running full all over Windham County and much of the state. A flood warning issued by the National Weather Service remained in effect until 8 p.m. and a Connecticut River flood alert was in effect until this morning.

At one point, the water in Whitehall Brook was crashing into the Meadowbrook Road bridge. However, the waters began to subside at about 5 p.m. and the integrity of the bridge was not threatened, officials said.

"We'll be with it just as long as we have to," Brattleboro Fire Chief T. Howard Mattison said of the efforts to battle the floodwaters. The worst of the flooding had subsided by early Tuesday evening, Mattison said.

Fire crews were standing by in case the brook resumed its rise, Mattison said.

"If we get more heavy rain, we'll be back out again," Mattison said.

The rain combined with strong winds caused numerous power outages throughout the county and in Hildale, N.H., electric company officials reported.

"There's some pretty big water problems over here," said Richard Lamberts of the New Hampshire Public Service Co.

Power was knocked out from Hildale to the Connecticut River, Lamberts said, affecting at least 1,000 customers alone.

David Miller of Central Vermont Public Service said power was out at times in West Dummerston, Guilford, Warrenton and along Acres Hill Road in Brattleboro.

High winds that blew over water-laden branches caused the outages, Miller said.

Green Mountain Power spokesman David Christoff said electricity out in Rockingham, Westminster West and Dummerston Center. Power was off in parts of Putney early Tuesday morning.

"It doesn't sound too good right now, listening to the seamer," Christoff said. "If it keeps raining and howling like it has been, we're going to be in for a night."

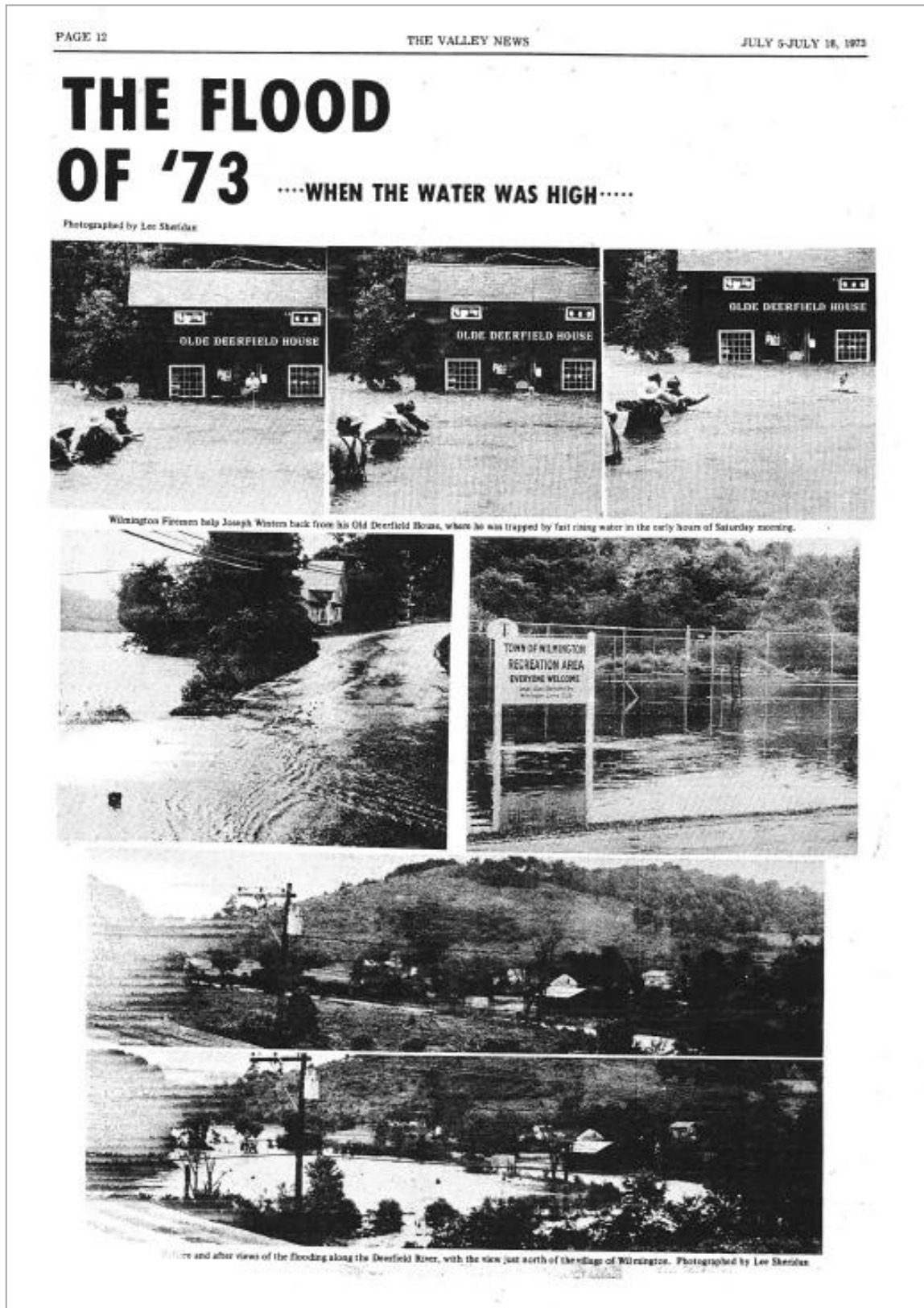
Officials said the mobile homes at

See FLOODS, Page B1

HIGH WATER — Sections of Wilmington were under water like much of the county Tuesday. Above, the south side of Route 9 along the Deerfield River was evacuated by late afternoon. During the day and into the evening, the town's police and highway departments were out continuously responding to related complaints and taking protective action.

Kathy McManus

1973 Flood



1948 Flood

CELLARS FLOODED AT WILMINGTON Dec. 11, 1948 Several Families Leave Homes at Height of Threat

WILMINGTON—Cellars were flooded here today and several families left their homes as the Deerfield River and Beaver Brook overflowed last night. Lights and water systems remained in working order at noon today, but it was still raining a steady downpour.

Although they were not forced to vacate two families left their homes as the flood waters rose. Flood peak was reached at about midnight last night and today the waters were receding.

Basements of the Vermont Savings Bank, the post office, the Grand Union grocery store, and Parmelee and Howe's drugstore were flooded by the Deerfield River during the night. The Dairy Bar's basement was also flooded.

Mrs. Margaret Hall reported this morning that there was 36 inches of water in her cellar from the overflow of Beaver Brook. The cellar of Mrs. Lucy Anne Whittemore's house, where many canned goods were stored and a deep freeze was located, was also flooded.

The Deerfield River had also done its damage to the Dover Road and at noon the only link to the outside world was over Route 9 to Brattleboro. Travel to Bennington was blocked and the Jacksonville road was flooded.

The two families who feared that their homes would be inundated moved to the home of Leo Barry last night. They were the Eric Stenson and William Hurley families.

While Mrs. Allan Granger gave birth to a child at Memorial Hospital in Brattleboro this morning the cellar of her home here was flooded by Beaver Brook. No danger accompanied Mrs. Granger's trip to the hospital, however, since she was taken here early Thursday evening, before the height of the flood.

1938 Flood

Friday, September 20, 1938

Wilmington Suffers From Wind and Flood

Water Seven Feet Deep in Village Square; Six Bridges Gone; Roads Guttered and Badly Washed; Sheds, Barns and Houses Wrecked; Damage Estimated at \$250,000 Outside of Damage to Molly Stark Trail

A four days' downpour of rain, with rivers bank high, terminated last week Wednesday night with a hurricane and regular cloudburst raising the water in the streams here to a higher level than any previous flood on record.

The downpour began about 4:30 o'clock and continued to fall in torrents until about 7:30.

Beaver Brook, always one of the first to overflow rose several feet higher than in the 1927 flood. The cement bridge on East Main street collapsed and shortly after the other cement bridge over Beaver street at the foot of Castle Hill went out, taking the water main with it. A report came in that a bridge on West Main street near Fred Thomas' was out and four cabins nearby had been washed away, overturned, or wrecked.

Water overflowed the large concrete bridge in the center of the village and rose to the depth of seven feet in the square, flooding all the stores, postoffice, bank and dwellings. The water subsided as rapidly as it rose and when it went down it was found the abutment on the west end of the village had been taken out and the bridge had caved in, breaking the water main which supplies the entire village east of the bridge with water.

The electric current went off shortly after 4 o'clock and telephone service was crippled by falling trees and broken cables.

Nearly all the houses along Beaver street had to be vacated and on West Main street as far as the Frank Watkins house. Much of the furniture was ruined and everything was covered with silt and mud.

Child's Tavern suffered greatly the water taking out a large part of the foundation on the riverside, wrecked the boilers and tore down two chimneys. The water rose until it ran across the piazza. The lawns and flower gardens which represented the work of years, were washed away and badly rutted. Child's Tavern garage was flooded, the gas pumps broken down and nearly all the supplies washed away. The foundation was taken from under the Green Shutters and frigidities ruined. The house in the rear of the Green Shutters, owned by Rufus Horison and family, was undermined and tipped towards the river, remaining with a decided slant, wedged between two buildings.

The foundation was washed out from under about half of Reed Brothers' store on South Main street; also the house owned by Mrs. M. H. Lyman had nearly half the foundation taken out and two rooms on the back were taken off and deposited in the river. Several sheds and barns along Beaver and West Main streets were washed down stream.

Rufus Garage lost supplies, was badly undermined, gas pumps torn down and the entire cement driveway in front of the garage was torn up, leaving a yawning gap between the street and garage.

The grandstand at baseball park collapsed and was piled up near the Elbie Pike house. Haynes Memorial hall was taken off its foundation, floated back a few yards and left in an upright position without even disturbing the exhibits which had been placed there in readiness for Farmers' Day.

Everything was floating around and overturned in the stores, plate glass windows were broken. The large frigidities in Floyd Davis' store was overturned.

The wooden bridge near Walter Adams' on the Raponda road went out, also the Cutting bridge, debris from both piling up against the Crafts bridge on the Dover road which sliced the strain, but the roadway on the upstream side was gullied out 15 feet deep and 30 feet wide. The entire road bed was washed out from the Cold Brook bridge to Burton Crafts with deep holes either side of the Cold Brook bridge. A cow belonging to Harry Cutting was taken down stream and Leroy Cross had four pigs washed out of their pen. A. D. Howe's boxes were released when water took down sections of the pens, but he has succeeded in recapturing most of them. Water stood about four inches deep in the homes of A. D. and Ernest Howe. Fred Clark's family began coming to the house and walked over the hill to David Boyd's. Leroy Cross' family were cut off from their home and went to Doris Fitch's, walking back home Thursday after the water went down. A gas shovel, bulldozer, two trucks and a crew of men made good progress on the Dover road, opening it to traffic Monday.

A large number of maple trees at Merrill Greene's were blown down. A barn at Fred Aldrich's destroyed and part of the barn roof at Herbert Boyd's taken off, with numerous trees down about town but the wind damage was comparatively small.

Crews of men were working on the different projects early Thursday morning.

The water commissioners deserve much credit for the manner in which they handled the water problem. There was no chance of repairing the water main with the cement bridge lying on top of it. The broken end of the main was plugged and fire hose was used to lead the water in the branch mains connecting them with the hydrants. By nightfall nearly every family in the village was again connected with a water supply.

Much credit is also due Merion Rice, local manager of the Green Mountain Power company, who has worked night and day in an effort to restore light and power to the community. Lights were turned on Thursday night, 24 hours after they went out of commission, and the street lights were again in operation Tuesday night. No linemen could be sent to assist Mr. Rice due to worse conditions along the power lines in other sections.

No one can estimate right now the extensive road damage between here and Woodford on the storm-torn highway. To even the casual observer, who has viewed the damage to the Bennington-Woodford highway, it can be readily seen that an indefinite time will have to elapse before the road will be again usable for through traffic.

The raging torrent, loose from its channel and ripped the roadbed for yards in several places, the worst probably being by the Dewey camp, above Danville bridge and near the entrance to the Long Trail. The muddy waters sent boulders smashing into its banks, undermining and weakening many feet of highway and sweeping before it many trees.

At the Dewey camp the stream left its course and ripped to bits the barn on the west side of the house. Where once that building stood is a mass of uprooted trees, hundreds of rocks and other debris. Parts of the red barn can be seen strewn along farther down the stream which follows what was the main highway for at least one street block. Wooden planks have been placed across the waters to effect a crossing for those residents of Woodford coming down to Bennington and vice versa.

As in 1936 the gas station above the Long Trail entrance was almost completely demolished after the stream turned its course across the highway. Pictures hanging from the wall and swinging by a thin wire were evidence of what small part remained of what was once a little home.

The Woodford Hollow church, a community project which has been one of the main interests of that section is minus much of its foundation and work to salvage as much of the twisted ell as possible has begun. While engaged in the drawing away of some of the large boulders which cover the area, a horse fell in the stream Saturday afternoon striking a rock and breaking its leg. The animal had to be shot.

Many camp owners and summer residents in Woodford and vicinity, the Long Trail, etc., fastened knapsacks on their backs and traveled up and down the mountain to see what damage had resulted. Up above the Danville bridge, the going was treacherous where the stream had left its natural course and torn across the highway for considerable distance.

BLOCKED BY TREES

Superintendent E. K. Book and Norman Wight, who attended an educational meeting in St. Johnsbury last Wednesday, left for home that night encountering little difficulty until they reached White River Junction. Leaving for Windsor, they had proceeded but a short distance when they found a tree across the road and turned back only to find another tree had fallen behind them. They managed to get back to White River Junction where they spent the night.

Thursday morning they again started for Windsor finding many fallen trees which they went around by taking side roads or driving on lawns or fields. When they reached Windsor they found Richard Waters with Miss Catherine Winch and Elmore Nido, returning from Montpelier where Miss Winch took the hair dressers' examinations. The two cars drove homeward together, Mr. Book leading the way through side roads to avoid fallen trees.

At Bellows Falls it was necessary to go through Gageville and Kuch Hattin Homes. They finally arrived in Brattleboro where Miss Winch, Miss Nido and Mr. Book remained over night on being told it would be necessary to walk seven miles to reach Wilmington. Mr. Wright and Mr. Waters reached home that night, and the rest of the party came Friday morning.

1927 Flood

1977 on 1927 Flood

Woro Return
Windsor County, Vermont and Southwestern New Hampshire
WINDSOR, VERMONT, SATURDAY, NOVEMBER 5, 1927 16 PAGES - PLUS 6-PAGE INSERT & 12-PAGE TABLOID IN CENTS

50 Years Ago This Week

The Flood of 1927 Overwhelmed Vermont

By KIMBERLY PAGE

This week in the 50th anniversary of the worst of any winter disaster, the great flood of Nov. 2, 3 and 4, 1927.

It was an era when a conservative Vermont, where (and only in the White House, the stock market, football, and the newspapers were filled with the headlines of the Great Flood of 1927 and their friends in government.

In Burlington, the Red Cross was filled with the news of the burning of the Great Congregational Church on Oct. 27. It also carried the long-suffering, suffering Florence Macbeth, "widow star of great spirit," possessing LUCKY 50000 cigarettes. One automobile was destroyed for sale at about \$100, and another

from Jersey plates were a few days from page 10.

"The Big Flood," including "but recently, saving, talking, saving and great thinking," were filled at the Auditorium in the old Town Hall at North Street. Probably, the feature film that week was "The Wrath of the Gods."

The Larkins Theater also offered "The Wrath of the Gods" and "The Wrath of the Gods."

In Island Park, a football game was scheduled for Saturday, Nov. 4, between Burlington High School and Island High School.

The game was never played.

The flood of 1927 reduced Island Park's sports to zero. Its residents are still visible in the Connecticut River at the corner end of the bridge in Montpelier, N.H.

In 1927, the Island had several buildings, including the Casino, where there was dancing... but no dancing or gambling in that time of prohibition.

Finding Nature

On Wednesday, Nov. 2, the Red Cross reported that the weather was a remarkable 71 degrees. The warmest November day in 10 years.

"Nature never smiled more kindly on good old Vermont than she did during the autumn of 1927," according to a contemporary local paper, "The Flood—A Gathering of Storms and Floods. When Tell Their Story Graphically of the Great November Flood in Vermont," by Luther S. Johnson of White River.

Johnson wrote that the spring and summer of 1927 were filled with rain and snow. The fall was brilliant and unusually warm, again with more than enough rain. In October, the average rainfall was 2.14 inches, which was normal for that month in 1-10 inches, according to Johnson's account.

"As November arrived, the earth and plains, the soil everywhere held abundant moisture and the streams were more than normally high," Johnson wrote.

More Flooding

The weather problem in the Nov. 2 flood of the Red Cross started a chain of events of a "typical" storm over Niagara and the Canadian that would "have" followed with increasing intensity.

It started like a snowstorm, but it brought rain, and more.

During that evening of Nov. 2, a heavy but steady rain began to fall, according to Johnson's account. The flood ran over the top of the river in the morning of Nov. 3.

"Two or three hours the rain fell without stopping or giving sign that it was about over. Then, once, and into the afternoon,

down came the heavy fall," Johnson wrote.

The rainfall was measured at an astonishing 5.56 inches in some northern areas of Vermont, and as 4.58 inches in Burlington over a 48-hour period.

Then the steady rain began, driving and heavy began to fall over Burlington. The night of Nov. 3 was full of rain and steady rain for Vermonters. Other New England states

refused damage, but now as cruelly as Vermont, according to all accounts. The central portion of the state was the worst hit, where entire villages were located by wrecked bridges, washed out roads, and uprooted houses.

The reporting was chaotic, for most telephone lines were down, and radio communication, Army troops were sent on horseback to assess damage to remote places.

Isolated deaths were helplessly reported as the flood-ridden state in Vermont was reported to have "lost" or about during the flood. "Miss Lucy" had dropped dead of fright in Island. "Marble worker" was in his death. "Baby" was in danger. "Baby" was in danger.

Mr. Geo. E. Ballou of Burlington

See FLOOD, Part




ROAD TO ISLAND PARK — The floodwaters of early November 1927 poured over the road to Island Park and washed most of it away.

Dinah Reed

From: Wilmington Town Clerk [wilmclrk@sover.net]
Sent: Thursday, February 28, 2013 5:14 PM
To: Dinah Reed
Cc: Gretchen Havreluk
Subject: RE: information on flood events and density

Hi Dinah – right after I sent you the density information, the planning commission decided to take another look at COMMERCIAL/RESIDENTIAL. So this information is in the present draft but could change before it's all said and done. Probably not a big deal, but thought I'd mention it. Susie

From: Wilmington Town Clerk [mailto:wilmclrk@sover.net]
Sent: Tuesday, February 26, 2013 4:52 PM
To: Dinah Reed (dreed@windhamregional.org)
Subject: information on flood events and density

Hi Dinah – the information below is from the draft Article II of the Zoning re-write presently being worked on:

The proposed minimum lot size and density limits in draft Article II are:

CONSERVATION DISTRICT-25 acres/max of 1 camp or 1 dwelling, one family per 25 acres

Village inside HISTORIC REVIEW DISTRICT -1/8 acre/unlimited density

Village outside HISTORIC REVIEW DISTRICT -1 acre//max of 2 dwelling units per acre + zoning incentive 6b. Affordable Housing may be allowed an increase in density at a rate of an additional 2 dwelling units per 1/2 acre. RES-1 acre/max of 1 dwelling unit + an Accessory apt or 1 Dwelling, 2 family duplex per acre

COMMERCIAL/RESIDENTIAL -5 acre(commercial uses), 1 acre(residential uses)/max of 25% Lot Coverage

Here is the list of events that we submitted in our HMPG for the Town Hall (Note the levels are for Town Hall which is on the high side of the middle of town. Water in buildings along the river and on Beaver Street & even the south side of West Main would be more significantly impacted, as well as buildings along the Beaver Brook on East Main:

Floods and Estimated Water Levels in the Town Hall

Dec 31, 1938: over 11 ft water in town hall filling the basement and damaging the Town Clerk's office and records

Harriet's information indicates flooding events in Feb 1841, Oct 1869, Unknown month in 1901. Also in Nov 1927 with numerous bridges destroyed.

Dec 1948: Harriet's info indicates 3' of water in homes on Beaver Street south of the light, also near fire station

Feb 3, 1973: over 3 feet of water in town hall basement due to ice jam

June 29, 1973: unknown – fire dept records lost 8/28/11 Harriet's info confirms this date and photos show the water covering the deck of the bridge downtown. Not as devastating as Irene, but lots of damage to basements of buildings downtown, culverts & bridges

February 25, 1975: over 20" of water in town hall basement due to ice jam

August 5 (perhaps 10th), 1976: 7 ft water in town hall basement

Harriet's info indicates and flooding event March 11, 1977 – no fire dept records due to loss in 8/28/11

Nov 1977: unknown – fire dept records lost 8/28/11

1983: over 20" of water in town hall

1987: unknown – fire dept records lost 8/28/11

1990: unknown – fire dept records lost 8/28/11

March 11, 1992: 12" +/- in town hall

January 27, 1992: unknown – fire dept records lost 8/28/11

July 2000: 14" of water in basement of town hall and elevator shaft due to heavy rains

Mar 11, 2011: 24" + in town hall basement due to ice jam (insurance claim made)

Aug 28, 2011: over 3 ½ feet of water in first floor of Police Dept/Town Clerk's office of Town Hall and over 5' of water in Fire Dept, over 10' of water in Memorial Hall

Susie Haughwout

Wilmington Town Clerk

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Please note that this email message, along with any response or reply, is considered public record, and thus, subject to disclosure under the Vermont Public Records Law (1 V.S.A. § 315-320). Thank You.