

# Natural Hazard Mitigation Plan

for the  
*Central Connecticut Region*



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## **Purpose**

The purpose of the Central Connecticut Region’s Natural Hazard Mitigation Plan (“the Plan”) is to assess hazard risks at the regional and local levels, review existing mitigation strategies, and recommend additional strategies that can help to reduce economic disruption, loss of life, and destruction of property resulting from natural disasters.

Natural disasters can and do inflict damage on the same locations year after year, requiring repeated reconstruction efforts that become more expensive as the years go by. Hazard mitigation breaks this expensive cycle of recurrent damage and escalating reconstruction costs by preventing damage up front and taking a long-term view of rebuilding and recovery following natural disasters. This requires long-term strategies including planning, policy-making, programs, projects, and other activities.

The plan will take into consideration the following natural disasters: floods, dam failure, winter storms (ice and snow), hurricanes and tornadoes, drought, wildfires, and earthquakes. Each of these risks will be evaluated for likelihood of occurrence and potential for loss of life and property.

Municipalities in the region currently have a variety of formal and informal hazard mitigation strategies in place. The Plan identifies and assesses these existing strategies, and proposes new strategies that address identified gaps in current mitigation efforts. Lastly, the Plan prioritizes the mitigation strategies and proposes an overall implementation strategy.

## **Authority and Funding**

This Natural Hazard Mitigation Plan is authorized under the provisions of Section 22a-6 (a) (2) of the General Statutes of Connecticut, and complies fully with all regulations and requirements of the National Flood Insurance Program – 44 CFR Subchapter B (NFIP) and the Pre-Disaster Mitigation Program, Disaster Mitigation Act of 2000 (42 U.S.C. 5133 et seq). Funding for this Plan was provided by the Federal Emergency Management Agency (as administered by the Connecticut Department of Environmental Protection) per P.L. 106-390, Section 102, with the required match from the Central Connecticut Regional Planning Agency.

## Regional Overview

The Central Connecticut Region is small, but richly varied. One of 15 planning regions in Connecticut, it consists of seven municipalities that span two counties (Hartford and Litchfield): the cities of New Britain and Bristol, and the towns of Berlin, Burlington, Plainville, Plymouth, and Southington. These seven towns are urban, suburban, and rural; hilly and flat; young and old; dense and sparsely populated. They have differing levels of wealth, educational attainment, and diversity; different accessibility via highways, rail lines, and bus routes; and different characters. But they share many common goals, including a strong commitment to protecting their populations from the ravages of natural hazards.

## Geography & Transportation



The region is located, appropriately, near the center of Connecticut, at the southwestern corner of Hartford County (and the southeastern corner of Litchfield County). It is west of the

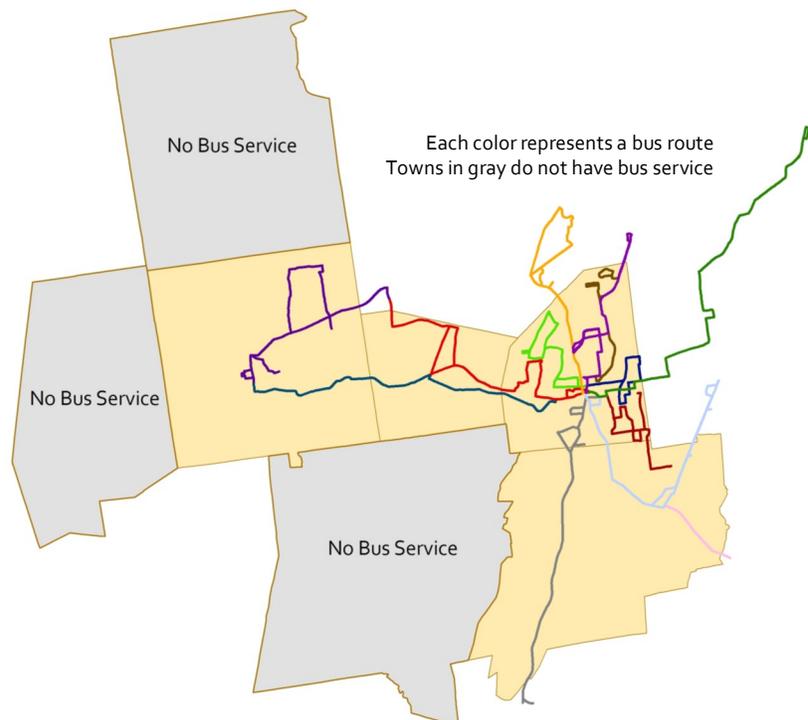
Connecticut River and roughly 13 miles southwest of Hartford, 107 miles from Boston, 88 miles from New York City, and 77 miles from Providence, Rhode Island.

The region acts as something of a crossroads between three of the state's three urban centers: Hartford, to the northeast, bordered by the city of New Britain; Waterbury, to the southwest, bordered by Plymouth; and New Haven, far to the south but accessible via Rte 5/15, a major road in Berlin. Interstate 84, which serves ¾ of the state and connects Interstate 90 (the Massachusetts Turnpike) and northern New England with major highways in New York, New Jersey, and Pennsylvania, passes through New Britain, Plainville, and Southington. In Hartford, I-84 connects to the state's north-south interstate, I-91, which provides a connection to New Haven and I-95. Route 9 is another major freeway which passes through Berlin and New Britain and provides a connection to I-91 that bypasses Hartford. Burlington, Bristol, and Plainville access these freeways via Route 72, a small freeway connector that joins I-84 in Plainville and terminates near the Bristol border. Route 72 is currently being extended to the center of Bristol. To the west of the region, Route 8 provides a north-south connection to Waterbury.

Residents of the region spend, on average, 46 minutes per day commuting to and from work on these freeways, as the majority of the region is not well served by public transit. According to the 2000 Census, of the 110,309 residents of the region who worked outside their homes, 86% drove to work alone, 9% carpooled, and 1% (1,373 people) took the bus. Other modes of transportation included walking – twice as many people walked as rode the bus – bicycling, and taking the train.

The region's public transit consists primarily of bus service. (Berlin has Amtrak service which connects to

### Public Transit in Central Connecticut



Hartford, northern New England, New Haven, and New York via the Northeast Regional and Vermonter routes.) Busses do not serve all the towns in the region, and transfers between routes are notoriously difficult. Due to low demand, service hours are limited and wait times between busses can be long, making the bus an often inconvenient and difficult option even for those without cars.

Across the region, 3% of owner-occupied households and 18% of renter-occupied households did not have access to a vehicle in 2000 (U.S. Census Bureau; SF3 H44). While the carless are largely concentrated in New Britain and Bristol, cities that do have bus service, 1% of owner-occupied units without access to cars and 7% of carless renter-occupied units are located in the three towns without any transit service whatsoever. These individuals may find it difficult to evacuate or access designated shelters in the event of a natural hazard.

**Vehicle Access**

	<b>Percent of Housing Units that Lack Vehicle Access</b>	<b>Percent of Housing Units Without Vehicle Access that are Renter-Occupied</b>
<b>Burlington</b>	1%	0%
<b>Berlin</b>	3%	46%
<b>Plymouth</b>	4%	72%
<b>Southington</b>	4%	50%
<b>Plainville</b>	6%	56%
<b>Bristol</b>	7%	77%
<b>State</b>	10%	11%
<b>New Britain</b>	16%	81%

Source: Census 2000, Summary File 3, Table H44.

The Central Connecticut Regional Planning Agency, as the MPO for the region, provides ADA-compliant paratransit service that parallels the available mass transit in the region. Accordingly, the service is available in those towns that have regular bus service: Berlin, Bristol, New Britain, and Plainville. Evacuation assistance for special needs populations in the seven municipalities is handled differently from town to town, and it is unlikely that paratransit service users would require bus service in the event of an evacuation.

**Demography**

At 1,363 persons per square mile, the Central Connecticut region is roughly twice as densely populated as the State, although this density varies greatly across the seven towns. At one extreme is the city of New Britain, where 71,538 people live in only 13.4 square miles, at a density of 5,339 persons per square mile (nearly twice that of Bristol, the second-most-dense area). At the other end of the spectrum, rural Burlington has nearly three times New Britain’s land area but less than an eighth of its population, with only 269 persons per square mile. Three of the towns have densities higher than

the region's average, while five have densities higher than the state's.

According to the Connecticut Department of Transportation's population projections, the Central Connecticut region is expected to grow at a moderate pace

(approximately 4.4%) over the next twenty years. Projections for individual towns vary; Berlin and New Britain's populations are expected to increase the most (by 15% and 9.7%, respectively), while Bristol and Plainville are projected to lose population.

### Population Density in Central Connecticut

	Total Population	Area (Square Miles)	Population Density
New Britain	71,538	13.4	5,339
Bristol	60,062	26.8	2,241
Plainville	17,328	9.8	1,768
<b>Central CT Region</b>	<b>226,695</b>	<b>166.3</b>	<b>1,363</b>
Southington	39,728	36.6	1,086
Berlin	18,215	27	675
<b>State</b>	<b>3,405,565</b>	<b>5,092.90</b>	<b>669</b>
Plymouth	11,634	22.3	522
Burlington	8,190	30.4	269

Source: United States Census Bureau, 2000 Census of Population and Housing, Summary File 1.

### Projected Population Change in the Region, 2000 - 2030

	2000	2010	2020	2030	Percent Change 2010-2030
<b>Berlin</b>	18,113	19,536	20,878	22,490	15.1%
<b>Bristol</b>	59,291	58,556	58,167	57,738	-1.4%
<b>Burlington*</b>	8,178	8,802	8,982	9,095	3.3%
<b>New Britain</b>	68,467	66,951	69,917	73,462	9.7%
<b>Plainville</b>	17,145	16,657	16,164	15,635	-6.1%
<b>Plymouth</b>	11,564	11,997	12,229	12,355	3.0%
<b>Southington</b>	39,132	40,455	41,219	42,073	4.0%
<b>REGION</b>	221,890	222,954	227,555	232,847	4.4%

Source: Connecticut Department of Transportation, *Population Projections for Connecticut Municipalities from 2010 to 2030 by Age, Ethnicity and Sex Distributions*. May, 2007.

\* data is preliminary

Within the growing and shrinking town populations, there are structural shifts afoot. As the entire state of Connecticut is aging, so too is the Central Connecticut region. In every town, the percent of the population aged 60 years old and older will increase by 2030. In Burlington, the most dramatic example, the number of residents aged 60 years old and older is projected to increase by

84% (from 862 persons to nearly 3,000), and the percent of the population aged 60 and older will increase from 10.5% in 2000 to 32.1% in 2030.

<b>Population 60 years old and older</b>					<b>Percent Change</b>
	<b>2000</b>	<b>2010</b>	<b>2020</b>	<b>2030</b>	<b>2010-2030</b>
<b>Berlin</b>	3,681	4,260	5,703	7,332	72%
<b>Bristol</b>	10,629	11,752	14,209	16,033	36%
<b>Burlington*</b>	862	1,586	2,370	2,916	84%
<b>New Britain</b>	12,592	13,242	16,617	16,965	28%
<b>Plainville</b>	3,199	3,694	4,411	4,615	25%
<b>Plymouth</b>	1,846	2,213	3,005	3,649	65%
<b>Southington</b>	7,166	9,282	11,100	13,828	49%
* data is preliminary					
<b>REGION</b>	39,975	46,029	57,415	65,338	42%

Source: Connecticut Department of Transportation, *Population Projections for Connecticut Municipalities from 2010 to 2030 by Age, Ethnicity and Sex Distributions*. May, 2007.

By 2030, residents over 60 years of age will comprise at least 30% of the population in five of the region's towns. In every town, this cohort will comprise more than 20% of the population, with New Britain having the smallest percent, at 23.1%. In Plainville, which will see the smallest overall increase in older residents (a 25% increase), this cohort will nonetheless comprise 29.5% of the population in 2030, due to the town's projected population loss.

**Percent of Population 60 years old and older**

	<b>2000</b>	<b>2010</b>	<b>2020</b>	<b>2030</b>
<b>Berlin</b>	20.3%	21.8%	27.3%	32.6%
<b>Bristol</b>	17.9%	20.1%	24.4%	27.8%
<b>Burlington*</b>	10.5%	18.0%	26.4%	32.1%
<b>New Britain</b>	18.4%	19.8%	23.8%	23.1%
<b>Plainville</b>	18.7%	22.2%	27.3%	29.5%
<b>Plymouth</b>	16.0%	18.4%	24.6%	29.5%
<b>Southington</b>	18.3%	22.9%	26.9%	32.9%
* data is preliminary				
<b>REGION</b>	18.0%	20.6%	25.2%	28.1%

Source: Connecticut Department of Transportation, *Population Projections for Connecticut Municipalities from 2010 to 2030 by Age, Ethnicity and Sex Distributions*. May, 2007.

This demographic shift presages not only economic difficulty for the towns, whose labor forces will decline as their senior populations rise, and a need for increased services, but also potential difficulties in hazardous conditions. An older population may be less mobile, more dependent on neighbors and family, and less able to evacuate or survive in isolation, or without heat or electricity, for extended periods of time. Elder care facilities need to be equipped with supplies that can allow

## Race, Ethnicity, Income, Vehicle Access, and Language Spoken at Home

	% Minority or Mixed Race	% Hispanic (Any Race)	Median household income as % of state median	% Population Speaking Language other than English at Home	Top 2 Languages other than English Spoken at Home	% Population Speaking Language at Home
Berlin	3.0%	1.5%	126%	15%	Polish	4%
					Italian	3%
Bristol	8.4%	5.3%	88%	16%	French	5%
					Spanish	5%
Burlington	2.6%	1.3%	153%	7%	Spanish	2%
					French	2%
New Britain	30.6%	26.8%	63%	43%	Spanish	22%
					Polish	12%
Plainville	6.5%	3.6%	89%	19%	Polish	7%
					French	4%
Plymouth	2.7%	1.3%	100%	8%	French	3%
					Polish	1%
Southington	3.6%	2.0%	112%	10%	French	2%
					Italian	2%

Source: U.S. Census Bureau, Census 2000 Summary File 3: PCT10, P53; Summary File 1: P3, P4.

senior populations to shelter in place; meanwhile, towns must also consider added need for medical sheltering. Hazard mitigation plans for an aging population must address protection of critical facilities and vulnerable populations to ensure that all residents are able to weather the storms.

Vulnerable populations may include not only senior citizens and persons who are less mobile, but also low-income and minority populations, some of whom may have difficulty evacuating or protecting their homes, or may miss critical information due to limited ability in English. In four of the region's towns, more than 15% of the population does not speak English at home. New Britain in particular has large Spanish (22%) and Polish (12%) speaking populations. Public education efforts must take into account each town's particular language groups and make sure that information is made available to them, so that mitigation planning efforts do not systematically discriminate against non-English speaking communities.

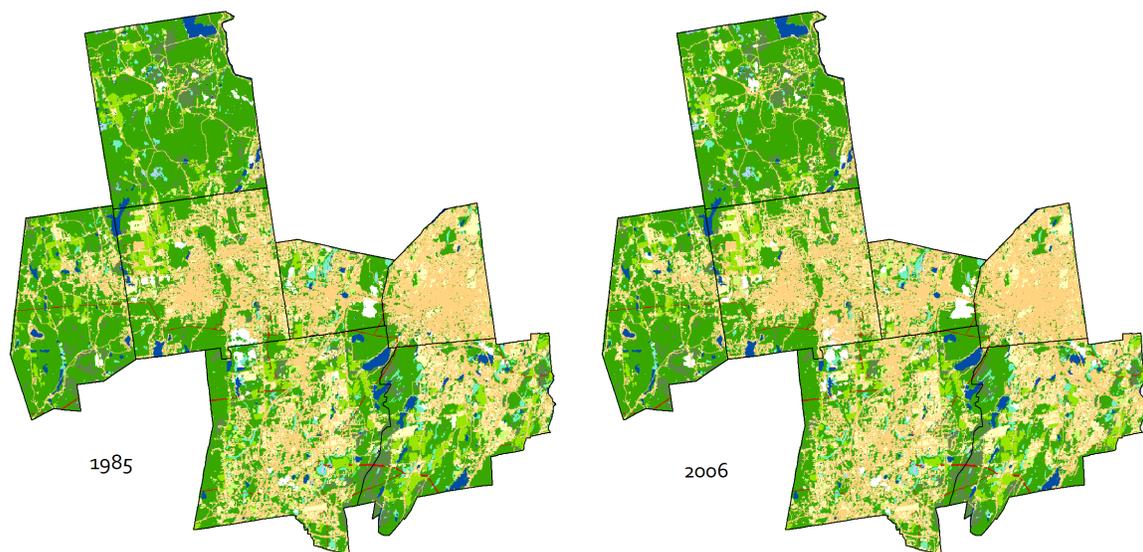
## Land Use & Development Patterns

Towns in the region exhibit a typical development pattern for New England: dense population

centers (often more than one per town) cluster around rivers, where mills and other businesses were once located. These population centers may have a rich mix of uses, with additional residential development spiraling outward, creating relatively compact villages. While this historic pattern results in picturesque town centers, it also increases the potential for flood damage. Development in recent years has largely abandoned the traditional centralized pattern, and followed a more sprawling pattern, with new development radiating out ever further from traditional population centers, and filling in the open space and former agricultural fields that once separated village centers. By consuming land formerly reserved for open space and agriculture, development covers an ever-higher percentage of the region’s land with impervious surfaces. By restricting the natural flow of storm water, increased impervious surfaces and other man-made obstructions contribute, over time, to increased flooding.

Much of the development the region has seen since 1985 has come at the cost (mainly) of its agricultural land and deciduous and coniferous forests. The maps below, from the UConn Center for Land-Use Education and Research (CLEAR), show differences in development from 1985 to 2006. The corresponding table (following page) highlights percent increases and decreases in different kinds of land cover.

### Change in Land Cover, 1985-2006



Source: UConn CLEAR data

Source: UConn Center for Land-Use Education and Research (CLEAR)

**% Change in Land Cover Categories, 1985-2006**

	Berlin	Bristol	Burlington	New Britain	Plainville	Plymouth	Southington
Developed	24%	17%	38%	5%	16%	16%	23%
Turf & Grass	13%	11%	72%	-5%	3%	35%	17%
Other Grasses	46%	1%	33%	14%	48%	26%	-36%
Agricultural Field	-32%	-24%	-32%	-73%	-77%	-25%	-18%
Deciduous Forest	-10%	-15%	-6%	-15%	-18%	-5%	-14%
Coniferous Forest	-3%	-13%	-4%	-17%	-27%	-2%	-9%
Water	-9%	-3%	-5%	-11%	-16%	-6%	-8%
Non-Forested Wetland	60%	55%	14%	-63%	0%	59%	9%
Forested Wetland	-10%	-17%	-8%	-26%	-9%	-9%	-9%
Tidal Wetland	0%	0%	0%	0%	0%	0%	0%
Barren	46%	-22%	34%	697%	22%	87%	39%

Source: Uconn CLEAR, "Connecticut's Changing Landscape, Version 2," <http://clear.uconn.edu/projects/landscape/your/town.asp>, accessed 8/17/2009.

The majority of development in the region is occurring on previously undeveloped land. The most endangered land, by far, is agricultural land. The region is home to some prime farmland soils and farming operations, but the majority of this land is zoned residential, which opens the door to development. With the exception of Southington, every town in the region lost a higher percentage of its agricultural acreage to development than any other type of land cover. This holds even where a town lost more total acres of forest than farmland, since farmland makes up a smaller overall percentage of most towns' land.

Development of formerly open space is driven, in part, by population increase. Increased populations lead to more home construction, school expansions, and potential commercial development. New development may not be limited to communities actually experiencing population increases; commercial development or even housing development may occur in other towns hoping to profit from their neighbors' successes.

Between 1990 and 2000, three of the region's towns (Berlin, Burlington, and Southington) gained in population. On average, these towns developed .4 acres of land for each new resident during this time. Between 2000 and 2005, four towns (Berlin, Burlington, Plymouth and Southington) had population increases, with an average increase in developed land per additional person of .28 acres.

The towns varied in the number of acres developed per person; Southington added between .8 and .32 acres per person, while Plymouth added only .09 acres per person. On average, however, over the 15 years, towns that gained in population added .28 acres of development per person. (Increased

**Population and Land Cover Change, 1990-2005**

	1990-2000			2000-2005		
	Population Increase*	Increase in Developed Acres (1990-2002)**	Acres developed per added person	Population Increase*	Increase in Developed Acres (2002-2006)**	Acres developed per added person
<b>Berlin</b>	1326	301	0.23	749	111	0.15
<b>Burlington</b>	1152	186	0.16	399	97	0.24
<b>Plymouth</b>	-	-	-	294	27	0.09
<b>Southington</b>	614	502	0.82	722	232	0.32

\*Source: U.S. Census Bureau, 1990 and 2000 Decennial Census, P001.

\*\*Source: UConn CLEAR, *Connecticut's Changing Landscape Version 2*, <http://clear.uconn.edu/projects/landscape>. Years are actually 1990-2002 and 2002-2006.

development was not isolated to the towns that gained in population; overall the region saw an increase in developed land of 8%, or 2,389 acres, despite losing over 6,000 people. This may indicate an optimistic attitude toward development’s ability to attract immigrants, indirect impacts of the new residents on neighboring towns, or unrelated events, such as business expansions.)

ConnDOT’s population projections predict a regional increase of 9,893 people by 2030. If development continues apace, averaging .28 acres developed per additional resident (in towns that gain population), 16% (2,770 acres) of the region’s net developable land will be developed by 2030. (If increased population and residential development in one town triggers additional development in neighboring towns that do not gain population, this number may be higher.) This additional development will not be equally distributed across the towns, but will be concentrated in towns with more developable land. CCRPA’s 2007 Plan of Conservation and Development for the region estimated developable land per town as follows:

**Net Developable Land**

	Net Developable Land (NDL) in Acres	NDL as a Percentage of Municipality’s Total Land	NDL as a Percentage of Total NDL for Region
Berlin	1754	11%	10%
Bristol	1759	10%	10%
Burlington	3358	18%	20%
New Britain	280	3%	2%
Plainville	940	14%	5%
Plymouth	3907	28%	23%
Southington	5224	23%	30%

Source: CCRPA, *Plan of Conservation and Development for the Central Connecticut Region, 2007-2017*, pg. 17

Net Developable Land represents the currently undeveloped land in each municipality that is available for development (e.g. does not have conservation easements) and not hampered by build-out constraints (such as wetlands, stream buffers, floodplain areas, water bodies, protected open space, and areas with prohibitive slopes). Net Developable Land of 30% does *not* indicate that a town is 70% built out.

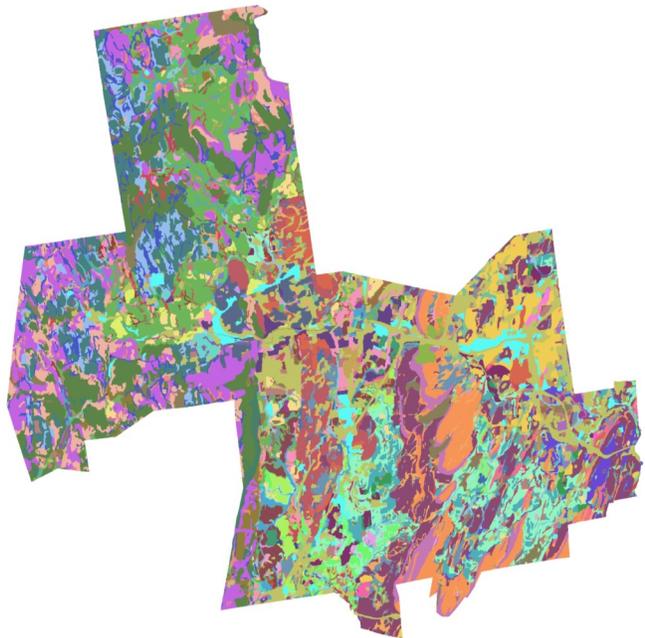
Net Developable Land as a percentage of a municipality's total land gives a clue as to how the towns could develop in the future. In Plymouth, up to 28% of the town's land could be converted to development, whereas in New Britain, only 280 acres remain that could be converted. Southington has the most land available for conversion – 5,224 acres – and will likely see the greatest concentration of development.

## Geology & Hydrology

One concern raised by this continuing, a-centric development pattern is its impact on natural systems, particularly hydrologic systems. Due to its geographic location, actions taken in the region have the potential to impact areas that are quite distant.

The Central CT Region sits at the transition of Connecticut's Western Highlands to its Central Valley. The Highlands are characterized by rolling hills, and thin, rocky soil, with rugged slopes in the northwest corner of the state. The Central Valley is a flatter expanse that lies between the Western and Eastern Highlands, and boasts rich agricultural soils. The Valley is divided by the rocky Metacomet Ridge (orange and red on the Soil Types map, above). According to CT-DEP:

### Soil Types in Central Connecticut



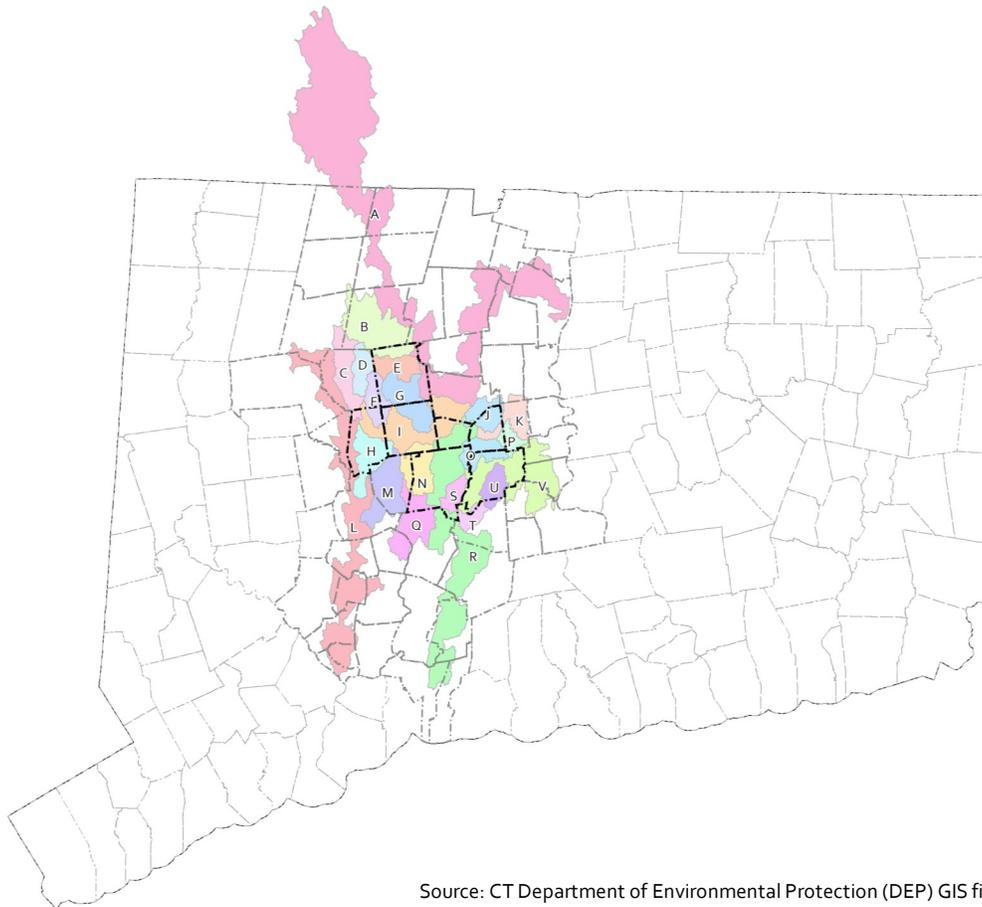
Source: CT Department of Environmental Protection (DEP) GIS files

The fertile soils of the Central Valley were formed through a combination of fine-grained glacial lake sediments and loamy or sandy alluvial deposits. Glacial till soils in the Western and Eastern Highlands, derived from crystalline rocks, tend to be rocky with little organic accumulation. *CT DEP, Connecticut's Comprehensive Wildlife Conservation Strategy, 2005 (2-3).*

Towns at the western end of the region (Burlington and Plymouth) have hilly topography and forested slopes. Other towns are relatively flat, with higher concentrations of prime and statewide-important farmland soils. The Metacomet Ridge divides the easternmost towns in the region (New Britain and Berlin) from the rest, and provides a recreational and scenic amenity.

Water from the region drains into three of the state's major watershed basins: the Housatonic, Connecticut, and South Central Coast. En route to its final destination, the water navigates five regional and 23 sub-regional basins that reach from Massachusetts nearly all the way to Connecticut's shoreline, touching a total of 52 towns in Connecticut on their way.

### Sub-Regional Watershed Basins in the Central CT Region



Source: CT Department of Environmental Protection (DEP) GIS files

In 2005, CCRPA conducted a build-out analysis that examined the impact of different degrees of build-out upon these sub-regional drainage basins. Development brings impervious surface, and increased impervious surface means trouble for the health of a watershed:

Impervious surfaces in a watershed adversely impact the health of the watershed. These effects include adverse impacts on water quantity, degraded water quality, changes to habitat, diminished stream and landscape aesthetics, bank erosion and flash floods. **Similarly, impervious surfaces dramatically increase peak discharges during storm or snowmelt events, resulting in the increased flow and possible downstream flooding.** According to different studies, biological integrity and habitat quality of streams are inversely affected by the amounts of impervious surfaces adjacent to them (Arnold & Gibbons 1996; Klein 1979; Schueler 1994). **A watershed is considered to be impacted when the impervious surface exceeds 10% of the total watershed** (Schueler 1994). *CCRPA, Pequabuck River State of the Watershed Report, July 2004 [emphasis added].*

The table below reveals the impact that the impervious surfaces associated with varying degrees of regional build-out would have on the health of sub-regional watersheds. According to the build-out methodology, the region would be 25% built-out (according to residential zoning requirements and other factors) with the addition of 18,251 people – roughly twice the population increase expected by 2030. If development occurs as projected, once the region is 25% built out, 12 of the sub-regional

**Percent of Impervious Surface of Sub-Regional Basin Land Area within the Central CT Region\***

	Existing (2005)	25% Buildout	50% Buildout	70% Buildout	Map Code
Bass Brook	14.65%	14.90%	15.15%	15.34%	J
Belcher Brook	20.08%	21.08%	22.08%	22.88%	U
Burlington Brook	13.63%	15.32%	17.01%	18.37%	E
Copper Mine Brook	18.98%	20.07%	21.16%	22.03%	G
Eightmile River	16.49%	18.18%	19.88%	21.23%	N
Farmington River	0.24%	0.31%	0.37%	0.42%	A
Hancock Brook	8.76%	10.87%	12.99%	14.68%	H
Leadmine Brook	0.78%	1.03%	1.29%	1.50%	C
Mad River	0.52%	0.53%	0.54%	0.55%	M
Mattabeset River	9.88%	10.42%	10.96%	11.40%	V
Misery Brook	21.29%	22.93%	24.56%	25.87%	S
Naugatuck River	0.54%	0.71%	0.87%	1.01%	L
Nepaug River	0.57%	0.65%	0.73%	0.79%	B
Pequabuck River	22.61%	23.58%	24.56%	25.34%	I
Piper Brook	9.69%	9.77%	9.84%	9.90%	K
Poland River	5.19%	6.18%	7.17%	7.96%	F
Quinnipiac River	9.49%	10.15%	10.80%	11.32%	R
Rock Brook	0.03%	0.04%	0.04%	0.04%	D
Sodom Brook	1.60%	1.83%	2.06%	2.25%	T
Tenmile River	3.51%	3.98%	4.46%	4.83%	Q
Webster Brook	11.78%	11.87%	11.95%	12.02%	P
Willow Brook	28.45%	29.60%	30.76%	31.68%	O

\* Many sub-regional basins extend past the perimeter of the region (see map, pg. 12). Land area outside the region was not evaluated. Source: CCRPA, Plan of Conservation and Development for the Central CT Region, 2007-2017

basins affected by flow in the region would be adversely impacted, including the three biggest rivers in the region: the Quinnipiac, the Mattabesset, and the Pequabuck. Flooding from these rivers already has dramatic impacts on the region's towns; engaging in responsible development practices to avert increased impacts on the region's watersheds is imperative to avoid worsening floods in the future.

## Natural Hazards: Risks to the Region

### Floods

Flooding, the hazard encountered with the greatest frequency in Central Connecticut, can and does happen at any time. Rain storms are common throughout the year, and each season brings its own source of floods: from mid-summer through fall, hurricanes bring wind and torrential rain; winter Nor'Easters pound the region with snow and rain; snowmelt inundates local hydrologic systems in early spring; and summer thunderstorms can bring flash floods in minutes. Historical development patterns encouraged dense construction of town centers near water bodies; consequently many areas with chronic flooding problems are in population centers. Most towns identified flooding as the natural hazard of most concern in their communities.

All seven towns in the Central Connecticut region participate in the National Flood Insurance Program, and have done so since 1974. FIRMs for the six towns in Hartford County are quite recent, dating to September of 2008. Plymouth, located in Litchfield County, has FIRMs a decade older (last updated November 1998). Each town has worked with FEMA to update its FIRMs and established a floodplain ordinance that limits the amount and kind of development that can occur in flood-prone areas. Towns continue to assist their residents in acquiring flood insurance, providing on-site flood water storage, and otherwise protecting their assets through responsible practices.

#### Regional Participation in NFIP

	Init FHBM Identified	Init FIRM Identified	Current Effective Map Date
Berlin	8/16/1974	7/16/1980	9/26/2008
Bristol	5/17/1974	11/18/1981	9/26/2008
Burlington	7/19/1974	6/1/1981	9/26/2008
New Britain	5/24/1974	7/16/1981	9/26/2008
Plainville	5/31/1974	11/19/1980	9/26/2008
Plymouth	8/16/1974	10/15/1982	11/6/1998
Southington	5/10/1974	7/16/1981	9/26/2008

Source: Fema, National Flood Insurance Community Status Book.

All the towns in Central Connecticut feel the impact of flooding on a regular basis. The

Pequabuck, Quinnipiac, and Mattabeset Rivers flow through the region, and all have flood-prone areas. Impacts from flooding vary according to the severity of each flood event, but can range from minor damage of personal property to dam failure, septic and sewer system failure, and even the destruction of homes and loss of lives. Flood damage is predictable in its location, however, and every town in the region has one or more specific properties that are damaged by flooding on a regular basis.

Historically, the region has seen a great deal of flooding. The National Climatic Data Center's Storm Events Database lists many flood events for Hartford and Litchfield Counties. Some events with particularly significant impacts on the region were:

**January 28, 1996:** Gale force south winds with gusts to 60 mph, heavy rainfall of from 1 to 2 inches, and very mild temperatures rising into the 50s preceded a sharp cold front that was approaching from the west. A peak wind gust to 61 mph was reported in East Windsor and a gust to 60 mph was reported in East Hartford, both in Hartford County. In New Britain, a brick facade of a six family apartment house was blown down. In Windham County, trees were blown down, blocking several roads. Street flooding was reported in the town of Thompson, closing several roads. Falling trees and tree limbs cause scattered power outages throughout the region. Power outages affected 60,000 electric customers statewide. Minor river flooding occurred in Hartford County along the North Branch of the Park River in Hartford, which crested at 9.9 feet at 8:30 PM on the 28th; flood stage is 8.0 feet. Flooding occurred along the Connecticut River at Thompsonville, which crested at 6 PM on the 28th at 5.7 feet; flood stage is 5 feet. At Hartford, a crest of 20.7 feet occurred at 10 AM on the 29th; flood stage is 16 feet. The Farmington River crested at Simsbury at 1 AM on the 29th at 13.7 feet; flood stage is 12.0 feet. The Quinnipiac River crested at 3.5 feet at Southington at 1 AM on the 28th; flood stage is 3.0 feet.

**April 16-18, 1996:** Two to 3 inches of rain fell on April 16th in northern Connecticut, with totals of 3 to 5 inches in the south portion of Hartford and Tolland Counties. All of the rain fell in about a 12-hour period. The ground had remained saturated from heavy snowmelt during the previous week and this combined with the heavy rain to produce urban flooding, flooding of small streams, and finally minor to moderate flooding of the major rivers. After a record snowfall during the first ten days of the month, wet and milder weather returned, resulting in the most significant mainstem river flooding along the Connecticut River in 9 years. A flash flood occurred in Berlin, where boats were needed to rescue people stuck in two cars on Route 71 at about 3 PM on the 16th. The North Branch of the Park River crested at Hartford at 12.9 feet at 4:23 PM on the 16th; flood stage is 8 feet. Moderate flooding was reported along the South Branch of the Park River at Hartford. The Farmington River crested at Simsbury at 12.17 feet at 9:30 PM on the 17th. The Connecticut River crested at Thompsonville at 6.61 feet at 1:15 AM on the 18th; flood stage is 5 feet. The Connecticut River crested at Hartford at 22.06 feet at 1:30 PM on the 18th; flood stage is 16 feet. Moderate flooding was reported along the Quinnipiac River at Hartford around 3 PM on the 16th. In general, during this event low-lying riverfront land and some roads were flooded, but no significant damage was reported.

**March 11, 1998:** A powerful storm system moving slowly northeast from the Ohio Valley to the eastern Great Lakes brought strong winds and heavy rainfall to Connecticut, which resulted in urban street flooding, basement flooding, small stream flooding, and main stem river flooding. At times, the rainfall was torrential, especially in thunderstorms during the evening of March

9th. Rainfall totals of 3 to 5 inches were reported across northern Connecticut. Some of the greatest totals included: Storrs, 4.86"; Willimantic, 4.50"; South Windsor, 4.00"; Glastonbury, 3.86"; Woodstock, 3.80"; Wethersfield, 3.77"; Newington and Scotland, 3.60"; and Southington, 3.56". A new record daily rainfall total for March 9th was established at Bradley International Airport, Windsor Locks, with 2.40". Several small streams flooded. The Quinnipiac River at Southington reached flood stage of 3.5 feet at 1:00 PM on March 9th, crested at 5.0 feet at 9:45 PM and then fell below flood stage at 11:00 AM on March 10th. One unidentified stream reached flood stage at 1:20 PM on March 9th at West Hartford. Another unidentified stream reached flood stage in Newington at 1:25 PM on March 9th. In Windham County, at Warrenville, the Mount Hope River reached flood stage of 7 feet at 1:00 PM on March 9th, crested at 8.5 feet at 12:00 AM on March 10th, then fell below flood stage at 6:00 AM on March 10th. The Connecticut River reached flood stage of 16 feet at Hartford at 1 PM on March 11th, crested at 16.9 feet at 10 AM on March 12th, then fell below flood stage at 11 PM on the 12th. The Farmington River at Simsbury crested at 11.7 feet at 9 PM on the 10th, just shy of flood stage, which is 12 feet. Strong south winds occurred after the passage of a warm front during the mid to late morning hours. Winds gusted to 40 to 55 mph.

**September 16, 1999:** Farmington River Tropical Storm Floyd brought torrential rainfall and strong winds to northern Connecticut, as it tracked up the Connecticut River valley into central Massachusetts. Although many areas received torrential rainfall, with totals between 4 and 8 inches, the heaviest rain fell in western Hartford County where as much as 10.80 inches was reported in Bristol. The rainfall produced widespread flooding of low lying areas, especially in Hartford County. Smaller rivers such as the Quinnipiac, North Branch Park, and Burlington Brook rose rapidly out of their banks as the heavy rain arrives late in the afternoon and early in the evening on the 16th. Crests of 2 to 3 feet above flood stage occurred by daybreak on the 17th. The Farmington River went into flood at Unionville from 11 pm on the 16th to 4:13 am on the 17th, cresting a foot above flood stage at 1 am on the 17th. At Simsbury, the Farmington went into flood at 7:15 am on the 17th and crested about a foot over flood stage at 9:30 pm on the 17th, before returning to its banks at 2:15 pm on the 18th. The longer responding Connecticut River rose out of its banks in Hartford at 12:59 am on the 18th, and crested at 17.2 feet at 1:30 pm on the 19th, which is about a foot over its 16 foot flood stage. It returned to its banks at 1:32 am on the 19th. Farther downstream at Middletown, the Connecticut went into flood at 10:50 am on the 18th, and crested at 8.8 feet at 11:15 am on the 19th, almost a foot above its 8 foot flood stage. It returned to its banks at 8:46 pm that same day. Surprisingly, no flood damage was reported, even in those areas where the smaller rivers rose rapidly. Strong winds were also felt in northern Connecticut as Floyd passed. There were scattered reports of small trees or branches downed, which did not cause significant damage.

**June 30-July 1, 1998:** An area of heavy showers and thunderstorms associated with a slow moving warm front brought 2 to 4 inches of rainfall, resulting in urban street, basement, small stream, and river flooding in Hartford County. The Quinnipiac River in Southington had reached flood stage at 6:10 PM on June 30th, crested at 4.24 feet at 8:39 PM, continued flooding through midnight, then fell below flood stage at 8:40 AM on July 1st. The South Branch of the Park River, a small stream in Hartford, reached flood stage of 9 feet at 9:45 pm on June 30th, crested at 9.85 feet at 10:30 PM, and fell back below flood stage right at midnight at the start of July 1st. Also at 9:45 PM, in West Hartford, the Trout Brook went over its banks flooding nearby areas. Urban street flooding was reported with water four feet deep on Pen Drive and one foot deep in some other areas. No other flooding was reported during the rest of the month of July.

**January 24, 1999:** Quinnipiac River Rainfall amounts of 2 to 3 inches caused the Quinnipiac River to overflow its banks. The river crested at 4.0 feet at Southington, just over the flood stage of 3.5 feet. There were no reports of flood damage.

**February 2, 1999:** Quinnipiac River Low pressure moving from the Carolinas to southern New England brought 1 to 2 inches of rain to northern Connecticut. Very wet antecedent conditions caused significant rises on small streams throughout the region. The Quinnipiac River at Southington rose out of its banks late on the 2nd, producing minor flooding to low lying areas along the river. It crested at 4.17 feet around 3 am on the 3rd, which is less than one foot above its flood stage of 3.5 feet. There were no reports of flood damage.

**April 22, 2000:** Quinnipiac River Low pressure moving across southeast New England brought 2 to 4 inches of rain to Hartford County, most of which fell in a 6 to 12 hour period. The Quinnipiac River in Southington experienced a minor flood, cresting at 4.5 feet at 7 am on the 22nd, which is just over its flood stage of 4 feet. No flood damage was reported.

**March 23, 2001:** Quinnipiac River at Southington The combination of melting snow and heavy rain brought the Quinnipiac River into flood. It crested at 4.6 feet at 3 pm on the 22nd (flood stage is 3.5 feet). Several roadways near the river were closed by flood waters, but no damage was reported.

**March 30, 2001:** Quinnipiac River Renewed flooding occurred on the Quinnipiac River. Flows remained well above normal after the previous week's flooding, and a storm system brought 2 to 3 inches of rain to Hartford County. The river crested at 4.4 feet at 10 pm on the 20th (flood stage is 3.5 feet). There were no reports of flood damage.

**September 28, 2003:** Significant urban flooding affected central Hartford County, after nearly 4 inches of rain fell in a few hours. Several cars were stranded in Berlin and West Hartford, and Willow Brook rose out of its banks in New Britain, flooding a nearby park. This event included flash flooding in Berlin that caused \$25,000 worth of property damage.

**December 12, 2008:** Roack Road in Burlington was closed due to flooding. EPISODE NARRATIVE: While a major ice storm affected Massachusetts and Southern New Hampshire, three to four inches of rain fell in Connecticut resulting in small stream and some street flooding.

The storms listed above represent just a small sample of events affecting the region. Other storms not listed have often inflicted greater damage on the region. In 1992, for example, New Britain experienced a great deal of flooding from a rainstorm that, according to a report by Maguire Group, exceeded a 100-year storm. The flooding that resulted from the storm inundated local playing fields and caused \$654,000 worth of damage to bridges, culverts, and roads.

As a result of these regular flooding events, many properties situated near key rivers in the region flood on a regular basis. According to FEMA's Repetitive Loss Property Database, the 55 repetitive loss properties in the region have incurred \$1.77 million in repairs to buildings and replacement of building contents over the last 30 years (see table, next page).

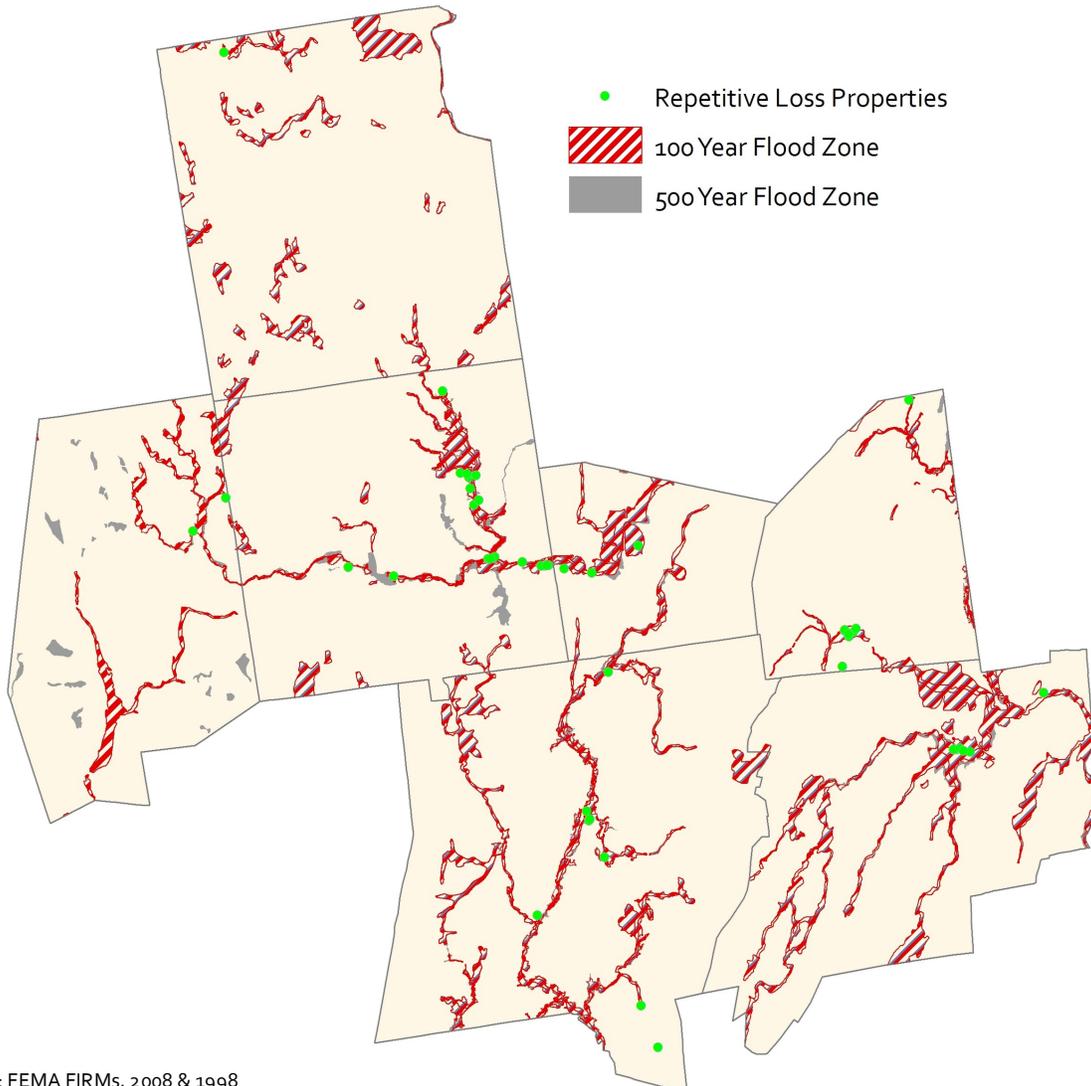
The majority of the repetitive loss properties in the region are privately owned and have not

### Repetitive Loss Properties, 1978-2009

Town	Building Payments	Contents Payments	Total Losses	Total Properties
Berlin	\$ 157,809.72	\$ 93,730.35	19	6
Bristol	\$ 706,501.72	\$ 44,607.41	62	24
Burlington	\$ 15,080.58	\$ -	2	1
New Britain	\$ 70,148.79	\$ 12,366.70	21	8
Plainville	\$ 96,110.52	\$ 28,111.82	14	4
Plymouth	\$ 34,348.37	\$ 14,109.99	4	2
Southington	\$ 190,182.85	\$ 311,295.40	26	10

Source: FEMA Repetitive Loss Property Database

### FEMA Flood Zones & Repetitive Loss Properties



Source: FEMA FIRMs, 2008 & 1998

been mitigated. Towns in the region differ in their ability to acquire and remediate these properties; while some structures have been demolished, others still stand. Some properties have not flooded for over a decade, and are low on municipalities' priority lists; others lie in areas known for frequent flooding, but are privately owned and beyond municipal reach.

**Percent of Flood Zone by Land Use (Zoned)**

	Agriculture / Open Space	Commercial	Industrial	Residential	Total Acres in Flood Zone
<b>Berlin</b>	11%	7%	34%	47%	2,286
<b>Bristol</b>	1%	3%	7%	90%	15,172
<b>Burlington</b>	0%	0%	5%	95%	1,372
<b>New Britain</b>	0%	8%	13%	79%	297
<b>Plainville</b>	21%	4%	27%	49%	2,236
<b>Plymouth</b>	0%	2%	7%	90%	723
<b>Southington</b>	0%	11%	15%	73%	1,712
<b>REGION</b>	<b>3%</b>	<b>4%</b>	<b>12%</b>	<b>81%</b>	<b>23,798</b>

Source: FEMA FIRMs (2008 & 1998), Town Zoning Maps

**Repetitive Loss Properties by Zoning Classification**

Town	Agricultural	Commercial	Industrial	Residential	TOTAL
Berlin	0	2	4	0	<b>6</b>
Bristol	0	10	1	13	<b>24</b>
Burlington	0	0	0	1	<b>1</b>
New Britain	0	0	0	8	<b>8</b>
Plainville	1	1	1	1	<b>4</b>
Plymouth	0	0	0	2	<b>2</b>
Southington	0	3	2	5	<b>10</b>
<b>REGION</b>	<b>2%</b>	<b>29%</b>	<b>15%</b>	<b>55%</b>	<b>55</b>

Region-wide, 81% of the land that falls within FEMA's 100-year flood zones is zoned residential; only 3% of the land is zoned for agriculture, open space, or other natural preservation. This has a great deal to do with the historic development patterns that gave shape to the region's towns. As a consequence, despite the fact that not all of the residentially-zoned land has been developed,

flooding presents a considerable (and expensive) problem for many property owners in the region.

Zoning classifications for repetitive loss properties are similarly weighted toward residential properties, but have a higher percent commercial zoning than the flood zones as a whole. Almost 30% of the repetitive loss properties in Central Connecticut are in traditional village centers located along the region’s rivers. These areas tend to have zoning that allows some form of mixeduse development, which skews the zoning classifications more toward general commercial and light industrial uses.

Flooding is a hazard of great concern for the Central Connecticut Region. A HAZUS-MH analysis of flooding potential in the region highlights just how expensive this problem can be. An analysis based on the building inventory data stored in HAZUS (data limitations at the local level made it impossible to use more accurate and/or recent data) revealed that a 100-year storm which flooded all reaches simultaneously could cause building damage (excluding contents and other variables) ranging from \$5.6 million to \$267.2 million per town . A 500-year storm has the potential to be even more destructive.

**HAZUS-MH results for Floods, by town**

	<b>Damage to buildings, 100 year flood (millions)</b>	<b>Damage to buildings, 500 year flood (millions)</b>
<b>Berlin</b>	\$ 17.9	\$ 28.7
<b>Bristol</b>	\$ 60.3	\$ 64.0
<b>Burlington</b>	\$ 5.6	\$ 6.4
<b>New Britain</b>	\$ 13.6	\$ 19.7
<b>Plainville</b>	\$ 127.6	\$ 156.3
<b>Plymouth</b>	\$ 11.8	\$ 12.0
<b>Southington</b>	\$ 267.2	\$ 409.7
<b>REGION</b>	\$ 504.0	\$ 696.7

**Dam Failure**

Dam failure, both a potential cause and result of flooding, could do tremendous damage in the region. Many of the region’s lakes, reservoirs, and other water bodies are regulated by dams, some of which have been standing for a very long time. Were these dams to fail, they would release torrents of water that could cause not only flooding but also violent destruction.

Not all dams pose a serious threat; the vast majority of dams in the state regulate water bodies that, either because of their size or location, would not cause major destruction in the event of a dam failure. The Connecticut Department of Environmental Protection (DEP) has created five dam classifications, based on hazard potential:

**Class AA:** negligible hazard potential dam which, if it were to fail, would result in no measurable damage to roadways, land and structures, and negligible economic loss

**Class A:** low hazard potential dam which, if it were to fail, would result in damage to agricultural land, damage to unimproved roadways, or minimal economic loss

**Class BB:** moderate hazard potential dam which, if it were to fail, would result in damage to normally unoccupied storage structures, damage to low-volume roadways, or moderate economic loss

**Class B:** significant hazard potential dam which, if it were to fail, would result in possible loss of life; minor damage to habitable structures, residences, hospitals, convalescent homes, schools, etc; damage to or interruption of the use or service of utilities; damage to primary roadways and railroads; or significant economic loss

**Class C:** high hazard potential dam which, if it were to fail, would result in the probable loss of life; major damage to habitable structures, residences, hospitals, convalescent homes, schools, etc; damage to main highways; or great economic loss.

As of 2001, 83% of all dams in the state were classified as AA, A, or BB (dam classification can change as a result of downstream development). All dams are subject to inspection by the DEP. Owners of Class B and C dams are further required to prepare Operation and Maintenance Manuals for their dams. All dam owners are obligated to periodically inspect their dams, maintain the

### Frequency of DEP Dam Inspections

Hazard Class	Inspection Frequency
AA	At least once
A	Every 10 years
BB	Every 7 years
B	Every 5 years
C	Every 2 years

Source: CT DEP, Guidelines for Inspection and Maintenance of Dams, 2001

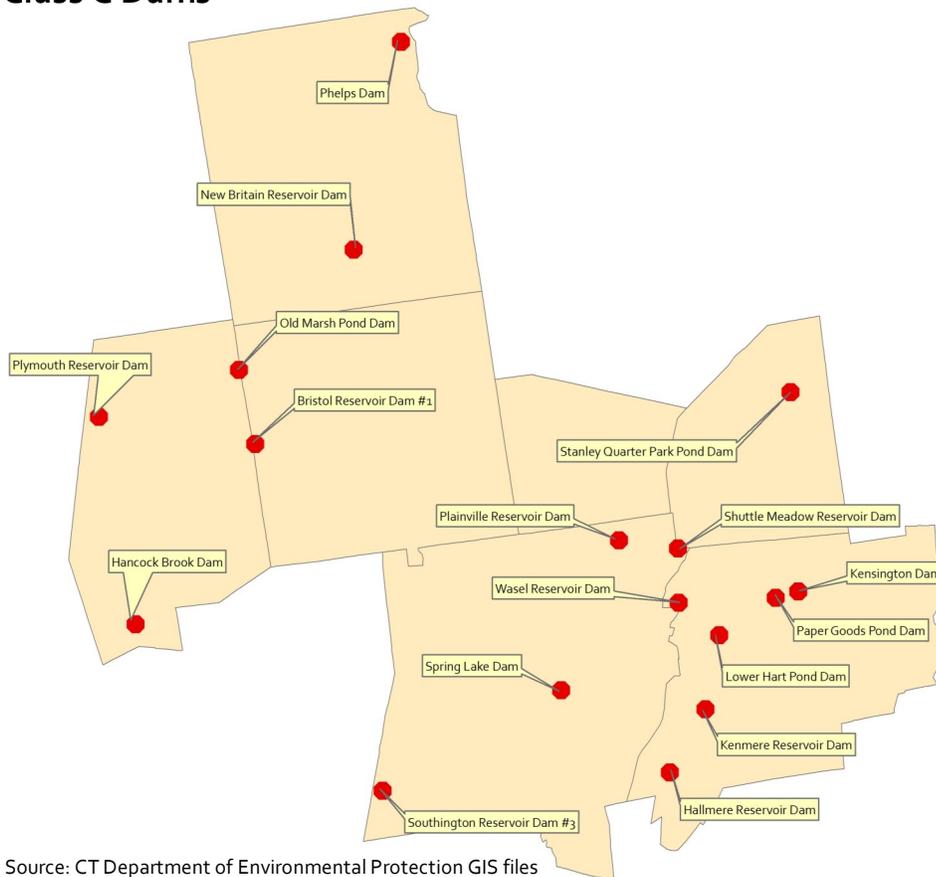
### CT-DEP Registered Dams in Central Connecticut

	A	BB	B	C	Total
Berlin	10	4	3	6	23
Southington	7	1	0	5	13
Plymouth	11	6	13	3	33
Burlington	13	2	3	2	20
New Britain	3	3	0	2	8
Bristol	5	3	4	1	13
Plainville	0	0	0	0	0

(An additional 32 dams appear on DEP maps but are not classified.)

Source: Ct Department of Environmental Protection, maps (2005)

## Class C Dams



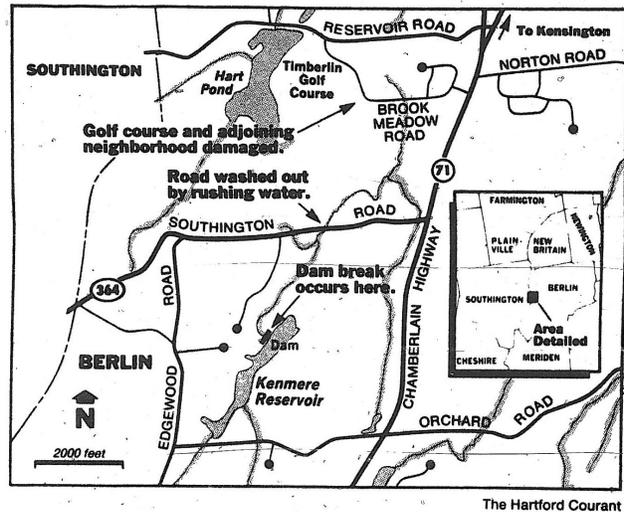
structures and their adjacent areas, keep written records of inspection and maintenance activities, and notify DEP of major damage (DEP, *Guidelines for Inspection and Maintenance of Dams*, 2001).

Of the 142 dams in Central Connecticut, only 19 are Class C. Another 23 are Class B, and the remaining 100 are dams with relatively little potential impact on life or property. The 19 class C dams are distributed throughout the region. Every town is home to at least one Class C dam, with the exception of Plainville.

The three dams in the region with the largest potential for destruction are the Hancock Brook Dam in Plymouth, the Shuttle Meadow Reservoir Dam in Southington, and the Phelps Dam in Burlington. The Phelps Dam, the largest in the region, is an earth and stone structure 1,125 feet in length, which creates the Nepaug Reservoir, an 850-acre water body with a storage capacity of up to 9.8 billion gallons of water (according to the Metropolitan District Commission, which manages the reservoir). Hancock Brook Dam, the second largest dam in the region, is an earthen structure 630 feet long and 57 feet high which is maintained by the Army Corps of Engineers. It creates a 260-acre lake

with a 1.3 billion gallon storage capacity. Shuttle Meadow Reservoir Dam, an earthen dam 600 feet long and 30 feet high, creates a 250-acre reservoir with storage capacity of approximately 1.5 billion gallons. The Nepaug and Shuttle Meadow Reservoirs are parts of the public water supply systems for greater Hartford and New Britain, respectively; consequently their dams impound water on a full-time basis. The Hancock Brook Dam, by contrast, is a specific flood-control dam built and maintained by the Army Corps of Engineers. Hancock Brook Lake, which it creates, is filled only during flood events. The lake detains flood waters and gradually releases them when floodwaters have receded.

### Kenmere Dam Collapse, 1987



Central Connecticut has seen one of its Class C dams fail: the Kenmere Reservoir Dam in Berlin collapsed on March 31, 1987, during a reconstruction effort. According to the Hartford Courant, torrential rains overwhelmed the dam and sent roughly 80 million gallons of water into surrounding Berlin, where it destroyed a bridge, inundated homes and businesses, and did extensive damage to a municipal golf course. No serious injuries resulted from the dam failure, and the property damage incurred was estimated to be approximately \$187,000 (1987 dollars).

Once a dam collapses, the damage it does is largely dependent upon the sorts of land uses surrounding it. While the Kenmere dam inflicted damage primarily upon a golf course, other dams in the region (notably the Shuttle Meadow Reservoir Dam, which overlooks densely developed New Britain) could do far more damage in a collapse. Not only can buildings downstream be inundated by resulting flooding; they can be damaged by the violent torrent of water, which impacts like a battering ram. Utility connections can be severed, in turn causing fires and power outages; people can be injured or even killed by rushing waters and the debris carried therein.

Dam failures are generally caused by other natural hazards: floods arising from thunderstorms, spring thaw, and hurricanes; wind damage from hurricanes and tornadoes; and forces from earthquakes. Failure due to material fatigue is also possible, but regular maintenance and dam inspections can detect leaks and other signs of material fatigue before the problem escalates. Dam emergency operations plans can detail procedures to be taken in the case of other natural hazards.

## Winter Storms

Winter storms are a regular occurrence in Connecticut. While some storms are mild and of little consequence, blizzards, ice storms, and Nor'Easters can interrupt utility service, knock down trees and power lines, and blanket the region in snow and ice. While picturesque, snow and ice can create impassable roads and isolate people in their homes or workplaces, sometimes without electricity or heat. Melting snow and ice can also cause flooding, as can winter rainstorms which hit when the ground is already frozen. According to FEMA's disaster history, five of the past six emergency declarations for Connecticut have been prompted by snowfall.

### Ice and Snow Removal

	Total miles of road	Total town- owned miles of road	Average spent per town- owned mile (2003-2009)*	Average spent per year (2003-2009)*
<b>Berlin</b>	131.66	103.72	\$1,289.66	\$133,763.15
<b>Bristol<sup>^</sup></b>	243.59	223.24	\$3,758.95	\$839,147.39
<b>Burlington</b>	98.76	86.15	\$1,598.78	\$137,735.02
<b>New Britain</b>	183.89	164.33	\$2,097.02	\$344,603.83
<b>Plainville</b>	84.36	66.84	\$2,992.02	\$199,986.75
<b>Plymouth</b>	94.80	82.38	\$1,853.09	\$152,657.50
<b>Southington</b>	226.61	195.26	\$3,408.63	\$665,569.01

\* Average of years for which data is available.

<sup>^</sup> Bristol's cost figures include cost of plowing State Rte 6 & are therefore inflated

Snow and ice removal has a tremendous impact on municipal budgets. The impact varies by town; some towns use their own staff to clear roads, which may represent savings but also be inefficient. Other towns hire contractors to remove 100% of the snow and ice. The remainder of towns use a combination of town staff and contractors. Regardless of staffing, every town is faced with spending between \$100,000 and \$1 million per year on snow and ice management.

The size, scope, and timing of a particular storm can drastically affect towns' annual expenditures. Blizzards in 1888 and 1978 each delivered nearly a season's worth of snow in a single event. Nor'Easters in 1979, 1983, 1988, 1992, 1996, and 2003 dropped masses of snow, causing deadly car crashes and widespread blackouts. Even storms that are not unusual can cause damage and loss of life. Below is a brief history of some of the worst storms of the last 10 years, excerpted from the NOAA Storm Events Database.

**January 7, 1996:** This storm was one of the most significant winter storms to hit southern New England in the past 20 years and was named the "Blizzard of '96" from the Middle Atlantic states to southern New England. However, by National Weather Service definition, no actual blizzard conditions occurred in the state. Snowfall across the north and northeast portions of the state ranged from 15 to 23 inches. In Hartford County, Bradley International Airport recorded 18.2 inches. New Britain had 18 inches and Wethersfield, 15.3 inches. In Tolland County, there was 22.5 inches in Mansfield... This storm disrupted transportation systems and closed schools and businesses. A barn roof collapsed in Simsbury within a week or so following this very heavy snowfall.

**March 2, 1996:** A total of 6 to 7 inches of snow fell across the northern part of the state. There were 391 skidding accidents reported to the state police. Three people were killed and dozens injured on the icy roadways. A number of state highways were closed for a time due to the numerous accidents and very slippery conditions, including Route 30 in Tolland and Route 195 in Mansfield.

**December 6, 1996:** An intensifying storm system moving eastward from the southeast tip of Long Island caused heavy, wet snow across northern Connecticut. The greatest totals were reported from the higher elevations... Several thousand electric customers lost power, including a total of 1700 in Avon. In Simsbury, a town-owned tobacco barn collapsed under the weight of the snow. The barn was in rough shape to start with, but the collapse amounted to approximately \$37,000, according to the Simsbury Assessors' Office. Road conditions became very poor as the snow continued to fall throughout the day.

**December 7, 1996:** This storm brought heavy, wet snow and resulted in widespread power outages. There had been another heavy, wet snow event the day before, too. A total of 225,000 electric customers lost power statewide, including 100,000 in central Connecticut and 95,000 in the eastern part of the state. Power remained out for several days, despite the efforts of dozens of electric company repair crews, many from out-of-state. Many roads remained unplowed until the utility companies could clear away fallen wires. A firefighter died instantly while on duty in Somers when he came in contact with a 23,000 volt power line that had been knocked down by the heavy snow. Route 44 was closed for 15 hours due to a fallen power line. Up to 22 shelters were opened across the region and many residents left their unheated and darkened homes. Many vehicles and homes were damaged by falling tree limbs and damage was estimated in the millions of dollars...

**January 24, 1997:** Light freezing rain created very treacherous driving conditions and caused numerous skidding accidents, including many multiple-car accidents. State police at the Tolland barracks reported 60- 80 accidents, mostly minor, late Friday night, January 24th. Several bridges had to be closed in the Hartford area when more than a dozen cars collided. Several other highways also were closed in northern Connecticut due to icing conditions. A spotter in Windsor reported 1/4" to 1/3" of ice on trees during the early morning hours on January 25th.

**December 20, 1999:** Light freezing rain fell in the deeper valleys of northern Connecticut, as rain fell into a shallow layer of below freezing air at the surface. The resultant light coating of ice formed "black ice" on many roadways, which caused many accidents. It was estimated that there were nearly one hundred accidents, mostly fender benders, throughout Hartford, Tolland, and Windham Counties as a result of the slick driving conditions.

**November 26, 2000:** Low pressure moving north up the mid Atlantic coast brought a period of light freezing rain to much of northern Connecticut. Ice accretion was under one quarter inch, but the freezing rain left black ice on roads, causing dozens of accidents at the end of the Thanksgiving weekend, usually a busy travel day. Temperatures warmed into the 40s by late morning, ending the danger of icing.

**February 5, 2001:** A major winter storm brought heavy snow and strong winds to northern Connecticut. The highest snowfall totals, between 12 and 24 inches, were reported in Hartford County. Totals of 12 to 18 inches were widely observed in Tolland and Windham Counties. Several minor accidents were attributed to the storm, and traffic in greater Hartford was brought to a standstill during the height of the storm. Several thousand electric customers were left without power.

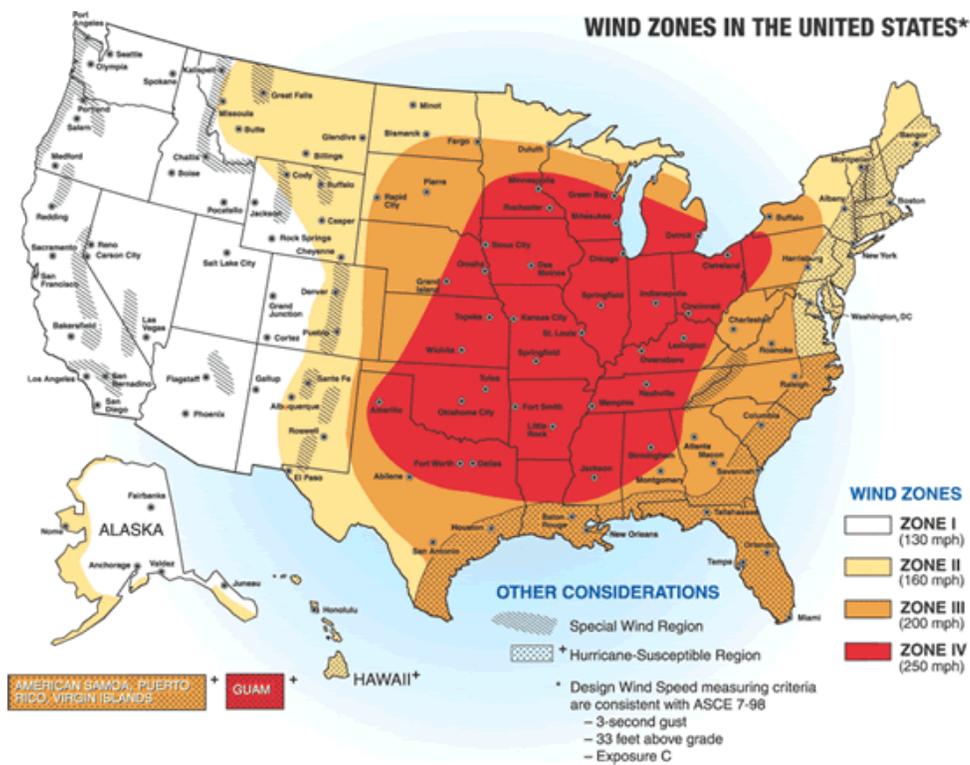
**November 16, 2002:** A major ice storm caused significant damage in north central Connecticut. There were numerous reports of downed trees, limbs, and power lines as a result of one-half to three quarters of an inch of icing. An estimated 100,000 customers in Hartford and Tolland Counties were left without power because of the storm. Damage was especially severe in western Hartford County, where entire communities such as Hartland, Granby, Simsbury, and Canton were left without power for as much as five days. Sections of Canton were completely isolated due to downed trees and wires, according to local police. The damage from the ice storm was compounded by high winds one day later. Gusts as high as 50 mph hampered the cleanup effort, downing more trees and branches which were weighted down by ice. Total damage from the storm in Hartford County was estimated at two million dollars. The damage was less severe in neighboring Tolland County, but there were still many reports of downed trees, limbs, and wires countywide. Total damage was estimated at half a million dollars.

**January 8, 2005:** Low pressure quickly strengthened as it passed south of New England and brought a mix of snow, sleet and freezing rain to much of interior southern New England. North central Connecticut was especially hard hit by freezing rain, where as much as one half inch of glaze brought down trees, tree limbs and power lines. There was no estimate of how many customers lost power, but dozens of accidents were reported as a result of icy roads.

**March 8, 2005:** Low pressure strengthened rapidly off the Delaware coast and tracked southeast of New England, bringing heavy snow and high winds to parts of northern Connecticut... Several highways, including Interstate 84, were described by state police as "barely passable" during the height of the storm. In Hartford, downtown streets were jammed with cars as many businesses and state offices closed early. Commuting times were doubled or tripled in many locations.

Despite their dangers, winter storms are a familiar part of life in New England, one that many residents would not do without. Towns are experienced in storm budgeting, cleanup, and management; most residents understand what to expect and are prepared for power outages. The majority of towns are prepared to open small shelters to accommodate those who cannot shelter in place. Businesses, schools, and local governments frequently close or operate on reduced hours to give cleanup efforts time to take effect. At the municipal level, some towns have begun putting their utility lines below ground to avoid loss of power during storms; others find such a path unaffordable

and politically untenable, and rely instead on voluntary tree-trimming programs to minimize power outages.



Source: FEMA: [http://www.fema.gov/plan/prevent/saferoom/tsfso2\\_wind\\_zones.shtml](http://www.fema.gov/plan/prevent/saferoom/tsfso2_wind_zones.shtml)

## Wind Storms: Hurricanes and Tornadoes

Although less common than winter storms and regular flood events, wind storms (hurricanes and tornadoes) do affect even inland areas of Connecticut, including the Central region. These storms can be even more damaging than winter storms and floods; according to FEMA, nine of the twelve major disaster declarations affecting the state were for severe wind storms with flooding, including four hurricanes, two tornadoes, and a tropical storm.

According to FEMA, the entire state of Connecticut is in Wind Zone II, with the potential to see winds up to 160mph, and is a hurricane-susceptible region. Winds up to the maximum of 160 mph are quite rare in the state, however. Current building codes used throughout the state reflect this, requiring buildings to withstand a wind load of only 90-100 miles per hour.

According to Connecticut's 2007 Natural Hazards Mitigation Plan Update:

Hurricanes have the greatest destructive potential of all natural disasters in Connecticut. A moderate Category II hurricane can be expected to make landfall in Connecticut once every ten

years. Based on the past frequency and intensity of hurricanes in the twentieth century, at least one major hurricane of Category III or IV may occur before 2040. Although winter storms cause more frequent coastal flooding and more annual damage, a single major hurricane (Category III or greater) can cause 3-10 times that amount of damage. (*CT 2007 Natural Hazard Mitigation Plan Update*, pg. 2-10)

### **THE SAFFIR-SIMPSON HURRICANE SCALE**

The Saffir-Simpson Hurricane Scale is a 1-5 rating system based on the hurricane's intensity at a given time. This scale is used to give an estimate of the potential property damage and flooding expected along the coast from a hurricane landfall. Wind speed is the determining factor in the scale, as storm surge values are highly dependent on the slope of the continental shelf in the landfall region. Note that all winds are using the U.S. 1-minute average.

#### **Category One Hurricane:**

Winds 74-95 mph (64-82 kt or 119-153 kph). Storm surge generally 4-5 ft above normal. No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Some damage to poorly constructed signs. Also, some coastal road flooding and minor pier damage. Hurricanes Allison of 1995 and Danny of 1997 were Category One hurricanes at peak intensity.

#### **Category Two Hurricane:**

Winds 96-110 mph (83-95 kt or 154-177 kph). Storm surge generally 6-8 feet above normal. Some roofing material, door, and window damage of buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes, poorly constructed signs, and piers. Coastal and low-lying escape routes flood 2-4 hours before arrival of the hurricane's center. Small craft in unprotected anchorages break moorings. Hurricane Bonnie of 1998 was a Category Two hurricane when it hit the North Carolina coast, and Hurricane Georges of 1998 was a Category Two Hurricane when it hit the Florida Keys and the Mississippi Gulf Coast.

#### **Category Three Hurricane:**

Winds 111-130 mph (96-113 kt or 178-209 kph). Storm surge generally 9-12 ft above normal. Some structural damage to small residences and utility buildings with a minor amount of curtainwall failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the hurricane's center. Flooding near the coast destroys smaller structures with larger structures damaged by battering of floating debris. Terrain continuously lower than 5 ft above mean sea level may be flooded inland 8 miles (13 km) or more. Evacuation of low-lying residences within several blocks of the shoreline may be required. Hurricanes Roxanne of 1995 and Fran of 1996 were Category Three hurricanes at landfall on the Yucatan Peninsula of Mexico and in North Carolina, respectively.

#### **Category Four Hurricane:**

Winds 131-155 mph (114-135 kt or 210-249 kph). Storm surge generally 13-18 ft above normal. More extensive curtainwall failures with some complete roof structure failures on small residences. Shrubs, trees, and all signs are blown down. Complete destruction of mobile homes. Extensive damage to doors and windows. Low-lying escape routes may be cut by rising water 3-5 hours before arrival of the hurricane's center. Major damage to lower floors of structures near the shore. Terrain lower than 10 ft above sea level may be flooded requiring massive evacuation of residential areas as far inland as 6 miles (10 km). Hurricane Luis of 1995 was a Category Four hurricane while moving over the Leeward Islands. Hurricanes Felix and Opal of 1995 also reached Category Four status at peak intensity.

#### **Category Five Hurricane:**

Winds greater than 155 mph (135 kt or 249 kph). Storm surge generally greater than 18 ft above normal. Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees, and signs blown down. Complete destruction of mobile homes. Severe and extensive window and door damage. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the hurricane center. Major damage to lower floors of all structures located less than 15 ft above sea level and within 500 yards of the shoreline. Massive evacuation of residential areas on low ground within 5-10 miles (8-16 km) of the shoreline may be required. Hurricane Mitch of 1998 was a Category Five hurricane at peak intensity over the western Caribbean. Hurricane Gilbert of 1988 was a Category Five hurricane at peak intensity and is the strongest Atlantic tropical cyclone of record. Hurricane Katrina in 2005 was a Category Five hurricane before it came on shore in the Gulf Coast states.

Source: State of CT 2007 Natural Hazards Mitigation Plan Update, pg. 2-8

### Hurricanes in CT, 1938-2008

Year	Name	Category	Affected Area	Damage
1938	N/A	3	central	125 dead, \$53 million (1938 dollars) in damage
1944	N/A		whole state	7 dead, \$3 to 5 million dollars (1944 dollars)
1954	Carol		southeastern CT	0 dead, \$53 million (1938 dollars)
1955	Connie		whole state	with Diane, 70 deaths, massive flooding, State declared disaster area, no drinking water, 14 towns classified health hazards, \$300 million (1955 dollars) in damages
1955	Diane		whole state	with Connie, 70 deaths, massive flooding, State declared disaster area, no drinking water, 14 towns classified health hazards, \$300 million (1955 dollars) in damages
1976	Belle	1	coastal	5 dead, some minor damage
1985	Gloria	2	southwestern CT	power outages & downed trees, little flooding
1991	Bob	2	RI, CT, MA	light
1991	Grace		shoreline from Maine to New Jersey	shoreline damage
1999	Floyd	Trop. Storm	western / central	\$2.2 million; 418 buildings affected
2008	Hanna	Trop. Storm	southwestern CT	1 dead, \$32,000 in damages

Source: State of CT 2007 Natural Hazard Mitigation Plan Update, pgs. 2-6 to 2-9; National Climatic Data Center's Storm Events database

The state has seen at least 11 hurricanes (of various intensities, including tropical storms) since 1938. These storms are estimated to have killed at least 208 people, injured thousands, and done hundreds of millions of dollars worth of damages.

Central Connecticut is protected from the worst effects of hurricanes (the storm surge) by its inland location. As storm surge prevents waterways from draining, however, the torrential rains often associated with hurricanes can cause severe flooding in the region, while strong winds knock down tree limbs and cause power outages. Tropical Storm Floyd, for example, dropped an average of four to eight inches of rain across the State, flooding 25 to 30 homes in Southington, which received rainfall on the order of a 250-year event. Plainville and Bristol also saw many homes flooded as a result of this storm. Sixteen buildings in the state were utterly destroyed by the storm (CT 2007 Natural Hazard Mitigation Plan Update, pg. 2-7 & 2-9).

Analysis in HAZUS-MH shows that hurricanes do have potential to visit not-inconsiderable damage upon the region, but that damage is estimated to be less than the towns would see from severe flooding. A 500-year storm is projected to do serious damage, especially in more built-up communities where building and infrastructure proximity increases the potential for destruction from damaging winds and fires resulting from severed utility connections. Strategies such as putting

### HAZUS-MH results for Hurricanes, by town

	Damage to buildings, 100 year storm (millions)	Damage to buildings, 500 year storm (millions)
<b>Berlin</b>	\$ 9.4	\$ 87.6
<b>Bristol</b>	\$ 22.0	\$ 153.3
<b>Burlington</b>	\$ 1.9	\$ 11.1
<b>New Britain</b>	\$ 34.6	\$ 225.2
<b>Plainville</b>	\$ 8.1	\$ 71.9
<b>Plymouth</b>	\$ 3.3	\$ 24.9
<b>Southington</b>	\$ 17.8	\$ 163.2
<b>REGION</b>	\$ 97.0	\$ 737.2

utilities below ground and trimming trees that overhang power lines can help alleviate the worst effects that the Central region sees from high-wind storms.

Tornadoes occur less frequently than hurricanes. Between 1950 and 2003, the state experienced 81 tornadoes, in the months from April to October. The storms caused roughly \$590 million in damages, killed at least 7 people and injured another 700 (CT 2007 Natural Hazards Mitigation Plan Update, pg. 2-26). According to the state Hazard Mitigation Plan,

The pattern of occurrence and locations for tornadoes in Connecticut is expected to remain unchanged in the 21st Century. The highest risk for tornadoes is expected in New Haven and Hartford Counties. The second area of moderate to high risk is in Fairfield and New Haven Counties. The Counties of Middlesex, Tolland and Windham have a moderate risk and the County of New London can expect a low risk. (CT 2007 Natural Hazards Mitigation Plan Update, pg. 2-27)

Fortunately, it is rare for the state to see a very strong tornado. Of the tornadoes that occurred in the state between 1950 and 2008, 92% were less than an F<sub>3</sub>. Only 2 tornadoes since 1950 were rated F<sub>4</sub>, and none stronger. The state averages approximately three tornadoes every two years.

Three tornadoes have touched down within the Central Connecticut Region in the past 60 years. On September 24, 1942, a tornado touched down in Plainville, destroying a church. In 1962, an F<sub>3</sub> tornado killed one person, injured 50 more, and completely destroyed over 200 buildings in Southington and Waterbury. On July 21, 2010, the region saw its third touchdown: an EF<sub>1</sub> tornado whose winds and hail affected five of the region's towns touched down briefly in Bristol and Plymouth.

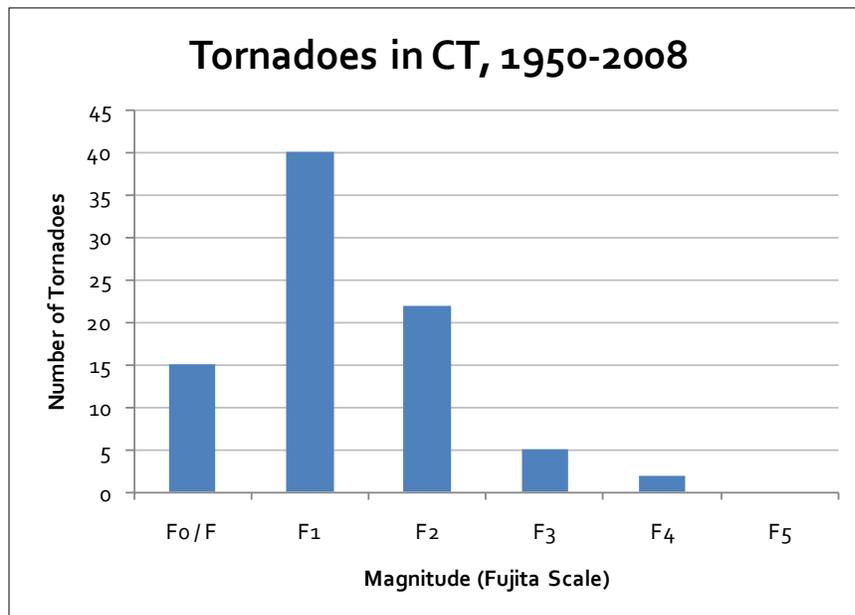
In Bristol, the tornado incurred more than \$550,000 in damages, uprooting sizeable trees and twisting off the tops of others, and leaving many residents without power. In Plymouth, the storm left approximately 880 locations without power, and resulted in multiple road and business closures. Neighboring towns also experienced high winds, trees knocked down, power outages, and hail up to one inch in diameter.

A few tornadoes have touched down just beyond the limits of the region. Between 1962 and 2001, tornadoes touched down in Torrington, Avon, Watertown, Thomaston, Waterbury, and Wolcott. In 1979, an F4 tornado touched down in Windsor Locks, about 30 miles northeast of the region, in Hartford County. The storm destroyed 12 homes, killed 2 people, injured 10 others, and ultimately did an estimated \$214 million in damages.

### Enhanced Fujita Scale

Fujita Scale			Enhanced Fujita	
F Number	Fastest 1/4 mile (mph)	3 Second Gust (mph)*	EF Number	3 second Gust (mph)
0	40-72	45-78	0	65-85
1	73-112	79-117	1	86-110
2	113-157	118-161	2	111-135
3	158-207	162-209	3	136-165
4	208-260	210-261	4	166-200
5	261-318	262-317	5	Over 200

\* 3-second gust numbers have been rounded  
 Source: National Oceanic and Atmospheric Administration website:  
<http://www.spc.noaa.gov/faq/tornado/ef-scale.html>, accessed 9/10/09.



While Connecticut clearly faces some risk from tornadoes, the nature of the storms makes them unpredictable and near-impossible to defend against. While property destruction may be unavoidable, loss of life can be minimized through efficient, coordinated response.

## Drought

### History of Drought in Connecticut's Central Climate Division, 1901-2003

Drought Periods	Duration	Lowest PDSI* (Palmer Drought Severity Index)
1/1901 - 2/1901	2 months	-3.97 in 2/1901
11/1909 - 12/1909	2 months	-3.28 in 12/1909
4/1910 - 9/1911	18 months	-5.20 in 5/1911
9/1912 - 2/1913	6 months	-3.66 in 11/1912
7/1913 - 9/1913	3 months	-3.97 in 8/1913
9/1914 - 12/1914	4 months	-3.62 in 11/1914
4/1915 - 6/1915	3 months	-3.98 in 6/1915
11/1924 - 6/1925	8 months	-4.01 in 4/1925
11/1929 - 4/1931	18 months	-4.77 in 9/1930
10/1931 - 2/1932	5 months	-4.35 in 12/1931
4/1932 - 7/1932	4 months	-3.41 in 5/1932
11/1949 - 1/1950	3 months	-3.52 in 12/1949
7/1957 - 11/1957	5 months	-3.68 in 9/1957
9/1964 - 1/1965	5 months	-4.01 in 11/1964
3/1965 - 10/1966	20 months	-4.40 in 8/1966
1/1967 - 2/1967	2 months	-3.17 in 2/1967
2/2002 - 4/2002	3 months	-3.28 in 2/2002

\*PDSI ranges from -6 (severe drought) to 6 (extremely wet)

Source: Northeast Regional Climate Center

Although flooding is the number one natural hazard affecting the Central Connecticut Region, the region is still susceptible to drought. According to the Northeast Regional Climate Center, Connecticut's central climate division (which includes the Central Connecticut Region) experienced 17 droughts between 1900 and 2003. Notable droughts in the area occurred in 1910-1911, from 1929-1932 (during the "dust bowl" years of the early thirties), and from 1964-1966 (see table, next page).

Drought impacts are typically felt through economic and environmental consequences rather than as direct risks to life and property. The three kinds of droughts (meteorological, hydrological, and agricultural) have impacts of varying degrees. Meteorological droughts are statistical in nature: they

encompass any period where precipitation is below normal. Hydrological droughts cause surface and subsurface waters to dip below typical levels, while agricultural droughts cause crop failure when there is insufficient water to support growth.

The State of Connecticut has a Drought Preparedness Plan, prepared in 2003 by an Interagency Drought Work Group, and accepted by the Connecticut Water Planning Council. (A copy of the plan can be accessed here: <http://www.drought.state.ct.us/drtwkpln.pdf>) The plan outlines four drought stages and the state-level responses (including advisories, conservation strategies, monitoring, and other actions) for each stage, as well as post-drought actions to be taken.

The Central Connecticut Region does not experience a higher risk for drought than the rest of the state.

## **Wildfires**

Fire risk in the region is also roughly the same as in the rest of the state. Within the region, some towns experience a greater risk of wildfire than others, as a result of differing amounts of forest from town to town. Many of the region's towns are home to tracts of forested land owned by water utility companies; Burlington has by far the most acreage so owned, and is also home to the Nassahegan State Forest. As a result, Burlington's fire risk is somewhat higher than the other towns'. Staff in Burlington did not identify wildfire as a hazard of particular concern, however.

Connecticut experiences three distinct fire seasons: from mid-March to mid-May, prior to leaf-out, when fuels such as grasses, dead leaves, branches and twigs on the forest floor are dried out by the sun; from mid-May to mid-September, depending on precipitation; and from October until the first snowfall, when dead leaves collect on the forest floor. Differences in available fuel and conditions lend different characteristics to fires in different seasons: spring and fall fires tend to spread quickly, burning through readily-available fuels on the surface of the forest floor and causing little long-term damage; summer fires burn deeper into the ground and tend to spread less quickly and be more difficult to suppress. Summer fires are the most destructive to vegetation.

The Division of Forestry at CT DEP issues forest fire danger ratings (low, moderate, high, very high, and extreme) throughout the three fire seasons, with daily advisories during the spring season. According to DEP's website:

Connecticut traditionally experiences high forest fire danger in the Spring from mid-March through May. DEP's Division of Forestry constantly monitors the danger of forest fire to help protect Connecticut's 1.8 million acres of forested land. Throughout the Spring forest fire season, DEP sends daily advisories on forest fire danger levels to DEP's state park forest field staff, municipalities, fire departments and the media. Forest fire danger levels are classified at low, moderate, high, very high or extreme. In an average year approximately 1,300 acres of Connecticut woodland are scorched by forest fires.

In the last 15 years, a handful of fires have occurred in the Central Connecticut Region. Statewide droughts in 1999 and 1995 resulted in fires in the region and in other locations in the state. A few fires from the Central Connecticut region were reported on in the *Hartford Courant*:

**September, 1995:** During a drought, a blaze started in Southington that would burn over 25 acres of land for 3 days before being contained. No homes or businesses were affected.

**August, 1999:** A forest fire burned over 18 acres of woodland along the Berlin/Meriden border for 7 days before being extinguished. The Berlin Fire Chief suspected that the blaze originated from a campfire. No homes or businesses were affected.

**November, 1999:** A blaze on water company land in Burlington and Harwinton burned for 2 days and ranged over 110 acres, 80% of which were in Burlington. The blaze did not threaten any homes or businesses.

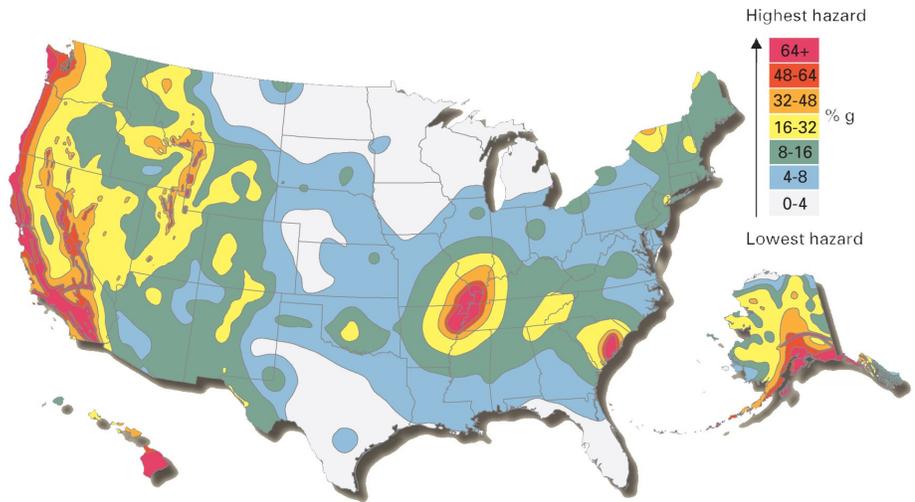
## Earthquakes

According to the U.S. Geological Survey (USGS), Connecticut is in an area of moderate to low risk for earthquakes. Historically, the state saw 136 earthquakes between 1938 and 2009, all of which had Richter Scale magnitudes of less than 4 (see graph and table on following page). Earthquakes felt in the state often originate elsewhere; soft soils and filled wetlands conduct energy better than bedrock, and create instances where earthquakes with their centers in upstate New York, New Hampshire, and Massachusetts make themselves felt in Connecticut.

The seismic hazard for the state is generally low. According to USGS, Central Connecticut has a 2% chance of seeing an earthquake with peak ground acceleration exceeding 8-10% of gravity in 50 years (corresponding to a return period for an earthquake of this intensity of over 2,000 years). An earthquake in exceedance of 10% of gravity is generally considered one that would damage older dwellings and those not resistant to earthquakes. The strongest earthquake in Connecticut history occurred in East Haddam in 1791, and is recorded with intensity VII (see chart, previous page). According to USGS, the earthquake, which was felt in Boston and New York City, caused stone walls and chimney tops to fall, and latched doors to open.

# 2008 United States National Seismic Hazard Maps

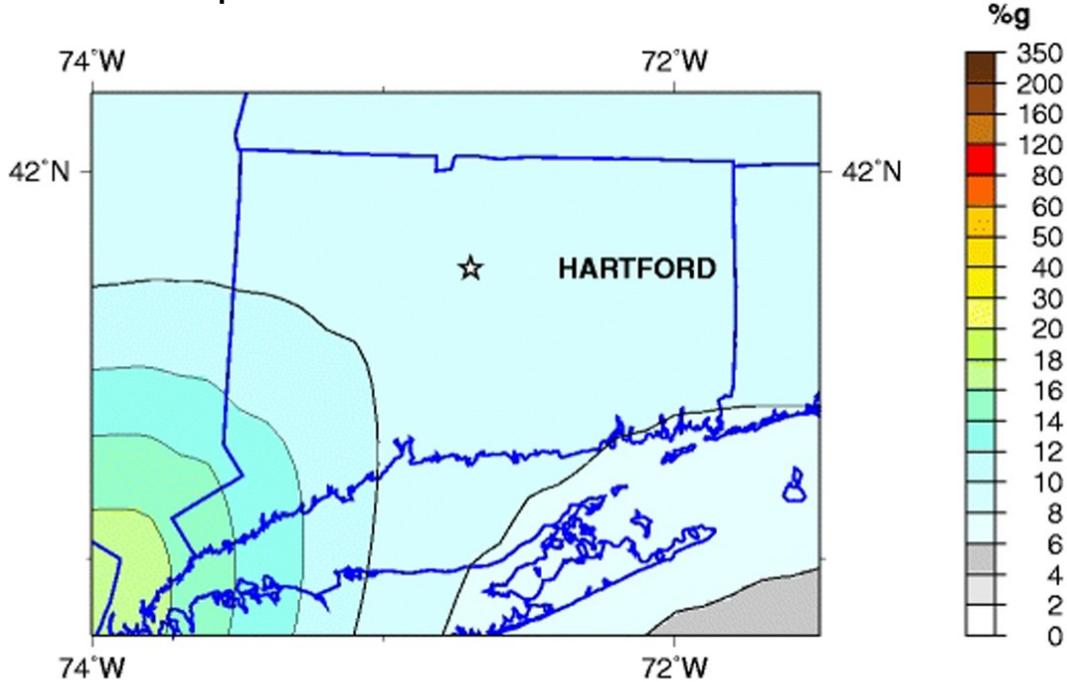
The U.S. Geological Survey's National Seismic Hazard Maps are the basis for seismic design provisions of building codes, insurance rate structures, earthquake loss studies, retrofit priorities, and land-use planning. Incorporating these hazard maps into designs of buildings, bridges, highways, and critical infrastructure allows these structures to withstand earthquake shaking without collapse. Properly engineered designs not only save lives, but also reduce disruption to critical activities following a damaging event. By estimating the likely shaking for a given area, the maps also help engineers avoid costs from over-design for unlikely levels of ground motion.



Colors on this map show the levels of horizontal shaking that have a 2-in-100 chance of being exceeded in a 50-year period. Shaking is expressed as a percentage of  $g$  ( $g$  is the acceleration of a falling object due to gravity).

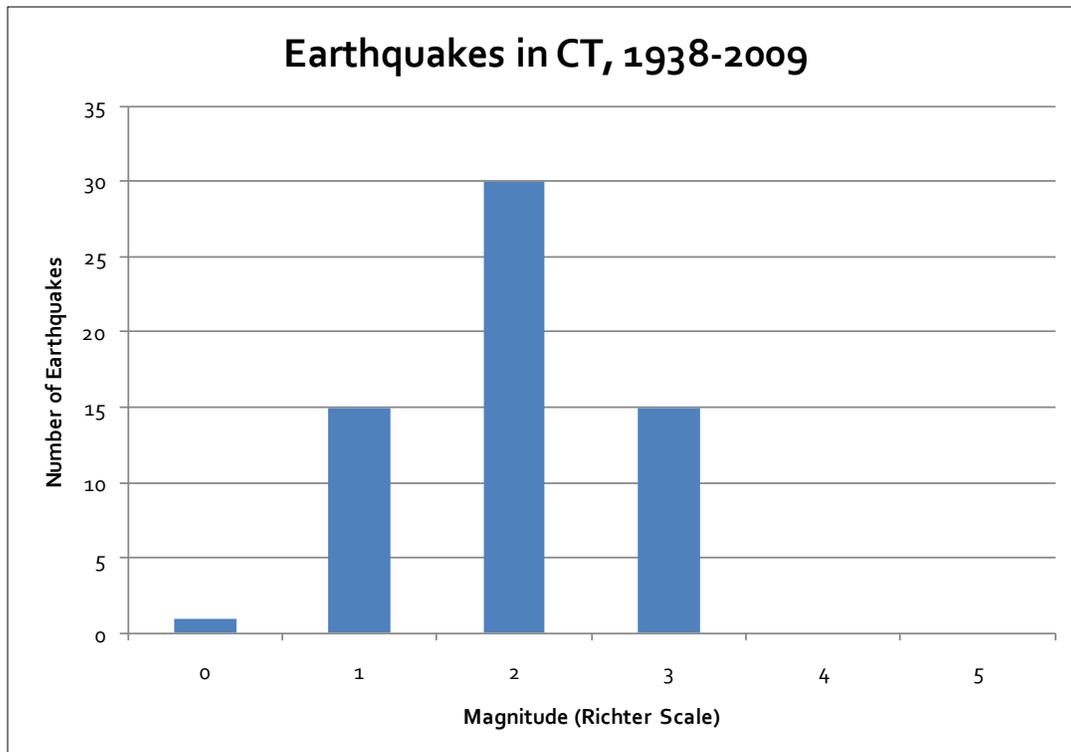
Source: USGS Fact Sheet 2008-3018, downloaded from [http://pubs.usgs.gov/fs/2008/3018/pdf/FS08-3018\\_508.pdf](http://pubs.usgs.gov/fs/2008/3018/pdf/FS08-3018_508.pdf) on 1/7/2009.

## Seismic Hazard Map for Connecticut



**Peak Acceleration (%g) with 2% Probability of Exceedance in 50 Years  
site: NEHRP B-C boundary  
National Seismic Hazard Mapping Project (2008)**

Source: USGS 2008 National Seismic Hazard Mapping Project. Map downloaded from: <http://earthquake.usgs.gov/earthquakes/states/connecticut/hazards.php> 1/13/10.



Source: Weston Observatory at Boston College

## Earthquake Magnitudes and Intensities

### Magnitude

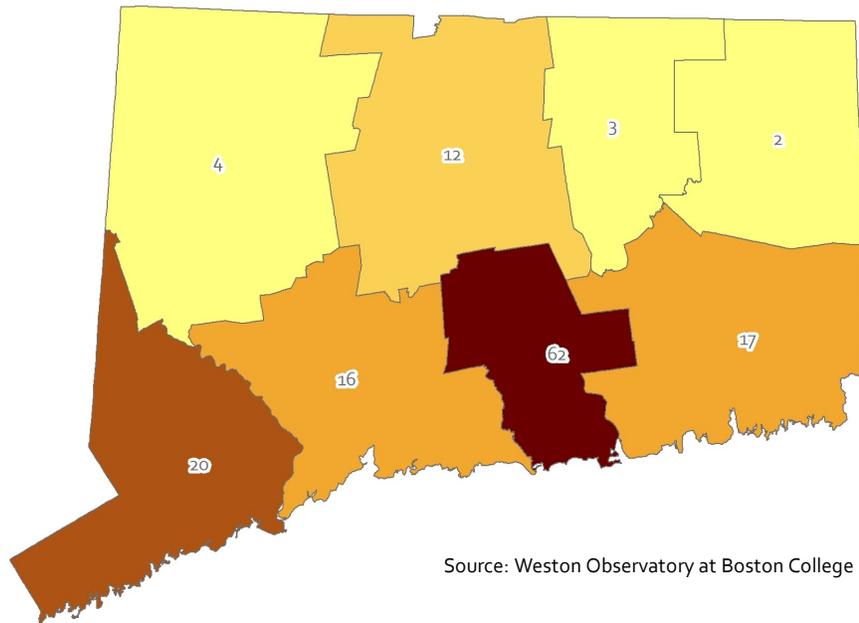
Magnitude (Richter Scale)	Intensity	Impact
1.0 - 3.0	I	Not felt except by a very few.
3.0 - 3.9	II - III	Felt by a few people; especially noticeable indoors; similar to vibrations from a passing truck.
4.0 - 4.9	IV - V	Felt by almost everyone indoors, some outdoors; dishes and other objects disturbed or broken; cars shake; unstable objects overturned.
5.0 - 5.9	VI - VII	Felt by all; heavy furniture moved; slight to moderate damage in well-built structures; some chimneys broken.
6.0 - 6.8	VII - IX	Considerable damage to most masonry structures; buildings shifted off foundations; heavy furniture overturned, chimneys fall.
7.0 and higher	VIII or higher	Considerable to total damage to masonry and wood structures; bridges may collapse; possible distortion of lines of sight and level.

Source: USGS Magnitude/Intensity Comparison: [http://earthquake.usgs.gov/learning/topics/mag\\_vs\\_int.php](http://earthquake.usgs.gov/learning/topics/mag_vs_int.php)

Intensities based on Modified Mercalli Intensity Scale.

Earthquakes that have been reported in Connecticut have most frequently occurred in the southern half of the state (see “Earthquakes in CT, 1938-2009” map, previous page). Central Connecticut infrequently sees earthquakes. Of the towns in the region, New Britain would have the highest risk from earthquakes, simply

### Earthquakes in CT, 1938-2009



Source: Weston Observatory at Boston College

because its buildings and infrastructure are tightly packed and many structures may have been erected before seismic impacts were incorporated into the state building code in 1992. However, due to a variety of factors including distance from fault lines, building types, and settlement patterns, risk to the region in general from earthquake damage is quite small.

A HAZUS-MH analysis (see table, below) of the region’s seven towns confirmed this small risk. For earthquakes of magnitude 5 or less, the analysis showed no direct economic loss in the form of structural or non-structural damage in any of the towns. At magnitude 6.5, all towns showed some damage to buildings, with all towns but Burlington projected to see losses to buildings in the millions. As Connecticut has never in recorded history seen an earthquake in excess of magnitude 3, the threat of a 6.5 earthquake striking the state is acceptably low.

#### HAZUS-MH results for Earthquakes, by town

	Damage to buildings, 5.0 magnitude (millions)	Damage to buildings, 6.5 magnitude (millions)
Berlin	\$ -	\$ 2.3
Bristol	\$ -	\$ 6.3
Burlington	\$ -	\$ 0.7
New Britain	\$ -	\$ 7.2
Plainville	\$ -	\$ 2.2
Plymouth	\$ -	\$ 1.2
Southington	\$ -	\$ 4.3
<b>REGION</b>	<b>\$ -</b>	<b>\$ 24.2</b>

## Municipal Mitigation Goals, Objectives, and Strategies

While the risks from natural hazards confronting the seven municipalities of Central Connecticut may be largely similar, priorities, concerns, economic constraints, and capacity vary from town to town. Each town has a unique history and set of circumstances that dictate best practices; accordingly, space in this section is dedicated to review of hazard impacts in each town, accompanied by a profile of each town's current mitigation actions and goals, objectives, and strategies. Strategies were prioritized according to a variation on the STAPLEE criteria; each strategy was given a score of 1 to 3 (low to high) on each of the following criteria: social acceptability, technical feasibility, administrative feasibility, potential mitigation impact, legality, economic feasibility, and environmental responsibility. Strategies that achieved a cumulative score of 18 or higher qualified as "high" priority.

### **Berlin**



Berlin is a primarily suburban community in the southeast corner of the region that boasts large rural areas. The town features mainly decentralized development, with a large retail strip flanking Rte 5/15 and three small village centers. With slightly more than 18,000 residents living on its 26 square miles in 2000, Berlin had a population density of 675 persons per square mile, slightly higher than the state as a whole. Median age in the town is 43, and 84% of the housing is single-family.

The Town's Plan of Conservation and Development reveals a strong concern for preserving the character of the community, with calls for preserving and protecting ridgelines, open meadows and fields, woodlands and forests, wetlands, watercourses, and flood hazard areas. The Plan also emphasizes smart growth principles, and establishes a service boundary for the town, beyond which sewer, water, and other municipal services are not extended.

## Challenges

Berlin experiences recurrent flooding throughout the town, with regular, localized flooding at a handful of known locations 4-5 times per year. During larger events, floodwaters can divide the town into sections, separating the population centers of Kensington and East Berlin from Berlin. This complicates both evacuation and sheltering in emergencies. The Physical Services building complex floods during major events, to the point that staff remove low file drawers and place them on top of tables at the end of the day if very heavy rains are expected. Lately, concern has arisen in the town about the municipal storm water policy. Current policy requires flood-proofing and on-site water storage for properties within flood zones, but does not address the problem comprehensively, from a hydrological systems perspective. In interviews, several individuals from the town questioned whether a more systematic approach would go further in lessening the severity and frequency of floods.

The rupture of the Kenmere Dam in 1987 alerted Berlin to the potential risks it faces from its dams. Eight to ten dams affect the town of Berlin, and six category C dams lie within the town's boundaries. The 1987 failure loosed 80 million gallons of water into the town; because of the dam's location, most of this water inundated a golf course. Had the dam been situated differently, however, the outcome could have been far worse—a fact not lost on town staff, who are working on a Dam Breakage Emergency Response Plan.

Berlin also faces the usual challenges during winter storms; ice and snow make roads impassable, knock down tree limbs, and disrupt utility service. The combined effect leaves people stranded in their homes, potentially without heat or power. Removal of the ice and snow from Berlin's town-owned roads is handled by a combination of town workers and contractors; the town also handles debris removal.

## Current Mitigation and Response Activities

- Berlin has flood control regulations in place that limit the type of development that may occur in the flood zone. Regulations also stipulate use of flood-resistant materials, flood-proofing, required elevation for buildings' lowest floors, and on-site water storage.
- The town is preparing a Dam Breakage Emergency Response Plan.
- During floods, the town uses sandbags to control flood waters, and evacuates people with homes in known flooding locations, including: sections of Farmington Avenue, residences

on Lower Lane, properties on Norton Road between the two schools, Massirio Drive, and the east side of New Britain Road.

- The town has an open space acquisition program, although it does not specifically target wetlands or flood-prone properties. It also encourages low-impact development.
- Berlin uses a reverse 911 system for emergency notifications, in combination with TV and radio announcements.
- Berlin does annual inspection and cleaning of its culverts.
- The town participates in the National Flood Insurance Program, and has begun mitigating its Repetitive Loss Properties: a single-family house at 79 Massirio Drive has been removed and the parcel is now vacant.
- The town participates in DEMHS Region 3 and follows its Regional Emergency Support Plan.

**Goals, Objectives, and Strategies**

**Goal: reduce losses of life and property, and minimize economic consequences of natural hazards.**

**Objective 1: Update town policies and plans to encourage sound practices**

	Strategy	Priority	Lead	Hazard
S1	Target wetland or flood plain properties for open space acquisition	High	Planning, Conservation Commission	Flooding
S2	Complete the Dam Breakage Emergency Plan	High	Planning	Dam Failure
S3	Revise subdivision / zoning code to offer incentives for low-impact	Medium	Planning	Flooding
S4	Conduct comprehensive study of storm-water issues across town; examine benefits (if any) of developing a strategic (rather than piecemeal) storm-water management plan	Medium	Planning, Public Works	Flooding

**Objective 2: Ensure access to critical facilities**

	Strategy	Priority	Lead	Hazard
S1	Relocate Physical Services building complex to higher ground	Medium	Public Works	Flooding

**Objective 3: Improve capacity to deal with hazards by investing in necessary equipment & training**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Acquire generators and shelter supplies to equip multiple shelters	High	Emergency Management	Winter Storms
S2	Improve coordination and efficiency by periodically exercising and evaluating response plans	High	Emergency Management	All
S3	Take advantage of regional WebEOC training as necessary	High	Emergency Management	All
S4	Invest in a sandbag loader, sandbags, and sand to help manage recurrent flooding	Medium	Public Works	Flooding
S5	Purchase chainsaws and a wood chipper to expedite removal of downed trees and other debris	Medium	Public Works	Winter Storms

**Objective 4: Enable residents to better help themselves through preparedness education**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Develop & distribute a pamphlet about household preparedness for natural hazards; postpdf of pamphlet on town website	High	Emergency Management, Staff	All
S2	Publish evacuation plan on town website	High	Emergency Management	All
S3	Encourage preparedness workshops in schools	High	Emergency Management	All

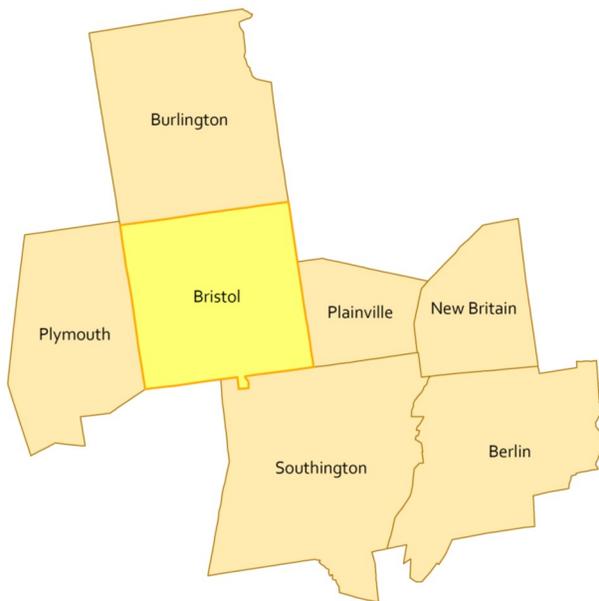
**Objective 5: Continue Participation in National Flood Insurance Program**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Continue enforcement of floodplain management ordinances by regulating all new and substantially improved construction in flood zones	High	Planning	Flooding
S2	Work with FEMA to update FIRMs as necessary	High	Planning, Public Works	Flooding
S3	Continue to distribute information about the NFIP to homeowners	High	Planning	Flooding
S4	Continue to assist homeowners with amendments to NFIP maps as necessary	High	Planning	Flooding

## **Contributors**

Brian Miller (former Town Planner), Jim Horbal (Deputy Director of Public Works, Wetlands Agent), Hellyn Riggins (Town Planner), Morgan Seelye (former Town Engineer), Nick Chirico (Building Official), Matt Odishoo (EMD & Deputy Fire Marshal), Barton Bovee (town resident and Professional Engineer), Dennis Kern (Berlin Land Trust), Art Simonian (Director of Public Works).

## Bristol



One of two cities in the region, Bristol serves as a transportation nexus for the outlying towns in the region. Major arterial roads (state routes 72, 6, and 69) provide interstate access for the towns of Burlington and Plymouth, while commercial development along Rte 6 makes Bristol a regional shopping destination. While the city's economic base was traditionally manufacturing and industry, today it is working to diversify while preserving and repurposing its richly historic building stock.

With 60,062 people living within its 26.8 square miles in 2000, Bristol was the second most dense municipality in the region, with 2,241 people per square mile. Correspondingly, there is greater variation in housing type—only 57.5% of housing in the city is single-family. Median age in Bristol is on par with the state as a whole at 40, and while the city is aging, it is not doing so as quickly as the more suburban towns in the region; by 2030 the Department of Transportation expects to see only a 36% increase in the number of residents aged 60 and older.

### Challenges

Winter storms are the biggest natural hazard concerns for the City of Bristol. Snow and ice removal can become quite expensive, exceeding municipal budgets. The City handles plowing on its own roads and, when required, assists in keeping traffic moving on State Rte 6, a road which is vital to the region but of relatively low priority for the Department of Transportation. When the State cannot clear Rte 6 in a reasonable amount of time and the police department requests assistance, City forces will handle snow and ice removal along the state road. Higher elevations in the City have more trouble with snow and ice; generally, major thoroughfares and routes to the hospital are tended to first, followed by higher elevation areas.

The City also has the usual trouble with tree limbs downed by snow and ice; these take out power lines, block roads, and can leave people without electricity, heat, or communication lines when

they are already isolated. Burying power lines would alleviate these problems, but is prohibitively expensive on a citywide basis. The city's subdivision regulations state that utility lines will be buried wherever feasible, but there are no plans to bury older infrastructure.

Flooding is also a concern in the City; the Pequabuck River snakes directly through the downtown, with a number of old buildings built straddling the watercourse. Copper Mine Brook, on the east side of Bristol, floods frequently as well. At the confluence of the water bodies, where Copper Mine Brook empties into the Pequabuck, an existing railroad bridge causes flooding problems—the 3' high girders of the bridge act as a restricting dam, impounding water until the flow is sufficient to overtop the girders. This is a known problem, but high replacement costs and railroad ownership of the bridge prevent the City from taking action and replacing it. There are also issues with culvert capacity, although the City has worked to improve a number of culverts. Flooding can back up the sewer system; the City is currently working on a \$13.5 million Sanitary Sewer Overflow Elimination project to address the problem, in addition to a phased Infiltration and Inflow Reduction project. The city has several flood control projects in the works that were identified in the Copper Mine Brook Drainage Evaluation document that may assist in mitigating the impacts of flooding on many of its repetitive loss properties. The projects require work on private property; the City is in the process of applying for funding to do the work.

Finally, the City's shelters are undersupplied and have not been used in the past 25 years. The majority of people in Bristol—as in other towns—shelter at home for winter storms, preferring to stay in place than travel about. In flood situations, the City finds that it is rarely confronted with need sufficient to merit opening shelters (even if they were fully equipped), noting that it is more cost-effective to put individuals up in local motels than to open the shelter for a handful of people.

### **Current Mitigation and Response Activities**

- Flood Control Regulations limit the type of development that may occur in the flood plain, and require flood-proofing and on-site water storage.
- Uses NIMS to establish lead agency in a disaster
- The city's subdivision regulations authorize the Planning Commission to require that up to 15% of the land in a proposed subdivision be set aside for open space. The city's zoning regulations include provisions for an Open Space Development Zone, which requires, in

return for reducing minimum lot sizes or clustering dwelling units, the preservation of at least 25% of the land as open space.

- The City’s subdivision regulations state that, wherever feasible, utility lines shall be placed underground. Nearly every new subdivision since the mid 1990s has had underground utility lines.
- The City has an evacuation plan which is documented within its shelter plan; evacuation routes are not signed.
- The City is engaged in a \$13.5 million Sanitary Sewer Overflow Elimination project as well as a phased Infiltration and Inflow Reduction project.
- Fire Department notifies residents of flood-prone areas when water levels begin to rise.
- Procedures outlined in the Emergency Operations Plan are tested periodically.
- The City participates in the statewide reverse-911 system
- Uses WebEOC to stay abreast of developments across the state
- The City participates in the National Flood Insurance Program.
- Bristol Hospital (a private hospital) has backup generators and is self-sufficient; hospital access roads are plowed first during winter storm events.
- The City provides extensive preparedness education information on its website.
- The City participates in DEMHS Region 3 and follows their Regional Emergency Support Plan.

**Goals, Objectives, and Strategies**

***Goal: reduce losses of life and property, and minimize economic consequences of natural hazards.***

**Objective 1: Improve City's capacity to deal with hazards by investing in necessary equipment & training**

	Strategy	Priority	Lead	Hazard
S1	Invest in supplies sufficient to stock existing shelter for a major mass care event	Medium	Emergency Management	Winter Storms

**Objective 2: Improve infrastructure to minimize flooding impacts**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Increase capacity of culverts where necessary; encourage private property owners to improve capacity of culverts on private land where necessary	High	Public Works	Flooding
S2	Improve city sewer system to prevent sewer backups during flood events	Medium	Public Works	Flooding
S3	Replace railroad bridge where Copper Mine Creek empties into the Pequabuck River (requires railroad cooperation)	Medium	Public Works	Flooding

**Objective 3: Build upon existing preparedness education efforts**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Encourage preparedness workshops in schools	High	Emergency Management	All
S2	Consider posting signs along evacuation routes to raise public awareness	High	Emergency Management	All

**Objective 4: Continue participation in National Flood Insurance Program**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Continue enforcement of floodplain management ordinances by regulating all new and substantially improved construction in flood zones	High	Inland Wetlands & Watercourses Commission	Flooding
S2	Work with FEMA to update FIRMs as necessary	High	Public Works, Inland Wetlands & Watercourses Commission	Flooding
S3	Continue to distribute information about the NFIP to homeowners	High	Inland Wetlands & Watercourses Commission	Flooding
S4	Continue to assist homeowners with amendments to NFIP maps as necessary	High	Inland Wetlands & Watercourses Commission	Flooding

**Contributors**

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## Burlington



Burlington is by far the most rural town in the region, with hundreds of acres of protected State Forest and water company lands. Miles of recreational trails cross its woods, while reservoirs in the town are key elements of the public water supply for nearby New Britain. The town's natural setting is prized by its residents, who are few in number; with 8,190 residents in the 30.4 square mile town in 2000, Burlington had a population density of 269 people per square mile.

In 1996 Burlington was ranked the fastest-growing town in Connecticut, and it is projected to grow in coming decades. The Department of Transportation anticipates 3.3% increase in population by 2030—a slightly smaller increase than in the region as a whole. Burlington is also projected to see an 84% increase in number of residents aged 60 and older by 2030. This increase would move the town's population from 18.7% aged 60 and older in 2000 to 32.1% in 2030.

### Challenges

Flooding and winter storms both present challenges for Burlington, although those challenges are not uniform across the town. Situated at the edge of the Western Highlands, Burlington experiences large changes in elevation that result in different weather patterns in different areas of town. When the northwest corner of town, elevation of roughly 1100' above sea level, gets a foot of snow, the southeast corner (at 600') might only see an inch or two. The Farmington River makes a loop through the northeast corner of the town, where elevations are low, before heading into Farmington to the east.

Flooding problems in Burlington arise in two main areas: along the brooks that feed into the Farmington River from the northwest, and in the Whigville area, in the southeast. Flooding in both areas impacts residences as well as town infrastructure. Many of the flooding problems involve infrastructural damage arising from a storm in October 2005 which inundated the town with 16" of

rain over the course of 5 days. The storm washed out a number of roads and bridges, and overwhelmed culverts throughout the town. Damage from the storm is still widespread; notable locations include:

- Upton Road: the road was washed out during the 2005 storm. Culverts need to be enlarged.
- Foote Road: Bunnell Brook needs a berm or a larger channel in this area; every time it rains, it floods the recreation facility next to it. 2 FEMA claims were submitted regarding brook modifications in 2005/2006.
- Corey & Hotchkiss Roads: a bridge over Bunnell Brook washed out during the 2005 storm.
- Main Street (in Whigville): a bridge over the Whigville Brook washed out in 2005. The town made temporary repairs in order to reopen the bridge, but permanent repairs need to be made.
- Prospect Street (in Whigville): a bridge over Whigville Brook washed out in 2005 and remained closed for a year. The town made temporary repairs to reopen the bridge, but permanent repairs are still needed.

Other flooding problems in the town arise from persistent conflicts with beavers, which build dams inside culverts and obstruct the flow. The dams can result in surprising problems including landslides, undermined bridges, and road collapses. The culvert at Scoville Road needs to be replaced, partially due to damage from beavers; in heavy rains the road floods and must be closed. The town works to install beaver-proof grates in as many culverts as it can, and clears out debris from the beavers before large storms in order to prevent flooding.

Winter storms also pose challenges for Burlington. The town handles all of its own snow and ice removal without relying on contractors. The topography of the town means that some areas may be inundated with snow and ice while others are barely affected by the same storm. Although zoning regulations require all new construction (since 2005) to bury utility lines, older homes still have above-ground wires, and power is disrupted by fallen tree limbs in Burlington as in the other towns in the Region.

Because of its extensive wooded areas, Burlington experiences a somewhat greater risk of wildfires than do the other towns in the Region.

## Current Mitigation and Response Activities

- All new construction (since 2005) must have underground wires for electricity per the zoning regulations; older infrastructure has not been buried
- DEP monitors dams
- Wetlands areas protected since 1970s
- Flood plain regulations limit development within the flood plain
- All schools in town are Red Cross approved shelters and are equipped with generators.
- Town Hall is an emergency warming / cooling center, also has a generator.
- Town uses a reverse-911 notification system for emergencies. Emergency Management also has permission to use the school system notification service and to post emergency messages on the variable-message sign at the High School; this will be possible when the correct software is obtained and installed. The Town received a \$40,000 grant to purchase a second sign to be installed on Rte 4 by Town Hall, but cannot install the sign until they receive a zoning variance.
- Key individuals are trained in WebEOC; EMD is hoping to train more in the future.
- The Town participates in the National Flood Insurance Program.

## Goals, Objectives, Strategies

***Goal: reduce losses of life and property, and minimize economic consequences of natural hazards.***

**Objective 1: Improve citizen awareness, preparedness, and response time through education**

	Strategy	Priority	Lead	Hazard
S1	Develop & distribute a pamphlet about household preparedness & town emergency response services	High	Emergency Management	All
S2	Encourage preparedness workshops in schools	High	Emergency Management	All
S3	Publish preparedness pamphlet and evacuation plan on town website	High	Emergency Management	All
S4	Offer low-cost or no-cost town-wide CPR training	Medium	Emergency Management	All

**Objective 2: Improve town infrastructure to better handle hazards**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S <sub>1</sub>	Upgrade culverts on Upson and Scoville Roads	High	Highway Department	Flooding
S <sub>2</sub>	Replace culvert on Alto Road at the intersection of Brookside Drive	High	Highway Department	Flooding
S <sub>3</sub>	Repair/replace bridges as necessary at Prospect Street, Main Street, and the intersection of Covey & Hotchkiss Roads	High	Highway Department	Flooding
S <sub>4</sub>	Beaver-proof culverts where possible	High	Highway Department	Flooding
S <sub>5</sub>	Look at widening channel of Bunnell Brook near Foote Road	High	Highway Department	Flooding
S <sub>6</sub>	Examine possibility of burying older electrical infrastructure in order to curtail disruptions in service	Medium	Highway Department	Winter Storms, Wind Storms

**Objective 3: Improve town communications capacities**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S <sub>1</sub>	Upgrade town radio equipment to 700mhz to ensure interoperability with the state	High	Emergency Management	All
S <sub>2</sub>	Replace ITAC/ICALL mobile base unit by 2013; upgrade portable units and add one	High	Emergency Management	All
S <sub>3</sub>	Revise zoning or grant a variance to allow installation of variable-message notification sign on Rte 4 by town hall	High	Emergency Management, Planning & Zoning	All
S <sub>4</sub>	Install a radio transmission tower between Lake Garda and Whigville, to extend reception to all parts of town and eliminate gaps	Medium	Highway Department	All
S <sub>5</sub>	Implement a one-touch alert notification system to allow Emergency Management and other first responders to contact each other instantaneously in the event of an emergency	Medium	Emergency Management	All

**Objective 4: Improve sheltering capacity for vulnerable populations**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Acquire a generator for the senior center	High	Emergency Management	All

**Objective 5: Increase town capacity to plan for, simulate, and respond to hazards**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Equip Fire and Emergency Management vehicles with portable notebook computers and GPS units	High	Emergency Management	All
S2	Develop GIS capacity to assist in emergency planning and response	Medium	Planning	All

**Objective 6: Continue Participation in National Flood Insurance Program**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Continue enforcement of floodplain management ordinances by regulating all new and substantially improved construction in flood zones	High	Planning	Flooding
S2	Work with FEMA to update FIRMs as necessary	High	Public Works	Flooding
S3	Continue to distribute information about the NFIP to homeowners	High	Planning	Flooding
S4	Continue to assist homeowners with amendments to NFIP maps as necessary	High	Planning	Flooding

**Contributors**

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## New Britain



The City of New Britain is distinct from the rest of the region in a number of ways. It is denser, younger, and more diverse than the other towns. In 2000, 71,538 people lived in New Britain's 13 square miles, giving it a population density of 5,503 people per square mile. Median age in the city is 35, and it is aging less quickly than any of the other towns in the region; projections show less than 25% of the city's population aged 60 and older in 2030. According to the 2000 Census, 30% of the population identifies as minority or mixed-race,

while 43% speak a language other than English at home.

Physically, the city is also built out more than the other towns in the region. According to CCRPA's 2007 regional Plan of Conservation and Development, only 280 net developable acres remained in New Britain—a mere 3% of the city's land area. The city's densely developed core comprises primarily older, multi-story buildings supported by a world of aging infrastructure. Tucked in among the buildings, however, are 1200 acres of parks and open space, as well as numerous bodies of water.

### Challenges

As in other towns, flooding and winter storms present the biggest challenges in New Britain. Several water bodies in the city flood on occasion: Webster Brook, Bass Brook, and the Quinnipiac River all give rise to minor flooding issues at times, while Willow Brook and West Canal create more frequent and severe flooding problems.

Willow Brook is a well-known source of flooding in the City. Overflow from the brook floods a southwest neighborhood where 60-80 properties are affected, as well as the New Britain stadium. A strong storm in June of 1992 caused extensive flooding from Willow Brook, which was the subject of a study by the Maguire Group, who catalogued the damage wrought by the flooding (see appendix). According to their report, the 1992 flooding resulted in over \$650,000 of damages.

West Canal is another source of frequent flooding in the city, although it is undocumented on FEMA's FIRMs due to its high elevation. The 1992 storm caused the canal, built in 1908, to breach; flooding washed out nearby streets and inundated homes. The City paid out \$30,000 in damages to homeowners, who were not eligible for reimbursements under the NFIP. Development in the area impacted by flooding from West Canal is not limited by the City's flood control regulations, which apply only to areas documented in FIRMs.

Drainage infrastructure and water and sewer lines throughout the City are in need of major upgrades. The majority of the infrastructure was constructed in or around 1872 and was not designed to support the level of development the city has seen. Undersized pipes result in flooding, sewer backups, system leaks, and other problems.

New Britain also faces the usual challenges during winter storms; ice and snow make roads impassable, knock down tree limbs which in turn disrupt utility service. The combined effect leaves people stranded in their homes, potentially without heat or power. New Britain's hills pose a particular problem; to mitigate the problem, the city will pre-treat hilly streets with salt before a big storm.

Finally, New Britain has more concern about earthquakes than other towns. Although earthquakes are rare in this area, New Britain is almost fully built-out with many older buildings that could sustain serious damage in the event of a quake. In response to concerns, the city's building code was changed in 2005 to accommodate seismic requirements for new structures.

### **Current Mitigation and Response Activities**

- Flood control regulations limit development in "special flood hazard areas," which are defined as "the area within New Britain subject to one percent or greater chance of flooding in any given year, as identified by New Britain's FIRM." These regulations prohibit manufactured homes and recreational vehicles while imposing restrictions on residential and non-residential construction regarding base elevation, materials, construction methods, etc.
- Seismic standards were added to the building code in 2005.
- Town participates in National Flood Insurance Program

**Goals, Objectives, Strategies**

**Goal: reduce losses of life and property, and minimize economic consequences of natural hazards.**

**Objective 1: Improve municipal response capabilities**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Improve communication and coordination between response personnel in different departments (Police, Fire, Water, Public Works) by holding regularly scheduled, multi-agency exercises of the EOP	High	Emergency Management	All
S2	Create guidelines for releasing water from dams during storm events to avoid dam breakage	High	Planning, Public Works	Flooding, Dam Failure

**Objective 2: Enable residents to better help themselves through preparedness education**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Develop and distribute pamphlet about preparedness for residents (English, Spanish, and Polish); post on city website	High	Emergency Management	All
S2	Encourage preparedness workshops in schools	High	Emergency Management	All

**Objective 3: Upgrade aging infrastructure to improve City's capacity to deal with inundation**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Create a plan for repairing/replacing aging infrastructure including water, sewer, and stormwater drainage lines throughout the City	High	Planning, Public Works	Flooding
S2	Coordinate improvement plans with utility companies re: putting utility lines underground	Medium	Planning	Winter Storms, Wind Storms

**Objective 4: Align planning policies with affected areas**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Amend the City's Flood Control Regulations to apply to the West Canal area despite that area not being included on FEMA's FIRMS*	High	Planning	Flooding

\*(The current regulations read, "This article shall apply to all special flood hazard areas within the jurisdiction of the City of New Britain," where "special flood hazard area" is defined as "the area within New Britain subject to one percent or greater chance of flooding in any given year, as identified by New Britain's FIRM.")

**Objective 5: Continue Participation in National Flood Insurance Program**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Continue enforcement of floodplain management ordinances by regulating all new and substantially improved construction in flood zones	High	Planning	Flooding
S2	Work with FEMA to update FIRMS as necessary	High	Public Works	Flooding
S3	Continue to distribute information about the NFIP to homeowners	High	Planning	Flooding
S4	Continue to assist homeowners with amendments to NFIP maps as necessary	High	Planning	Flooding

**Contributors**

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## Plainville



As its name suggests, the primarily suburban community of Plainville is situated almost entirely in a flat plain. Despite encompassing only 9.6 miles of land, the town boasts urban, suburban, and rural areas and hosts sections of Interstate 84 and State Route 72, both limited-access highways pivotal to the region's transportation system. With 17,328 residents in the year 2000, Plainville had a population density of 1,768 persons per square mile, nearly triple the density of the entire state.

Plainville is largely built out, with only 940 net developable acres (14% of the town's total acreage) left as of 2007. The town's 2009 Plan of Conservation and Development, in recognition of this fact, stresses the importance of comprehensive open space planning, natural resource protection, and limitation of impervious surface cover.

### Challenges

Flooding is the primary challenge in Plainville. The Pequabuck and Quinnipiac Rivers both pass through the town; of the two, the Pequabuck poses the greater flooding risk. At one time flooding from the Pequabuck would divide the town, flooding a bridge on Washington Street and thus rendering the northwest section of town inaccessible. Now, access to the northwest is secured via Northwest Drive, which provides a connection between Rtes 10 and 177. The river still floods several other areas, including a strip of homes on Robert Street Extension. Although the area floods regularly, and informal plans are known, there is no written evacuation plan for the street.

The town's wastewater treatment plant is also subject to flooding, although on a less regular basis. Although according to a 1980 FEMA flood study the plant is constructed above the 100 year flood elevation, the plant still floods during extreme conditions. The gravity-operated plant was built in the 1940s, and its location is non-negotiable.

Even slight flooding can cause backups in Plainville's sewer and storm water systems. This has been the case for some time, and was the subject of a Comprehensive Drainage Study completed in May of 1975. While the report's findings are still valid, the solutions proposed for alleviating the situation have always been prohibitively expensive, and have not been implemented.

The town faces the same challenges from winter storms as do the other towns in the region: cleanup and management of the storms can be expensive; residents can be isolated by snowy and icy roads; and downed trees can block roads and cause power outages, depriving residents of electricity, communications, and even heat. As in other towns, the vast majority of residents, accustomed to Connecticut's weather, choose to shelter in place, waiting out the storms from the comfort of their own homes. In the event that shelters are required for winter storms or other events, the town has two Red Cross approved shelters.

#### **Current Mitigation and Response Activities**

- Plainville has the toughest floodplain regulations of any town in the region. The regs specifically disallow "any use requiring substantial investment in a structure and permanent equipment that could be damaged by flooding," including residential and commercial uses.
- The town is actively pursuing new methods of storm water management to minimize system back-ups associated with flooding. In November 2009 they hired a consultant to review their Land Use Regulations and Ordinances with an eye toward reorganizing them, removing "impediments and barriers to appropriate site development design relating to the management of storm water, including storm water quality," and creating incentives and/or requirements for LID techniques.
- The town participates in DEMHS Region 3 and follows its Regional Emergency Support Plan.
- The town's evacuation plan, last updated in August 2009 and scheduled for future updates at regular intervals as required by DEMHS, is included in the Emergency Operations Plan.
- The town participates in the State's Reverse-911 system, implemented in November 2009.

- Police notify residents of flood-prone areas (such as Robert Street Extension) of possible flooding to give them time to evacuate. (As of November, 2009, the town is using the statewide reverse-911 system for this process.)
- The town participates in the National Flood Insurance Program, and one of its Repetitive Loss Properties has been mitigated: the former Sullivan Foundry at 28 N Washington St. has been demolished and removed.
- The two Red Cross approved shelters in town are located at the Linden Street and Middle Schools.

### Goals, Objectives, and Strategies

#### Objective 1: Update and formalize existing plans

	Strategy	Priority	Lead	Hazard
S1	Develop a formal evacuation plan for the Robert Street Extension area, and include it in the EOP	High	Emergency Management	Flooding
S2	Update the 1975 Comprehensive Drainage Study with cost/benefit analyses and an eye toward implementation	High	Technical Services	Flooding
S3	Revise the subdivision plan/zoning code to include requirements and incentives for low-impact development	High	Planning	Flooding

***Goal: reduce losses of life and property, and minimize economic consequences of natural hazards.***

#### Objective 2: Increase town capacity to plan for and simulate hazard impacts

	Strategy	Priority	Lead	Hazard
S1	Develop GIS capacity to assist in emergency planning and response	Medium	Planning	All

#### Objective 3: Improve critical infrastructure and ensure access to critical facilities

	Strategy	Priority	Lead	Hazard
S1	Improve bridges identified as needing repair through the bridge and dam inspection program.	High	Public Works	Flooding

**Objective 4: Enable residents to better help themselves through preparedness education**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Develop & distribute a pamphlet about household preparedness for natural hazards	High	Emergency Management	All
S2	Post pamphlet and evacuation plan on town website	High	Emergency Management, Staff	All
S3	Encourage preparedness workshops in schools	High	Emergency Management, Schools	All

**Objective 5: Continue Participation in National Flood Insurance Program**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Continue enforcement of floodplain management ordinances by regulating all new and substantially improved construction in flood zones	High	Planning	Flooding
S2	Work with FEMA to update FIRMs as necessary	High	Planning, Public Works	Flooding
S3	Continue to distribute information about the NFIP to homeowners	High	Technical Services	Flooding
S4	Continue to assist homeowners with amendments to NFIP maps as necessary	High	Technical Services	Flooding

**Contributors**

Larry Sutherland (Fire Marshal / Civil Preparedness Director), John Bossi (Town Engineer), Mark DeVoe (Director of Planning & Economic Development), Camen Matteo (Director of Public Works), Len Tundermann (former Director of Planning & Economic Development), Bob Jahn (former Town Engineer), Bill Volovski (former Building Official), Janet Marineau (former Superintendent of Water Pollution Control Plant), Dan Murphy (CDM)

## Plymouth



The gateway to Litchfield County from the east, the town of Plymouth is a suburb of the cities of Bristol and Waterbury. The town is primarily residential in nature, with commercial and retail development along Routes 6 and 72, and industrial uses located in Pequabuck and Greystone, and in the industrial park located off Harwinton Avenue. Route 6 (Main Street ) bisects the town from east to west and acts as the town’s primary arterial, providing connections Route 8 to the west and Route 84 to the east via Route 72.

Plymouth had a population of 11,634 in the year 2000, with 522 people per square mile. The town has several distinct population centers within its 22.3 square miles: Terryville, which is the largest center in the eastern part of the town, and also Pequabuck, Fall Mountain, Lake Plymouth, East Church, Greystone, and Plymouth Center. Due to varied topography and historical settlement patterns, these population centers have remained fairly distinct over the years.

Plymouth’s Plan of Conservation and Development was updated in 2005. A central focus of the plan was to increase economic development and conservation of open space. The plan also included sewer and water supply district mapping. Sewers, water and gas are available in densely populated portions of the town.

### Challenges

Winter storms and flooding represent the biggest natural hazard concerns for Plymouth. Winter plowing and deicing operations are performed exclusively by Public Works Department staff, and at times stretch manpower and resources beyond the available budget. Occasionally state forces are not available and the town will need to treat state roads, particularly when accidents occur. Plymouth has also had its emergency services strained during prolonged icing events, which can lead to power outages, shelter establishment and road closures throughout town. Preventive tree removal is also a high priority program that is under budgeted.

Plymouth experiences regular flooding in three of its subregional watershed basins: the Poland River to the Northeast, the Pequabuck River in central Terryville, and Hancock Brook to the south. In the Poland River watershed, flooding problems include:

- Residential flooding on North Main Street due to insufficient capacity
- River level at the North Main Street bridge coming within inches of breach
- Marsh Brook breaches on North Riverside Ave at Sandra Ave, causing significant bank erosion in the rear of properties on Hoye Street.

The Pequabuck River watershed faces the following flooding risks:

- Insufficient culvert and channel capacity, which causes flooding from Beach Avenue through the rear of properties on Main Street and across Main to the junction of the Pequabuck and Poland rivers
- Flooding in the post office parking area can render it unusable
- Flooding has caused significant damage to the river bank that protects the Water Pollution Control Facility on Canal Street
- Floodwaters nearly reach the electrical substation on Woodside Lane

Flooding issues with Hancock Brook, to the south, include:

- Road closures and washouts along Old Waterbury Road due to inadequate private culverts in the area
- Regular flooding along Todd Hollow Brook due to combination of culvert and downstream capacity
- Localized street flooding which affects private properties when storm events exceed street drainage capacity

Drainage easements in many places are not clearly defined, which complicates maintenance and repair efforts.

Plymouth's large proportion of open space leads to some local concern over wildfires. Although wildfires do sometimes occur in Plymouth, the existence of an all-terrain response vehicle helps first responders access and control them.

A final concern in Plymouth is access: Routes 6 and 72 are both crossed by low railroad bridges with restrictive clearances that limit the height of approaching vehicles. This limits the ability of trucks and other large vehicles to access the town, which could be problematic in the case of a natural hazard.

### **Current Mitigation and Response Activities**

- Plymouth has flood control regulations that require certain improvements for development in the flood plain, including the use of flood resistant construction, raised connections to utilities and maintaining floodway capacity
- The Fire Department pumps out basements when they are inundated with more than 4 inches of water
- The Subdivision and site plan regulations require a zero increase in net runoff for new developments for the 25 year storm event for the Pequabuck and Poland River watersheds.
- Open Space Acquisition through subdivision regulations
- Annual Catch Basin cleaning
- The Town participates in DEMHS Region 5 for Regional Emergency Planning
- The town has intergovernmental mutual aid agreements in place with Burlington, Wolcott, Thomaston, Bristol, and Harwinton
- Completed NIMS training and a Tabletop exercise to test preparedness.
- The town has a portable 60KW generator that can be used when needed during an emergency.
- The centralized dispatch in Town Hall has been upgraded to allow for multiple dispatcher operation.
- Subdivision regulations require utilities to be buried.
- Town Hall is a Red Cross Certified Shelter.
- The EOC is located at 7 North Main St.

## Goals, Objectives, and Strategies

**Goal: maximize survival of people, prevent and/or minimize injuries and preserve property and resources of the Town of Plymouth in the event of natural disasters.**

### Objective 1: Improve town infrastructure to reduce hazard impacts

	Strategy	Priority	Lead	Hazard
S1	Resolve flooding problems on Todd Hollow Road and Beach Avenue by reconstructing the drainage systems and roads	High	Public Works	Flooding
S2	Improve Bemis Street and Seymour Road	High	Public Works	Flooding
S3	Upgrade bridges as necessary to alleviate flooding problems including North Main Street Bridge	High	Public Works	Flooding
S4	Provide for an increase in selective tree trimming and removal	High	Public Works	Winter Storms, Wind Storms
S5	Increase the railroad clearances on Rte 72 in Pequabuck	Medium	Public Works	All

### Objective 2: Upgrade town facilities & assets to maximize response capabilities

	Strategy	Priority	Lead	Hazard
S1	Certify the high school, fire houses, and Eli Terry Middle School as Red Cross shelters	High	Emergency Management	Winter Storms
S2	Provide indoor space for equipment storage and build a salt shed at the highway facility	High	Public Works	Winter Storms
S3	Upgrade fire trucks and the traffic signals on Main Street to allow for emergency signal preemption	High	Public Works, Fire Department	All
S4	Install computer at EOC	High	Emergency Management	All
S5	Improve communication system	High	Emergency Management	All
S6	Follow the objectives listed in the Fire Department's Master Plan, including constructing a new Fire Station in the Fall Mountain area	Medium	Fire Department	All
S7	Increase size of Police Department through Town Hall expansion	Medium	Police Department	All

**Objective 3: Invest in training and equipment to increase response capacity**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Have a full-scale, multi-agency emergency response drill	High	Emergency Management	All
S2	Train additional staff in WebEOC	High	Emergency Management	All
S3	Purchase additional emergency generator for Plymouth Fire House	High	Fire Department	All
S4	Take advantage of statewide Reverse-911 service through Everbridge	High	Administration, Emergency Management	All
S5	Use GIS to improve and coordinate response services	Medium	Planning, Emergency Management	All

**Objective 4: Use policy and planning tools to address potential impacts of hazards**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Prepare Dam Emergency Response Plan	High	Planning, Public Works	Dam Failure, Flooding
S2	Update the Town Emergency Response Plan at regular intervals	High	Emergency Management	All
S3	Update the Shelter Management Plan	High	Emergency Management	Winter Storms
S4	Develop an Town Evacuation Plan	High	Emergency Management, Public Works	All
S5	Develop low impact development regulations with incentives	Medium	Planning	Flooding
S6	Prepare a town-wide Drainage / Flooding Study	Medium	Planning, Public Works	Flooding
S7	Better define drainage easements	Medium	Planning, Public Works	Flooding
S8	Use GIS to improve governmental and emergency services	Medium	Planning, Emergency Management	All

**Objective 5: Enable residents to better help themselves through preparedness education**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Provide emergency planning tools on the town website	High	Emergency Management	All
S2	Encourage preparedness workshops in schools	High	Emergency Management	All
S3	Take advantage of statewide Reverse-911 service through Everbridge	High	Administration, Emergency Management	All

**Objective 6: Coordinate plans & reponse efforts with neighboring parties to increase efficacy**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Coordinate dam releases with upstream dam owners prior to significant rainfall events to reduce potential for downstream flooding	High	Public Works, Dam Operators	Dam Failure, Flooding
S2	Test coordination plans (above) with neighboring municipalities and other affected parties through a practice exercise, either tabletop or full-scale	High	Public Works, Dam Operators	Dam Failure, Flooding

**Objective 7: Continue Participation in National Flood Insurance Program**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Continue enforcement of floodplain management ordinances by regulating all new and substantially improved construction in flood zones	High	Planning	Flooding
S2	Work with FEMA to update FIRMs as necessary	High	Planning	Flooding
S3	Continue to distribute information about the NFIP to homeowners	High	Planning	Flooding
S4	Continue to assist homeowners with amendments to NFIP maps as necessary	High	Planning	Flooding

**Contributors**

Mark Sekorski (Fire Chief), Paul Schwanka (Civil Preparedness Director), Khara Dodds (Dir of Planning & Economic Development), Anthony Lorenzetti (Director of Public Works), Bill Kuehn (former Director of Planning & Economic Development), Tim Pollack (former Interim Director of Public Works), Karl Paulette (former Interim Highway Superintendent), Bill Herzman (former Building Official), Tony Orsini (former Emergency Management Director)

## Southington



Southington, similar to its next-door neighbor Berlin, is a suburban community in the southeast part of the region. Originally an agricultural community, Southington has also hosted industry and now boasts several designated historic districts and a revitalized downtown. Physically, it is among the largest towns in the region, at 36 square miles, and is home to a variety of landscapes.

With 39,728 residents in 2000, the town had a population density of 1104 people per square mile. Median age is 42, and 77% of

all housing is single-family. According to the Department of Transportation, Southington is projected to see a 50% increase in its population aged 60 and over; this cohort is expected to comprise almost 1/3 of the town's population by 2030. Southington is one of the three towns in the region that are not served by public transportation.

### Challenges

Flooding from the Quinnipiac River is the main challenge for Southington. The town is relatively flat throughout, which means that floodwaters tend to recede very slowly. The Plantsville area is particularly hard-hit by flooding. It has an undersized drainage system that needs to be upgraded, especially within the floodplain of the Quinnipiac. Upgrading the system would improve the situation during smaller flood events, although the area would still likely flood during larger events.

Woodruff Street is another area with recurrent flooding. Although the publicly-owned culvert was replaced 15 years ago and is in good condition, the channel that runs across private land is undersized and needs to be widened and deepened for a length of approximately 3,000 feet. As the flooding issue occurs on private land, it is beyond the town's ability to remedy. The town's floodplain ordinance mandates zero increase in storm water runoff in flood plain areas, and town staff places high priority on convincing property owners to provide adequate on-site floodwater storage.

The town faces the same challenges from winter storms as do the other towns in the region: cleanup and management of the storms can be expensive; residents can be isolated by snowy and icy roads; and downed trees can block roads and cause power outages, depriving residents of electricity, communications, and even heat. As in other towns, the vast majority of residents, accustomed to Connecticut's weather, choose to shelter in place, waiting out the storms from the comfort of their own homes.

**Current Mitigation and Response Activities**

- The town's Open Space and Land Acquisition Committee cites "water quality / resource protection" and "flood control" as two of its rationales for acquisitions and targets wetlands and other properties valuable for pursuing those ends
- The health department keeps lists of crucial facilities and vulnerable populations, and assists with evacuations during emergencies. The health director, Chuck Motes, is also the deputy emergency management director.
- The water department has a water conservation plan in place, to be used in the event of drought
- Town tests its emergency operations plan every 12 to 18 months; the last test was on July 15, 2009
- Flood plain regulations limit development that can occur in flood zones and flood ways
- The town participates in the National Flood Insurance Program
- Participates in DEMHS Region 3 planning activities

**Goals, Objectives, and Strategies**

***Goal: reduce losses of life and property, and minimize economic consequences of natural hazards.***

**Objective 1: Increase capacity to shelter large numbers of people in the case of an emergency**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Inventory town shelters	High	Emergency Management	Winter Storms
S2	Invest in supplies sufficient to stock at least one shelter in case of a major event	High	Emergency Management	Winter Storms
S3	Develop a comprehensive shelter plan	Medium	Emergency Management	Winter Storms

**Objective 2: Improve town's capacity to deal with hazards by investing in necessary equipment and upgrading infrastructure**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Invest in emergency generators in order to keep critical facilities online during emergencies	High	Public Works	Winter Storms, Wind Storms
S2	Invest in chainsaws and a wood chipper to expedite removal of downed trees	High	Public Works	Winter Storms, Wind Storms
S3	Invest in sump pumps to more quickly remove floodwaters	High	Public Works	Flooding
S4	Increase capacity of Plantsville drainage system	Medium	Public Works	Flooding

**Objective 3: Improve citizen notification, awareness, and response time**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Take advantage of the statewide Reverse-911 system offered through Everbridge	High	Administration, Emergency Management	All
S2	Develop & distribute household preparedness pamphlet	High	Emergency Management	All
S3	Encourage preparedness workshops in schools	High	Emergency Management	All
S4	Post preparedness pamphlet and town evacuation plans on town website	High	Emergency Management	All

**Objective 4: Continue Participation in National Flood Insurance Program**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Continue enforcement of floodplain management ordinances by regulating all new and substantially improved construction in flood zones	High	Planning & Zoning	Flooding
S2	Work with FEMA to update FIRMs as necessary	High	Planning, Public Works	Flooding
S3	Continue to distribute information about the NFIP to homeowners	High	Planning	Flooding
S4	Continue to assist homeowners with amendments to NFIP maps as necessary	High	Planning	Flooding

## **Contributors**

Mark Sciota (Deputy Town Manager / Emergency Management Director), Tony Tranquillo (Director of Public Works), Jim Grappone (Assistant Town Engineer), Mary Savage-Dunham (Town Planner), Jim Butler (Assistant Building Inspector)

## **Regional Mitigation Goals, Objectives, and Strategies**

While each town presents its own set of circumstances, its own level of current action, and its own agenda for future preparations, some mitigation actions are best considered on the regional level. This section outlines goals, objectives, and strategies to be undertaken by Central Connecticut Regional Planning Agency, in support of the municipal actions outlined earlier. Strategies are prioritized according to the same schema used by the towns.

### **Current Mitigation and Response Activities**

- National Flood Insurance Program: all of the region's towns participate in the NFIP; however, few if any of the region's Repetitive Loss Properties have been remediated. CCRPA will attempt to aid towns in mitigating their Repetitive Loss Properties.
- State Building Code: all municipalities in Connecticut employ the State Building Code. The code was last updated in 2005 with state-specific amendments to the 2003 International Building Code, and incorporates the latest standards for wind and seismic resistance.
- Participation in DEMHS planning groups: Six of the region's seven towns (those which are located in DEMHS Region 3 / Hartford County) are members of CREPC, the Capitol Region Emergency Planning Committee. This body coordinates resources and capabilities across the capitol region. The outlying town, Plymouth, falls in DEMHS Region 5, and CCRPA staff acts as liaison between the town and the Region 5 planning committee.
- CRCOG's RED Plan: The six towns that are members of CREPC are also covered by CRCOG's Regional Emergency Deployment (RED) plan. According to CRCOG, "the RED plan provides a framework for communities and agencies to collaborate in planning, communication, information sharing, and coordination activities before, during, or after a regional emergency, including natural hazards."
- Reverse-911: In 2009-2010, the State of Connecticut is working to implement a statewide reverse-911 service which can be accessed by all municipalities. CCRPA is working to keep the seven towns in the region updated on the state's progress, and will help towns collect information, acquire training, and coordinate with the state as necessary to access this service.

- **Dam Safety:** The Connecticut Department of Environmental Protection’s Dam Safety division enforces the state’s dam safety laws, inspecting existing dams and similar structures, and permitting new construction and alterations or repairs. These efforts by CT DEP greatly reduce the risk of dam breaches in the state.

**Goals, Objectives, and Strategies**

**Goal: Assist towns in the region with reducing the potential for loss of life, property, and economic well-being as the result of natural hazards.**

**Objective 1: Assist towns in implementing their mitigation strategies**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Assist towns in identifying and pursuing funding opportunities	High	CCRPA	All
S2	Provide necessary research and technical assistance to towns, including preparation of relevant studies, plans, and ordinances	High	CCRPA	All
S3	Keep towns apprised of all relevant developments at the state level	High	CCRPA	All
S4	Work with towns and state and federal agencies to improve the available data	Medium	CCRPA	All
S5	Assist towns in developing GIS capacity; for towns that lack capacity, continue to provide GIS mapping and analysis services as requested	Medium	CCRPA	All

**Objective 2: Maintain regional focus on hazard mitigation**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Work with member municipalities to maintain this Plan and update it every 5 years	High	CCRPA	All
S2	Incorporate hazard mitigation strategies into regional plans as appropriate, including the regional Plan of Conservation and Development	High	CCRPA	All

**Objective 3: Act as a resource to help towns find strategies that suit them**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Provide information regarding best practices about flood prevention strategies, such as: low impact development, open space preservation, and storm water management	High	CCRPA	All
S2	Provide information regarding regionalization of services where such regionalization would result in increased efficiency and municipal cost savings	High	CCRPA	All

**Objective 4: Help towns accomplish strategies regionally that might be impossible on a smaller scale**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Pursue educational programs for regional schools through FEMA	High	CCRPA	All
S2	Create/source household preparedness pamphlet for distribution to homeowners in the region	High	CCRPA	All
S3	Help towns approach utility companies about putting new and existing utility infrastructure underground	Medium	CCRPA	All

**Objective 5: Work towards regional mitigation of Repetitive Loss Properties**

	<b>Strategy</b>	<b>Priority</b>	<b>Lead</b>	<b>Hazard</b>
S1	Work with towns to devise effective and feasible strategies for mitigating repetitive loss properties	High	CCRPA	Flooding
S2	Work with towns to locate and obtain funding necessary for them to acquire and mitigate RLPs	High	CCRPA	Flooding
S3	Assist towns, as necessary, with outreach to owners of RLPs	Medium	CCRPA	Flooding

## Planning Process

Preparation of this Natural Hazard Mitigation Plan began in 2003, when CCRPA was awarded a Pre-Disaster Mitigation Planning Grant. CCRPA served as the lead agent in development of the plan over the next seven years. An initial draft of the hazard profile chapters of this plan was completed by CCRPA staff in October 2006. The plan was reviewed by municipal representatives from each of the region's seven towns, and was sent to DEP and FEMA for comments. FEMA's comments were received in late 2007. The plan was revised accordingly, and municipal representatives were given an opportunity to review the revisions in late 2009.

### **Oversight & Staffing/Multi-Jurisdictional Participation**

The planning process was overseen by key staff from each of the seven municipalities in the Central Connecticut Region. Directors of Planning, Directors of Public works, and Emergency Management Directors comprised the oversight group. While individuals serving in these capacities did change over the years, the involvement of the position holders remained constant (see table, below). Members of the oversight group were consulted regularly via email, phone, and in-person conversations about progress on the Plan, and were given drafts of the plan to review before copies were made public or submitted to DEP or FEMA. Many members of the group also gave one or more in-depth interviews as part of the planning process (see "Data Collection & Analysis, pg. 75").

Composition of Oversight Group for Hazard Mitigation Plan, 2003-2010

Town	Public Works / Engineer		Emergency Management		Planning Representative	
	Representative	Years*	Representative	Years*	Representative	Years*
Berlin	Morgan Seelye	2003-2005	Matt Odishoo	2003-2010	Brian Miller	2003-2005
	Jim Horbal	2005-2010			Hellyn Riggins	2005-2010
	Art Simonian	2009-2010				
Bristol	Paul Strawderman	2003-2010	Richard Ladisky	2003-2010	Alan Weiner	2003-2010
	Walter Veselka	2004-2010				
Burlington	Scott Tharau	2003-2010	Robert Gleason	2009-2010	N/A	N/A
New Britain	Clarence Corbin	2003-2007	Don Janelle Jr.	2003-2005	Steven Schiller	2003-2010
	Mark Moriarty	2007-2010	Mark Carr	2005-2010		
Plainville	Bob Jahn	2003-2005	Larry Sutherland	2003-2010	Len Tundermann	2003-2006
	John Bossi	2005-2010			Mark DeVoe	2006-2010
Plymouth	Tom Pollack	2004-2005	Tony Orsini	2003-2008	Bill Kuehn	2003-2008
	Anthony Lorenze	2006-2010	Paul Schwanka	2008-2010	Khara Dodds	2008-2010
Southington	Tony Tranquillo	2003-2010	Mark Sciota	2009-2010	Mary Hughes	2003-2006
	Jim Grappone (Asst. Eng.)	2009-2010			Mary Savage-Dunham	2007-2010

\*\*Years\* indicates years spent working with CCRPA on the Natural Hazard Mitigation Plan, not duration or dates of employment

The planning process was also overseen by the Central Connecticut Regional Planning Agency’s board of directors, who approved progress on the Hazard Mitigation Grant and approved drafts of the plan before they were made public and/or submitted to DEP and FEMA. The Agency Board is comprised of representatives of all seven municipalities, appointed by each town’s planning commission, CEO, and town council (for towns with population greater than 50,000). Appendix B includes agendas and minutes of meetings where the Plan was discussed. All Agency Board meetings are open to the public and properly noticed. Agendas are made publicly available in advance of the meetings at town clerks’ offices, and on the Agency website.

**Hazards Identification**

CCRPA staff based their list of hazards to be profiled off of the 2007 Update of the State Natural Hazard Plan (this plan is currently being updated, but information from the new draft was not yet available as of 8/23/10), other regions’ Natural Hazard Mitigation Plans, and data collected from the CT DEP, USGS, and NOAA, among other sources. By eliminating hazards from which the region faces little to no risk (e.g. tsunami, mudslide, etc), staff generated the list of hazards to be profiled in the plan: flood, dam failure, winter storms, hurricanes, tornadoes, drought, wildfire, and earthquakes.

**Data Collection & Analysis**

CCRPA staff used data from a number of sources to assess the risks faced by the region and the seven municipalities. These included: historical information gleaned from NOAA, the Weston Observatory at Boston College, local newspapers, USGS, FEMA, DEP, and others; demographic data from the US Census Bureau and the Connecticut Department of Transportation; budget records and assessors’ data from the seven municipalities; GIS data from USGS, the US Census Bureau, DEP, FEMA, and others; and interviews conducted with the following local municipal officials, representatives of local utility companies, and town residents (chronologically ordered):

Date	Interviewee
4/12/2005	Larry Cole, Associate Director E-911, SBC
4/12/2005	Susan Gaylord, Manager of Emergency Response, Northeast Utilities
4/12/2005	James LaChance, Manager of System Restoration & Emergency Preparedness, Northeast Utilities
4/12/2005	Ed Pass, E-911 Technical Manager, SBC
4/25/2005	Bill Volovski, Building Official, Town of Plainville
5/2/2005	Janet Marineau, Superintendent of Sewer Plant, Town of Plainville
5/2/2005	Carmen Matteo, Director of Physical Services, Town of Plainville
5/25/2005	Dan Murphy, Camp Dresser & McKee
6/2/2005	Steven Schiller, City Planner, Town of New Britain

<b>Date</b>	<b>Interviewee</b>
6/3/2005	Clarence Corbin, Director of Public Works, Town of New Britain
6/13/2005	Pat Toscano, City Surveyor, Town of New Britain
6/20/2005	Bill Kuehn, Town Planner, Town of Plymouth
6/21/2005	Frank Wiatr, Chief Building Official, Town of New Britain
6/29/2005	Brian Miller, Town Planner, Town of Berlin
7/5/2005	Tony Tranquillo, Town Engineer, Town of Southington
7/6/2005	Alan Weiner, City Planner, Town of Bristol
7/7/2005	Jim Horbal, Deputy Director of Public Works, Town of Berlin
7/7/2005	Larry Sutherland, EMD/Fire Marshall, Town of Plainville
7/8/2005	Paul Strawdermann, City Engineer, Town of Bristol
8/7/2005	Larry Sutherland, EMD/Fire Marshall, Town of Plainville
9/19/2005	Hellyn Riggins, Town Planner, Town of Berlin
9/23/2005	Mary Hughes, Town Planner, Town of Southington
9/29/2005	Morgan Seelye, Former Town Engineer, Town of Berlin
10/3/2005	Nick Chirico, Building Official, Town of Berlin
10/5/2005	Jim Butler, Assistant Building Inspector, Town of Southington
10/5/2005	Matt Odishoo, EMD, Town of Berlin
11/1/2005	Bill Herzman, Building Official, Town of Plymouth
11/1/2005	Karl Paulette, Interim Highway Superintenden, Town of Plymouth
11/1/2005	Tom Pollack, Interim Director of Public Works, Town of Plymouth
11/2/2005	Donald Janelle, Jr., EMD, Town of New Britain
11/2/2005	Charles Kirchofer, Building Official, Town of Burlington
11/2/2005	Ted Scheidel, 1st Selectman, Town of Burlington
11/2/2005	Scott Tharau, Highway Foreman, Town of Burlington
11/16/2005	James Thompson, Town Engineer, Town of Burlington
11/18/2005	Bart Bovee, Citizen, Berlin
11/21/2005	Dennis Kern, Citizen, Berlin
11/28/2005	Richard Ladisky, EMD, Town of Bristol
12/1/2005	Tony Orsini, EMD, Town of Plymouth
2/15/2006	Richard Miller, Chairman of Inland Wetlands & Watercourses Agency, Town of Burlington
4/2/2006	Tom Chizinski, Connecticut Natural Gas
6/8/2006	Mark Austin, Bristol Inland Wetlands Commission, Bristol
6/23/2006	Gilbert Bligh, Director, New Britain Water Department
6/28/2006	Cynthia Gaudino, Manager of Source Protection & Real Estate, Connecticut Water Company
7/7/2006	James Randazzo, Manager of Water Supply, MDC
7/7/2006	Carol Youell, Natural Resources Administrator, MDC
9/15/2008	Vince D'Andrea, Buliding Official, Town of Bristol
10/17/2008	Bill Kuehn, Town Planner, Town of Plymouth
2/5/2009	Philip Sher, Head of Gas Pipeline Safety Unit, CT Department of Public Utility Control
2/27/2009	Jim Grappone, Assistant Town Engineer, Town of Southington
2/27/2009	Tony Tranquillo, Town Engineer, Town of Southington
3/6/2009	Cynthia Gaudino, Manager of Source Protection & Real Estate, Connecticut Water Company
3/21/2009	John Bossi, Town Engineer, Town of Plainville
3/21/2009	Len Tundermann, Former Town Planner, Town of Plainville
9/14/2009	John Bossi, Town Engineer, Town of Plainville

Date	Interviewee
9/14/2009	Mark DeVoe, Town Planner, Town of Plainville
9/14/2009	Larry Sutherland, EMD/Fire Marshall, Town of Plainville
9/30/2009	Richard Ladisky, EMD, Town of Bristol
9/30/2009	Walter Veselka, Public Works Director, Town of Bristol
9/30/2009	Alan Weiner, City Planner, Town of Bristol
10/5/2009	Jim Horbal, Deputy Director of Public Works, Town of Berlin
10/5/2009	Matt Odishoo, EMD, Town of Berlin
10/5/2009	Hellyn Riggins, Town Planner, Town of Berlin
10/5/2009	Mary Savage-Dunham, Town Planner, Town of Southington
10/5/2009	Art Simonian, Public Works Director, Town of Berlin
10/5/2009	Tony Tranquillo, Town Engineer, Town of Southington
10/6/2009	Khara Dodds, Town Planner, Town of Plymouth
10/6/2009	Tony Lorenzetti, Director of Public Works, Town of Plymouth
10/22/2009	Mark Moriarty, Public Works Director, Town of New Britain
10/22/2009	Steven Schiller, City Planner, Town of New Britain
11/19/2009	Robert Gleason, EMD, Town of Burlington
11/19/2009	Scott Tharau, Highway Foreman, Town of Burlington
8/18/2010	Cynthia Gaudino, Manager of Source Protection & Real Estate, Connecticut Water Company
8/23/2010	Carol Youell, Natural Resources Administrator, MDC

This data was compiled and used to create a cohesive picture of likely hazard impacts in the region. Interviews held in 2009 and 2010 were used to confirm and update material from earlier interviews, to ensure that information appearing in this Plan is current and accurate.

Additional analysis of the region's risks was done using HAZUSMH, FEMA's loss estimation software, in combination with ArcGIS. HAZUS analyses were done using the base data available in HAZUS. The base data reflects data from the 2000 U.S. Census and is known to be out of date at this time; however, recent, spatially-attributed local data of sufficient detail for the analyses does not exist for all jurisdictions in the region. Analyses were conducted for floods, hurricanes, and earthquakes; the data are reproduced in the relevant hazard sections.

### **Review & Incorporation of Existing Plans**

As part of the planning process, staff reviewed and incorporated information from the following existing plans, studies, ordinances, reports, and technical information:

- State of Connecticut Natural Hazards Mitigation Plan for 2007-2010 (2010 draft is in progress but data will not be made available until the final publication date)
- Capitol Region Pre-Disaster Natural Hazard Mitigation Plan (CRCOG)
- A Natural Hazards Mitigation Plan, Risk and Vulnerability Assessment (CRERPA)

- Pre-Disaster Mitigation Strategy Document for Connecticut's South Western Region (SWRPA)
- Plan of Conservation and Development for the Central CT Region, 2007-2017
- Plan of Conservation & Development, City of Bristol CT
- Plan of Conservation and Development, Town of Plainville
- Town of Berlin Plan of Conservation and Development
- Town of Plymouth Plan of Conservation and Development
- Town of Southington Plan of Conservation & Development
- Burlington Plan of Conservation and Development
- Flood Insurance Study, Hartford County (Study # 09003CV002A) (FEMA, 2008)
- Flood Insurance Study, Town of Berlin (Community # 090022) (FEMA, 1980)
- Flood Insurance Study, Town of Bristol (Community # 090023) (FEMA, 1981)
- Flood Insurance Study, Town of Burlington (Community # 090145) (FEMA, 1980)
- Flood Insurance Study, City of New Britain (Community # 090032) (FEMA, 1981)
- Flood Insurance Study, Town of Plainville (Community # 090034) (FEMA, 1980)
- Flood Insurance Study, Town of Plymouth (Community # 090138) (FEMA, 1982)
- Flood Insurance Study, Town of Southington (Community # 090037) (FEMA, 1981, 1990)
- Town of Berlin Zoning Regulations
- City of Bristol Zoning Regulations
- Burlington Zoning Regulations
- Zoning Ordinances of the City of New Britain
- Zoning Regulations, Town of Plainville
- Zoning Regulations, Town of Plymouth
- Zoning Regulations of the Town of Southington
- Berlin, CT Emergency Operations Plan
- City of Bristol, CT Emergency Operations Plan
- Burlington, CT Emergency Operations Plan
- City of New Britain, CT Emergency Operations Plan
- Town of Plainville Emergency Operations Plan
- Town of Southington Emergency Operations Plan
- Capitol Region Council of Governments Regional Emergency Disaster Plan (RED Plan)

- Connecticut Valley Flood Plain Management Study: Watershed Investigation Report: Mattabeset River: Berlin & New Britain, CT (USDA)
- The Pequabuck River Watershed Management Plan (CCRPA, 2005)
- The Pequabuck River Watershed Action Plan (CCRPA, 2000)
- The Pequabuck River State of the Watershed Report (CCRPA, 2004)
- Report on the June 5-6 1992 Flood: New Britain, CT (Maguire Group, 1992)
- Comprehensive Storm Drainage Study, Bristol CT (Greiner Engineering Sciences, 1985)
- Comprehensive Drainage Study, Plainville CT (1975)
- Coppermine Brook Drainage Evaluation: Bristol, CT (Milone & MacBroom, 2008)
- Tributary B - Copper Mine Brook Channel Improvement Study, City of Bristol CT (HRP Associates, 2003)
- Drainage Improvements to Copper Mine Brook, Bristol CT (Maguire Group, 1987)
- Storm Water Phase II Compliance Assistance Guide (US EPA)
- Heavy Rains & Flooding of Sub-Regional Drainage Basins: October 7-15, 2005 (CT-DEP)
- Agriculture Preservation and Enhancement Strategies for the Central Connecticut Region (CCRPA, 2007)
- Connecticut's State Building Code (1999, with amendments through 2004)
- Update Report for Connecticut (Army Corps of Engineers, 2005)
- Report to the Department of Public Utility Control on the Condition of Underground Gas Facilities (Yankee Gas 2005, 2008)
- Inspection Report: Merimere Reservoir Dam (Roald Haestad, Inc & City of Meriden Water Division 2007)
- Inspection Report: Merimere Reservoir Dike (Roald Haestad, Inc & City of Meriden Water Division 2007)
- Inspection Report: Hallmere Reservoir Dam (Roald Haestad, Inc & City of Meriden Water Division 2007)
- Inspection Report: Kenmere Reservoir Dam (Roald Haestad, Inc & City of Meriden Water Division 2007)
- Phase I Inspection Report: Whigville Reservoir Dam (Army Corps of Engineers, 1980)
- Phase I Inspection Report: Shuttle Meadow Reservoir Dam (Army Corps of Engineers, 1979)
- Phase I Inspection Report: Wasel Reservoir Dam (Army Corps of Engineers, 1978)

- New Britain Water Department Emergency Contingency Plan
- Goodwin Dam EAP (2004)
- Southington Water Supply Plan Update (Maguire Group, 2006)

Other, more general guidance documents were also reviewed during the development of the plan, including:

- Are You Ready: A Guide to Citizen Preparedness (FEMA)
- Taking Shelter from the Storm: Building a Safe Room Inside Your House (FEMA)
- Understanding Soil Risks & Hazards (USDA)
- 2003 International Building Code (sections)
- BOCA National Building Code (1996)
- Earthquake Design and Evaluation for Civil Works Projects (US Army Corps of Engineers, Regulation # 1110-2-1806, 1995)
- Guidelines for Inspection and Maintenance of Dams (CT-DEP, 2002)
- National Flood Insurance Community Status Book (FEMA)

Further data and guidance were sought from the websites of the following agencies:

- FEMA
- CT DEP
- US Geological Survey (USGS)
- National Oceanic and Atmospheric Administration (NOAA)
- The United States Census
- US Army Corps of Engineers
- US Department of Housing and Urban Development (HUD)
- The Weston Observatory at Boston College
- The Metropolitan District Council
- Connecticut State Climate Center
- Connecticut Department of Transportation
- UConn Center for Land-Use Education and Research (CLEAR)
- Northeast Regional Climate Center

### **Goals, Objectives, and Strategies**

Hazard mitigation goals, objectives, and strategies were developed in consultation with representatives from each of the seven municipalities of the Central Connecticut Region in the fall of

2009. A series of meetings and emails sought to elicit initial contributions and later refinements from each town's Emergency Management Director (EMD), Town Planner, and Public Works representative. Depending on the structure of town departments, these meetings and emails also included (variously) highway foremen, building officials, engineers, and others. Contributors are noted at the end of each town's chapter.

Strategies were prioritized based on a modified version of FEMA's STAPLEE schema. Once a town had identified and agreed on a list of objectives and strategies, municipal staff were asked to score the strategies based on 7 factors: social acceptability, technical feasibility, administrative feasibility, potential mitigation impact, legality, economic feasibility, and environmental responsibility. Every strategy received a score from 1 (lowest) to 3 (highest) in each category. The category scores were summed and formed the basis for assigning priority (high, medium, and low). This method assured that, in addition to general acceptability criteria, the importance of the potential mitigation impact and a reasonable assessment of the economic feasibility of all strategies were taken into account, assuring a prioritization that reflected a cost-benefit analysis.

### **Plan Review**

An initial draft of the hazard profile chapters of this plan was completed by CCRPA staff in October 2006. The plan was reviewed by the Agency Board, and municipal representatives from each of the region's seven towns, and was sent to DEP and FEMA for comments. FEMA's comments were received in late 2007. The plan was revised accordingly, and municipal representatives were given multiple opportunities to review drafts of their towns' chapters, including the background description, overview of current mitigation strategies, and future goals, objectives, and strategies. Drafts were circulated and comments accepted via email in January, February, and March of 2010. Comments were also accepted in person and over the phone.

A draft of the plan that included the purpose, authority and funding, regional overview, hazard profile, and municipal and regional goals, objectives, and strategies sections was distributed to the municipalities for review on February 17, 2010, in anticipation of a public hearing held at the CCRPA offices on February 24, 2010. The hearing was noticed in the Hartford Courant, in municipal libraries and town clerks' offices, and on the CCRPA website. Copies of the plan were made available to the public in the town clerks' offices and libraries, as well as at the CCRPA offices, and on the CCRPA website. After the public hearing was complete, the plan was revised and sent to town staff for final review.

Once municipal staff approved the draft, it was circulated to neighboring municipalities, educational institutions, government agencies, nonprofits, and business groups for their comments and input. Representatives of the following municipalities and groups were invited to contribute:

- Town of New Hartford
- Town of Canton
- Town of Avon
- Town of Farmington
- Town of Newington
- City of Middletown
- Town of Rocky Hill
- City of Meriden
- Town of Cheshire
- Town of Wolcott
- Town of Thomaston
- Town of Harwinton
- Capitol Region Council of Governments (CRCOG)
- Council of Governments of Central Naugatuck Valley (COGCNV)
- Litchfield Hills Council of Governments (LHCEO)
- Midstate Regional Planning Agency
- DEMHS Region 3
- DEMHS Region 5
- Connecticut Emergency Management Association (CEMA)
- CT Fire Chiefs' Association
- Central CT State University
- University of Connecticut
- Tunxis Community College
- Greater Southington Chamber of Commerce
- Greater Bristol Chamber of Commerce
- Greater New Britain Chamber of Commerce
- Central Connecticut Economic Developers' Group

The Plan was submitted to the Department of Environmental Protection (CT DEP) for preliminary review in March, 2010. CT DEP returned the plan to CCRPA for revisions; revisions were

completed and the plan was resubmitted to CT DEP in April, 2010. CT DEP accepted the plan and forwarded it to FEMA for review. FEMA completed their preliminary review in July 2010, finding the draft not satisfactory in two sections. CCRPA staff revised the plan again and presented it to the Agency Board at their September 2, 2010 meeting for approval, before resubmitting it to CT DEP and FEMA.

### **Plan Adoption**

On January 24, 2011, CCRPA was notified of the conditional approval of the Natural Hazard Mitigation Plan pending formal adoption by the towns. CCRPA staff then began coordinating with the town councils from the municipalities in the region to pass resolutions of adoption. The schedule for these council meetings and the dates the resolutions were adopted are listed below.

- Bristol; City Council, 2/8/2011; Resolution signed 2/11/2011
- Southington; Town Council, 2/14/2011; Resolution signed 2/15/2011
- Plainville; Town Council, 2/7/2011; Resolution signed 3/8/2011
- Berlin; Town Council, 3/22/2011; Resolution signed 3/23/2011
- Burlington; Board of Selectmen, 3/29/2011; Resolution signed 3/31/2011
- Plymouth; Town Council, 4/5/2011; Resolution signed 5/3/2011
- New Britain; Common Council, 4/13/2011. Resolution signed 4/18/2011

Appendix A contains documentation of the Resolutions of Adoption including the relevant pages from the Council meeting minutes and the resolutions adopted by each of the seven towns in the region.

## **Public Participation**

Draft versions of the region's Natural Hazard Mitigation Plan have been available on the CCRPA website since 2006, when the plan was first given to the Agency Board for review prior to initial submission to DEP and FEMA. As all Agency Board meetings are open to the public, the public was afforded opportunity to comment on the draft at that date and subsequently.

Individual input was sought from residents of the towns during the 2005 interview process.

A public hearing was held on February 24, 2010 to solicit input from residents of all seven towns regarding the draft plan, which was made publicly available on February 17, 2010. The hearing was noticed in the Hartford Courant on February 19 and 20, and notices were also placed in the town clerks' offices and main branch libraries in each of the towns. Copies of the plan were made available in the same locations; an additional copy was made available in the CCRPA offices, and a digital copy was posted to CCRPA's website. Comments from the public were accepted at the public hearing and via email and phone in the week preceding the hearing.

The revised draft plan was presented to the Agency Board for their approval on September 2, 2010, at their usual meeting. The meeting was open to the public, and was noticed at all Town Clerks' offices. The draft was made available on the CCRPA website prior to the meeting.

### **Continued Public Involvement**

The Natural Hazard Mitigation Plan is not static; it will change over time, and as it changes, the public will continue to be consulted. CCRPA's Natural Hazard Mitigation Planning Committee (see Plan Implementation & Maintenance, next page) will hold annual meetings (open to the public) to discuss hazards experienced during the preceding years, impacts from those hazards, etc. These meetings will be noticed at Town Clerks' offices and on the CCRPA website no less than 1 week in advance. Information gathered at these meetings will be made available on the CCRPA website, and contact information will be made available for the planner in charge of the project.

Every 5 years, or upon municipal request, CCRPA will prepare an update of the Plan. The update will be prepared in a manner similar to this Plan, with contributions from the Planning Committee. The update process will involve at least one noticed public hearing, supplemented by a publicized comment period. 5-year update drafts will be made available on the Agency's website and at municipal clerks' offices for a period of not less than 7 days prior to the public hearing.

## **Plan Implementation & Maintenance**

Implementation of the strategies outlined in this Plan will depend, largely, on the availability of resources and funding. Each jurisdiction will need to assess the costs, available funding sources, and potential impacts of all strategies individually. Preference should be given to those projects which achieved high priority rankings in this Plan. Municipal CEOs, EMDs, and staff who contributed to this Plan will be responsible for making the Plan available to other departments and agencies, and ensuring its relevance as a decision-making tool.

### **Monitoring & Updating**

If the Plan is to become and remain an effective planning tool, it must be monitored. To that end, CCRPA will convene a Natural Hazard Mitigation Planning Committee to oversee the continued monitoring and updating of this document. The committee will consist of representatives of the seven towns (to be chosen from the current oversight group of planners, public works directors, and emergency management directors) who meet annually in the fall. Each year, CCRPA will solicit information from this committee regarding hazards experienced during the preceding year, impacts from those hazards, strategies successfully implemented, and new strategies planned for the future. This information will be made public via the Agency's website. (All committee meetings will also be open to the public and noticed at town clerk's offices no less than one week prior to the meeting.) As part of the meeting, CCRPA will provide towns with the latest guidance about FEMA's Hazard Mitigation Grant Program.

Every five years, or at municipal or committee request, CCRPA staff will prepare an update of this plan, under the oversight of the natural hazard planning committee. The process for updating the plan will include group interviews with relevant town staff, similar to those conducted in preparation of this plan, during which municipal staff will have the opportunity to amend or update information and strategies as appropriate. The update process will include at least one public hearing to apprise the public of progress made in hazard mitigation over the preceding five years, and to provide the public an opportunity to comment on the plan.

### **Incorporation into Existing Planning Mechanisms**

Where appropriate, recommendations from the Plan will be incorporated into local planning mechanisms, including Plans of Conservation and Development, Capital Improvement Plans, and

Emergency Operations Plans. In addition, many strategies in the Natural Hazard Mitigation Plan call directly for revision to other plans and policies (e.g. zoning/subdivision codes, open space acquisition plans, and specific studies such as Berlin's Dam Breakage Emergency Plan).

Once the Plan or a Plan update is completed, CCRPA staff will send a letter to each town's staff (including: Planner, Emergency Management Director, and Public Works Director, or their equivalents) detailing the town's final list of strategies, and recommending other planning mechanisms in which the strategies should be included. Annual communication between CCRPA and municipal staff regarding hazard occurrences, implementation of strategies, and new planned strategies will provide opportunity to track progress on strategies and their incorporation into local planning mechanisms.

In addition, CCRPA will incorporate municipal and regional strategies into regional planning documents (e.g. the regional Plan of Conservation and Development, the Transportation Improvement Plan (TIP), regional watershed and open space plans, and the Long Range Transportation Plan) as appropriate.

## **Appendices**

- A. Resolutions of Adoption
- B. Agendas and Minutes of CCRPA Board Meetings
- C. Flood Control Ordinances (7 towns)

## **Appendix A: Resolutions of Adoption**



City of Bristol  
Office of Town and City Clerk  
Bristol, Connecticut

**CERTIFIED RESOLUTION**

I, Therese Pac, Town and City Clerk of the City of Bristol, **DO HEREBY CERTIFY** that the following is a true and correct copy of a resolution duly adopted at a meeting of the City Council of the City of Bristol, duly held and convened on February 8, 2011 at which a constituted quorum of the City Council was present and acting throughout and such resolution has not been modified, rescinded or revoked and is at present in full force and effect:

**BE IT HEREBY RESOLVED**, that

(1) The Natural Hazard Mitigation Plan for the Central Connecticut Region is hereby accepted by the City of Bristol as the official Plan for the Region; and

(2) The Mayor or Acting Mayor, Emergency Management Director, and staff who contributed to this Plan will be responsible for making the Plan available to other departments and agencies, and ensuring its relevance

**BE IT FURTHER RESOLVED THAT** Arthur J. Ward, Mayor or Acting Mayor of the City of Bristol is authorized to execute any and all documents to effectuate the same.

**IN WITNESS THEREOF**, the undersigned has affixed her signature and the corporate seal of the City of Bristol this 11<sup>th</sup> day of February, 2011.

A handwritten signature in cursive script, reading "Therese Pac", written over a horizontal line.

Therese Pac  
Town and City Clerk



City of Bristol  
Office of Town and City Clerk  
111 North Main Street  
Bristol, Connecticut  
(860)584-6200

February 11, 2011

Mr. W. E. Veselka, P.E.  
Director Public Works  
City Hall  
111 North Main Street  
Bristol, Connecticut 06010

Dear Mr. Veselka:

At a meeting of the City Council on February 8, 2011 the following Resolution was adopted:

**BE IT HEREBY RESOLVED**, that

(1) The Natural Hazard Mitigation Plan for the Central Connecticut Region is hereby accepted by the City of Bristol as the official Plan for the Region; and

(2) The Mayor or Acting Mayor, Emergency Management Director, and staff who contributed to this Plan will be responsible for making the Plan available to other departments and agencies, and ensuring its relevance

**BE IT FURTHER RESOLVED THAT** Arthur J. Ward, Mayor or Acting Mayor of the City of Bristol is authorized to execute any and all documents to effectuate the same.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Therese Pac".

Therese Pac  
Town and City Clerk

TP/dml

**FEBRUARY 8, 2011**

The regular meeting of the City Council was held on February 8, 2011 in the City Hall Council Chambers, 111 North Main Street at 7:01 p.m., following the Joint Board meeting. Present: Mayor Ward; Council Members Block, Cockayne, Fuller, Matthews, McCauley and Mills.

**1. MOMENT OF SILENCE FOR TROOPS ON ACTIVE DUTY AND FOR EDWARD KRAWIECKI, SR, LOUIS HANRAHAN AND RICHARD KALLENBACH WHO PASSED AWAY.**

Mayor Ward requested a Moment of Silence for troops on active duty, and for Edward Krawiecki, Sr. and Louis Hanrahan, former Corporation Counsels and Richard Kallenbach, a member of the Bristol Downtown Development Corporation who passed away.

**2. APPROVAL OF MINUTES OF REGULAR CITY COUNCIL MEETING ON JANUARY 11, 2011 AND SPECIAL CITY COUNCIL ON DECEMBER 28, 2010.**

On motion of Council Member Mills and seconded, it was unanimously voted: To approve the minutes of the regular City Council meeting on January 11, 2011 and the special City Council on December 28, 2010.

**3. PUBLIC PARTICIPATION.**

Tim Gamache, 79 Cypress Street, expressed dissatisfaction over a lack of notification regarding the meetings in Hartford on group homes.

Richard John Rudnick, 20 First Street, expressed his concerns about noise from a metal facility near his home. He indicated the noise exceeded noise levels.

**4. ADOPTION OF CONSENT CALENDAR.**

On motion of Council Member Matthews and seconded, it was unanimously voted: To move up sixteen agenda items concerning contracts for the Forestville K-8 and the West Bristol School Building Committees, except for the item regarding food service and to incorporate them into the Consent Calendar.

On motion of Council Member Block and seconded, it was unanimously voted: To adopt the following twenty-one matters as part of the Consent Calendar.

**FEBRUARY 8, 2011**

**38. RESOLUTION REGARDING NATURAL HAZARD MITIGATION PLAN AND AUTHORIZATION FOR MAYOR ARTHUR J. WARD OR ACTING MAYOR TO EXECUTE ANY AND ALL DOCUMENTS, ADOPTED.**

Council Member Matthews moved and it was seconded: That the following Resolution is adopted –

**BE IT HEREBY RESOLVED**, that

(1) The Natural Hazard Mitigation Plan for the Central Connecticut Region is hereby accepted by the City of Bristol as the official Plan for the Region; and

(2) The Mayor or Acting Mayor, Emergency Management Director, and staff who contributed to this Plan will be responsible for making the Plan available to other departments and agencies, and ensuring its relevance

**BE IT FURTHER RESOLVED THAT** Arthur J. Ward, Mayor or Acting Mayor of the City of Bristol is authorized to execute any and all documents to effectuate the same.

A roll call vote was taken.

<u>YES</u>	<u>NO</u>	<u>ABSTAIN</u>
Council Member McCauley		
“ ” Cockayne		
“ ” Matthews		
“ ” Mills		
“ ” Fuller		
“ ” Block		
Mayor Ward		

MOTION APPROVED: *YES – 7; NO – 0; ABSTAIN – 0.*

**39. EXECUTIVE SESSION REGARDING MATTER OF CONSUMERS FEDERAL CREDIT UNION VS CONSUMERS FEDERAL CREDIT UNION AND CITY OF BRISTOL DOCKET NO. HHB-CV10-6003924-S; TO DISCUSS NEGOTIATIONS BETWEEN CITY OF BRISTOL AND MCDONALDS FOR THE RELOCATION OF MCDONALDS ON DEPOT SQUARE SITE AND MODIFICATIONS TO PREFERRED DEVELOPER AGREEMENT; TO DISCUSS NEGOTIATIONS WITH LOCAL #754; AND TO DISCUSS NEGOTIATIONS WITH LOCAL #773.**

At 8:15 p.m., on motion of Council Member McCauley and seconded, it was unanimously voted: To convene into executive session regarding matter of Consumers Federal Credit Union vs Consumers Federal Credit Union and City of Bristol Docket No. HB-CV10-6003924-S; to discuss negotiations between City of Bristol and McDonald’s

# Town of Southington



## Town Council

Edward S. Pocock, III, Chairman  
John C. Dobbins, Vice Chairman  
John N. Barry  
Anthony E. D'Angelo  
Dawn A. Miceli  
Albert A. Natelli, Jr.  
Christopher J. Palmieri  
Peter J. Romano, Jr.  
Stephanie A. Urillo

## Town Manager

GARRY BRUMBACK  
(860) 276-6200  
FAX (860) 628-4727

## Certified Resolution of the Legislative Body

(To be completed by the City or Town Clerk)

The Legislative Body of the Town/~~City~~ of Southington  
met on February 14, 2011 and adopted a resolution by the vote of 9  
to 0 stating that:

- (1) The Natural Hazard Mitigation Plan for the Central Connecticut Region is hereby accepted by the Town/City as the official Plan for the Region.
- (2) Municipal CEOs, EMDs, and staff who contributed to this Plan will be responsible for making the Plan available to other departments and agencies, and ensuring its relevance as a decision-making tool.

Attested to by:

*Leslie G. Cotton*

Name: Leslie G. Cotton

Title: Town Clerk  
(City/Town Clerk)

Date: February 15, 2011

"City of Progress"

MINUTES OF THE TOWN COUNCIL MEETING  
OF THE TOWN OF SOUTHWINGTON  
February 14, 2011

The Town Council of the Town of Southington held a meeting on Monday, February 14, 2011. Edward S. Pocock, III, Chairman, called the meeting to order at 7:03 o'clock, p.m.

The following Councilpersons were present, viz:

Christopher J. Palmieri	Anthony E. D'Angelo
John N. Barry	Dawn A. Miceli
John C. Dobbins	Stephanie A. Urillo
Albert A. Natelli, Jr.	Peter J. Romano, Jr.
Edward S. Pocock, III	

Ex-officio members present were as follows, viz:

Anthony J. Tranquillo, Director of Public Works/Town Engineer  
Mark J. Sciota, Deputy Town Manager/Town Attorney  
Garry Brumback, Town Manager

A prayer was recited by Dawn Miceli, Councilwoman.

The Pledge of Allegiance was recited by everyone in attendance being led by Town Manager Garry Brumback.

There were approximately 20 other persons in attendance.

**EDWARD S. POCOCK, III, Chairman, Presiding:**

**II. Minutes**

Mr. Palmieri made a motion to approve as presented. Mr. Romano seconded. Motion passed unanimously on a voice vote.

**III. Councilmanic Communications**

Dr. Urillo reported on the Southington Historical Society's Civil War Exhibit that opened this past weekend. Channel 3 did have a little segment on it tonight.

It's a wonderful exhibit. There are several items on display depicting the Civil War and Southington's participation. Bob Cusano has done a great job of putting this all together.

The exhibit is free to the public and it runs thru May. The exhibit is open on Thursdays from 6:30 to 8:30 pm and Saturday and Sunday from 10:00 am to 2:00 pm.

Mr. Cyr commended the sewer committee. I'm amazed at some of the savings we've had. He spoke about the water that is coming into our sewer system and costing us money everywhere. I never knew that you cannot take your sump pump and just stick it in the drain along with your washing machine. We should include an insert to that affect with the sewer bills. Showed one he had created. It's important and we should take the time and effort.

As to the North Center Project, it is the Gura Building and the Town Hall there is no funding for. It kind of distresses me that the Chair of that committee said everyone should walk in here with an open mind and we'll come up with the best plan possible, and yet, the three people that this Council put on from the PZC said they were adamant that the building and planning department were not moving to North Center.

I would suggest you people go to that meeting on Wednesday, because what is going on with the people from the PZC, it is not harmonious for this town.

Illio Fusciello, 82 Autran Avenue, explained his issue and indicated he wanted to be paid.

#### **VIII. Old Business**

##### **A. Action on Report of Board of Finance**

###### **1. Cost Containment Review**

The Chair noted a unanimous recommendation from the BOF to move our cost containment up to Tier 3. Mr. Barry made a motion to move into Tier 3. Mr. Dobbins seconded. Motion passed unanimously on a voice vote.

Dr. Natelli made a motion to approve the Board of Finance Minutes. Mr. D'Angelo seconded.

Dr. Natelli pointed out in the Minutes it states we are pursuing Home Depot for some reimbursement for costs associated with the storm.

Motion passed unanimously on a voice vote.

##### **B. Award Custodial Bid**

Mr. Palmieri made a motion to award the bid to Jani-King of Windsor Locks, CT in the amount of \$1,160 per month effective March 1<sup>st</sup>, 2011. Dr. Urillo seconded. Motion passed unanimously on a voice vote.

##### **C. Action on Natural Hazard Mitigation Plan - Resolution**

Dr. Natelli made a motion to approve the resolution for the action on the Natural Hazard Mitigation Plan. Ms. Miceli seconded. Motion passed unanimously on a voice vote.

## **IX. New Business**

### **A. Schedule Public Hearing for new Sewer Ordinance**

Mr. Dobbins made a motion to schedule a public hearing at the next Council meeting, February 28<sup>th</sup>, 2011 at 7:00 pm, for the Sewer Ordinance. Dr. Urillo seconded.

Mr. D'Angelo asked how many towns have such an ordinance similar to this. It's quite stringent. Mr. Dobbins said in Connecticut, Greenwich has one as does Meriden.

The educational component of the ordinance was discussed thoroughly.

The Chair said he would like to have the enforcement action take effect twelve months after the February, 2012 billing cycle.

Attorney Sciota suggested the wording: No penalties shall be applied within one year of the date of passage of the ordinance.

Mr. Barry asked about the inspectors --- it says personnel from various town departments or sub contractors. First of all, do we have the personnel to even do the inspections? If not, if we hire outside sub contractors, what is the anticipated cost?

Mr. Tranquillo explained if we do the townwide program and we get 50 percent compliance in terms of performing inspections, we anticipate around \$30,000 for the first few years. In the beginning there'll be a high peak and as we inspect the homes, the number and the cost will go down.

As for the departments involved, it would be engineering, sewer and potentially the building department. Depending on the Council's timeframe, if you want this done quickly (two or three months), we'll have to hire outside, otherwise we can handle it in house (twelve to eighteen months).

Mr. Barry suggested presenting at the public hearing documentation as to why we believe people are doing the illegal hook ups.

Are the sub contractors, if we hire them, going to drive Town cars or vehicles as it says in this ordinance? The language should be addressed.

Motion passed 9 to 0 on a roll call vote.

TOWN OF



# PLAINVILLE

ONE CENTRAL SQUARE, PLAINVILLE, CONNECTICUT 06062-1955

BE IT RESOLVED, that I, Carol A. Skultety, Town Clerk of the Town of Plainville, a municipality organized under the laws of the State of Connecticut, hereby certifies that the following is a full and true copy of the Resolution adopted at a meeting of the Town Council of said municipality, duly held on the 7th day of March, 2011:

2-2011

## RESOLUTION REGARDING NATURAL HAZARD MITIGATION PLAN

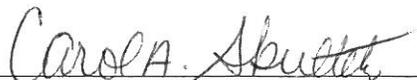
BE IT RESOLVED THAT:

1. **The Natural Hazard Mitigation Plan for the Central Connecticut Region is hereby accepted by the of Plainville as the official Plan for the Region**
2. **Municipal CEO's, EMDs, and staff who contributed to this Plan will be responsible for making the Plan available to other departments and agencies, and ensuring its relevance as a decision-making tool.**

Also, I do further certify that the above noted Resolution has not been in anyway altered, amended or repealed, and is now in full force and effect.

IN WITNESS WHEREOF, I have set my hand and affixed the municipal seal of said municipality this 8<sup>th</sup> day of March, 2011.

TOWN OF PLAINVILLE, CONNECTICUT

  
Carol A. Skultety, Plainville Town Clerk

**MINUTES  
PLAINVILLE TOWN COUNCIL  
COUNCIL CHAMBERS – MUNICIPAL CENTER  
REGULAR MEETING  
March 7, 2011 - 7:00 p.m.**

**6:30pm EXECUTIVE SESSION:**

**Pending Litigation Matter-  
Board of Education**

**I. 7-7:30 pm TOWN COUNCIL CITIZENS FORUM**

**II. PUBLIC HEARING**

**III. REPORT OF TOWN MANAGER**

1. Police Department Organization Discussion
2. Water Pollution Control Plant Improvement Project
3. Plainville-Southington Regional Health District Update
4. Consultant for 2011 Small Cities Grant Application
5. Fiscal Year 2012 Budget Presentation

**IV. REPORT OF TOWN ATTORNEY**

**V. BOARD OF EDUCATION LIAISON (3<sup>rd</sup> Monday Meetings Only)**

**VI. ORAL PETITIONS (Old or New Business Agenda Items)**

**VII. MINUTES OF PREVIOUS MEETING**

Minutes of February 7, 2011 Regular Meeting

**VIII. ANNOUNCEMENTS – REPORTS**

1. Proclamation – Girl Scout Week

**IX. APPOINTMENTS/RESIGNATIONS**

1. Firefighter resignation
2. Appointments to Boards and Commissions

**X. OLD BUSINESS**

**VIII. ANNOUNCEMENTS – REPORTS**

- Proclamation for Girl Scout was read at the beginning of the meeting.

**IX. APPOINTMENTS/RESIGNATIONS**

Councilwoman Szach motioned to accept with regret the resignation of James Lacasse from the Plainville Fire Department. The motion was seconded by Councilman Ciotto and passed 7-0.

**X. OLD BUSINESS**

**XI. NEW BUSINESS**

**1. Ratify establishing public hearing for Town Manager’s Proposed Budget FY-2011-2012**

Councilman Saunders motioned to ratify the Town Manager’s scheduling of a public hearing for Thursday, March 10, 2011, at 7:00pm in the Council Chambers of the Municipal Center to receive comments on the Town Manager’s Proposed Budget for Fiscal Year 2011-2012. The motion was seconded by Councilman Rupaka and passed 7-0.

**2. Establish special meetings of the Town Council to consider and act upon the Town Manager’s Proposed FY 2011-2012 Budget**

Vice Chairman Wazorko motioned to establish the following special meetings of the Town Council for the purpose of considering and acting upon the Fiscal Year 2011-2012 Budget:

- March 14, 15, 22, 24, 28 and 29, 2011, Municipal Center, Council Chambers at 7:00pm.

The motion was seconded by Councilman Rupaka and passed 7-0.

**3. Award RFP#2011-05, Small Cities Grant Application Consultant**

Councilman Rupaka motioned to award RFP #2011-05, Small Cities Grant Application Consultant, to L. Wagner & Associates, Waterbury, CT, per their proposal and fee schedule submitted on January 24, 2011. The motion was seconded by Councilman Saunders and passed 7-0.

**4. Adopt resolution for Elderly and Disabled Transportation – See Addendum**

Vice Chairman Wazorko motioned to adopt a resolution entitled “Resolution Regarding State Matching Grant Program for Elderly and Disabled Demand Responsive Transportation”. The motion was seconded by Councilman Ciotto and passed 7-0.

**5. Adopt resolution regarding Hazard Mitigation Plan**

Councilman Rupaka motioned to adopt a resolution entitled “Resolution Regarding The Natural Hazard Mitigation Plan for Central Connecticut”. The motion was seconded by Councilman Saunders and passed 7-0.

**6. Possible action regarding Declaratory Judgment – Board of Education Issues**

No action was taken



# *Town Of Berlin*

Kate Wall, MMC  
240 Kensington Road  
Berlin, CT 06037  
860-828-7036

MAR 24 2011

*Office of the Town Clerk & Registrar of Vital Statistics*

## **Certified Resolution of the Legislative Body**

The Legislative Body of the Town of Berlin met on March 22, 2011 and adopted a resolution by the vote of 7 to 0 stating that:

- 1) The Natural Hazard Mitigation Plan for the Central Connecticut Region is hereby accepted by the Town as the official Plan for the Region.
- 2) Municipal CEOs, EMDs and staff who contributed to this Plan will be responsible for making the Plan available to other departments and agencies, and ensuring its relevance as a decision-making tool.

Attested to by:

Kathryn J. Wall  
Berlin Town Clerk  
March 23, 2011

**6:55 p.m. - The Berlin Police Department will present the 2010 Casner DUI Enforcement Award to Officer Cruickshank immediately before the start of the Council Meeting.**

**Note: Meeting will be shown on Comcast Channel 96 and at U-Verse 99 on Friday, March 25<sup>th</sup> at 6:00 p.m. and Sunday, March 27<sup>th</sup> at 6:00 p.m.**

**TOWN OF BERLIN  
SPECIAL TOWN COUNCIL MEETING  
Tuesday, March 22, 2011  
Town Council Chambers  
7:00 P.M.**

**A. CALL TO ORDER**

Mayor Adam Salina called the Special Town Council meeting to order at 7:00 p.m.

**B. PLEDGE OF ALLEGIANCE**

**C. ROLL CALL**

Those in attendance were:           Councilor Robert Dacey  
  Councilor Karen Drost  
  Councilor David Evans  
  Councilor Stephen Morelli  
  Councilor William Rasmussen, Jr.  
  Councilor Rachel Rochette  
  Mayor Adam Salina

Also in attendance:                 Town Manager Denise McNair  
  Corporation Counsel Robert Weber

**D. PRESENTATION OF PROCLAMATION   Eagle Scout Jonathan Chicker  
  National Public Health Week**

Mayor Salina stated that Eagle Scout Jonathan Chicker constructed handicapped accessible picnic tables for his Eagle Scout project. He was able to construct three picnic tables and they are located at the Timberlin Park pavilion; the project took over 220 hours which was a testament to Jonathan's time, energy and efforts to the community.

Mayor Salina presented the following Proclamation:

TOWN OF BERLIN

**10. Topic re: Adopt the attached Resolution Adopting the Natural Hazard Mitigation Plan for the Central Connecticut Region. – Town Manager**

Town Manager McNair stated that the Central Connecticut Region's Natural Mitigation Plan has been submitted. Its purpose is to review mitigation strategies and to recommend additional strategies that can help to reduce economic disruptions, loss of life, and destruction of property resulting from natural disasters. Having a plan in place and accepted by FEMA helps to insure our flood status and avoid jeopardizing storm reimbursement funds.

Councilor Morelli moved the following resolution:

- 1) The Natural Hazard Mitigation Plan for the Central Connecticut Region is hereby accepted by the Town as the official Plan for the Region.
- 2) Municipal CEOs, EMDs and staff who contributed to this Plan will be responsible for making the Plan available to other departments and agencies, and ensuring its relevance as a decision-making tool.

Seconded by Councilor Rochette.

Vote being 7-0. (MOTION CARRIED)

**11. Topic re: Waive the town's bidding procedures and authorize the Town Manager to enter into an agreement with Fuss & O'Neill to provide a phase II (ESA) of the 903 and 913 Farmington Avenue properties for a fee not to exceed \$17,400 to be funded from the Land Appraisal Services Account as this is in the best interest of the Town. – Economic Development**

James Mahoney, Economic Development Director stated that the Town has a contract to purchase 903 and 913 Farmington Avenue and they are in the process of doing their due diligence. Fuss & O'Neill completed Phase I and is now recommending a Phase II due to identifying former underground storage tanks that were removed a long time ago but require taking soil and ground water samples from around the area to make sure there is no contamination.

Councilor Morelli moved to waive the Town's bidding procedures and authorize the Town Manager to enter into an agreement with Fuss & O'Neill to provide a phase II (ESA) of the 903 and 913 Farmington Avenue properties for a fee not to exceed \$17,400 to be funded from the Land Appraisal Services Account as this is in the best interest of the Town.

Seconded by Councilor Dacey.

Councilor Evans inquired if they went out to bid on this item if Fuss & O'Neill would have been competitive.



# Town of Burlington

## RESOLUTION

Selectman's Office  
860.673.6789

Accounting Office  
860.675.4960

Town Clerk  
860.673.2108

Assessor  
860.673.3901

Tax Collector  
860.673.0717

Building Inspector  
860.673.1000

Highway Department  
860.673.2439

Parks + Recreation  
860.673.7361  
fax 860.675.5038

Town Fax  
860.675.9312

I, Cynthia Kosher of the Town of Burlington, an entity lawfully organized and existing under the laws of Connecticut, do hereby certify that the following is a true and correct copy of a resolution adopted on the 29th day of March, 2011 by the governing body of the Board of Selectmen, in accordance with all of its documents of governance and management and the laws of Connecticut, and further certify that such resolution has not been modified, rescinded or revoked, and is, at present, in full force and effect.

**RESOLVED:** That the Town of Burlington hereby adopts as its policy to support the nondiscrimination agreements and warranties required under Connecticut General Statutes § 4a-60(a)(1) and § 4a-60a(a)(1), as amended in State of Connecticut Public Act 07-245 and sections 9(a)(1) and 10(a)(1) of Public Act 07-142.

**RESOLVED:** That the Town of Burlington approves the Natural Hazard Mitigation Plan for the Central Connecticut Region as the official Plan for the Region and that Municipal CEOs, EMDs, and staff who contributed to this Plan will be responsible for making the Plan available to other departments, agencies, and ensuring its relevance as a decision-making tool.

IN WITNESS WHEREOF, the undersigned has executed this certificate this 31st day of March, 2011.

Print Name of Signer: Cynthia M. Kosher, Town Clerk

Signature of Signer: Cynthia M. Kosher



## Town of Burlington

BURLINGTON BOARD OF SELECTMEN  
SPECIAL MEETING  
TUESDAY, MARCH 29, 2011

First Selectman Bergstrom called the meeting to order at 7:04 PM at the Burlington Town Hall Conference Room. Present were Selectmen Bergstrom, Chard, Grindal-Keller, Taricani and Powell.

### Pledge of Allegiance

Selectman Grindal-Keller made a motion to add to the agenda. The item to be added would be to re-discuss the motion the BOS adopted and ratified regarding the decision of the First Selectman to implement layoffs of the two Assistant Town Clerks effective March 31, 2011. The motion was seconded by Selectman Powell and passed unanimously. The item will be added to Old Business.

Citizen Comment: None

### Old Business

The request to fly a "Donate Life" flag under the American flag for month of April was discussed. It was agreed by the BOS not to fly any flags but the American and CT Flags on the flag pole at Town Hall.

### Hazard Mitigation Plan

After a brief discussion a motion was made, seconded and passed unanimously to accept the following resolution by Selectman Chard and Selectman Grindal-Keller.

**RESOLVED:** That the Town of Burlington hereby adopts as its policy to support the nondiscrimination agreements and warranties required under Connecticut General Statutes § 4a-60(a)(1) and § 4a-60a(a)(1), as amended in State of Connecticut Public Act 07-245 and sections 9(a)(1) and 10(a)(1) of Public Act 07-142.

**RESOLVED:** That the Town of Burlington approves the Natural Hazard Mitigation Plan for the Central Connecticut Region as the official Plan for the Region and that Municipal CEOs, EMDs, and staff who contributed to this Plan will be responsible for making the Plan available to other departments, agencies, and ensuring its relevance as a decision-making tool.

Re-discussion regarding the First Selectman Decision: Selectman Grindal-Keller noted that she was absent for the vote to ratify the First Selectman's Decision to implement layoffs of the two Assistant Town Clerks effective March 31, 2011. She explained that she would not have voted for the motion. She explained she felt strongly that she is uncomfortable with the decision. There was a brief discussion.



# TOWN OF PLYMOUTH

Office of the Mayor

80 Main Street

Terryville, CT 06786

Phone: (860) 585-4001

Fax: (860) 585-4015

## Certified Resolution of the Plymouth Town Council

The Legislative Body of the Town of Plymouth, CT, met on April 5, 2011, and adopted a resolution by the vote of Five to Zero stating that:

(1) The Natural Hazard Mitigation Plan for the Central Connecticut Region is hereby accepted by the Town/City as the official Plan for the Region.

(2) Municipal CEOs, EMDs, and staff who contributed to this Plan will be responsible for making the Plan available to other departments and agencies, and ensuring its relevance as a decision-making tool.

Attested to by:

Name: *Barbara K. Rockwell*

Title: *Town Clerk*  
Town Clerk

Date: *May 3, 2011*



The Town of Plymouth is an Equal Opportunity Employer and Provider

**Town of Plymouth**  
**80 Main Street**  
**Terryville, CT 06786**  
**<http://www.plymouthct.us>**

**Plymouth Town Council**  
**Telephone: (860) 585-4001**  
**Fax: (860) 585-4015**

**Minutes**

**April 5, 2011**

**Call to Order:** Mayor Vincent Festa, Jr., called the April 5, 2011, Plymouth Town Council Meeting to order at 7:00 p.m., in the Community Room, Town Hall.

**Roll Call:** Present were Mayor Vincent Festa, Jr., Town Councilman Martin Sandshaw, Town Councilwoman DiAnna Schenkel, Town Councilman David Sekorski, Town Councilman John Wunsch, and Town Councilman Tom Zagurski.

**Fire Exits Notification**

Mayor Festa made note of the Fire Exits for the Town Council and the Public Audience.

**Pledge of Allegiance**

Mayor Festa led the Plymouth Town Council and the Public Audience in the Pledge of Allegiance.

**Acceptance of Minutes of Town Council Meeting of 3/1/11**

Town Councilwoman Schenkel made a motion, seconded by Town Councilman Wunsch, to accept the March 1, 2011, Plymouth Town Council Minutes as presented. This motion was approved unanimously.

Pattie DeHuff, 20 Lynn Avenue, Terryville, stated that she had reviewed the March 1, 2011, Plymouth Town Council Minutes, online, and stated that the copy of the minutes on the Town's website did not show a second the motion (shown on Page 14) concerning the Capital Improvement Projects.

**Plymouth Town Council Meeting  
April 5, 2011  
Page Seven of Twenty-Five Pages**

**Property Tax Refunds**

Town Councilman Wunsch made a motion, seconded by Town Councilman Sekorski, to approve \$277.96, in property tax refunds to Edward or Elizabeth Trudeau. This motion was approved unanimously.

Town Councilman Zagurski made a motion, seconded by Town Councilwoman Schenkel, to approve \$46.24, in property tax refunds to Brian F. Morin. This motion was approved unanimously.

Town Councilwoman Schenkel made a motion, seconded by Town Councilman Sekorski, to approve \$249.73 and \$208.45, in property tax refunds to Cab East LLC. This motion was approved unanimously.

**To Remove from table for action: Resolution for Natural Mitigation Plan (CCRPA)**

Mayor Festa stated that the Central Connecticut Regional Planning Agency (CCRPA) had sent notification that there were two remaining communities that needed to vote on this item, one being the Town of Plymouth, the other being New Britain, with New Britain taking the item up at their Council Meeting next week. Mayor Festa stated that the Plymouth Town Council needed to decide this evening if they would be willing to support the Resolution for submission to FEMA. He further stated that affirmation from the Plymouth Town Council would result in any refunds that would come forward due to natural disasters.

Town Councilwoman Schenkel made a motion, seconded by Town Councilman Wunsch, to remove from table for action Resolution for Natural Mitigation Plan (CARP). This motion was approved unanimously.

Town Councilman Sekorski made a motion, seconded by Town Councilwoman Schenkel, to accept the Resolution for Natural Mitigation Plan that had been presented to the Plymouth Town Council from CCRPA. This motion was approved unanimously.

Town Councilman Zagurski stated that he was concerned about the wording and questioned if the Town Council was approving or accepting the plan.

Mayor Festa stated that the Plymouth Town Council would be accepting the plan as presented and would be participating in the plan by virtue of the acceptance.

# RESOLUTION

31381

em #

RE: Natural Hazard Mitigation Plan for the Central Connecticut Region

(To His Honor, the Mayor, and the Common Council of the City of New Britain:  
the undersigned beg leave to recommend the adoption of the following:

WHEREAS, The City of New Britain is a member of the Central Connecticut Regional Planning Agency (CCRPA);

WHEREAS, The Central Connecticut Regional Planning Agency (CCRPA) has completed a Hazard Mitigation Plan for the Central Connecticut Region which was funded in part by the Federal Emergency Management Agency (FEMA);

WHEREAS, the Hazard Mitigation Plan prepared by CCRPA takes into consideration the following disasters: floods, dam failure, winter storms (ice and snow), hurricanes and tornados, drought, wild fires, and earth quakes with each risk being evaluated for likelihood of occurrence and potential for loss of life and property;

WHEREAS, having a Hazard Mitigation Plan for a region is a eligibility requirement for receiving funding in cases of where a disaster has effected your municipality;

WHEREAS, it is required that the legislative body each municipality in CCRPA adopts a resolution that accepts the Hazard Mitigation Plan for the Central Connecticut Region as the official plan for the region;

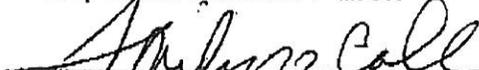
RESOLVED, the Common Council of the City of New Britain met on April 13, 2011 and adopted stating that:

1. The Natural hazard Mitigation Plan for the Central Connecticut Region is hereby accepted by the City of New Britain as the official plan of the region.
2. Municipalities, CEO, EMDs, and staff who contributed to this plan will be responsible for making the plan available to other departments and agencies, and ensuring its relevance as a decision-making tool.

  
Aldersperson Louis Salvio

  
Aldersperson David DeFronzo

  
Aldersperson Wilfredo Pabon

  
Aldersperson Tonilyn Collins

**31381**

No.                      Rec'd 04/13/2011  
(Above For Town Clerk's Use Only)

**RESOLUTION**

**Re: NATURAL HAZARD MITIGATION PLAN  
FOR THE CENTRAL CONNECTICUT REGION**

Ald. Salvia moved to accept and adopt,  
seconded by Ald. Pebon. So voted.

*Peter J. Demuzek*  
City Clerk.

APPROVED  
*Samuel A. Pebon*  
Mayor.  
April 18, 2011



PROCEEDINGS  
OF THE  
COMMON COUNCIL  
OF THE  
City of New Britain

Vol. 108 Sec. 12  
REGULAR MEETING  
April 13, 2011

April 13, 2011

Therefore, Be It Resolved, that the budget amendment within the Special Revenue Fund be made as follows:

Increase Expenditures: 255315002-5454	Construction Contracts	\$361,520
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Increase Revenues: 255315002-4222	State of Connecticut	\$361,520
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Alderman Tonilynn Collins  
Alderman David DeFronzo  
Alderman Wilfred Pabon  
Alderman Louis G. Salvio

Ald. Collins moved to accept and adopt, seconded by Ald. Salvio. So voted. Approved April 18, 2011 by Mayor Timothy T. Stewart.

**31381 RE: NATURAL HAZARD MITIGATION PLAN FOR THE CENTRAL CONNECTICUT REGION**

To His Honor, the Mayor, and the Common Council of the City of New Britain: the undersigned beg leave to recommend the adoption of the following:

WHEREAS, The City of New Britain is a member of the Central Connecticut Regional Planning Agency (CCRPA); and

WHEREAS, The Central Connecticut Regional Planning Agency (CCRPA) has completed a Hazard Mitigation Plan for the Central Connecticut Region which was funded in part by the Federal Emergency Management Agency (FEMA); and

WHEREAS, the Hazard Mitigation Plan prepared by CCRPA takes into consideration the following disasters: floods, dam failure, winter storms (ice and snow), hurricanes and tornados, drought, wild fires, and earth quakes with each risk being evaluated for likelihood of occurrence and potential for loss of life and property; and

WHEREAS, having a Hazard Mitigation Plan for a region is a eligibility requirement for receiving funding in cases of where a disaster has effected your municipality; and

WHEREAS, it is required that the legislative body each municipality in CCRPA adopts a resolution that accepts the Hazard Mitigation Plan for the Central Connecticut Region as the official plan for the region; NOW, THEREFORE, BE IT

RESOLVED, that the Common Council of the City of New Britain met on April 13, 2011 and adopted stating that:

1. The Natural Hazard Mitigation Plan for the Central Connecticut Region is hereby accepted by the City of New Britain as the official plan of the region.
2. Municipalities, CEO, EMDs, and staff who contributed to this plan will be responsible for making the plan available to other departments and agencies, and ensuring its relevance as a decision-making tool.

Alderman Louis G. Salvio  
Alderman David DeFronzo  
Alderman Wilfredo Pabon  
Alderman Tonilynn Collins

Ald. Salvio moved to accept and adopt, seconded by Ald. Pabon. So voted. Approved April 18, 2011 by Mayor Timothy T. Stewart.

**Appendix B: Agendas and Minutes of CCRPA Board Meetings**

TO: Municipal Clerks (Please Post)

## **REGULAR AGENCY MEETING NOTICE AND AGENDA**

DATE: THURSDAY, January 2, 2003  
MEETING TIME: 7:30 P.M.  
PLACE: CCRPA Offices

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**NOTE TO PEOPLE WITH SPECIAL NEEDS:** We do not discriminate on the basis of disability. Individuals who need auxiliary aids are invited to make their needs known by calling one of the numbers listed above as soon as possible.

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### A G E N D A

1. Call to order, report of excused absences, and determination of quorum

BN	Morgan Seelye, Treasurer Timothy Zigmont		Steven P. Schiller, Chair
BR	Timothy W. Furey, Vice Chair Donald Padlo Michael R. Parks	PL	Glenn Petit David Dudek
BG	Richard Alden Theodore C. Scheidel, Jr.	PY	Steven Panasuk William Doherty
NB	Susan McMullen Helen Z. Pearl	SG	Matthew O'Keefe, Secretary Leanne Baggetta Rudolph Cabata

2. Comments from the public

3. Action Items

- a. Receipt of the November, 2002, Financial Report and filing it for the Audit
- b. Approval of the December 16, 2002 Christmas Meeting Minutes
- c. Referral advisory report from the CPC (Padlo) (No action required if all CPC decisions were unanimous; see CPC agenda for item listings)
- d. Approval of Resolution No. 355: Air Quality Conformity Statement
- e. Approval of Resolution No. 356: Amendments to the FY 2003-2005 TIP and STIP:
  - Proj. #0017-0148: Route 6 Drainage Improvements, Bristol - Remove from TIP/STIP  
Fiscal constraint
  - Proj. #0020-0102: Route 4 Realignment, Burlington - Remove from TIP/STIP - fiscal  
constraint
  - Proj. #0131-0183: Laning Street Reconstruction, Southington - New Project (phased  
portion)
  - Proj. #0171-0305: Busway, New Britain-Hartford - New Project
  - Proj. #0170-2004: Hwy. Operations Ctr., 24-hour response to incidents, Statewide-  
obligated in 2001, remove from TIP/STIP
  - Proj. #0170-2315: Hwy. Operations Ctr., 24-hour response to incidents, Statewide -  
New Project
  - Proj. #0170-2316: General rehab. to high traffic roadways - Interstates, Statewide -  
New Project

Proj. #0170-2316: General rehab. to high traffic roadways - Non-Interstates,

Statewide - New Project

Proj. #0170-H848: Pavement Mgmt. Analysis for NHS highways - New Project

Proj. #0170-H887: Design STC Traffic Signal - Remove from STIP/TIP, fiscal constraint

Proj. #0171-0305: New Britain-Hartford Busway - New Project

Proj. #0171-0294: Installation & Revision of Traffic Controls, Dist.1 - Remove from STIP/TIP, fiscal constraint

Proj. #0171-0295: Upgrade guiderail, Non-NHS Routes - Remove from STIP/TIP, fiscal constraint, ROW to be 100% state funds

Proj. #0171-0297: Installation and Revision of STC Traffic Signals in Dist. 1, ROW portion to be 100% state funds, const. portion removed from STIP/TIP

Proj. #0171-H107: Installation and Revision of STC Traffic Signals in Dist. 1, FY 02, AC conv., Remove from STIP/TIP duplicate of 0171-0287

Proj. #0174-0298: Installation and Revision of STC Traffic Signals in Dist. 4, Remove from STIP/TIP - fiscal constraint Remove from STIP/TIP - fiscal constraint

Proj. #0174-0300: Installation and Revision of STC Traffic Signals in Dist. 4 Remove from STIP/TIP - fiscal constraint, ROW portion to be 100% state funded

Proj. #0170-T542: Funding for Rideworks of New Haven's Telecommuting Partnership Prog. - New Project

f. 2003 Legislative Agenda

4. Other Agency matters

5. Adjournment

Approved for posting by \_\_\_ on \_\_\_\_

cc: Central Connecticut Mayors/Managers; PZC Chairs; Municipal Planners; Auditor; M. Phillips, ConnDOT; CT OPM; U.S. FHWA; U.S. FTA

## REGULAR AGENCY MEETING MINUTES

DAY/DATE: **THURSDAY, October 2, 2003**  
MEETING TIME: **7:30 P.M.**  
PLACE: **Senior Center; 33 Colonial Drive  
Berlin, CT**

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities) Meeting was called to order by Acting Chairperson Morgan Seelye at 7:55 p.m.

Berlin	Morgan Seelye, Vice Chair - Present Dennis Kern - Present	Helen Z. Pearl - Present Steven P. Schiller - Present
Bristol	Timothy W. Furey, Chair - Absent Donald Padlo - Excused Absent Michael R. Parks - Present	Plainville Glenn Petit - Excused Absent David Dudek, Secretary - Excused Absent
Burlington	Richard Alden - Excused Absent Theodore C. Scheidel, Jr. - Excused Absent	Plymouth Steven Panasuk - Excused Absent William Doherty - Excused Absent
New Britain	Susan McMullen - Absent	Southington Matthew O'Keefe, Treasurer - Present Leanne Kennedy - Present Rudolph Cabata - Present

In the absence of Secretary Dudek, Acting Chairperson Seelye appointed Helen Z. Pearl as Secretary Pro Tem.

2. Comments from the public - Welcome by Berlin Town Manager Richard Haberman  
No comments. Berlin Town Manager was not able to attend due to a scheduling conflict.
3. Action Items
- a. Acceptance of the August, 2003, Financial Report and filing for Audit  
MOTION: Steven Schiller moved approval, seconded by Leanne Kennedy, passed unanimously.
- b. Approval of the September 4, 2003 Regular Meeting Minutes  
MOTION: Rudolph Cabata moved approval as presented, seconded by Michael Parks, passed with Helen Pearl, Matthew O'Keefe and Leanne Kennedy abstaining.
- c. Program, Finance, and Personnel Committee Report:
- i. 2004 Meeting Schedule  
MOTION: Helen Pearl moved to approve the 2004 meeting schedule dates as presented, seconded by Matthew O'Keefe, passed unanimously.
- MOTION: Helen Pearl moved approval of the proposed 2004 meeting location schedule, which continues the policy of rotating meetings twice a year to member Towns having Agency Members arrange for space and refreshments; seconded by Rudolph Cabata. During discussion it was noted that if a municipality is unable to host a designated meeting, then the meeting will be held at the Agency offices. Motion then passed unanimously.
- ii. Office Space Lease Renewal  
MOTION: Michael Parks moved to approve the PFP Committee recommendation to authorize the Executive Director to execute the Agency lease amendment with the Carpenter Realty Company with the following two changes: deletion of the last sentence in Article XX, Section 15; and, addition of the landlord's obligations to install a new door, and replace the carpet and paint the walls in the new office

space; seconded by Matthew O'Keefe, passed unanimously.

iii. Bylaws Amendments

MOTION: Michael Parkes moved to approve the Agency Bylaws with the two PFP Committee recommended changes; the term "Chair" to be replaced with "Chairperson"; and, on page 2, article V-B, replace the word "separate" with the word "different; seconded by Helen Pearl, passed unanimously.

iv. Other matters

Executive Director Stephani briefly described the Agency's participation in the Hartford/Springfield Partnership.

d. Referral advisory report from the CPC (No action required if all CPC decisions were unanimous; see CPC agenda for item listings)

Th Comprehensive Plan Committee did not have a quorum so the full Agency Board acted on the following referrals:

MOTION: Helen Pearl moved to act in accordance with Section 8-3b, the Agency Board reviewed Referral Number AV-8, from the Town of Avon, for the text amendment to Zoning Regulations: Subsections "c" for Zone Change & "d" for Amendment to Zoning Regulations in "A" for Administration in Section X Administration and Enforcement and found Referral Number AV-8 to be "Not In Conflict" with the Regional Development Plan or any other plan prepare by this Agency, seconded by Leanne Kennedy, passed unanimously.

MOTION: Dennis Kern moved to act in accordance with Section 8-3b, the Agency Board reviewed Referral Number CR-98, from the Town of Cromwell, for the text amendment to the Town of Cromwell Zoning Regulations for full replacement of the Existing Article 10 of Zoning Regulations on Open Space Conservation Development with new Article 10 titled Conservation Subdivision and found Referral Number CR-98 to be "Not In Conflict" with the Regional Development Plan or any other plan prepare by this Agency, seconded by Rudolph Cabata, passed unanimously.

MOTION: Rudolph Cabata moved to act in accordance with Section 8-3b, the Agency Board reviewed Referral Number CR-99, from the Town of Cromwell, to amend Article 11.9 for Day Cares / Nursery Schools in Special Regulations in the Town of Cromwell Zoning Regulations and found Referral Number CR-99 to be "Not In Conflict" with the Regional Development Plan or any other plan prepare by this Agency, seconded by Steven Schiller, passed unanimously.

MOTION: Steven Schiller moved to act in accordance with Section 8-26b, the Agency Board reviewed Referral Number CN-71.1, a resubmission and revision of the prior subdivision application and referral from the Town of Canton, for the 64 unit single family subdivision on 89.01 acres on property off of Dunne Avenue and Freedom Drive; and found Referral Number CN-71.1 to be "In-Conflict" with the Regional Development Plan or any other plan prepare by this Agency, seconded by Rudolph Cabata, vote, No - Leanne Kennedy, Matthew O'Keefe, and Michael Parks, Yes Dennis Kern, Helen Pearl, Steven Schiller and Rudolph Cabata. Motion passed.

e. Support Homeland Security Legislation

MOTION: Leanne Kennedy moved to authorize Agency support of the Homeland Security Legislation proposed by Congressman Kingston, seconded by Michael Parks, passed unanimously.

f. Approval of Resolution #368 - 2003 TIP and STIP Amendments

- i. Proj. #0174-0298: Installation and Revision of STC Traffic Control Signals, Dist.4 AC Entry 2004, AC Conversion 2005

- ii. Proj. #0174-0315: Installation and Revision of STC Traffic Control Signals, Dist.4 AC Entry 2004, AC Conversion 2005 (breakout of Proj. #0174-0298)

MOTION: Steven Schiller moved to approve Resolution No. 368 as presented, seconded by Rudolph Cabata, passed unanimously.

4. Information Items

- a. Regional Master Transportation Plan Public Informational Meetings

Executive Director Stephani invited Board Members to attend the Regional Master Transportation Plan Public Informational Meetings.

- b. Quinnipiac River Linear Trail Endorsement

Background information has been provided in Agency packet.

- c. SAFTEA Highway Reauthorization Bill Update - Enhancement Funds

Executive Director Stephani explained that the 10% set-aside for enhancement projects will remain in the SAFTEA Highway Reauthorization Bill.

- d. Route 72 Status Report

Executive Director Stephani gave an update on the status of the Route 72 project which is scheduled to begin construction in the Spring.

- e. December Meeting Location

The December meeting location will be announced at the November meeting.

5. Other Agency matters

None.

6. Adjournment

Meeting adjourned at 9:18 p.m.

TO: Municipal Clerks (Please Post)

## REGULAR AGENCY MEETING NOTICE AND AGENDA

DAY/DATE: **THURSDAY, September 4, 2003**  
MEETING TIME: **7:30 P.M.**  
PLACE: **CCRPA Office**

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NOTE TO PEOPLE WITH SPECIAL NEEDS: We do not discriminate on the basis of disability. Individuals who need auxiliary aids are invited to make their needs known by calling one of the numbers listed above as soon as possible.

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### A G E N D A

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities)
  - Berlin
    - Morgan Seelye, Vice Chair
    - Dennis Kern
  - Bristol
    - Timothy W. Furey, Chair
    - Donald Padlo
    - Michael R. Parks
  - Burlington
    - Richard Alden
    - Theodore C. Scheidel, Jr.
  - New Britain
    - Susan McMullen
  - Plainville
    - Helen Z. Pearl
    - Steven P. Schiller
  - Plymouth
    - Glenn Petit
    - David Dudek, Secretary
  - Southington
    - Steven Panasuk
    - William Doherty
    - Matthew O'Keefe, Treasurer
    - Leanne Baggetta
    - Rudolph Cabata
2. Comments from the public
3. Action Items
  - a. Acceptance of the May, June and July, 2003, Financial Reports and filing for Audit
  - b. Approval of the June 5, 2003 Regular Meeting Minutes
  - c. Program, Finance, and Personnel Committee Reports and Recommendations:
    - i. Setting FY04-05 Municipal Dues
    - ii. Approving revisions to the Agency Personnel Policies
    - iii. Approving housekeeping revisions to the Agency Bylaws
    - iv. Other matters
  - d. Referral advisory report from the CPC (Padlo) (No action required if all CPC decisions were unanimous; see CPC agenda for item listings)
  - e. Approval of FY2003-2004 Standing Committee appointments
  - f. Approval of Resolution #366: Authorization for the Executive Director to accept a \$51,021 DEP Grant to prepare a Regional Natural Hazards Mitigation Plan
  - g. Approval of Resolution #365 including Amendments to the State and Regional Transportation Improvement Programs:
    1. Proj. #0170-2431: Installation of Durable Pavement Markings at Various Locations Statewide - New Project for 2004 and 2005, SF phase
    2. Proj. #0170-2432 and-2433: Installation of Durable Pavement Markings at Various Locations Statewide - New Phases for 2004
    3. Proj. #0170-2462: Install Internal Closed Loop Controllers to Upgrade State's Computerized Signal Systems - New Phase
    4. Proj. #0170-H796: Design of Traffic Signals Approved by STC in FY 03-04 for FY 04-

- 05 Const. - Add New PE Phase
- 5. Proj. #0170-H851: Pavement Management Analysis & Data Collection for Non-NHS Roadways - Add New PE Phase
- 6. Proj. #0170-2294: Vehicle Emissions Inspection Program - Remove from STIP
- h. Approval of Resolution #364 - Agreement with ConnDOT
- i. Appointment of an Agency representative to the governing board of the King's Mark Resource Conservation District (RC&D)
- j. Approval of Resolution #367 authorizing participation in the International Cities for Climate Protection Campaign
- 4. Information Items
  - a. STIP Projects
    - i. Proj. #0170-2294: Vehicle Emissions Inspection Program - Phase Fin. - Remove from STIP
    - ii. Proj. #0170-2294: Vehicle Emissions Inspection Program - Phase Fin. - Increase Estimate
    - iii. Proj. #0170-2294: Vehicle Emissions Inspection Program - Phase Fin. - Add FY'05 to the STIP
    - iv. Proj. #0170-T543: Global Positioning System - Move from 2003 to 2004
    - v. Proj. #0017-H028: Utility Breakout for Proj. #0017-0137 - Change funding source
    - vi. Proj. #0017-H028: Utility Breakout for Proj. #0017-0137 AC Entry - Add 2003 AC Entry
    - vii. Proj. #0017-H028: Utility Breakout for Proj. #0017-0137 AC Conv. - Add 2004 AC Conv.
  - e. ADA Annual Report
- 5. Other Agency matters
- 6. Adjournment

cc: Central Connecticut Mayors/Managers; PZC Chairs; Municipal Planners; Auditor; M. Phillips, ConnDOT; CT OPM; U.S. FHWA; U.S. FTA

## REGULAR AGENCY MEETING MINUTES

DAY/DATE:           **THURSDAY, September 4, 2003**  
MEETING TIME:    **7:30 P.M.**  
PLACE:               **CCRPA Office**

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities) - Meeting was called to order by Chair Timothy Furey at 7:47 P.M.

Berlin Morgan Seelye, Vice Chair - Present Dennis Kern - Present	Helen Z. Pearl - Ex. Absent Steven P. Schiller - Present
Bristol Timothy W. Furey, Chair - Present Donald Padlo - Present Michael R. Parks - Present	Plainville Glenn Petit - Absent David Dudek, Secretary - Present
Burlington Richard Alden - Ex. Absent Theodore C. Scheidel, Jr. - Ex. Absent	Plymouth Steven Panasuk - Present William Doherty - Ex. Absent
New Britain Susan McMullen - Absent	Southington Matthew O'Keefe, Treasurer - Ex. Absent Leanne Baggetta - Ex. Absent Rudolph Cabata - Present
  
2. Comments from the public  
No comments.
  
3. Action Items
  - a. Acceptance of the May, June and July, 2003, Financial Reports and filing for Audit  
MOTION: Michael Parks moved to receive the May, June, and July, 2003 Financial Reports and file for Audit, seconded by Donald Padlo, passed unanimously.
  - b. Approval of the June 5, 2003 Regular Meeting Minutes  
MOTION: Donald Padlo moved to approve the June 5, 2003 minutes with one correction 4.d. should read FY 2003-2004, seconded by Morgan Seelye, passed unanimously.
  - c. Program, Finance, and Personnel Committee Reports and Recommendations:
    - i. Setting FY04-05 Municipal Dues  
MOTION: Morgan Seelye moved to approve the PFP Committee recommendation for Municipal Dues for FY 2004-2005 as follows:

Berlin	\$10,152
Bristol	20,999
Burlington	6,868
New Britain	19,469
Plainville	6,724
Plymouth	6,200
Southington	17,589

  
seconded by David Dudek, passed unanimously.
    - ii. Approving revisions to the Agency Personnel Policies  
MOTION: Morgan Seelye moved to approve the PFP Committee recommended revisions to the Agency Personnel Policies as presented, seconded by Steven Schiller, passed unanimously.
    - iii. Approving housekeeping revisions to the Agency Bylaws  
Chair Timothy Furey reported the PFP Committee tabled the revisions to the Agency Bylaws to the October 2, 2003, PFP meeting.

- iv. Other matters
- (1) Financial Administrator's Work Week  
Chair Furey reported on the PFP's recommendation for a modification to the Financial Administrator's work week based on her performance and tenure as a 15-year employee of the Agency  
MOTION: Michael Parks moved to approve the PFP recommendation to grant the request from the Financial Administrator for a work week reduction to 32 hours worked in 4 days, as approved by the Executive Director, with an equivalent reduction in salary, but with benefits remaining the same effective 9/8/03; and that this work schedule be reviewed by the PFP in six months seconded by David Dudek, passed unanimously.
- (2) Deputy Director Shooshan-Stoller Request to teach Geography at Tunxis Community College  
Chair Timothy Furey reported that the PFP Committee approved a request from Deputy Director Shooshan-Stoller allowing him to teach Geography at Tunxis Community College for one semester.
- (3) Agency Office Space  
Chair Timothy Furey reported that the PFP Committee voted to direct the Executive Director to meet with the Carpenter Company to prepare a recommendation for the Agency Board's October 2<sup>nd</sup> meeting regarding execution of the option to extend the current lease at the same rate for three more years with the acquisition of an additional 350 square feet of space, with the lease to include a cut-back clause that would allow the Agency to reduce the area of leased space if there were a significant loss of funding.
- d. Referral advisory report from the CPC (Padlo) (No action required if all CPC decisions were unanimous; see CPC agenda for item listings)  
CPC Chair Donald Padlo reported that all action was unanimous.
- e. Approval of FY2003-2004 Standing Committee appointments  
MOTION: Morgan Seelye moved to approve the FY 2003-2004 Standing Committee appointments as presented, seconded by Donald Padlo, passed unanimously.
- f. **Approval of Resolution #366: Authorization for the Executive Director to accept a \$51,021 DEP Grant to prepare a Regional Natural Hazards Mitigation Plan**  
MOTION: Donald Padlo moved approval of Resolution #366 as presented, seconded by David Dudek, passed unanimously.
- g. Approval of Resolution #365 including Amendments to the State and Regional Transportation Improvement Programs:
1. Proj. #0170-2431: Installation of Durable Pavement Markings at Various Locations Statewide - New Project for 2004 and 2005, SF phase
  2. Proj. #0170-2432 and-2433: Installation of Durable Pavement Markings at Various Locations Statewide - New Phases for 2004
  3. Proj. #0170-2462: Install Internal Closed Loop Controllers to Upgrade State's Computerized Signal Systems - New Phase
  4. Proj. #0170-H796: Design of Traffic Signals Approved by STC in FY 03-04 for FY 04-05 Const. - Add New PE Phase
  5. Proj. #0170-H851: Pavement Management Analysis & Data Collection for Non-NHS Roadways - Add New PE Phase
  6. Proj. #0170-2294: Vehicle Emissions Inspection Program - Remove from STIP
- MOTION: Morgan Seelye moved approval of Resolution #365 as presented, seconded by Michael Parks, passed unanimously.
- h. Approval of Resolution #364 - Agreement with ConnDOT  
MOTION: Donald Padlo moved approval of Resolution #364 as presented, seconded by David Dudek, passed unanimously.
- i. Appointment of an Agency representative to the governing board of the King's Mark Resource

Conservation District (RC&D)

MOTION: Michael Parks moved to appoint Executive Director Stephani as the Agency representative to the King's Mark Board, seconded by Donald Padlo, passed unanimously.

j. Approval of Resolution #367 authorizing participation in the International Cities for Climate Protection Campaign

MOTION: Morgan Seelye moved approval of Resolution #367 as presented, seconded by Michael Parks, passed unanimously.

4. Information Items

a. STIP Projects

- i. Proj. #0170-2294: Vehicle Emissions Inspection Program - Phase Fin. - Remove from STIP
- ii. Proj. #0170-2294: Vehicle Emissions Inspection Program - Phase Fin. - Increase Estimate
- iii. Proj. #0170-2294: Vehicle Emissions Inspection Program - Phase Fin. - Add FY'05 to the STIP
- iv. Proj. #0170-T543: Global Positioning System - Move from 2003 to 2004
- v. Proj. #0017-H028: Utility Breakout for Proj. #0017-0137 - Change funding source
- vi. Proj. #0017-H028: Utility Breakout for Proj. #0017-0137 AC Entry - Add 2003 AC Entry
- vii. Proj. #0017-H028: Utility Breakout for Proj. #0017-0137 AC Conv. - Add 2004 AC Conv.

ConnDOT liaison Mark Phillips explained the STIP Projects for this fiscal year.

e. ADA Annual Report

5. Other Agency matters

a. Quinnipiac River Linear Trail

Executive Director Stephani explained that the Agency plans to assist the Town of Plainville Conservation Commission with mapping services in their efforts to develop a Quinnipiac River Linear Trail. Chair Furey requested Agency Member Dudek look into this and provide more information at the Agency October 2<sup>nd</sup> meeting.

b. T-21 Federal Highway Program "Enhancement" Funds

Executive Director Stephani advised that he was asked by news media to give the Agency's position on proposed legislation by Congress to remove the 10% set aside of dollars used for enhancements in the T-21 Program. Chair Furey suggested this be on the October 2<sup>nd</sup> Agenda as an information item.

c. Robert Jackson Memorial Donation

MOTION: Donald Padlo moved to authorize a \$50 donation to the Plainville Historical Society in the name of Town Manager Robert Jackson who recently passed away, seconded by David Dudek, passed unanimously.

d. Staff Overtime - Attendance at Agency Board Meetings

Executive Director Stephani advised that, except for himself, all Agency staff gets either compensatory time off, or overtime pay, for any hours that they spend attending Agency Board meetings. Because of that, and because of the current heavy staff work load, he has asked staff not to attend Agency Board meetings unless they have a specific item to present or discuss with the Board that requires their presence. That way the 2-3 hours they would lose by attending a Board meeting can be spent working on their projects.

6. Adjournment

Meeting adjourned at 8:30 p.m.

TO: Municipal Clerks (Please Post)

## **REGULAR AGENCY BOARD NOTICE AND AGENDA**

DAY/DATE: **THURSDAY, April 7, 2005**  
MEETING TIME: **7:30 P.M.**  
PLACE: **Plainville Town Hall, Rooms 100/101**  
**Plainville, CT**

NOTE TO PEOPLE WITH SPECIAL NEEDS: We do not discriminate on the basis of disability. Individuals who need auxiliary aids are invited to make their needs known by calling one of the numbers listed above as soon as possible.

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities)

Berlin Morgan Seelye, Vice Chair Dennis Kern	Helen Z. Pearl Steven P. Schiller
Bristol Timothy W. Furey, Chair Donald Padlo Michael R. Parks	Plainville Jennifer Bartiss-Earley David Dudek, Secretary
Burlington Richard Alden Theodore C. Scheidel, Jr.	Plymouth Patrick Herzing Vacant
New Britain Lisa Carver	Southington Matthew O'Keefe, Treasurer Leanne Kennedy John Moise
2. Comments from the public
3. Action Items
  - a. February, 2005, Financial Report- receive and file for Audit
  - b. Minutes of March 3, 2005
  - c. Program, Finance, and Personnel Committee Report
  - d. Comprehensive Plan Committee (CPC) referral advisory report (No action required if all decisions were unanimous; see CPC agenda for item listings)
  - e. Transportation Improvement Committee (TIC) Report
    - i. Approval of Resolution No. 388, Air Quality Conformity Statement
    - ii. Approval of Resolution No. 391, Amendment to the 2005 STIP and TIP
  - f. Prioritizing applications for a ConnDOT Section 5310 Van grant
  - g. Resolution No. 389, Authorized Signatories of Agreements with DEP
  - h. Resolution No. 390, Authorized Signatories of Agreements with ConnDOT
  - i. Release of the Draft Public Involvement Plan for Public Review and Comment
  - j. Confirmation of Chairman's Appointment of the Members of the PFP Committee to serve as the Nominating Committee for FY2005-2006 Board Officers
  - k. Designation of Administrator for FY2005 Homeland Security Grant Program
  - l. Transportation Investment Coalition February 2005 Position Statement
  - m. State Plan of Conservation and Development Recommendation
4. Information Item - Draft Unified Planning Work Program, Fiscal 2005-2006
5. Adjournment

## **REGULAR AGENCY BOARD MINUTES**

**DAY/DATE: THURSDAY, April 7, 2005**  
**MEETING TIME: 7:30 P.M.**  
**PLACE: Plainville Town Hall, Rooms 100/101**  
**Plainville, CT**

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities)  
Meeting called to order by Vice Chairperson Morgan Seelye at 8:05 p.m. Vice Chairperson Seelye introduced and welcomed new member John Moise from Southington.

Berlin Morgan Seelye, Vice Chair - Present Dennis Kern - Present	Helen Z. Pearl - Present Steven P. Schiller - Present
Bristol Timothy W. Furey, Chair - Absent Donald Padlo - Present Michael R. Parks - Absent	Plainville Jennifer Bartiss-Earley - Present David Dudek, Secretary - Present
Burlington Richard Alden - Present Theodore C. Scheidel, Jr. - Absent	Plymouth Patrick Herzing - Present Vacant
New Britain Lisa Carver - Absent	Southington Matthew O'Keefe, Treasurer - Present Leanne Kennedy - Present John Moise - Present
2. Comments from the public - None raised.
3. Action Items
  - a. February, 2005, Financial Report- receive and file for Audit  
MOTION: Steven Schiller moved to receive and file the February 2005, Financial Report for audit; seconded by Leanne Kennedy; passed unanimously.
  - b. Minutes of March 3, 2005  
MOTION: Helen Pearl moved approval of the March 3, 2005 minutes as presented; seconded by David Dudek; passed unanimously.
  - c. Program, Finance, and Personnel Committee Report  
Morgan Seelye reported that the PFP Committee discussed the draft budget proposal and no action was taken.
  - d. Comprehensive Plan Committee (CPC) referral advisory report (No action required if all decisions were unanimous; see CPC agenda for item listings)  
CPC Chairperson Donald Padlo reported that all items were acted upon unanimously except Waterbury, WB-31: Proposed Amendments to the Zoning Regulation: (1) new Section 5.15-2 for Active Adult Housing Project; & (2) add "Active Adult Housing Project" to the Table of Permitted Uses in Section 2.31-1 for Dwellings and Related. There was considerable discussion of this proposal in relation to the Agency's responsibility to review project impacts beyond 500 feet from the boundary of the Region.  
MOTION: Leanne Kennedy moved to find Waterbury WB-31 "Not In Conflict" with the CCRPA Plan of Development; seconded by Dennis Kern; motion passed with Jennifer Bartiss-Earley, Dennis Kern, Richard Alden and Patrick Herzing opposed.
  - e. Transportation Improvement Committee (TIC) Report
    - i. Approval of Resolution No. 388, Air Quality Conformity Statement
    - ii. Approval of Resolution No. 391, Amendment to the 2005 STIP and TIPMOTION: Donald Padlo moved to approve Resolutions No. 388 and 391 as presented; seconded by Leanne Kennedy; passed unanimously.
  - f. Prioritizing applications for a ConnDOT Section 5310 Van grant  
MOTION: Matthew O'Keefe moved to approve the ConnDOT Section 5310 Van grant with Southington Calendar House first and Plainville Senior Center second; seconded by Donald Padlo; motion passed with Jennifer Bartiss-Earley voting against and David Dudek abstaining.

g. Resolution No. 389, Authorized Signatories of Agreements with DEP

MOTION: Helen Pearl moved approval of Resolution No. 389 as presented; seconded by Steven Schiller; passed unanimously.

h. Resolution No. 390, Authorized Signatories of Agreements with ConnDOT

MOTION: Matthew O'Keefe moved approval of Resolution No. 390 as presented; seconded by Leanne Kennedy; passed unanimously.

MOTION: Donald Padlo moved to add to the agenda "Approval of the Hazard Mitigation Grant extension to July 2006"; seconded by Leanne Kennedy; passed unanimously.

MOTION: Donald Padlo moved to approve the Hazard Mitigation Grant extension to July 2006; seconded by Leanne Kennedy; passed unanimously.

i. Release of the Draft Public Involvement Plan for Public Review and Comment

MOTION: Helen Pearl moved to release the Public Involvement Plan for public review and comment; seconded by Steven Schiller; passed unanimously.

j. Confirmation of Chairman's Appointment of the Members of the PFP Committee to serve as the Nominating Committee for FY2005-2006 Board Officers

MOTION: Donald Padlo moved approval of the PFP members plus Patrick Herzing to serve on the Nominating Committee for FY 2005-2006 Board Officers; seconded by Helen Pearl; passed unanimously.

k. Designation of Administrator for FY2005 Homeland Security Grant Program

MOTION: Leanne Kennedy moved to authorize the Executive Director Carl Stephani to designate CRCOG as Administrator for the FY2005 Homeland Security Grant Funds for the Region; seconded by David Dudek; passed unanimously.

l. Transportation Investment Coalition February 2005 Position Statement

MOTION: Steven Schiller moved to endorse the Transportation Investment Coalition February 2005 position statement as presented; seconded by David Dudek; motion defeated with Steven Schiller voting yes.

m. State Plan of Conservation and Development Recommendation

MOTION: Dennis Kern moved approval of the State Plan of Conservation and Development; seconded by Donald Padlo; passed unanimously.

4. Information Item - Draft Unified Planning Work Program, Fiscal 2005-2006

Deputy Director Shooshan-Stoller presented the draft FY 2005-2006 UPWP and advised that it would be brought before the Board for approval at the June meeting.

Executive Director Stephani noted that CCRPA purchased, with CERT grant funds, a DVD recorder for use in the Regional CERT program, but which could also be used by the seven municipalities if they have a need.

Vice Chairperson Seelye thanked the Town of Plainville and Agency Members Jennifer Bartiss-Earley and David Dudek for hosting the CCRPA Agency Board and staff.

5. Adjournment - meeting adjourned at 9:16 p.m.

TO: Municipal Clerks (Please Post)

**SPECIAL AGENCY BOARD NOTICE AND AGENDA (AMENDED 7/20/06)**

DAY/DATE: THURSDAY, July 27, 2006  
MEETING TIME: 9 A.M.  
PLACE: CCRPA Offices  
Bristol, CT

*NOTE TO PEOPLE WITH SPECIAL NEEDS: We do not discriminate on the basis of disability. Individuals who need auxiliary aids are invited to make their needs known by calling one of the numbers listed above as soon as possible.*

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities)

Berlin

Morgan Seelye, Chair  
Dennis Kern

Bristol

Timothy W. Furey  
Donald Padlo  
Ronald Burns

Burlington

Amy Harris  
Joseph Julian, Secretary

New Britain

Donald Naples

Helen Z. Pearl

Steven P. Schiller

Plainville

Jennifer Bartiss-Earley  
David Dudek, Treasurer

Plymouth

Patrick Herzing  
Thomas Wollenberg

Southington

Matthew O'Keefe, Vice Chair  
Leanne Kennedy  
Rudy Cabata

2. Comments from the public

3. Approval of Resolution No. 409, Amendments to the 2005 TIP and STIP, :

Proj. #0170-RT06: Recreational Trails, 2006, New Project;

Proj. #0171-0305: New Britain-Hartford Busway, Move from FFY 2005 to FFY 2006 & Change Project Description, Sec. 5309C, 5309P, 5307C and STPA and State programs

4. Approval of STP-Urban Program Change: Move East Road, Bristol Proj. No. 0017-161 from FFY 2006 to FFY 2007

5. Approval of Resolution No. 410: New Air Quality Conformity Statement, June 2006

6. Approval of Resolution No. 411: FY2007-20011 Transportation Improvement Program (TIP)

7. Approval of Resolution No. 408: Urban Planning Certification

8. Approval of the Natural Hazards Mitigation Plan for the Central Connecticut Region

9. Adjournment

CC: TIC, Mayors/Managers; PZC Chairs; Municipal Planners; Auditor; M. Phillips, ConnDOT; CT OPM; U.S. FHWA; U.S. FTA

## SPECIAL MEETING AGENCY BOARD MINUTES

DAY/DATE: THURSDAY, July 27, 2006  
MEETING TIME: 9:00 A.M.  
PLACE: CCRPA Offices  
Bristol, CT

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities)

Meeting called to order by Chairman Pro Tem, Donald Padlo, at 9:20 a.m.

Berlin	Morgan Seelye, Chair- Excused Absence Dennis Kern - Excused Absence	Helen Z. Pearl - Excused Absence Steven P. Schiller - Present
Bristol	Timothy W. Furey - Absent Donald Padlo - Present Ronald Burns - Excused Absence	Plainville Jennifer Bartiss-Earley - Excused Absence David Dudek, Treasurer - Excused Absence Plymouth Patrick Herzing - Absent Thomas Wollenberg - Absent
Burlington	Amy Harris - Excused Absence Joseph Julian, Secretary - Present	Southington Matthew O'Keefe, Vice Chair - Absent
New Britain	Donald Naples - Present	Leanne Kennedy - Excused Absence Rudy Cabata - Present

2. Comments from the public - None.

3. Action Items

- a. Approval of Resolution No. 409, Amendments to the 2005 TIP and STIP  
MOTION: Steven Schiller moved to approve, seconded by Rudy Cabata, passed unanimously.
- b. Approval of STP-Urban Program Change: Move East Road, Bristol, Proj. #0017-161 from FFY 2006 to FFY 2007.  
MOTION: Steven Schiller moved to approve, seconded by Joseph Julian, passed unanimously.
- c. Approval of Resolution No. 410, New Air Quality Conformity Statement, June 2006  
MOTION: Rudy Cabata moved to approve Resolution No. 410, seconded by Steven Schiller, passed unanimously. .
- d. Approval of Resolution No. 411, FY2007-2011 Transportation Improvement Program (TIP)  
MOTION: Steven Schiller moved to approve, seconded by Rudy Cabata, passed unanimously.
- e. Approval of Resolution No. 408, Urban Planning Certification  
MOTION: Steven Schiller moved to approve, seconded by Donald Naples, passed unanimously.
- f. Approve Draft Natural Hazards Mitigation Plan for the Central Connecticut for Public Comment  
MOTION: Rudy Cabata moved to TABLE agenda item for consideration at the September agency meeting, seconded by Steven Schiller, passed unanimously.

4. Adjournment - MOTION: Steven Schiller moved to adjourn, seconded by Rudy Cabata, passed unanimously. Meeting adjourned at 9:35 a.m.

TO: Municipal Clerks (Please Post)

## **REGULAR AGENCY BOARD NOTICE AND AGENDA**

DAY/DATE: THURSDAY, November 2, 2006  
MEETING TIME: 7:30 P.M.  
PLACE: CCRPA Office  
225 North Main Street, Suite 304  
Bristol, CT 06010

*NOTE TO PEOPLE WITH SPECIAL NEEDS: We do not discriminate on the basis of disability. Individuals who need auxiliary aids are invited to make their needs known by calling one of the numbers listed above as soon as possible.*

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities)

Berlin Morgan Seelye, Chair Dennis Kern	Helen Z. Pearl Steven P. Schiller
Bristol Timothy W. Furey Donald Padlo Ronald Burns	Plainville Jennifer Bartiss-Earley David Dudek, Treasurer
Burlington Amy Harris Joseph Julian, Secretary	Plymouth Patrick Herzing Thomas Wollenberg
New Britain Donald Naples	Southington Matthew O'Keefe, Vice Chair Leanne Kennedy Rudy Cabata
  2. Comments from the public
  3. Action Items
    - a. Receive the September 2006 Financial Report and file for Audit
    - b. Approve Minutes of October 5, 2006
    - c. Program, Finance, and Personnel (PFP) Committee Report
      - (1) Approve FY2005-06 Annual Audit
      - (2) Authorize the Executive Director to execute a Professional Services Agreement between the Agency and the Town of Burlington for the preparation of a Town Plan of Conservation and Development
    - d. Comprehensive Plan Committee (CPC) Report (No action required on referrals if all decisions were unanimous; see CPC agenda for item listings)
      - (1) Recommendation to approve draft policies to be included in the Preliminary 2007 Update of the Regional Plan of Conservation and Development
      - (2) Other
    - e. Transportation Improvement Committee recommendation for funding a Route 229 Corridor Study
    - f. **Authorize publication of the Regional Natural Hazard Mitigation Plan for Public Hearing**
    - g. Approve Resolution #416 - TIP/STIP Amendments
      - (1) Project # 0170-T714 - Vanpool financing program
      - (2) Project #0131-XXXX - Rails to Trails Plantsville to Cheshire
      - (3) Project #0171-HXXX - Thin overlay preventative maintenance
      - (4) Project #0171-0305 - Funding for New Britain/Hartford Busway - FHWA (115), FFY 04 earmark
      - (5) Project #0171-0305 - Funding for the New Britain/Hartford Busway
  4. Information Items
    - a. Holiday Dinner Meeting
    - b. November 15 noon CEO Discussion Luncheon - Affordable Housing
  5. Adjournment
- cc: Mayors/Managers; PZC Chairs; Municipal Planners; Auditor; M. Phillips, ConnDOT; CT OPM; U.S. FHWA; U.S. FTA

## REGULAR AGENCY BOARD MINUTES

DAY/DATE: THURSDAY, November 2, 2006  
MEETING TIME: 7:30 P.M.  
PLACE: CCRPA Office  
225 North Main Street, Suite 304  
Bristol, CT 06010

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities)  
Meeting called to order by Chairperson Morgan Seelye at 7:59 p.m.

Berlin	Helen Z. Pearl, Present
Morgan Seelye, Chair, Present	Steven P. Schiller, Present
Dennis Kern, Present	Plainville
Bristol	Jennifer Bartiss-Earley, Present
Timothy W. Furey, Excused Absence	David Dudek, Treasurer, Present
Donald Padlo, Present	Plymouth
Ronald Burns, Excused Absence	Patrick Herzing, Present
Burlington	Thomas Wollenberg, Absent
Amy Harris, Present	Southington
Joseph Julian, Secretary, Present	Matthew O'Keefe, Vice Chair, Excused
New Britain	Absence
Donald Naples, Present	Leanne Kennedy, Present
	Rudy Cabata, Excused Absence

2. Comments from the public

None

3. Action Items

a. Receive the September 2006 Financial Report and file for Audit

**MOTION:** Helen Pearl moved to receive the September, 2006 Financial Report as presented, seconded by Donald Padlo, passed unanimously

b. Approve Minutes of October 5, 2006

**MOTION:** Donald Padlo moved to approve the October 5, 2006 minutes as presented, seconded by Patrick Herzing, passed unanimously

c. Program, Finance, and Personnel (PFP) Committee Report

(1) Approve FY2005-06 Annual Audit

**MOTION:** Helen Pearl moved approval of the FY 2005-2006 Audit as presented by Auditor Michael Maletta, seconded by David Dudek, passed unanimously

(2) Authorize the Executive Director to execute a Professional Services Agreement between the Agency and the Town of Burlington for the preparation of a Town Plan of Conservation and Development

**MOTION:** Helen Pearl moved to approve execution of the Agreement for the preparation of the Burlington Town Plan of Conservation and Development, seconded by Donald Padlo, passed unanimously

d. Comprehensive Plan Committee (CPC) Report (No action required on referrals if all decisions were unanimous; see CPC agenda for item listings)

CPC Chairperson Donald Padlo reported that all actions of the CPC were unanimous

(1) Recommendation to approve draft policies to be included in the Preliminary 2007 Update of the Regional Plan of Conservation and Development

Due to the lateness of the hour CPC will act on this at the December meeting

(2) Other

None

e. Transportation Improvement Committee recommendation for funding a Route 229 Corridor Study

**MOTION:** Donald Padlo moved to endorse the recommendation to seek the funding for a Route 229 Corridor Study, seconded by Steven Schiller, passed unanimously

- f. Authorize publication of the Regional Natural Hazard Mitigation Plan for Public Hearing

Central Connecticut Regional Planning Agency  
225 North Main Street, Suite 304; Bristol, CT 06010  
860 589 7820, 224 9888 FAX 860 589 6950 www.ccrpa.org

Action postponed to the December Agency Board meeting to allow time for review

- g. Approve Resolution #416 - TIP/STIP Amendments
  - (1) Project # 0170-T714 - Vanpool financing program
  - (2) Project #0131-XXXX - Rails to Trails Plantsville to Cheshire
  - (3) Project #0171-HXXX - Thin overlay preventative maintenance
  - (4) Project #0171-0305 - Funding for New Britain/Hartford Busway - FHWA (115), FFY 04 earmark
  - (5) Project #0171-0305 - Funding for the New Britain/Hartford Busway

**MOTION:** Donald Padlo moved to approve Resolution No. 416 as presented, seconded by David Dudek, passed unanimously

4. Information Items

a. Holiday Dinner Meeting

The December dinner meeting will be held at Debo's in Berlin. Chairperson Seelye suggested inviting Chief Elected Officials of our member Towns.

b. November 15 noon CEO Discussion Luncheon - Affordable Housing

Executive Director Stephani invited Agency Board Members to attend the November 15, 2006 Affordable Housing discussion luncheon to be held at the CCRPA office.

5. Adjournment - 8:16 p.m.

cc: Mayors/Managers; PZC Chairs; Municipal Planners; Auditor; M. Phillips, ConnDOT; CT OPM; U.S. FHWA; U.S. FTA

TO: Municipal Clerks (Please Post)

**REGULAR AGENCY BOARD NOTICE AND AGENDA**

DAY/DATE: THURSDAY, December 7, 2006  
MEETING TIME: 6:30 P.M.  
PLACE: Debo's @ Timberlin Golf Course  
330 Southington Road  
Berlin, CT 06037

*NOTE TO PEOPLE WITH SPECIAL NEEDS: We do not discriminate on the basis of disability. Individuals who need auxiliary aids are invited to make their needs known by calling one of the numbers listed above as soon as possible.*

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities)

Berlin	Morgan Seelye, Chair	Helen Z. Pearl
	Dennis Kern	Steven P. Schiller
Bristol	Timothy W. Furey	Plainville
	Donald Padlo	Jennifer Bartiss-Earley
	Ronald Burns	David Dudek, Treasurer
Burlington	Amy Harris	Plymouth
	Joseph Julian, Secretary	Patrick Herzing
New Britain		Thomas Wollenberg
	Donald Naples	Southington
		Matthew O'Keefe, Vice Chair
		Leanne Kennedy
		Rudy Cabata
2. Comments from the public
3. Annual Updates from the Town Mayors/Managers
4. Action Items
  - a. Receive the October 2006 Financial Report and file for Audit
  - b. Approve Minutes of November 2, 2006
  - c. Program, Finance, and Personnel (PFP) Committee Report
  - d. Comprehensive Plan Committee (CPC) Report (No action required on referrals if all decisions were unanimous; see CPC agenda for item listings)
    - (1) Report action on referrals
    - (2) Recommendation to approve draft policies to be included in the Preliminary 2007 Update of the Regional Plan of Conservation and Development
  - e. **Approve the Regional Natural Hazard Mitigation Plan**
  - f. Transportation Improvement Committee recommendation to Release Draft Public Participation Plan for Public Comment
5. Other business
6. Information Items
7. Adjournment

cc: Mayors/Managers; PZC Chairs; Municipal Planners; Auditor; M. Phillips, ConnDOT; CT OPM; U.S. FHWA; U.S. FTA

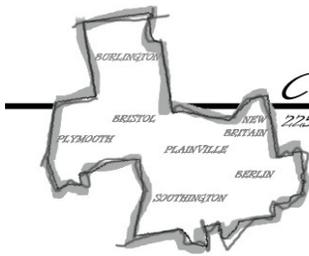
## REGULAR AGENCY BOARD MINUTES

DAY/DATE: THURSDAY, December 7, 2006  
MEETING TIME: 6:30 P.M.  
PLACE: Debo's @ Timberlin Golf Course  
330 Southington Road  
Berlin, CT 06037

1. Call to order, report of excused absences, and determination of quorum (representation from four municipalities)  
Meeting called to order by Chairperson Morgan Seelye at 6:35 p.m.

Berlin	Morgan Seelye, Chair - Present	Helen Z. Pearl - Present	
	Dennis Kern - Present	Steven P. Schiller - Present	
Bristol	Timothy W. Furey - Excused Absent	Plainville	Jennifer Bartiss-Earley - Present
	Donald Padlo - Present		David Dudek, Treasurer - Present
	Ronald Burns - Resigned	Plymouth	Patrick Herzing - Excused Absent
Burlington	Amy Harris - Present		Thomas Wollenberg - Absent
	Joseph Julian, Secretary - Present	Southington	Matthew O'Keefe, Vice Chair - Present
New Britain	Donald Naples - Present		Leanne Kennedy - Present
			Rudy Cabata - Present
2. Comments from the public - None received.
3. Annual Updates from the Town Mayors/Managers  
First Selectman Theodore Schiedel updated the board on how his town is doing and that he is very pleased that CCRPA is doing their Town Plan of Conservation and Development.
4. Action Items
  - a. Receive the October 2006 Financial Report and file for Audit  
MOTION: Helen Peal moved to receive the October 2006 Financial Report and file for Audit, seconded by Dennis Kern, passed unanimously
  - b. Approve Minutes of November 2, 2006  
MOTION: Donald Padlo moved to approve the Minutes of November 2, 2006 as written, seconded by David Dudek, passed unanimously
  - c. Program, Finance, and Personnel (PFP) Committee Report - no report.
  - d. Comprehensive Plan Committee (CPC) Report (No action required on referrals if all decisions were unanimous; see CPC agenda for item listings)
    - (1) Report action on referrals - Chair Padlo reported that all referrals were acted upon unanimously
    - (2) Recommendation to approve draft policies to be included in the Preliminary 2007 Update of the Regional Plan of Conservation and DevelopmentMOTION: Donald Padlo moved to approve draft policies to be included in the Preliminary 2007 Update of the Regional Plan of Conservation and Development, seconded by Amy Harris, passed unanimously
  - e. Approve the Regional Natural Hazard Mitigation Plan  
MOTION: Donald Padlo moved to approve the draft Regional Natural Hazard Mitigation Plan on the condition that a section be added relating to man-made obstructions restricting stormwater flows, and that the Final Plan come to the Agency Board for adoption through CPC for review, seconded by Donald Naples, passed unanimously
  - f. Transportation Improvement Committee recommendation to Release Draft Public Participation Plan for Public Comment  
MOTION: Steven Schiller moved to approve the TIC recommendation to release draft public participation plan for public comment, seconded by Donald Padlo, passed unanimously

5. Other business  
None
6. Information Items  
None
7. Adjournment was declared at 6:55 p.m.



## REVISED

items added in **bold font**

TO: Municipal Clerks (Please Post)  
 REGULAR AGENCY BOARD MEETING NOTICE AND AGENDA  
 7:30 P.M. Thursday, September 2, 2010 ; CCRPA 225 N. Main St. Ste 304, Bristol, CT

BOARD MEMBERS: Please email/call if you will be late or absent

SPECIAL NEEDS: We do not discriminate on the basis of disability

Please call in advance if you need auxiliary aids

I. Call to order & roll call (report of excused absences & declaration of quorum - 4 towns)

	Chief Elected Official Rep. (PFP)	PC Rep. (CPC)	Council Rep. (Towns >50,000)
Berlin	Bart Bovee	Dennis Kern, Treas.	
Bristol	John Pompei, Vice Chair	Donald Padlo	Tim Furey
Burlington	Peter McBrien	Paul Rachielles	
New Britain	Donald Naples, Secretary	Steven P. Schiller	Craig Diangelo
Plainville*	David Dudek, Chair	Jennifer Bartiss-Earley	
Plymouth	Stephen Mindera	Carl Johnson	
Southington	vacant	Rudy Cabata	Paul Bedard

II. Service Recognition - Joseph Krajewski

III. Special Presentation - CT DEP's LID Library; MaryAnn Nusom Haverstock, DEP, Bureau of Water Protection and Land Reuse Planning and Standards Division

IV. Comments from the public regarding items not on the agenda

V. Action Items

- A. Receive the May, June, July 2010 Financial Reports and file for Audit
- B. Approve June 3 and August 13, 2010, meeting minutes
- C. Standing Committee Reports
  - 1. Program, Finance, and Personnel (PFP) Committee/Pension Plan Trustees,
    - a. Revisions to the Pension Plan Adoption Agreement, effective July 1, 2009
    - b. FY2011-2012 Member Municipality Dues
    - c. Personnel Policy Amendment and Related Budget Revisions for the Regional Planner Position
    - d. Budget Amendment
    - e. Other
  - 2. Comprehensive Plan Committee (CPC) (No action required on referrals if all decisions were unanimous; see CPC agenda for item listings)
    - a. **Revised Draft Regional Natural Hazards Mitigation Plan**
    - b. Other
  - 3. Transportation Improvement Committee
    - a. Plantsville Beautification Project Letter of Support (Tony Tranquillo, Town Engineer)
    - b. **STIP/TIP amendment to approve statewide projects 0170-2758 and 2759 (pavement management analysis and data collection)**
    - c. **STIP/TIP amendment to approve statewide project 0170-2868 (Bridge inspections)**
    - d. **STIP/TIP amendment to approve Town of Plymouth project 0110-0133 (pedestrian improvements at Harry S. Fisher & Eli Terry Elementary Schools)**
    - e. Other
  - 4. Appointment of Standing Committee members and Chairs
  - 5. Agency representation on the Region 5 Emergency Planning Team (R5EPT) Steering Committee

VI. Other Business

VII. Information - Update: Waterbury Rail and Busway

VIII. Adjournment

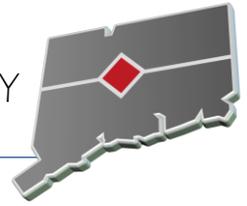
# CENTRAL CONNECTICUT REGIONAL PLANNING AGENCY

*Serving Berlin, Bristol, Burlington, New Britain, Plainville, Plymouth, and Southington*

225 North Main Street, Suite 304  
Bristol, CT 06010-4993

Internet: <http://ccrpa.org>  
Fax/TDD: (860) 589-6950

Tel: (860) 589-7820  
or (860) 224-9888



## REVISED

To: Municipal Clerks (Please Post)

### REGULAR COMMITTEE MEETING NOTICE AND AGENDA

#### COMPREHENSIVE PLAN COMMITTEE (CPC)

7 P.M. Thursday, September 2, 2010; CCRPA 225 N. Main Street Suite 304, Bristol, CT

BOARD MEMBERS: Please email/call if you will be late or absent

SPECIAL NEEDS: We do not discriminate on the basis of disability

Please call in advance if you need auxiliary aids

#### I. Call to Order, Roll call and determination of quorum

A quorum is formed by 50% of committee members.

Representative	Municipality	Representative	Municipality
Dennis Kern	Berlin	Jennifer Bartiss-Earley	Plainville
Donald Padlo	Bristol	Carl Johnson	Plymouth
Paul Rachielles	Burlington	Rudy Cabata	Southington
Steven Schiller	New Britain	David Dudek	Ex officio

#### II. Comments from the Public

#### III. Action items

- A. Approval of the June 3, 2010, Regular Meeting Minutes
- B. Recommendation to the Agency Board regarding Public Hearing and Publication of the Revised Draft Regional Natural Hazards Mitigation Plan
- C. Referrals
  - 1. Southington proposed Zoning text revisions
  - 2. Cheshire proposed changes to Zoning regulations
  - 3. Berlin Zoning change to non-conforming single family residence

4. Waterbury Zoning Text Change relating to Cemeteries
5. **Plainville Text Amendments to Zoning Regulations for Low Impact Development**

#### **IV. Summer referral staff actions**

- A. Bristol "environmental services facility"
- B. Farmington parking requirements

#### **V. Other matters**

#### **VI. Adjournment**

## **Appendix C: Flood Control Ordinances**

**An Ordinance  
Establishing  
Floodplain  
Management  
Regulations for  
Special Flood Hazard  
Areas in the Town of  
Berlin, Connecticut**

**Effective Date: August 23, 2008**

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**AN ORDINANCE ESTABLISHING FLOODPLAIN  
MANAGEMENT REGULATIONS FOR  
SPECIAL FLOOD HAZARD AREAS  
IN THE TOWN OF BERLIN, CONNECTICUT**

**Statutory Authorization**

In Section 7-148 (c) (7) of the General Statutes, the Legislature of the State of Connecticut delegates to local governmental units the responsibility of adopting regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the Town of Berlin, Connecticut does ordain as follows:

RESOLVED: That an ordinance entitled "An Ordinance Establishing Floodplain Management Regulations for Special Flood Hazard Areas" is hereby repealed and the following amended ordinance entitled "An Ordinance Establishing Floodplain Management Regulations for Special Flood Hazard Areas In The Town of Berlin, Connecticut" be accepted, adopted and legalized by printing:

Be it ordained by the Town of Berlin that the following ordinance be accepted, adopted and legalized by printing:

**SECTION I - DEFINITIONS**

**Act:** means the statutes authorizing the National Flood Insurance Program that are incorporated in 42 U.S.C. 4001-4128.

**Base Flood:** means the flood having a one percent change of being equaled or exceeded in any given year.

**Base Flood Elevation (BFE):** means the elevation of the crest of the base flood or 100-year flood. The height in relation to mean sea level expected to be reached by the waters of the base flood at pertinent points in the floodplains of coastal and riverine areas.

**Basement:** means the portion of a building having its floor subgrade (below ground level) on all sides.

**Building:** see Structure

**Building Inspector:** means the Building Inspector of the Town of Berlin or his/her authorized agent.

**Cost:** means, as related to substantial improvements, the cost of any reconstruction, rehabilitation, addition, alteration, repair or other improvement of a structure shall be established by a detailed written contractor's estimate. The estimate shall include, but not be limited to: the cost of materials (interior finishing components, structural

components, utility and service equipment); sales tax on materials; building equipment and fixtures, including heating and air conditioning and utility meters; labor; built-in appliances; demolition and site preparation; repairs made to damaged parts of the building worked on at the same time; contractor's overhead; contractor's profit; and grand total. Items to be excluded include: cost of plans and specifications; survey costs; permit fees; outside improvements such as septic systems, water supply wells, landscaping, sidewalks, fences, yard lights, irrigation systems, and detached structures such as garages, sheds, and gazebos.

**Curvilinear Line:** means the border on either a Flood Hazard Boundary Map or Flood Insurance Rate Map that delineates the special flood hazard areas and consists of a curved or contour line that follows the topography.

**Development:** means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, **the construction of additions or substantial improvements to buildings or other structures**, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials; **and the storage, deposition, or extraction of materials, public or private sewage disposal systems or water supply facilities.**

**Erosion:** means the process of the gradual wearing away of land masses. This peril is not per se covered under the Program.

**Existing Construction:** means for the purposes of determining rates, structures for which the "start of construction" commenced before the effective date of the FIRM. "Existing construction" may also be referred to as "existing structures".

**Existing Manufactured Home Park or Manufactured Home Subdivision:** means a manufactured home park or subdivision for which the construction of facilities servicing the lots on which the manufactured home are to be affixed (including, as a minimum, the installation of utilities, the construction of streets, and either final grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

**Expansion To An Existing Manufactured Home Park Or Manufactured Home Subdivision:** means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, either final site grading or pouring of concrete pads, or the construction of streets).

**Existing Structures:** see Existing Construction

**Federal Emergency Management Agency (FEMA):** means the federal agency that administers the National Flood Insurance Program (NFIP).

**Finished Living Space:** means space that can include, but is not limited to, a space that is heated and/or cooled, contains finished floors (tile, linoleum, hardwood, etc.) had sheetrock walls that may or may not be painted or wallpapered, and other amenities such as furniture, appliances, bathroom, fireplaces and other items that are easily damaged by floodwaters and expensive to clean, repair or replace.

**Flood or Flooding:** means:

(a) A general and temporary condition of partial or complete inundation of normally dry land areas from:

(1) The overflow of inland or tidal waters.

(2) The unusual and rapid accumulation or runoff of surface waters from any source.

(b) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding.

**Flood Elevation Study:** means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations.

**Flood Insurance:** means the insurance coverage provided under the Program.

**Flood Insurance Rate Map (FIRM):** means an official map of the Town of Berlin on which the Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community.

**Flood Insurance Study (FIS):** means the official study of a community in which the Federal Emergency Management Agency (FEMA) has conducted a technical engineering evaluation and determination of local flood hazards, flood profiles and water surface elevations. The Flood Insurance Rate Maps (FIRM), which accompany the FIS, provide both flood insurance rate zones and base flood elevations, and may provide the regulatory floodway limits.

**Floodplain or Flood-Prone Area:** means any land area susceptible to being inundated by water from any source (see definition of "flooding").

**Floodplain Management:** means the operation of an overall program of corrective and preventive measures of reducing flood damage, including but not limited to emergency preparedness plans, flood control works and Floodplain management regulations.

**Floodplain Management Regulations:** means zoning regulations, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a Floodplain ordinance, wetlands regulations, grading ordinance and erosion control

ordinance) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

**Floodproofing:** means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents. To be floodproofed, a structure must be water tight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.

**Floodway:** see Regulatory Floodway

**Freeboard:** means a factor of safety usually expressed in feet above a flood level for purposes of Floodplain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

**Functionally Dependent Use or Facility:** means a use or facility that cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities. The term does not include seafood processing facilities, long-term storage, manufacturing, sales or service facilities.

**Health Director:** means the Health Director of the Town of Berlin or his authorized agent.

**Highest Adjacent Grade (HAG):** means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

**Historic Structure:** means any structure that is: (a) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements of individual listing on the National Register; (b) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historic significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or (d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either: (1) By an approved state program as determined by the Secretary of the Interior or (2) Directly by the Secretary of the Interior in states without approved programs.

**Inland Wetlands and Water Courses Commission:** means Inland Wetlands and Water Courses Commission of Berlin.

**Lowest Floor:** means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a building's lowest floor, provided that such an area meets the design requirements specified in Section IV,4,3 of this ordinance.

**Market Value:** means a market value of the structure shall be determined by the appraised value of the structure using the cost approach to value prior to the start of the initial repair or improvement, or in the case of damage, the value of the structure prior to the damage occurring.

**Mean Sea Level:** means for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations on the Flood Insurance Rate Map are referenced.

**Manufactured Home:** means a structure, transportable in one (1) or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. **The term also includes park trailers, travel trailers, recreational vehicles and other similar vehicles or transportable structures placed on a site for one hundred and eighty (180) consecutive days or longer and intended to be improved property.**

**Manufactured Home Park or Subdivision:** means a parcel or contiguous parcels of land divided into two (2) or more manufactured home lots for rent or sale.

**New Construction:** means, for the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM and includes any subsequent improvements to such structures. For Floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of the initial Floodplain management ordinance and includes any subsequent improvements to such structures.

**New Manufactured Home Park or Subdivision:** means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, either final site grading or the pouring of concrete pads, and the construction of streets) is completed on or after the effective date of Floodplain management regulations adopted by a community.

**100 Year Flood:** see Base Flood

**Planning Commission:** means the Planning Commission of Berlin.

**Recreational Vehicle:** Includes travel trailers and means a vehicle which is: (i) built on a single chassis; (ii) 400 square feet or less when measured at the longest horizontal projections; (iii) designed to be self-propelled or permanently towable by a light-duty truck; and (iv) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

**Regulatory Floodway:** means a channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot, or a designated height. For the purposes of these regulations, the term "Regulatory Floodway" is synonymous in meaning with the term "Floodway".

**Riverine:** means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

**Special Flood Hazard Area (SFHA):** means the land in the floodplain within a community subject to a one (1) percent or greater chance of flooding in any given year. SFHA's are determined utilizing the base flood elevations (BFE) provided on the flood profiles in the Flood Insurance Study (FIS) for a community. BFEs provided on the Flood Insurance Rate Map (FIRM) are only approximate (rounded up or down) and should be verified with the BFEs published in the FIS for a specific location. SFHAs include, but are not necessarily limited to, the land shown as Zones A, AE, AO, and AH. The SFHA is also called the Area of Special Flood Hazard.

**Start of Construction:** includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure (other than a Manufactured home) on a site, such as the pouring of slabs or footings or any work beyond the state of excavation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not as part of the main structure. For a structure (other than a Manufactured home) without a basement or poured footings, the "start of construction" includes the first permanent framing or assembly of the structure, or any part thereof on its piling or foundation. For Manufactured homes not within a Manufactured home park or Manufactured home subdivision, "start of construction" is the date on which the construction of facilities for servicing the site on which the Manufactured home is to be affixed (including, at a minimum, the construction of streets, either final site grading or the pouring of concrete pads, and installation of utilities) is completed. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

**State:** means the State of Connecticut.

**State Coordinating Agency:** means the Department of Environmental Protection, Water Management Bureau, Inland Water Resources Division. The State Coordinating Agency is to assist in the implementation of the National Flood Insurance Program in Connecticut.

**Structure:** means, for Floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground as well as a Manufactured home. "Structure" for insurance coverage purposes, means a walled and roofed building, other than a gas or liquid storage tank, that is principally above ground and affixed to a permanent site, as well as a Manufactured home on foundation. For the latter purpose, the term includes a building while in the course of construction, alteration or repair, but does not include building materials or supplies intended for use in such construction, alteration or repair, unless such materials or supplies are within an enclosed building on the premises.

**Substantial Damage:** means damage of any origin sustained by a structure, whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**Substantial Improvement:** means any combination of repairs, reconstruction, alteration, or improvements to a structure taking place over a one year period, in which the cumulative cost equals or exceeds fifty percent (50%) of the market value of the structure. The market value of the structure should be (1) the appraised value of the structure using the cost approach to value, prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the structure prior to the damage occurring. For the purposes of this definition, "Substantial Improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include any improvement project required to comply with existing health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions. **This term includes structures that have incurred "substantial damage", regardless of the actual repair work performed.**

**Town:** means the Town of Berlin.

**Town Engineer:** means the Town Engineer for the Town of Berlin or his/her authorized agent.

**Variance:** means a grant of relief from the requirements of this ordinance which permits development in a manner that would otherwise be prohibited by this ordinance.

**Violation:** means a failure of a structure or other development to be fully compliant with the community's floodplain management ordinance. A structure or other development without required permits, lowest floor elevation documentation, flood-proofing certificates or required floodway encroachment calculations is resumed to be in violation until such time as that documentation is provided.

**Water Control Commission:** means the Water Control Commission of the Town of Berlin or its authorized agent.

**Water Surface Elevation:** means the projected heights in relation to **the National Geodetic Vertical Datum (NGVD) of 1929**, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

**Zone A:** means the area of special flood hazard without water surface elevations determined as identified on the Town of Berlin Flood Insurance Rate Map.

**Zone AE:** means the areas of special flood hazard with base flood elevations and flood hazard factors determined, as identified on the Town of Berlin Flood Insurance Rate Map.

## **SECTION II - PURPOSE**

The Town of Berlin is a participating community in the National Flood Insurance Program as a regular program community. Certain areas of the Town of Berlin are subject to periodic flooding from streams, rivers, lakes, ponds, etc. causing serious damages to properties within these areas and hinders the health and welfare of the rest of the Town. These areas are designated as special flood hazard areas (unnumbered Zone A, Zones **AE**) by the **Federal Emergency Management Agency** and are illustrated on a Flood Insurance Rate Map (FIRM) issued to the Town of Berlin by **Federal Emergency Management Agency**. Being a participating community in the National Flood Insurance Program requires the Town to adopt Floodplain Regulations that meet the **Federal Emergency Management Agency's** criteria as specified in **44 CFR Parts 59, 60, 65, and 70** as amended. The purpose of this ordinance is to establish the aforementioned Floodplain Management Regulations in the Town of Berlin.

## **SECTION III - GENERAL PROVISIONS**

1. This ordinance shall apply to all areas of special flood hazards within the jurisdiction of the Town of Berlin.
2. The Special Flood Hazard Areas (SFHA) identified by the Federal Emergency Management Agency (FEMA) in its Flood Insurance Study (FIS) for the Town of Berlin, dated September 26, 2008, and accompanying Flood Insurance Rate Maps (FIRM), dated September 26, 2008, and accompanying Flood Insurance

Rate Maps (FIRM), dated September 26, 2008, and other supporting data, and any subsequent revisions thereto, are adopted by reference and declared to be a part of this ordinance. Since mapping is legally adopted by reference into this ordinance it must take precedence when more restrictive until such time as a map amendment or map revision is obtained from FEMA.

The SFHA includes any area shown on the FIRM as Zones A and AE, including areas designated as a floodway on a FIRM. SFHAs are determined utilizing the base flood elevations (BFE) provided on the flood profiles in the Flood Insurance Study (FIS) for a community. BFEs provided on Flood Insurance Rate Map (FIRM) are only approximate (rounded up or down) and should be verified with the BFEs published in the FIS for a specific location. Also included are areas of potential, demonstrable or historical flooding, including any area contiguous with but outside the SFHA identified by FEMA, and where the land surface elevation is lower than the base flood elevation (BFE) as shown in the FIS, and the area is not protected from flooding by a natural or man-made feature. The FIRM and FIS are on file at the office of the Town Engineer, Town Hall, Berlin.

3. A structure or development already in compliance with this ordinance shall not be made non-compliant by any alteration, modification, repair, reconstruction or improvement, and must also comply with other applicable local, state, and federal regulations. No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations.
4. This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
5. The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of the Town of Berlin or any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made thereunder.
6. If any section, subsection, paragraph, sentence, clause, or phrase of this ordinance should be declared invalid for any reason whatsoever, such decision shall not affect the remaining portions of this ordinance, which shall remain in full force and effect; and to this end the provisions of this ordinance are hereby declared to be severable.

**SECTION IV - FLOODPLAIN  
MANAGEMENT REGULATIONS  
FOR SPECIAL FLOOD HAZARD AREAS**

1. The Inland Wetlands and Water Courses Commission shall review applications and require permits on forms provided by the Town for all proposed construction or other development (see definition) including the placement of Manufactured homes, within Zone A and/or Zone AE on the Town's Flood Insurance Rate Map (FIRM).
2. The Inland Wetlands and Water Courses Commission shall review proposed development within Zone A and/or Zone AE on the FIRM to assure that all necessary permits have been received by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
3. The Building Inspector with the assistance of the Town Engineer shall review all building permit applications to determine whether proposed building sites will be reasonably safe from flooding. If a proposed building site is in Zone A and/or Zone AE on the FIRM, all new construction and substantial improvements (including the placement of prefabricated buildings and Manufactured homes) shall (1) be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure, (2) be constructed with materials resistant to flood damage, (3) be constructed by methods and practices that minimize flood damage, and (4) be constructed with electrical, heating, ventilation, and air conditioning equipment, and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
4. The Building Inspector with the assistance of the Town Engineer shall obtain, review, and reasonable utilize the information provided on the FIRM, and other base flood elevation data available from a Federal, State, or other source, as criteria for requiring that (1) all new construction and substantial improvements of residential structures have the lowest floor (including basement) elevated to or above the base flood level and (2) all new construction and substantial improvements of nonresidential structures have the lowest floor (including basement) elevated or floodproofed to or above the base flood level. Where floodproofing is used in lieu of elevation, the structure, together with attendant utility and sanitary facilities, shall:
  - (1) be floodproofed so that to a height of one foot above the base flood level, the structure is watertight with walls substantially impermeable to the passage of water;
  - (2) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and

(3) be certified by a registered professional engineer or architect that the standards of this subsection are satisfied. Such certification shall be maintained by the Building Inspector.

(3) All new construction, substantial improvements, or repair of substantial damage to residential or non-residential structures that include fully enclosed areas formed by a foundation and other exterior walls below the base flood elevation (BFE) of an elevated building, shall be designed to preclude finished living space and be designed to allow for the entry and exit of flood waters to automatically equalize hydrostatic flood forces on exterior walls (wet flood-proofing). Designs for complying with this requirement must either be certified by a Connecticut registered professional engineer or architect, or meet the following minimum criteria listed in Sections (a)-(g) below:

- (a) Provide a minimum of two (2) openings (hydraulic flood vents) having a total net area of not less than one square inch for every one square foot of enclosed area subject to flooding. These hydraulic openings must be located on at least two different walls. Only the area (square footage) that lies below the BFE can be used in the calculation of net area of vents required. If the structure has more than one enclosed area, openings must be installed in the exterior walls of each enclosed area so that flood waters can enter directly from the outside;
- (b) The bottom of all openings shall be no higher than one (1) foot above grade. At least one side of the structure's fully enclosed area must be at or above grade. Fill placed around the foundation walls must be graded so that the elevation inside the enclosed area is equal to, or higher than, the adjacent outside elevation on at least one side of the building. The finished floor of the enclosed area shall be no lower than the bottom of the foundation openings. The foundation slab of a residential structure, including the slab of a crawlspace, must be set equal to the outside finished grade on at least one side of the building;
- (c) The openings may be equipped with screens, louvers, valves or other coverings or devices, provided they permit the automatic entry and exit of flood waters in both directions without any external influence or control such as human intervention, including the use of electrical and other non-automatic mechanical means. Other coverings may be designed and certified by an engineer, or approved by the Town Engineer;
- (d) The area cannot be used as finished living space. Use of the enclosed area shall be the minimum necessary, and shall only be used for the parking of vehicles, building access or limited storage. Access to the enclosed area shall be the minimum necessary to allow for the parking of vehicles (garage door), or limited storage of maintenance equipment used in connection with the premises (standard exterior door), or entry to the living area (stairway or elevator). The enclosed area shall not be used for human habitation, or partitioned into separate rooms;
- (e) All interior walls, floor, and ceiling materials located below the BFE shall be unfinished and resistant to flood damage;
- (f) Electrical, plumbing, HVAC ductwork, machinery or other utility equipment and connections that service the structure (including, but not limited to: furnaces, oil or propane tanks, air conditioners, heat pumps, hot water heaters, ventilation,

washers, dryers, electrical junction boxes, circuit breaker boxes and food freezers) are prohibited in the fully enclosed area below the BFE. Utilities or service equipment located in this enclosed area, even if elevated above the BFE in the space, will subject the structure to increased flood insurance rates.

(g) A residential building with a structurally attached garage having the floor slab below the BFE is considered an enclosed area below the BFE, and must meet the standards of Sections IV,4,3,(a)-(f). A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry and exit of floodwaters in both directions. Flood openings or vents are required in the exterior walls of the garage or in the garage doors. The human intervention necessary to open garage doors when flooding occurs is not an acceptable means of meeting the openings requirements. In addition to the automatic entry of floodwaters, the areas of the garage below BFE must be constructed with flood resistant materials. Garages attached to non-residential structures must also meet the aforementioned requirements, or be dry flood proofed as per the requirements of Section IV,2.

5. Within Zone A and/or Zone AE on the FIRM, the Building Inspector shall require (1) the as built elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures whether or not such structure contain a basement, (2) the as built elevation (in relation to mean sea level) to which the structure was floodproofed, and (3) maintain a record of all such information.
6. The Building Inspector shall require that all Manufactured homes be placed within Zone A and/or Zone AE on the FIRM shall be anchored to resist flotation, collapse, or lateral movement by providing over-the-top and frame ties to ground anchors. Specific requirements shall be that (1) over-the-top ties be provided at each of the four corners of the Manufactured home with two additional ties per side at intermediate locations and Manufactured homes less than 50 feet long requiring one additional tie per side; (2) frame ties be provided at each corner of the home with five additional ties per side at intermediate points and Manufactured homes less than 50 feet long requiring four additional ties per side; (3) all components of the anchoring system be capable of carrying a force of 4,800 pounds; and (4) any additions to the Manufactured home be similarly anchored. For new Manufactured home parks and Manufactured home subdivisions; for expansions to existing Manufactured parks and Manufactured home subdivisions; for existing Manufactured home parks and Manufactured home subdivisions where the repair, reconstruction or improvement of the streets, utilities and pads equals or exceeds 50 percent of value of the streets, utilities and pads before the repair, reconstruction or improvement has commenced; and for Manufactured homes not placed in a Manufactured home park or Manufactured home subdivision:

(a) stands or lots shall be elevated on compacted fill or on pilings so that the lowest floor of the Manufactured home will be at or above the base flood level;

(b) adequate surface drainage and access for a hauler shall be provided; and,

(c) in the instance of elevation on pilings,

(1) lots shall be large enough to permit steps,

(2) piling foundations shall be placed in stable soil no more than ten feet apart, and

(3) reinforcement shall be provided for pilings more than six feet above the ground level.

(d) no Manufactured home shall be placed in a floodway.

7. Recreational vehicles placed on sites within Zones A, and/or Zone AE on the Flood Insurance Rate Map shall either:

(i) be on site for fewer than 180 consecutive days,

(ii) be fully licensed and ready for highway use, (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions) or,

(iii) meet the permit requirements of Section IV and the elevation and anchoring requirements for "manufactured homes" in paragraph 6 of this section.

8. The Building Inspector shall require that an excavation plan indicating alternate vehicular access and escape routes be filed with appropriate Disaster Preparedness Authorities for Manufacture home parks and Manufacture home subdivisions located within Zone A and/or Zone AE on the FIRM.

9. The Planning Commission shall review subdivision proposals to determine whether such proposals will be reasonably safe from flooding. If a subdivision proposal is in Zone A and/or Zone AE on the FIRM, the proposal shall be reviewed to assure that (1) the proposal is consistent with the need to minimize flood damage within Zone A and/or Zone AE on the FIRM, (2) all public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage, and (3) adequate drainage is provided to reduce exposure to, and damage from, flood hazards.

10. The Planning Commission shall require all subdivision proposals greater than 50 lots or 5 acres, whichever is lesser, include within such proposals, base flood elevation data for those portions which lie within Zone A and/or Zone AE on the FIRM.

11. The Water Control Commission shall require new and replacement water supply systems within Zone A and/or Zone AE on the FIRM to be designed to minimize or eliminate infiltration of flood waters into the systems.
12. The Water Control Commission shall require new and replacement sanitary sewage systems within Zone A and/or Zone AE to be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
13. The Health Director shall require on-site waste disposal systems within Zone A and/or Zone AE on the FIRM to be located to avoid impairment to them or contamination from them during flooding.
14. The Inland Wetlands and Water Courses Commission shall notify, in riverine situations, adjacent communities if appropriate and the State Coordinating Office prior to any alteration or relocation of a watercourse, and submit copies of such notifications to the Administrator.
15. The Inland Wetlands and Water Courses Commission shall require that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained.
16. Located within areas of special flood hazards established in Section III, paragraph 2, are areas designated as floodways. **Floodways are identified on the Flood Insurance Rate Maps.** Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply:
  - (a) Encroachments, including fill, new construction, substantial improvements, and other development is prohibited unless certification by a registered professional engineer or architect is provided demonstrating that encroachments shall not result in any **(0.00)** increase in flood levels during the occurrence of the base flood discharge. Such certification shall be maintained by the Building Inspector.
  - (b) If Section IV 15(a) is satisfied, all new construction and substantial improvements shall comply with all provisions of Section IV.
  - (c) The placement of any Manufactured homes within the floodway is prohibited.
17. For watercourses without regulatory floodways designated, no new construction, substantial improvements, or other developments (including fill) shall be permitted within Zone AE on the FIRM unless it can be demonstrated that the cumulative effect of the proposed develop, when combined with all other existing and proposed development, will not increase the water surface elevation of the base flood more than one foot at any point along the watercourse.

18. The Town may request floodway data of an applicant for watercourses without FEMA-published floodways. When such data is provided by an applicant or whenever such data is available from any other source (in response to the Town's request or not), the Town shall adopt a regulatory floodway based on the principle that the floodway must be able to convey the waters of the base flood without increasing the water surface elevation more than one (1) foot at any point along the watercourse.

19. The Building Inspector, with the assistance of the Town Engineer, shall make interpretations where needed, as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section V.

20. **Above-ground Storage Tanks** - Above-ground storage tanks (oil, propane, etc.) which are located outside or inside of the structure, must either be elevated above the base flood elevation (BFE) on a concrete pad, or be securely anchored with tie-down straps to prevent flotation or lateral movement, have the top of the fill pipe extended above the BFE, and have a screw fill cap that does not allow for the infiltration of flood water.

21. **Portion of Structure in Flood Zone** - If any portion of a structure lies within the Special Flood Hazard Area (SFHA), the entire structure is considered to be in the SFHA. The entire structure must meet the construction requirements of the flood zone. The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. Decks or porches that extend into a more restrictive flood zone will require the entire structure to meet the standards of the more restrictive zone.

22. **Structures in Two Flood Zones** - If a structure lies within two or more flood zones, the construction standards of the most restrictive zone apply to the entire structure (i.e. V zone is more restrictive than A zone; structure must be built to the highest BFE). The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. (Decks or porches that extend into a more restrictive zone will require the entire structure to meet the requirements of the more restrictive zone.)

23. **No Structures Entirely or Partially Over Water** - New construction, substantial improvements and repair to structures that have sustained substantial damage cannot be constructed or located entirely or partially over water.

24. **Compensatory Storage** - The water holding capacity of the floodplain, except those areas that are tidally influenced, shall not be reduced. Any reduction caused by filling, new construction, or substantial improvements involving an increase in footprint to the structure, shall be compensated for by deepening and/or widening of the floodplain. Storage shall be provided on-site, unless easements have been gained from

adjacent property owners; it shall be provided within the same hydraulic reach and a volume not previously used for flood storage; it shall be hydraulically comparable and incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. Compensatory storage can be provided off-site if approved by the municipality.

**25. Equal Conveyance** - Within the floodplain, except those areas which are tidally influenced, as designated on the Flood Insurance Rate Map (FIRM) for the community, encroachments resulting from filling, new construction or substantial improvements involving an increase in footprint of the structure, are prohibited unless the applicant provides certification by a registered professional engineer demonstrating, with supporting hydrologic and hydraulic analyses performed in accordance with standard engineering practice, that such encroachments shall not result in any **(0.00 feet)** increase in flood levels (base flood elevation). Work within the floodplain and the land adjacent to the floodplain, including work to provide compensatory storage shall not be constructed in such a way so as to cause an increase in flood stage or flood velocity.

## **SECTION V - APPEALS**

1. The Inland Wetlands and Water Courses Commission, of the Town of Berlin, (Inland Wetlands Commission) shall hear and decide appeals and requests for variances from the requirements, decisions or determinations made by the Building Inspector in the enforcement or administration of this ordinance.

2. In passing upon such applications, the Inland Wetlands Commission shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and, as applicable, the following:

- (a) the danger that materials may be swept onto other lands to the injury of others;
- (b) the danger of life and property due to flooding or erosion damage;
- (c) the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- (d) the importance of the services provided by the proposed facility to the community;
- (e) the necessity to the facility of a waterfront location, where applicable;
- (f) the availability of alternative locations, for the proposed use which are not subject to flooding or erosion damage;
- (g) the compatibility of the proposed use with existing and anticipated development;

(h) the relationship of the proposed use to the comprehensive plan and Floodplain management program for that area;

(i) the safety of access to the property in times of flood for ordinary and emergency vehicles;

(j) the expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,

(k) the costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.

3. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to, and surrounded by lots with existing structures constructed below the base flood level, providing items in Section V, paragraph 2, have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.

4. Upon consideration of the factors of Section V, paragraph 2, and the purposes of this ordinance, the Inland Wetlands Commission may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.

5. The Inland Wetlands Commission shall maintain the records of all appeal actions, and report any variances to the Federal Insurance Administration upon request.

6. Conditions for Variances:

(a) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this section.

(b) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(c) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(d) Variances shall only be issued upon:

(1) a showing of good and sufficient cause;

(2) a determination that failure to grant the variance would result in exceptional hardship to the applicant;

(3) thorough consideration of Section V, paragraph 2, and

(4) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.

7. Notice of decisions of the Inland Wetlands Commission shall be given as provided in Section 22a-42a(d) of the Connecticut General Statutes. Any applicant to whom a variance is granted shall be given, when applicable, written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

8. Those aggrieved by the decision of the Inland Wetlands Commission related to the provisions of this ordinance may, within 15 days of the publication of such decision, appeal to the Superior Court, as provided in Section 22a-42 of the Connecticut General Statutes.

#### **SECTION VI - PENALTY. COURT ORDERS:**

The provisions of Section 22A-44(a) and (b) of the Connecticut General Statutes apply.

#### **SECTION VIII - EFFECTIVE DATE:**

This Ordinance shall take effect fifteen (15) days after publication in accordance with the provisions of Section 7-157 of the Connecticut General Statutes, Revision of 1958, as amended.

Adopted at Town Meeting, DATE

Kathryn Wall, Town Clerk

**Agenda Item No.\_\_\_\_**  
**Request for Town Council Action**

**TO:           The Honorable Mayor and Town Council**

**FROM:       Denise McNair, Interim Town Manager**

**DATE:       July 21, 2008**

**SUBJECT:    Floodplain Ordinance**

**Summary of Agenda Item:**

FEMA (Federal Emergency Management Agency) has mandated that towns must adopt changes to their floodplain ordinance that meets or exceeds the minimum federal standards of 44CFR 60.3 and new state requirements by September 26, 2008 in order for the town to remain eligible to participate in NFIP (National Flood Insurance Program). The attached ordinance incorporates all the changes required by FEMA.

The Town Council referred the changes to the Ordinance Committee at their June 17<sup>th</sup> meeting. Corporation Counsel has stated that since the changes are mandated by FEMA the ordinance can just be sent to a Public Hearing. The Ordinance Committee has not had a formal meeting on the amendments but its' members agree that this should be sent to a Public Hearing on August 5<sup>th</sup> and that the Town Council should adopt the changes mandated by FEMA.

The Council received the marked up version of the ordinance showing all the changes in their packet for the June 17<sup>th</sup> meeting. The previous ordinance should be repealed and the attached ordinance adopted.

**Action Needed:**

Move to authorize the Interim Town Manager to schedule and advertise a Public Hearing for Tuesday, August 5, 2008 at 6:15 p.m. The notice shall state "That an ordinance entitled "An Ordinance Establishing Floodplain Management Regulations for Special Flood Hazard Areas" is hereby repealed and the following amended ordinance entitled "An Ordinance Establishing Floodplain Management Regulations for Special Flood Hazard Areas in The Town of Berlin, Connecticut" be accepted, adopted and legalized by printing. The purpose of this is to incorporate amendments mandated by the Federal Emergency Management Agency.

**Attachments:**

Proposed Ordinance

**Prepared By:** Kate Wall, Town Clerk

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## APPENDIX D

### FLOOD DAMAGE PREVENTION\*

Sec. 1.	Statutory Authorization, Finding of Fact, Purpose and Objectives
Sec. 2.	Definitions
Sec. 3.	General Provisions
Sec. 4.	Administration
Sec. 5.	Provisions for Flood Hazard Reduction
Sec. 6.	Standards for Subdivision Proposals
Sec. 7.	Variance Procedures
Sec. 8.	Continuity of Ordinance Provisions

#### SECTION 1. STATUTORY AUTHORIZATION, FINDING OF FACT, PURPOSE AND OBJECTIVES

##### 1.1. Statutory Authorization.

The Legislature of the State of Connecticut has in Section 7-148(c)(7)(A) and in Title 8, Chapter 124, Section 8-2 of the General Statutes delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the City Council of City of Bristol, Connecticut, does ordain as follows:

(Ord. of 8-12-08)

##### 1.2. Findings of fact.

1.2.1. The flood hazard areas of the City of Bristol are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for

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\***Editor's note**—An ordinance adopted on August 12, 2008, amended Appendix D, §§ 1—8 in its entirety to read as herein set out. Formerly, Appendix D pertained to similar subject matter, and derived from an ordinance adopted on March 14, 1988 and amended on August 9, 1993.

**Cross references**—Buildings and building regulations, Ch. 5; flood and erosion control, Ch. 8; planning, Ch. 18; water, sewers and sewage disposal, Ch. 22; enforcement by citation officers, Ch. 23; inland wetlands regulations, App. A; subdivision regulations, App. B; zoning, App. C.

flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

1.2.2. These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, flood-proofed, or otherwise unprotected from flood damages. Uncontrolled development and use of the floodplains can adversely affect the community.

1.2.3. The City of Bristol has voluntarily participated in the National Flood Insurance Program (NFIP) since 1988. The NFIP is founded on a mutual agreement between the federal government and each participating community. Local, state and federal governments must share roles and responsibilities to meet the goals and objectives of the NFIP. The community's role is of paramount importance. Property owners are able to receive federally-subsidized flood insurance only if the community enacts and enforces the minimum floodplain regulations required for participation in the NFIP.  
(Ord. of 8-12-08)

### **1.3. Statement of purpose.**

It is the purpose of this ordinance to regulate floodplain development, promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- 1.3.1. Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion or in flood heights or velocities;
- 1.3.2. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- 1.3.3. Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;

1.3.4. Control filling, grading, dredging and other development which may increase erosion or flood damage, and;

1.3.5. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

(Ord. of 8-12-08)

#### **1.4. Objectives.**

The objectives of this ordinance are:

1.4.1. To protect human life and health;

1.4.2. To minimize expenditure of public money for costly flood control projects;

1.4.3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

1.4.4. To minimize prolonged business interruptions;

1.4.5. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;

1.4.6. To help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize flood blight areas;

1.4.7. To insure that potential home buyers are notified that property is in a flood area; and

1.4.8. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions;

1.4.9. To prevent increase in flood heights that could increase flood damage and result in conflicts between property owners;

1.4.10. To discourage development in a floodplain if there is any practicable alternative to locate the activity, use or structure outside of the floodplain.

(Ord. of 8-12-08)

**SECTION 2. DEFINITIONS**

2.1 Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

2.1.1. *Addition (to an existing building)* means any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a firewall. Any walled and roofed addition which is connected by a firewall or is separated by independent perimeter load-bearing walls is new construction.

2.1.2. *Administrator* means the city engineer of the City of Bristol or his designated representative.

2.1.3. *Appeal* means a request for a review of the administrator's interpretation of any provision of this ordinance or a request for a variance.

2.1.4. *Applicant* means that the owner or authorized agent of the owner of land partially or wholly located in an area of special flood hazard and on which land development is proposed. His/her name shall appear on the floodplain development permit application and will be responsible for assuring that the provisions of this ordinance are met and any stipulations or conditions placed at the time of approval are adhered to.

2.1.5. *Area of Shallow Flooding (for a community with AO or AH Zones only)*—A designated AO, AH, AR/AO, AR/AH, or VO zone on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

2.1.6. *Area of special flood hazard* is the land in the floodplain within a community subject to one percent or greater chance of flooding in any given year.

- 2.1.7. *Base flood* means the flood having a one (1%) percent chance of being equaled or exceeded in any given year also referred to as the one hundred (100) year flood, as published by the Federal Emergency Management Agency (FEMA) as part of a Flood Insurance Study (FIS) and depicted on a Flood Insurance Rate Map (FIRM).
- 2.1.8. *Base flood elevation (BFE)*—The elevation of the crest of the base flood or 100-year flood. The height in relation to mean sea level expected to be reached by the waters of the base flood at pertinent points in the floodplains of coastal and riverine areas.
- 2.1.9. *Basement* means that portion of a building having its floor subgrade (below ground level) on all sides.
- 2.1.10. *Building* means any structure built for support, shelter, or enclosure for any occupancy or storage.
- 2.1.11. *Cost*—As related to substantial improvements, the cost of any reconstruction, rehabilitation, addition, alteration, repair or other improvement of a structure shall be established by a detailed written contractor's estimate. The estimate shall include, but not be limited to: the cost of materials (interior finishing elements, structural elements, utility and service equipment); sales tax on materials, building equipment and fixtures, including heating and air conditioning and utility meters; labor; built-in appliances; demolition and site preparation; repairs made to damaged parts of the building worked on at the same time; contractor's overhead; contractor's profit; and grand total. Items to be excluded include: cost of plans and specifications, survey costs, permit fees, outside improvements such as septic systems, water supply wells, landscaping, sidewalks, fences, yard lights, irrigation systems, and detached structures such as garages, sheds, and gazebos.
- 2.1.12. *Designated representative* means the inland/wetlands enforcement officer of the City of Bristol or other person designated, in writing, by the flood and erosion commission to enforce the terms and provisions of this ordinance.

- 2.1.13. *Development* means any manmade change to improved or unimproved real estate, including, but not limited to the construction of buildings or structures; the construction of additions, alterations or substantial improvements to buildings or structures; the placement of buildings or structures; mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment; the storage, deposition, or extraction of materials; and the installation, repair or removal of public or private sewage disposal systems or water supply facilities.
- 2.1.14. *Elevated building* means a non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns (posts and piers), shear walls, or breakaway walls.
- 2.1.15. *Existing manufactured home park or subdivision*—A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured home are to be affixed (including, as a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.
- 2.1.16. *Expansion to an existing manufactured home park or subdivision*—The preparation of additional sites by the construction of facilities for servicing the lots on which the manufacturing homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).
- 2.1.17. *Federal Emergency Management Agency (FEMA)*—The federal agency that administers the National Flood Insurance Program (NFIP).
- 2.1.18. *Finished living space*—Finished living space can include, but is not limited to, a space that is heated and/or cooled, contains finished floors (tile, linoleum, hardwood, etc.), has sheetrock walls that may or may not be painted or wallpapered, and other amenities such as furniture,

appliances, bathrooms, fireplaces and other items that are easily damaged by floodwaters and expensive to clean, repair or replace. A fully enclosed area below the base flood elevation (BFE) cannot have finished living space and needs to be designed for exposure to flood forces. These spaces can only be used for parking, building access or limited storage.

2.1.19. *Flood* or *flooding* means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) The overflow of inland or tidal water;
- (2) The unusual and rapid accumulation or runoff of surface waters from any source.

2.1.20. *Flood and erosion commission* means the conservation commission of the City of Bristol.

2.1.21. *Flood fringe area* means that area outside of the floodway and within the limits of the base flood.

2.1.22. *Flood boundary and floodway map (FBFM)*—The official map of a community on which the Federal Emergency Management Agency (FEMA) has delineated the limits of the regulatory floodway and 100-year floodplain.

2.1.23. *Flood insurance rate map (FIRM)* means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community. FIRM published after January 1990 may also show the limits of the regulatory floodway.

2.1.24. *Flood insurance study (FIS)*—The official study of a community in which the Federal Emergency Management Agency (FEMA) has conducted a technical engineering evaluation and determination of local flood hazards, flood profiles and water surface elevations. The Flood Insurance Rate Maps (FIRM), which accompany the FIS, provide both flood insurance rate zones and base flood elevations, and may provide the regulatory floodway limits.

- 2.1.25. *Floodplain development permit* means the formal granting of permission to an applicant for land development in areas of special flood hazard including permitted uses, and special exceptions as herein described and specified.
- 2.1.26. *Flood proofing* means any combination of structural and non-structural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water or sanitary facilities, structures and their contents.
- 2.1.27. *Floodway* means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1.0') foot. For the purposes of these regulations, the term "Regulatory Floodway" is synonymous in meaning with the term "Floodway".
- 2.1.28. *Floor* means the top surface of an enclosed area in a building (including basement) i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.
- 2.1.29. *Functionally dependent utility* means a facility which cannot be used for its intended purpose unless it is located in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding and ship repair. The term does not include seafood processing facilities, long-term storage, manufacture, sales, or service facilities.
- 2.1.30. *Highest adjacent grade* means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls or a structure.
- 2.1.31. *Historic structure*—Any structure that is: (a) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (b) Certified or preliminarily deter-

mined by the Secretary of the Interior as contributing to the historic significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or (d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either: (1) By an approved state program as determined by the Secretary of the Interior or (2) Directly by the Secretary of the Interior in states without approved programs.

2.1.32. *Lowest floor* means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a building's lowest floor, provided that such an area meets the design requirements specified in Section 5.3.1.3 of this ordinance.

2.1.33. *Manufactured home* means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term also includes park trailers, travel trailers, recreational vehicles and similar transportable structures placed on a site for one hundred eighty (180) consecutive days or longer and intended to be improved property.

2.1.34. *Manufactured home park or subdivision* [means] a parcel, or contiguous parcels, of land divided into two (2) or more manufactured home lots for rent or sale.

2.1.35. *Mean sea level (MSL)*—The North American Vertical Datum (NAVD) of 1988 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map (FIRM) are referenced.

- 2.1.36. *National Geodetic Vertical Datum (NGVD)* as corrected in 1988 is a vertical control used a reference for establishing varying elevations within the floodplain.
- 2.1.37. *New construction* means structures for which the "start of construction" commenced on or after the effective date of this ordinance (not the revision date) and includes any subsequent improvements to such structures.
- 2.1.38. *New manufactured home park or subdivision*—A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date, (not the revision date), of the floodplain management regulation adopted by the community.
- 2.1.39. *Permitted uses* means those types of development in areas of special flood hazard which do not require a floodplain development permit from the city but, do require a certificate of approval from the administrator.
- 2.1.40. *Recreational vehicle* means a vehicle which is (i) built on a single chassis, (ii) four hundred (400) square feet or less when measured at the largest horizontal projections; (iii) designed to be self-propelled or permanently towable by a light-duty truck; and (iv) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.
- 2.1.41. *Regulated uses* means those types of development which require a floodplain development permit from the administrator provided that, in the opinion of the administrator, the proposed development will not have a significant impact on the floodplain or does not alter more than forty (40) percent of the floodplain designated on the subject property in which cases the proposed development shall be classified a special exception.

- 2.1.42. *Special exception* means those types of development which require a floodplain development permit directly from the Bristol Flood and Erosion Commission.
- 2.1.43. *Special flood hazard area (SFHA)*—The land in the floodplain within a community subject to a one (1) percent or greater chance of flooding in any given year. SFHAs are determined utilizing the base flood elevations (BFE) provided on the flood profiles in the Flood Insurance Study (FIS) for a community. BFEs provided on Flood Insurance Rate Map (FIRM) are only approximate (rounded up or down) and should be verified with the BFEs published in the FIS for a specific location. SFHAs include, but are not necessarily limited to, the land shown as Zones A, A1-30, AE, AO, AH, and the Coastal High Hazard Areas shown as Zones V, V1-30, and VE on a FIRM. The SFHA is also called the Area of Special Flood Hazard.
- 2.1.44. *Start of construction* (for other than new construction or substantial improvements under the coastal barrier resources act (P.L. 97-348)), includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, substantial improvement or other improvement was within one hundred eighty (180) days of the permit date. The actual start means the first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structures. For a substantial improvement, the actual

start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

2.1.45. *Structure* means a walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank, or other man-made facilities or infrastructures.

2.1.46. *Substantial damage*—Damage of any origin sustained by a structure, whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed fifty (50) percent of the market value of the structure before the damage occurred.

2.1.47. *Substantial improvement*—Any combination of repairs, reconstruction, rehabilitation, alterations, additions or other improvements to a structure, taking place during a ten (10) year period, in which the cumulative cost equals or exceeds fifty (50) percent of the market value of the structure as determined at the beginning of such ten (10) year period. This term includes structures that have incurred "substantial damage", regardless of the actual repair work performed. For purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either: (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or (2) Any alteration of a "historic" structure, provided that the alteration will not preclude the structure's continued designation as a "historic structure."

2.1.48. *Variance* is a grant of relief from the requirements of this ordinance which permits construction in a manner otherwise prohibited by this ordinance where specific enforcement would result in unnecessary hardship.

2.1.49. *Variance*—A grant of relief by a community from the terms of the floodplain management ordinance that allows construction in a manner otherwise prohibited and where specific enforcement would result in unnecessary hardship.

2.1.50. *Watercourse* means stream, river, brook or channel which conveys surface runoff for a majority of the year. These may or may not be part of designated floodway areas.

2.1.51. *Water surface elevation* means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other datum, where specified) of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

(Ord. of 8-12-08)

### SECTION 3. GENERAL PROVISIONS

#### 3.1. Lands to which this ordinance applies.

This ordinance shall apply to all areas of Special Flood Hazard Areas (SFHA) within the jurisdiction of the City of Bristol.

(Ord. of 8-12-08)

#### 3.2. Basis for establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency in its flood insurance study (FIS), for the City of Bristol, Connecticut and the accompanying Flood Insurance Rate Maps (FIRM) and/or Flood Boundary and Floodway Maps (FBFM), dated November 18, 1981 and as later amended and effective September 26, 2008 as thereafter issued and as further amended, and other supporting data, and any subsequent revisions thereto, are hereby adopted by reference and declared to be a part of this ordinance. Such mapping hereby adopted by reference is declared to take precedence over any

other provision of this ordinance when more restrictive until such time as FEMA adopts and issues a map amendment or map revision is issued modifying this requirement.

(Ord. of 8-12-08)

### **3.3. Development permit.**

A floodplain development permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities.

(Ord. of 8-12-08)

### **3.4. Compliance.**

No structure or land shall hereafter be located, extended, converted or structurally altered without full compliance with the terms of this ordinance and other applicable regulations.

(Ord. of 8-12-08)

### **3.5. Abrogation and greater restrictions.**

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(Ord. of 8-12-08)

### **3.6. Interpretation.**

In the interpretation and application of this ordinance all provisions shall be: (1) considered as minimum requirements; (2) liberally construed in favor of the governing body, and; (3) deemed neither to limit nor repeal any other powers granted under state statutes.

(Ord. of 8-12-08)

### **3.7. Warning and disclaimer of liability.**

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions. Flood heights may be increased by

manmade or natural causes. This ordinance does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of the City of Bristol or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made thereunder. The City of Bristol, its officers and employees shall assume no liability for another person's reliance on any maps, data or information provided by the City of Bristol.

(Ord. of 8-12-08)

## SECTION 4. ADMINISTRATION

### 4.1. Designation of the ordinance administrator.

The city engineer is hereby appointed to administer and implement the provisions of this ordinance. The actions of the city engineer in the implementation of this ordinance are subject to review by the flood and erosion commission of the city.

(Ord. of 8-12-08)

### 4.2. Permit procedures.

Application for a floodplain development permit shall be made to the administrator on forms furnished by him or her, and may include, but not be limited to, the following plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage or materials, drainage facilities and the location of the foregoing. Specifically, the following information is required:

#### 4.2.1. *Application stage:*

- (a) Elevation in relation to mean sea level of the proposed lowest floor (including basement) of all structures section 5.3.1.(a);
- (b) Elevation in relation to mean sea level to which any non-residential structure will be flood-proofed section 5.3.1.(a);

- (c) A description, including maps, drawings and site plans, which defines the extent to which encroachment of the flood-fringe area resulting from the proposed development, new or substantial improvement. Include the Base flood elevation (BFE) for the site in question as determined in the FEMA Flood Insurance Study (FIS) or Flood Insurance Rate Map (FIRM). The FIS flood profiles provide more accurate BFE data than the FIRM. The extent of the 100-year floodplain and floodway must be depicted with a boundary line on any site plans and shown in relation to existing and proposed structures or development.
- (d) A statement as to whether or not the proposed alterations to an existing structure meets the criteria of the substantial improvement definition section 2.1.29;
- (e) A statement as to whether there will be dry access to the structure during the 100-year storm event.
- (f) Notify the regional planning agency and the affected municipality at least thirty-five (35) days prior to the public hearing if any change of regulation or use of a flood zone will affect an area within five hundred (500) feet of another municipality.
- (g) Notify adjacent communities and the department of environmental protection, water resources unit prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.

Where applicable the following certifications by a registered engineer or architect are required, and must be provided to the administrator. The design and methods of construction must be certified to be in accordance with accepted standards of practice, and with the provisions of article 5, section B [section 5.3].

- (h) Nonresidential flood-proofing must meet the provisions of section 5.3.1.(b)(c);

- (i) Enclosed areas below the base flood elevation—if the minimum design criteria in section 5.3.2.(a)—5.3.2.(c) is not used then the design and construction methods must be certified as explained in section 5.3.2.;
- (j) A description, including maps, drawings, computations and other information, of the extent to which any floodway and/or watercourse will be altered or relocated as a result of the development, new or substantial improvement. No increase in floodway heights may be allowed. Any development in a floodway must meet the provisions of section 5.3.3.;
- (k) The decision on all permits shall be published by the flood and erosion commission in a newspaper having a general circulation in the Bristol area in accordance with the statutory time limits set for the inland/wetlands commission. Publication shall be following the next regularly scheduled meeting of the commission subsequent to the date of the decision.
- (l) The effective date of a duly issued permit shall be seven (7) days after the aforementioned publication date provided no appeal of the permit decision has been taken prior to that date.

4.2.2. *Construction stage.* Upon completion of the applicable portion of construction the applicant shall provide verification to the administrator of the following as is applicable: Lowest floor elevation—the elevation to be verified for:

- (a) A structure in a numbered A zone is the top of the lowest floor (including basement) section 5.3.1.(a);
- (b) A structure which has been floodproofed is the elevation to which the floodproofing is effective section 5.3.1.(b).

4.2.3. *Deficiencies.* Deficiencies detected by the review of the above listed shall be corrected by the permit holder immediately and prior to further progressive work being

permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby, shall be cause to issue a stop-work order for the project.

4.2.4. *Completion.* Upon completion of the permitted development and prior to issuance of a Certificate of Occupancy (CO), necessary as-built surveys (prepared by a Connecticut Licensed Professional as per Connecticut State Statutes) and engineering and architectural certifications shall be provided to the administrator demonstrating compliance with the approved plans and standards set forth in Section 4.2.

4.2.5 *Duration.* The duration of any permit issued under this section for the development of property for which an approval is required shall be valid for five years, provided the Agency may establish a specific time period within which any regulated activity shall be conducted. Any permit issued under this section for any other activity shall be valid for not less than two years and not more than five years. Any such permit shall be renewed upon request of the permit holder unless the Agency finds that there has been a substantial change in circumstances which requires a new permit application or an enforcement action has been undertaken with regard to the regulated activity for which the permit was issued, provided no permit may be valid for more than ten years.

(Ord. of 8-12-08)

### **4.3. Duties and responsibilities of the city engineer.**

Duties of the city engineer shall include, but not be limited to:

4.3.1. Review all floodplain development permit applications to determine whether proposed building sites will be reasonably safe from flooding.

4.3.2. Review all floodplain development permit applications to assure that the permit requirements of this ordinance have been satisfied.

4.3.3. Advise permittee that additional federal or state permits may be required, and if specific federal or state permit

requirements are known, require that copies of such permits be provided and maintained on file with the development permit. Possible including but not limited to: Coastal Area Management Permit, Water Diversion, Dam Safety, Corps of Engineers 404.

- 4.3.4. Review all floodplain development permit applications to assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.
- 4.3.5. Record the elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, in accordance with section 5.3.1.(a).
- 4.3.6. Record the elevation (in relation to mean sea level) to which the new or substantially improved structures have been flood-proofed, in accordance with section 5.3.1.(b).
- 4.3.7. When flood-proofing is utilized for a particular structure the administrator shall obtain certification from a registered professional engineer or architect, in accordance with section 5.3.1.(b).
- 4.3.8. Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the administrator shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.
- 4.3.9. When base flood elevation data or floodway data have not been provided in accordance with article 3, section B, then the administrator shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source in order to administer the provisions of section 5.
- 4.3.10. All records pertaining to the provisions of this ordinance shall be maintained in the office of the city engineer for public inspection.

- 4.3.11. Interpretation of FIRM boundaries. Make interpretations where needed, as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given an opportunity to appeal the interpretation as provided in section 6.2.
- 4.3.12. Require that all subdivision proposals and other proposed new developments and substantial improvements include base flood data.
- 4.3.13. Assure, through inspection of permitted activities, that compliance with the ordinance is maintained.
- 4.3.14. Grant permits for "regulated use" activities as defined in section 4.5.
- 4.3.15. Provide a monthly report to the flood and erosion commission outlining all floodplain development permit activity that took place in the preceding month and the current status of all permit applications.
- 4.3.16. To provide technical assistance to the flood and erosion commission on matters concerning special exceptions.

(Ord. of 8-12-08)

#### **4.4. Permitted uses.**

4.4.1. The following open space uses shall be permitted within the flood fringe area, excluding the regulatory floodway, to the extent that they are not prohibited by any other ordinance or regulation and provided they do not require structures, earth fill, the storage of materials or equipment, or the use of utilities such as gas, electric, water or sewer.

- (1) Agricultural uses such as: general farming, pasture, grazing, outdoor plant nurseries, horticulture, truck farming, forestry, sod farming, and wild crop harvesting.
- (2) Any parking areas for three (3) vehicles or less.
- (3) Private and public recreational uses such as: golf courses, open tennis courts, driving ranges, archery ranges, picnic

grounds, boat launching ramps, swimming areas, parks, wildlife and nature preserves, game farms, fish hatcheries, shooting preserves, target ranges, trap and skeet ranges, hunting and fishing areas, hiking and horseback riding trails.

- (4) Residential uses such as: lawns, gardens and play areas.

4.4.2. Permitted uses shall be granted by certificate by the city engineer when it has been determined that the provisions of subsection 4.4.1 have been met.

(Ord. of 8-12-08)

#### **4.5. Regulated uses.**

4.5.1. New development and substantial improvements shall be permitted within areas of special flood hazard, excluding the regulatory floodway, to the extent that they are not prohibited by any other ordinance or regulation and provided they meet the provisions of section 5, provisions for flood hazard reduction, of this ordinance.

4.5.2. Regulated uses shall be granted by the city engineer provided that all provisions of this ordinance have been met.

(Ord. of 8-12-08)

#### **4.6. Special exceptions.**

4.6.1. New development and substantial improvements may be permitted as a special exception in the regulated floodway and shall conform to the provisions of this ordinance, provided:

- (1) That the area of the site covered by a proposed improvement, addition or accessory structure, be no more than twenty-five (25) percent of the area of the site covered by the existing building of principal use, as long as the pertinent requirements of this section are met. A special exception granted under these conditions shall be on a one-time-only basis.
- (2) That the applicant provide the commission with a report prepared by a professional engineer registered in the

state, that certifies that the construction, as proposed, will not adversely affect the storage capacity or flow capacity of the affected watercourse during a base flood.

- (3) That where floodproofing is utilized for a particular non-residential structure, a professional engineer registered in the state shall certify that the floodproofing methods are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces.
- (4) No encroachment of the regulatory floodway, including fill, substantial improvements, accessory structures or other development including public works projects of the state, federal or local government, shall be allowed except for those activities specifically granted as special exception by the Bristol Flood and Erosion Commission. In no case, however, will any such activity be allowed if an increase in flood levels within the community would result.
- (5) In the event that elimination of a structure takes place, by reason of fire or other like catastrophe, and is subsequently replaced with a new structure of like kind and intended use, this will be allowed to the extent that the building coverage will not exceed one hundred twenty-five (125) percent of the displaced building coverage, as long as all requirements of pertinent paragraphs of this section are met.
- (6) Commercial or industrial loading areas, parking areas for more than three (3) vehicles, or airport landing strips, are in accordance with the pertinent paragraphs or this section.

4.6.2. Alterations, reconstruction or rehabilitation of watercourse and land areas within the regulated floodway may be permitted as a special exception and shall conform to the provisions of this ordinance.

4.6.3. Special exceptions shall be granted only by the Bristol Flood and Erosion Commission, to the extent that they are not prohibited by any other ordinance or regulation, and provided all provisions of this ordinance are met.

4.6.4. In order to assure the furtherance of the purposes of this ordinance, other requirements may be imposed upon the applicant as a condition to the granting of a special exception.  
(Ord. of 8-12-08)

#### **4.7. Application fees.**

4.7.1. An application fee, paid in the form of a certified check, payable to the City of Bristol, shall be submitted to the Administrator at the time of application. The fee shall be at the following rates:

Permitted use	\$5.00
Regulated use	50.00
Special exception	100.00

4.7.2. The flood and erosion commission may review the application fee rates on an annual basis and, after conducting a public hearing, may adjust the rates to reflect administrative costs.  
(Ord. of 8-12-08)

### **SECTION 5. PROVISIONS FOR FLOOD HAZARD REDUCTION**

#### **5.1. General standards.**

In all areas of special flood hazard the following provisions are required:

- 5.1.1. New construction, structures that have sustained substantial damage, and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;
- 5.1.2. New construction, structures that have sustained substantial damage, and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;

- 5.1.3. New construction, structures that have sustained substantial damage, or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- 5.1.4. Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
- 5.1.5. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- 5.1.6. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the system into flood waters;
- 5.1.7. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding;
- 5.1.8. Manufactured homes:
- (a) All manufactured homes (including "mobile" homes placed on a site for one hundred eighty (180) consecutive days or longer) to be placed, or substantially improved shall be elevated so that the lowest floor is at least one (1) foot above the base flood elevation;
  - (b) It shall be placed on a permanent foundation which itself is securely anchored and to which the structure is securely anchored so that it will resist flotation, lateral movement, and hydrostatic and hydrodynamic pressures. Anchoring may include, but not be limited to, the use of over-the-top or frame ties to ground anchors;
  - (c) It shall be installed using methods and practices which minimize flood damage.
    - (1) Adequate access and drainage should be provided.

- (2) Elevation construction standards include, piling foundations placed no more than ten (10) feet apart, and reinforcement is provided for piers more than six (6) feet above ground level.

5.1.9. In any portion of a watercourse which is altered or relocated the flood carrying capacity shall be maintained and;

5.1.10. A structure already in compliance with the provisions of this ordinance shall not be made non-compliant by any alteration, repair, reconstruction or improvement to the structure.

5.1.11. New construction, substantial improvements and repair to structures that have sustained substantial damage cannot be constructed or located entirely or partially over water.

5.1.12. Above-ground storage tanks (oil, propane, etc.) which are located outside or inside of the structure must either be elevated above the base flood elevation (BFE) on a concrete pad, or be securely anchored with tie-down straps to prevent flotation or lateral movement, have the top of the fill pipe extended above the BFE, and have a screw fill cap that does not allow for the infiltration of flood water.

5.1.13. In any portion of a watercourse that is altered or relocated, the flood carrying capacity must be maintained. Notify adjacent communities and the Connecticut Department of Environmental Protection (DEP), Inland Water Resources Division prior to any alteration or relocation of a watercourse.

5.1.14. If any portion of a structure lies within the Special Flood Hazard Area (SFHA), the entire structure is considered to be in the SFHA. The entire structure must meet the construction requirements of the flood zone. The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main

structure. Decks or porches that extend into a more restrictive flood zone will require the entire structure to meet the standards of the more restrictive zone.

- 5.1.15. If a structure lies within two or more flood zones, the construction standards of the most restrictive zone apply to the entire structure (i.e., V zone is more restrictive than A zone; structure must be built to the highest BFE). The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. (Decks or porches that extend into a more restrictive zone will require the entire structure to meet the requirements of the more restrictive zone.)
- 5.1.16. Compensatory storage. The water holding capacity of the floodplain, except those areas which are tidally influenced, shall not be reduced. Any reduction caused by filling, new construction or substantial improvements involving an increase in footprint to the structure, shall be compensated for by deepening and/or widening of the floodplain. Storage shall be provided on-site, unless easements have been gained from adjacent property owners; it shall be provided within the same hydraulic reach and a volume not previously used for flood storage; it shall be hydraulically comparable and incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. Compensatory storage can be provided off-site if approved by the municipality.
- 5.1.17. Equal conveyance. Within the floodplain, except those areas which are tidally influenced, as designated on the Flood Insurance Rate Map (FIRM) for the community, encroachments resulting from filling, new construction or substantial improvements involving an increase in footprint of the structure, are prohibited unless the applicant provides certification by a registered professional engineer demonstrating, with supporting hydrologic and hydraulic analyses performed in accordance with standard

engineering practice, that such encroachments shall not result in any (0.00 feet) increase in flood levels (base flood elevation). Work within the floodplain and the land adjacent to the floodplain, including work to provide compensatory storage shall not be constructed in such a way so as to cause an increase in flood stage or flood velocity.

(Ord. of 8-12-08)

## **5.2. Standards for stream or water body without established base flood elevations and/or flooding.**

The city engineer shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, including data developed by a registered engineer pursuant to section 5.3.1.(a) of this ordinance, as criteria for requiring that new construction, substantial improvements, or other development in Zone A on the community's FIRM meet the standards in section 5.3.1.(a), 5.3.2., 5.3.3., and section 6.

The city engineer may request floodway data of an applicant for watercourses without FEMA-published floodways. When data is provided by an applicant or whenever such data is available from any other source (in response to the city/town's request or not), the city shall adopt a regulatory floodway based on the principle that the floodway must be able to convey the waters of the base flood without increasing the water surface elevation more than one (1) foot at any point along the watercourse.

(Ord. of 8-12-08)

## **5.3. Specific standards.**

In all areas of special flood hazard A1-30, AE, AH where base flood elevation data has been provided, as set forth in 3.2, or 4.3.10., the following provisions are required:

- 5.3.1. (a) *Residential construction.* New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated at least to one (1) foot above the base flood elevation (BFE).

Electrical, plumbing, machinery or other utility equipment that service the structure must be elevated to or above the BFE.

5.3.2. (b) *Nonresidential construction.*

- (1) New construction or substantial improvement of any commercial, industrial, or nonresidential structure located in Zone A1-30, AE & AH shall have the lowest floor, including basement, elevated at least to one (1) foot above the level of the base flood elevation; or
- (2) Non-residential structures located in all A-zone may be flood-proofed in lieu of being elevated provided that together with all attendant utilities and sanitary facilities the areas of the structure below the required elevation are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall review and/or develop structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with acceptable standards of practice for meeting the provisions of this subsection. Such certification shall be provided to the official as set forth in [section] 4.2.1.(f).
- (3) Electrical, plumbing, machinery or other utility equipment that service the structure must be elevated to or above the BFE.

5.3.3. *Elevated buildings.* New construction or substantial improvements of elevated buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall be designed to

preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.

- (a) Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
  - (1) Provide a minimum of two (2) openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
  - (2) The bottom of all openings shall be no higher than one foot above grade; and,
  - (3) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.
- (b) Electrical, plumbing, and other utility connections are prohibited below the base flood elevation;
- (c) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator); and

5.3.4. *Floodways.* Located within areas of special flood hazard established in section 3.2. are areas designated as floodways on the community's flood boundary and floodway map. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and has erosion potential, the following provisions shall apply:

Prohibit encroachments, including fill, new construction, substantial improvements and other developments unless certification (with supporting technical data) by a registered professional engineer is provided demonstrat-

ing that encroachments shall not result in any (0.00) increase in flood levels during occurrence of the flood discharge;

In A Zones where base flood elevations have been determined, but before a floodway is designated, no new construction, substantial improvement, or other development (including fill) shall be permitted which will increase base flood elevations more than one (1) foot at any point along the watercourse when all anticipated development is considered cumulatively with the proposed development.

A permit may be given which allows encroachments resulting in increases in base flood elevations provided the community first obtains a conditional floodway revision by meeting the requirements of C.F.R.44, Chapter 1, subsection 65.12.

(Ord. of 8-12-08)

#### **5.4. Standards for areas of shallow flooding (AO Zones).**

Located within the areas of special flood hazard established in article 3, section B, [Section 3.2] are areas designated as shallow flooding areas (Zones AO & AH). These areas have special flood hazards associated with base flood depths of one to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate.

In AO Zones the following provisions apply:

5.4.1. (a) All new construction and substantial improvements of residential structures shall have the lowest floor, including basement, elevated to the depth number specified on the flood insurance rate map, in feet, above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement, shall be elevated, at least two (2) feet above the highest adjacent grade.

5.4.2. (b) All new construction and substantial improvements of nonresidential structures shall:

- (1) Have the lowest floor, including basement, elevated to the depth number specified on the flood insurance

rate map, in feet, above the highest adjacent grade. If no depth number is specified, the lowest floor including basement, shall be elevated at least two (2) feet above the highest adjacent grade, or;

- (2) Together with attendant utility and sanitary facilities be completely flood-proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

5.4.3. (c) On-site drainage for all proposed structures in Zones AO and AH located on slopes shall provide adequate drainage paths to guide floodwaters around and away from such structures.

(Ord. of 8-12-08)

## **SECTION 6. STANDARDS FOR SUBDIVISION PROPOSALS**

In all special flood hazard areas the following requirements shall apply:

- 6.1. All subdivision proposals shall be consistent with the need to minimize flood damage;
- 6.2. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
- 6.3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards, and;
- 6.4. In all special flood hazard areas where base flood elevation (BFE) data is not available, the applicant shall provide a hydrologic and hydraulic engineering analysis performed by a Connecticut licensed professional engineer that generates BFEs for all subdivision proposals and other proposed development, including manufactured home parks and subdivisions. The administrator shall require the

applicant to provide BFE data for all subdivision proposals, including manufactured home parks and subdivisions.

(Ord. of 8-12-08)

## SECTION 7. VARIANCE PROCEDURES

7.1. The flood and erosion commission as established by Bristol City Council shall hear and decide appeals and requests for variances from the requirements of this ordinance.

7.2. The flood and erosion commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the city engineer in the enforcement or administration of this ordinance.

Any decision of the city engineer may be appealed on a form provided by the city engineer to the Bristol Flood and Erosion Commission within seven (7) calendar days of the date of publication as provided for in section 4.2.1(j), the date of said publication being excluded in the calculation of said seven (7) days. Any such appeal shall stay the decision of the city engineer. Until such time as it may be upheld, overruled, modified, or otherwise changed by said commission. All decisions on appeals shall be conveyed to the applicant in writing by certified mail.

7.3. Any person aggrieved by the decision of the flood and erosion commission or any person owning land which abuts or is within a radius of one hundred feet (100) of the land in question may appeal within fifteen (15) days after such decision to the State Superior Court of Hartford County, as provided in Section 8-8 of the General Statutes.

7.4. Specific situation variances:

7.4.1. *Building on an historic register.* Variances "may" be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places without regard to the procedures set forth in the remainder of this section, except for section 7.5.4.(a) through 7.5.4.(d), and

provided the proposed reconstruction, rehabilitation, or restoration will not result in the structure losing its historical character.

7.4.2. *Pre-existing, small lot location.* Variances "may" be issued by a community for new construction and substantial improvements to be erected on a lot of one-half ( $\frac{1}{2}$ ) acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with section 7.5.4.(a) through 7.5.4.(d).

7.4.3. *Functional dependant uses.* Variances "may" be issued for new construction and substantial improvement and other development necessary for the conduct of a functionally dependent use provided the structure or other development is protected by methods that minimize flood damage, create no additional threat to public safety and meet the requirements of section 7.5.4.(a) through 7.5.4.(d).

7.4.4. *Floodway prohibition.* Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

7.5. Considerations for granting of variances:

7.5.1. In passing upon such applications, the flood and erosion commission shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:

- (a) The danger that materials may be swept onto other lands to the injury of others;
- (b) The danger to life and property due to flooding or erosion damage;
- (c) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- (d) The importance of the services provided by the proposed facility to the community;
- (e) The necessity of the facility to waterfront location, in the case of a functionally dependent facility;

- (f) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
- (g) The compatibility of the proposed use with existing and anticipated development;
- (h) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area.
- (i) The safety of access to the property in times of flood for ordinary and emergency vehicles;
- (j) The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site, and;
- (k) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

Upon consideration of the factors listed above, and the purposes of this ordinance, the flood and erosion commission may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.

7.5.2, 7.5.3. [*Reserved.*]

7.5.4. Conditions for variances:

- (a) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and in the instance of a historical building, a determination that the variance is the minimum necessary as not to destroy the historic character and design of the building;
- (b) Variances shall only be issued upon (1) a showing of good and sufficient cause, (2) a determination that failure to grant the variance would result in exceptional hardship, and (3) a determination that the granting of a variance will not result in increased

flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

- (c) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the structure is to be built and stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation up to amounts as high as twenty-five dollars (\$25.00) for one hundred dollars (\$100.00) of insurance coverage.
- (d) The city engineer shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.
- (e) No variance may be issued within a regulatory floodway that will result in any increase in the 100-year flood levels. A variance may be issued for new construction, substantial improvements and other development necessary for the conduct of a "functionally dependent use" provided that there is good and sufficient cause for providing relief; and the variance does not cause a rise in the 100-year flood level within a regulatory floodway. The structure and other development must be protected by methods that minimize flood damages.

7.6. Penalties for violation. Violation of the provisions of this ordinance or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than two hundred fifty dollars (\$250.00) per day if proven done willfully and one hundred dollars (\$100.00) per day if not, or imprisoned for not more than ten (10) days for each day of violation, or both, and in addition,

shall pay all costs and reasonable legal fees involved in the case. Nothing herein contained shall prevent the City of Bristol from making such other lawful action as is necessary to prevent or remedy any violation.  
(Ord. of 8-12-08)

**SECTION 8. CONTINUITY OF ORDINANCE PROVISIONS**

8.1. If any section, subsection, paragraph, sentence, clause, or phrase of this ordinance should be declared invalid for any reason whatsoever, such decision shall not affect the remaining portions of this ordinance, which shall remain in full force and effect; and to this end the provisions of this ordinance are hereby declared to be severable.  
(Ord. of 8-12-08)

**G. FLOOD PLAIN**

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**1. PURPOSE**

It is the purpose of this section to regulate land uses and activities in the flood plain in order to minimize loss of life and injury to persons and property, and to preserve the flood plains as a valuable natural resource that can accommodate flooding with minimal adverse effects.

**2. PERMITTED USES**

The following uses are permitted provided that no regrading or filling is necessary:

- a. Agriculture/farming
- b. Forestry
- c. Nurseries

**3. SPECIAL PERMIT USES**

The following uses and activities may be permitted within the Flood Plain when authorized by the Commission as a Special Permit in accordance with the criteria established in Section VIII and the applicable criteria contained in this section:

- a. Golf courses, playgrounds, recreation areas, parks, and open spaces;
- b. Municipal or public utility uses not subject to major flood damage;
- c. Parking areas as an accessory use;
- d. Buildings, structures, and signs accessory to a permitted principal use located outside the Flood Plain provided that such accessory structures are located so as to minimize potential flood damage;
- e. Filling or regrading of land within the Flood Plain, outside the Floodway:
  - where the Commission evaluates:
    - the impact of flooding on the proposed use,
    - the availability of public services and facilities during and after flooding,
    - whether any loss of flood storage volume can be compensated for the provision of equivalent flood storage volume elsewhere on the site,
    - any adverse effects that the proposed use or activity will have on flooding, flow velocity or direction on the site and surrounding properties,
    - the cumulative effect of filling in the flood plain,
  - and the Commission determines that:
    - it is a logical extension of land lying at higher elevations.
    - no net fill shall result below the 100-year flood plain elevation,
    - equal storm water conveyance will not be impaired and no increase of the 100-year flood level will result,
    - the area proposed for regrading is designated as commercial or industrial in the Plan of Conservation & Development,
    - the resulting landscape is enhanced,
    - the neighborhood's essential characteristics are not negatively altered, and
    - the regrading results in a community benefit, such as a recreational or environmental benefit, which can be clearly demonstrated; and the regrading improves the overall aesthetic character of the site.

**4. MINIMUM SITE DEVELOPMENT REQUIREMENTS**

a. Building Floor Elevations

- The floor elevation of all stories to be used for human occupancy in any building shall be raised above the Flood Plain elevation.
- stories used exclusively for mechanical or storage equipment may be built below the Flood Plain elevation provided that: the building is designed to remove the hazards of flooding and provided that approval is granted by the Commission based upon hydrologic study and recommendation by the Town Engineer. Methods to reduce flood damage may be required.

- b. No structural use and no filling shall be permitted within the floodway unless permitted by the Commission as a Special Permit for such public purposes as road crossings, minor recreational improvements, or safety improvements, provided that no increase occurs in flood levels during the base flood discharge.

**Sec. 9-26. Conduct of meetings.**

The board shall adopt rules and regulations for the conduct of its proceedings.

(Code 1970, § 2-214)

**Sec. 9-27. Time of meetings.**

Meetings shall be held at the call of the chairman, and at such other times as the board may determine.

(Code 1970, § 2-215)

**Sec. 9-28. Powers of chairman of board.**

The chairman of the board, or in his absence, an acting chairman, shall have the power to appoint committees, administer oaths, and compel the attendance of witnesses.

(Code 1970, § 2-216)

**Sec. 9-29. Meeting to be public.**

All meetings of the board shall be open to the public.

(Code 1970, § 2-217)

**Sec. 9-30. Minutes of board meeting.**

Minutes shall be kept of all proceedings and all examinations and official actions shall be recorded therein. The minutes shall show the vote of each member on each question; or, if any member shall be absent or failing to vote, shall indicate the fact. Minutes shall be open for inspection as a public record.

(Code 1970, § 2-218)

Secs. 9-31--9-40. Reserved.

**ARTICLE III. FLOOD DAMAGE PREVENTION**

**Sec. 9-41. Statutory authorization, findings of fact, purpose and objectives.**

- (a) *Statutory authorization.* The Legislature of the State of Connecticut has, in section 7-148(c)(7) of the General Statutes, delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the common council of the City of New Britain, Connecticut, does ordain as follows:
- (b) *Findings of fact:*
  - (1) The flood hazard areas of New Britain are subject to periodic inundation which

may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

- (2) These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, floodproofed, or otherwise unprotected from flood damages.
- (c) *Statement of purpose.* It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:
- (1) Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
  - (2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
  - (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters;
  - (4) Control filling, grading, dredging and other development which may increase erosion or flood damage; and
  - (5) Prevent or regulate the construction of obstructions which will unnaturally divert floodwaters or which may increase flood hazards to other lands.
- (d) *Objectives.* The objectives of this article are:
- (1) To protect human life and health;
  - (2) To minimize expenditure of public money for costly flood-control projects;
  - (3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
  - (4) To minimize prolonged business interruptions;
  - (5) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
  - (6) To help maintain a stable tax base by providing for the sound use and development of floodprone areas in such a manner as to minimize flood damage; and
  - (7) To make information available which will aid potential property buyers in determining whether property is in a flood zone.

(Ord. of 1-95; Ord. of 2-4-98)

### **Sec. 9-42. Definitions.**

- (a) *Definition and usage.* Unless specifically defined below, words or phrases used in this

article shall be interpreted so as to give them the meaning they have in common usage and to give this article its most reasonable application.

(b) *Definitions of specific words and terms:*

- (1) *Accessory building or structure:* A building or structure in addition to the principal building which is clearly subordinate to and incidental to and located on the same lot or parcel as the principal building or structure.
- (2) *Addition (to an existing building):* Any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by independent perimeter load-bearing walls is new construction.
- (3) *Appeal:* A request for a review of the city engineer's interpretation of any provision of this article or a request for a variance from the requirements of this article.
- (4) *Area of special flood hazard:* See special flood hazard area.
- (5) *Base flood:* The flood having a one per cent chance of being equaled or exceeded in any given year.
- (6) *Basement:* Any area of the building having its floor subgrade (below ground level) on all sides.
- (7) *Breakaway wall:* A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.
- (8) *Building:* Any structure built for support, shelter, or enclosure for any occupancy or storage.
- (9) *Building permit:* The permit issued by the building department for erection, construction, alteration or expansion of any building or structure in the City of New Britain. Such permits include building, fence, electrical, plumbing, signs, heating, air conditioning, heating and ventilation, and foundations permits.
- (10) *Development:* Any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavating, drilling operations, or permanent storage of materials.
- (11) *Elevated building:* A nonbasement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns (posts and piers), shear walls, or breakaway walls as allowed under applicable standards.
- (12) *Flood or flooding:* A general and temporary condition of partial or complete inundation of normally dry land areas from:
  - a. The overflow of inland or tidal water;
  - b. The unusual and rapid accumulation or runoff of surface waters from any

source.

- (13) *Flood boundary and floodway map*: An official map of New Britain on which the Federal Emergency Management Agency (FEMA) has delineated the boundaries of the floodway.
- (14) *Flood insurance rate map (FIRM)*: An official map of New Britain, on which the Federal Emergency Management Agency (FEMA) has delineated both the special flood hazard areas and the risk premium zones applicable to the community. FIRMs published after January, 1990, may also show the boundaries of the floodway.
- (15) *Flood insurance study*: The official report by the Federal Emergency Management Agency (FEMA) which contains flood profiles, the water surface elevation of the base flood, and other flood data.
- (16) *Floodplain*: See Special Flood Hazard Area.
- (17) *Floodplain management permit*: A permit issued and required by the City of New Britain which guides any development proposed to take place within special flood hazard areas.
- (18) *Floodway*: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.
- (19) *Floor*: The top surface of the materials or structure(s) forming the bottom-most horizontal plane of any enclosed room, space or area in a building (including basement); i.e., top of slab in concrete slab construction or top of wood flooring in wood-frame construction. This term does not include the floor of a garage used solely for parking vehicles or to the limited storage of maintenance equipment used solely in connection with the premises.
- (20) *Functionally dependent facility*: A facility which cannot be used for its intended purpose unless it is located in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, ship repair, or seafood processing facilities. The term does not include long-term storage, manufacture, sales, or service facilities.
- (21) *Highest adjacent grade*: The highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a structure.
- (22) *Lowest floor*: The lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a building's lowest floor, provided that such an area fully meets the requirements of subsection 9-45(c)(2).
- (23) *Manufactured home (mobile home or trailer)*: A structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. This term also includes recreational vehicles and similar transportable structures placed on a site for one hundred eighty (180) consecutive days or longer and intended to be improved property.

- (24) *Mean sea level*: For purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's flood insurance rate map are referenced.
- (25) *National Geodetic Vertical Datum (NGVD)*: As corrected in 1929, is a vertical control used as a reference for establishing varying elevations within the floodplain.
- (26) *New construction*: Structures for which the "start of construction" commenced on or after the effective date of this article, May 21, 1981, and includes any subsequent improvements to such structures.
- (27) *Principal structure*: The main or primary structure on a property; the building or other structure which contains or constitutes the chief or principal use on the property.
- (28) *Recreational vehicle*: A vehicle which is:
- a. Built on a single chassis;
  - b. Measures four hundred (400) square feet or less at the largest horizontal projections;
  - c. Designed to be self-propelled or permanently towable; and
  - d. Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping travel or seasonal use.
- (29) *Special flood hazard area*: The area within New Britain subject to one per cent or greater chance of flooding in any given year, as identified by New Britain's FIRM. In New Britain, this includes, specifically, areas designated as zones A, AE, A1-30.
- (30) *Start of construction*: Includes substantial improvement, and means the date that the building permit was issued, provided the actual start of construction, repair, reconstruction or improvement was within ninety (90) days of the building permit date. (Should the permittee fail to begin work within this time frame, a new permit shall be required). The actual start means the first placement of permanent construction of a structure on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.
- (31) *Structure*: A walled and roofed building that is principally above ground, a gas or liquid storage tank, or any other man-made facilities or structures. For the purpose of this article, each detached structure on a property shall be considered individually, a separate structure from any other structure on the property.
- (32) *Substantial damage*: Damage of any origin sustained by a structure whereby the

cost of restoring the structure to its before-damaged condition would equal or exceed fifty (50) per cent of the market value of the structure before the damage occurred.

- (33) *Substantial improvement*: Any combination of repairs, reconstruction, alteration, or improvements to a structure, taking place during the life of a structure, in which the cumulative cost equals or exceeds fifty (50) per cent of the market value of the structure. The market value of the structure should be:
- a. The appraised value of the structure, using the cost approach to value method, prior to the start of the initial repair or improvement.
  - b. In the case of damage, the value of the structure prior to the damage occurring.
  - c. For the purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building begins, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include any project for improvement of a structure required to comply with existing health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions.
- (34) *Subdivision*: The division of a tract or parcel of land into three (3) or more parts or lots for the purpose of sale or building development, expressly excluding development for municipal, conservation or agricultural uses, and includes resubdivision.
- (35) *Variance*: A grant of relief from the requirements of this article which permits construction in a manner otherwise prohibited by this article where specific enforcement would result in unnecessary hardship. Such hardship shall be based on the unusual physical characteristics of the property in question which are not shared by adjacent parcels; hardship shall not be based on the structure, nor on economic or personal hardships.
- (36) *Water surface elevation*: The height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 (or other datum, where specified) of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

(Ord. of 1-95; Ord. of 2-4-98; No. 26824-1, 2-27-02)

### **Sec. 9-43. General provisions.**

- (a) *Lands to which this article applies*. This article shall apply to all special flood hazard areas within the jurisdiction of City of New Britain.
- (b) *Basis for establishing the special flood hazard areas*. Special flood hazard areas are those areas identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the City of New Britain", dated February 2, 2002, with accompanying flood insurance rate maps and flood boundary-floodway maps dated February 2, 2002, and any revisions thereto. The flood insurance study, flood insurance rate map and flood boundary-floodway maps are hereby adopted by reference and declared to be a part of this article. These materials

are on file at the office of Public Works, City Hall, 27 West Main Street, New Britain, Connecticut.

- (c) *Establishment of floodplain management permit.* A floodplain management permit shall be required in conformance with the provisions of this article prior to the beginning of any development activities on any property within or containing any areas designated as special flood hazard areas.
  - (1) *Permit expiration.* Permits issued under this article shall expire if the permitted activity does not begin within ninety (90) days of the permit approval date.
- (d) *Compliance.* No structure or land within a special flood hazard area shall hereafter be located, developed, constructed, extended, converted, modified, or structurally altered without full compliance with the terms of this article and other applicable regulations.
- (e) *Abrogation and greater restrictions.* This article is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this article and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- (f) *Interpretation.* In the interpretation and application of this article all provisions shall be:
  - (1) Considered as minimum requirements;
  - (2) Liberally construed in favor of the governing body; and
  - (3) Deemed neither to limit nor repeal any other powers granted under state statutes.
- (g) *Warning and disclaimer of liability.* The degree of flood protection required by this article is considered the minimum reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This article does not imply that land outside the special flood hazard areas or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of City of New Britain or by any officer or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder. The City of New Britain, its officers and employees shall assume no liability for another persons reliance on any maps, data, or information provided by the city. Notwithstanding the preceding disclaimer, the city shall assume normal responsibilities in indemnifying its public officials and citizen board members for "good faith" decisions made on their part in carrying out the duties of their positions.
- (h) *Severability.* If any section, subsection, paragraph, sentence, clause, or phrase of this article should be declared invalid for any reason whatsoever, such decision shall not affect the remaining portions of this article, which shall remain in full force and effect; and to this end the provisions of this article are hereby declared to be severable.

(Ord. of 1-95; Ord. of 2-4-98; No. 26824-1, 2-27-02)

#### **Sec. 9-44. Administration.**

- (a) *Designation of the article administrator.* The city engineer is hereby appointed to administer, implement and enforce the provisions of this article.

- (b) *Certification.* Where required under this article, a registered professional engineer or architect shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this article. Such certification must be provided to the city engineer.
- (c) *Permit procedures.* For any development activity on properties which are within or which contain a special flood hazard area, an application for a floodplain management permit shall be made to the city engineer on forms furnished by him or her prior to any development activities. Information which shall be required along with such applications shall include, but is not limited to, five (5) copies of all plans showing property boundaries, existing and proposed conditions, including all buildings and structures, grading, contours, storage of materials, drainage facilities, fences, parking and driveways, and sidewalks. Specifically, the following information is required:
- (1) *Application stage.* Where applicable, certifications by a registered surveyor, professional engineer or architect are required, and must be provided to the city engineer. The design and methods of construction must be certified to be in accordance with accepted standards of practice, and with the provisions of subsections 9-45(c), (d), and 9-46 of this article. Certifications by registered surveyors, professional engineers or architects are required for all items listed below:
- a. Elevation in relation to mean sea level and base flood level of the proposed lowest floor (including basement) of all structures;
  - b. Elevation in relation to mean sea level and base flood level to which any nonresidential structure will be floodproofed;
  - c. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development;
  - d. A statement as to whether or not the proposed alterations to an existing structure meets the criteria of the substantial improvement definition;
  - e. A statement as to whether there will be dry access to any part of the structure during the 100-year storm event;
  - f. That the use of floodproofing for nonresidential structures, as required by subsection 9-45(c)(1)b.(ii) of this article, has been met;
  - g. That all provisions governing fully enclosed areas below base flood elevations, as required by section 9-45 of this article, have been met;
  - h. That the floodway standards of subsection 9-45(c)(3) of this article have been met. (No increase in floodway heights shall be permitted.)
- (2) *Construction stage.* Upon completion of the applicable portion of construction, the applicant shall provide verification with appropriate certifications by a registered surveyor, professional engineer to the city engineer of the following:
- a. For structures in Zone A1-30 the elevation of the top of the lowest floor, including basement, in accordance with the standards of subsection 9-45(c)(3)a.
  - b. For nonresidential floodproofed structures the elevation to which the

floodproofing is effective and certified that construction is in conformance with the standards of subsection 9-45(c)(1)b.(i).

- (3) *Compliance.* Deficiencies detected by the review of the lowest floor elevations and/or floodproofing shall be corrected by the permit holder immediately and prior to any further work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby, shall be cause to issue a stop-work order for the project.
  - (4) *Bond and insurance.* Upon the approval of the application and prior to the issuance of a floodplain management permit, the applicant may be required to post a performance bond to ensure that all filling, grading, construction, relocation or alteration of a watercourse, placing of structures, etc., is done in accordance with the approved development plans and in compliance with the applicable provisions of subsections 9-45(a), (b) and (c).
    - a. The bond amount shall be commensurate to the cost of removing all new fill and materials and restoring the topography of the site to predevelopment conditions and stabilizing the site through appropriate revegetation. Such cost estimate shall be calculated and certified by the applicant's engineer and subject to review and approval by the city engineer.
    - b. The bond shall be posted in the form of a certified check, which shall be executed by the city treasurer's office and deposited into an escrow account, pending satisfactory completion of all development activities.
    - c. Such a bond shall be required in all instances involving development activities taking place within a floodway, per subsection 9-45(c)(3) of this article, activities which alter or relocate a watercourse, and for all activities permitted by variance per section 9-47 of this article.

Additionally, at the discretion of the city engineer, such a bond may also be required in instances where development or filling activities in A zones are projected to increase base flood elevations more than one-half foot, but less than one foot.
- (d) *Duties and responsibilities of the city engineer and other city officials.* In the administration of this article, the duties of the city engineer shall include, but not be limited to:
- (1) *Application stage:* All applications for building permits shall be reviewed by the city engineer to determine if the proposed activity contains, or is within, a special flood hazard area. Duties of the city engineer shall include:
    - a. Review all floodplain management permit applications to determine whether proposed building sites will be reasonably safe from flooding.
    - b. Review all floodplain management permit applications and permits to assure that the permit requirements of this article have been satisfied.
    - c. Advise permittee that additional federal, state or city permits may be required, and if specific federal, state or city permit requirements are known, require that copies of such permits be provided and maintained

on file with the floodplain management permit. Permits possibly required include, but are not limited to: Water Diversion, Dam Safety, Army Corps of Engineers Sections 401 and 404 and Stream Channel Encroachment Line Permits, as well as local inland/wetlands and watercourses permits. It shall be the responsibility of the permittee to seek and obtain all other necessary permits, approvals, licenses, certificates, etc., as may be required by applicable city, state or federal agencies, prior to conducting any activity regulated under this article. A permit issued pursuant to these regulations does not confer or imply approval of the activity by any other agency of the city, state or federal government.

- d. The city engineer shall inform the conservation commission and director of public works of the submission of an application for a floodplain management permit for any proposed relocation or alteration of any watercourse. No such relocation or alteration is to be permitted unless it is satisfactorily shown that the flood-carrying capacity of the watercourse is not diminished.
- e. The city engineer shall notify adjacent communities and the Department of Environmental Protection, Division of Water Resources, prior to the approval of any permit for the alteration or relocation of a watercourse and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).
- f. The city engineer shall require and administer the performance bonds posted in accordance with subsection 9-44(c)(4) of this article.

(2) *Construction stage:*

- a. The city engineer shall review all data submitted pursuant to subsection 9-44(c) and record the elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, in accordance with subsection 9-45(c)(1)a.
- b. When floodproofing is utilized for a particular nonresidential structure the city engineer shall obtain and record the elevation (in relation to mean sea level) to which the new or substantially improved structures have been floodproofed, and the elevation certification from a registered professional engineer or architect, in accordance with subsection 9-45(c)(1)b.(ii).
- c. The city engineer shall notify the permit holder and the chief building inspector if deficiencies in the lowest floor elevations and/or floodproofing are identified and shall order the permit holder to correct the deficiencies prior to further progressive work being permitted to proceed.

(3) *Miscellaneous duties and responsibilities:*

- a. In instances where base flood elevation and/or floodway data is not otherwise available, the city engineer shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other sources and determine and verify the base flood elevation for the flood hazard area, in order to administer subsections 9-45(c)(1), (2), (3) and section 9-46.

- b. The city engineer shall notify the regional planning agency and any affected municipality at least thirty-five (35) days prior to the public hearing if any change of regulation or use of a flood zone will affect an area within five hundred (500) feet of another municipality.
  - c. The city engineer shall maintain all records pertaining to the provisions of this article.
  - d. The city engineer shall be responsible for taking enforcement actions as appropriate, pursuant to the guidelines of section 9-49.
- (4) *Subdivision of land.* The city plan commission is responsible for the review and approval of all subdivision or resubdivisions of land and for the enforcement of the subdivision regulations of the City of New Britain. The director of Municipal Development shall require that all subdivisions which involve special flood hazard areas provide such information and professional certifications, as required to ensure that the provisions of sections 9-45 and 9-46 are met.

(Ord. of 1-95; Ord. of 2-4-98; No. 26824-1, 2-27-02)

#### **Sec. 9-45. Provisions for flood hazard reduction.**

- (a) *General standards.* In all special flood hazard areas, the following provisions are required:
- (1) New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
  - (2) New construction and substantial improvements shall be constructed with materials resistant to flood damage;
  - (3) New construction or substantial improvements shall be constructed using methods and practices that minimize flood damage;
  - (4) Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
  - (5) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
  - (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharges from the system into floodwaters;
  - (7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding;
  - (8) In any portion of a watercourse which is altered or relocated the flood-carrying capacity shall be maintained;
  - (9) Accessory structures shall be subject to all the standards in subsections (a), (b) and such standards of subsection (c) as deemed necessary by the city engineer. For the purpose of determining "substantial improvement" the value of each

accessory building shall be considered individually;

- (10) Manufactured homes shall be prohibited in all special flood hazard areas;
- (11) Parking or storage of recreational vehicles shall be prohibited in all special flood hazard areas;
- (12) A structure already in compliance with the provisions of this article shall not be made noncompliant by any alteration, repair, reconstruction or improvement to the structure.

(b) *General standards for streams without established base flood elevations, floodways and/or mapping:*

- (1) The city engineer shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, including data developed pursuant to subsection 9-44(d)(3)a. of this article, as criteria for requiring that new construction, substantial improvements, or other development in a special flood hazard area on the community's FIRM meet the standards in subsection (c) and section 9-46.
- (2) Base flood elevation data shall be provided with any application for activity in a special flood hazard area.
- (3) In special flood hazard areas where base flood elevations have been determined, but before a floodway is designated, no new construction, substantial improvement, or other development (including fill) which will increase base flood elevations more than one foot at any point along the watercourse shall be permitted. All anticipated development within a special flood hazard area is to be considered cumulatively with the proposed development in estimating the impact of the action on the base flood elevation.
- (4) The city engineer may request floodway data of any applicant for activities within watercourses without FEMA-published floodways. When such data is provided by an applicant or when additional data becomes available allowing the establishment of floodways along watercourses on which no floodways are currently delineated, new floodways shall be adopted. Then development affecting such floodways shall be regulated on the principle that the floodway must be able to convey the waters of the base flood without increasing the water surface elevation more than one foot at any point along the watercourse.
- (5) The city engineer shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source as criteria of requiring that new construction, substantial improvements or other development in any area of potential demonstrable or historic flooding within New Britain meet the standards of subsection (c).

(c) *Specific standards:*

- (1) *Construction standards.* In all special flood hazard areas A1-30, AH, and AO, where base flood elevation data has been provided, as set forth in subsections 9-43(b), 9-44(d)(2), 9-45(b)(5), the following provisions are required:
  - a. *Residential construction:* New construction or substantial improvement of any residential structure shall have the lowest floor, including basement,

elevated at least two (2) feet above the base flood elevation.

b. *Nonresidential construction:*

- (i) New construction or substantial improvement of any commercial, industrial, or nonresidential structure shall have the lowest floor, including basement, elevated at least to two (2) feet above the level of the base flood elevation.
- (ii) Nonresidential structures may be floodproofed in lieu of being elevated, provided that, together with all attendant utilities and sanitary facilities, the areas of the structure below the required elevation are watertight, with walls substantially impermeable to the passage of water, and provided that such structures are composed of structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall review and/or develop structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with acceptable standards of practice for meeting the provisions of this subsection. Such certification shall be provided to the city engineer.
- (iii) On-site drainage for all proposed structures in zones AO and AH located on slopes shall provide adequate drainage paths to guide floodwaters around and away from such structures.

(2) *Fully enclosed areas below base flood elevation.* New construction or substantial improvements of buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall have at least one side at or above grade and shall be designed to preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.

- a. Designs for complying with this requirement must be certified by a registered professional engineer or architect to meet the following minimum criteria:
  - (i) Provide a minimum of two (2) openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
  - (ii) The bottom of all openings shall be no higher than one foot above grade; and
  - (iii) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.
- b. Electrical, plumbing, and other utility connections are prohibited below the base flood elevation.
- c. Use of the enclosed area shall be restricted to the parking of vehicles or limited storage of maintenance equipment used solely in connection with

the premises or entry to the living area via stairway or elevator.

- (3) *Floodways*. Located within special flood hazard areas established in subsection 9-43(b) are areas designated as floodways on the community's flood boundary and floodway map. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris and potential projectiles, and have erosion potential, the following provisions shall apply:
- a. All encroachments are prohibited including fill, new construction, substantial improvements and other developments unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood discharge;
  - b. Fences are prohibited in the floodway unless aligned in the direction of the flow and constructed of an open design;
  - c. A permit may be issued which allows encroachments resulting in increases in base flood elevations, provided the community first obtains a conditional floodway revision by meeting the requirements of C.F.R. 44, chapter 1, subsection 65.12.

(Ord. of 1-95; Ord. of 2-4-98; No. 26824-1, 2-27-02)

#### **Sec. 9-46. Design standards for subdivision proposals.**

- (a) All subdivision proposals shall be consistent with the need to minimize flood damage.
- (b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
- (c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards.
- (d) Base flood elevation and floodway data shall be provided for all subdivision proposals and other proposed developments for which any portion of is located within a special flood hazard area.

(Ord. of 1-95; Ord. of 2-4-98; No. 26824-1, 2-27-02)

#### **Sec. 9-47. Variance procedures.**

- (a) *Establishment of variance process:*
  - (1) The flood and erosion control board, as established by the City of New Britain, shall hear and decide appeals and requests for variance from the requirements of this article.
  - (2) The flood and erosion control board shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the city engineer in the enforcement or administration of this article.
  - (3) Any person aggrieved by the decision of the flood and erosion control board or any person owning land which abuts or is within a radius of one hundred (100) feet of the land in question may appeal within fifteen (15) days after such

decision to the Superior Court for the Judicial District of New Britain, as provided in section 8-8 of the General Statutes.

- (4) Flood level increase prohibition. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(b) *Specific situation variances:*

- (1) *Buildings on a historic register.* Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the state inventory of historic places or any locally adopted historic district without regard to the procedures set forth in the remainder of this section, except for subsection (c)(3), and provided the proposed reconstruction, rehabilitation, or restoration result in the structure maintaining its historical character.
- (2) *Pre-existing lots.* Variances may be issued for new construction and substantial improvements to be erected on any lot contiguous to and surrounded by lots with existing structures constructed below the base flood level, provided all standards of subsection (c)(3) are met.
- (3) *Functionally dependent uses.* Variances may be issued for new construction and substantial improvement and other development necessary for the conduct of a functionally dependent use provided the structure or other development is protected by methods that minimize flood damage, creates no additional threat to public safety and meets the requirements of subsection (c)(3)a. through f. of this article.

(c) *Considerations for granting of variances:*

- (1) In passing upon such applications, the flood and erosion control board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this article; and
  - a. The danger that materials may be swept onto other lands to the injury of others;
  - b. The danger to life and property due to flooding or erosion damage;
  - c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
  - d. The importance of the services provided by the proposed facility to the community;
  - e. The necessity of the facility to waterfront location, in the case of a functionally dependent facility;
  - f. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
  - g. The compatibility of the proposed use with existing and anticipated development;
  - h. The relationship of proposed use to the Master Plan, Zoning Ordinance

and floodplain management program for that area;

- i. The safety of access to the property in times of flood for ordinary and emergency vehicles;
- j. The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and
- k. The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

(2) *Additional conditions and safeguards.* Upon consideration of the factors listed above, and the purposes of this article, the flood and erosion control board may attach such conditions and safeguards to the granting of variances as it deems necessary to further the purposes of this article.

(3) *General standards for the issuance of variances:*

- a. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief, and in the instance of a historical building, a determination that the variance is the minimum necessary as not to destroy the historic character and design of the building and result in the loss of historic designation of the building.
- b. Variances shall only be issued upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances. Only hardships which are based on unusual physical characteristics of the property in question, characteristics which are not shared by adjacent properties, shall qualify to meet subsection (ii) above. Claims of hardship based on the structure, personal, or economic circumstances are not sufficient cause for the granting of a variance under this article.
- c. In situations in which a property is partially within a special flood hazard area and in which upland portions of the property may be safely and appropriately developed, except that they are subject to the front, rear, or side yard restrictions of the zoning ordinances, applicants shall not apply for a variance of the Flood Damage Prevention Ordinance until they have first applied for, and been denied a zoning variance for relief from the restrictions of the applicable zoning ordinances.
- d. Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the structure is to be built and stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation up to amounts as high as

twenty-five dollars (\$25.00) for one hundred dollars (\$100.00) of insurance coverage.

- e. Any applicant to whom a variance is granted shall be required to post a performance bond in accordance with subsection 9-44(c)(4) of this article.
- f. The city engineer shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

(Ord. of 1-95; Ord. of 2-4-98; No. 26824-1, 2-27-02)

### **Sec. 9-48. Amendments.**

Amendments to this article shall be made according to the authority granted to the common council in the City Charter and by various ordinances governing actions of the common council.

(Ord. of 1-95; Ord. of 2-4-98)

### **Sec. 9-49. Enforcement.**

- (a) Each floodplain management permit shall authorize, as a condition of approval, the city engineer or a designated agent to make regular inspections of the subject property. The city engineer or designated agents are also authorized to inspect any property in a special flood hazard area where it appears that violations of these regulations may be taking place.
- (b) If the city engineer finds that any person is undertaking any construction, substantial improvement, filling, or any other activity or maintaining a condition which in violation of these regulations, the city engineer shall:
  - (1) Issue a written order by certified mail, return receipt requested, to the subject property owner, ordering that the activity cease and ordering the property owner to either seek to obtain a floodplain management permit pursuant to subsection 9-44(c) prior to continuing with the activity or, if appropriate, ordering that all violations and/or obstructions be removed from the special flood hazard area immediately.
  - (2) Notify the chief building inspector and request that any building permit(s) in force be revoked or suspended and that a stop work order be issued.
  - (3) The city engineer may suspend or revoke a floodplain management permit if it is found that the applicant has not complied with the terms, conditions or limitations set forth in the permit or has exceeded the scope of the work as set forth in the application including application plans. Prior to revoking any permit, the city engineer shall issue notice to the permittee, personally or by certified mail, return receipt requested, setting forth the facts or conduct which warrants the intended action.
  - (4) Failure to comply with any written order issued under this section shall be considered a violation of these regulations and is subject to the penalties described in section 9-50.

- (5) In the event violations or obstructions are not promptly removed from the special flood hazard area, the city engineer may cause such removal and remediation work to be performed utilizing bond money held in escrow pursuant to subsection 9-44(c)(4) of this article, or may direct the director of public works to cause such work to be done and to place a lien against the property.
- (c) Any person subjected to enforcement action pursuant to this article may appeal any requirement, decision, or determination of the city engineer to the flood and erosion control board, in accordance with subsection 9-47(a)(2) of the article. Such person shall provide such information as necessary including appropriate certifications from a registered professional engineer or architect in order to substantiate the claim that the requirement, decision, or determination of the city engineer was in error or unwarranted.
- (d) Nothing contained herein shall prevent the owner of a dwelling, commercial or industrial building existing at the time of the adoption of this article from repairing, replacing or restoring said building or the components thereof to substantially the same character and form as existed at the time of such adoption.

(Ord. of 1-95; Ord. of 2-4-98)

### **Sec. 9-50. Penalties for violations.**

Violations of the provisions of this article or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variances, shall constitute a misdemeanor. Any person who violates this article or fails to comply with any of its requirements shall be subject to a fine of ninety-nine dollars (\$99.00) and to a further penalty of not less than ninety-nine dollars (\$99.00) for each and every day that such violation continues to exist. Nothing herein contained shall prevent the City of New Britain from taking such other lawful action as is necessary to prevent or remedy any violation.

(Ord. of 1-95; Ord. of 2-4-98)

## APPENDIX A

### SPECIAL FLOOD HAZARD AREA FLOOD INSURANCE RATE MAP DESIGNATIONS

These flood hazard areas are subdivided into flood hazard zones (insurance risk rate zones) according to the following criteria:

*Zone A:* Special flood hazard areas inundated by the 100-year flood, determined by approximate methods; no base flood elevations are shown or flood hazard factors determined.

*Zone AH:* Special flood hazard areas inundated by types of 100-year shallow flooding where depths are between one and three (3) feet; base flood elevations are designated, but no flood hazard factors are determined.

*Zone A1-30:* Special flood hazard areas inundated by the 100-year flood, determined by detailed methods; base flood elevations are shown and zones subdivided according to flood hazard factors.

*Zone B:* Areas of moderate flood hazard.

Zone C: Areas of minimal flood hazard.

Zone D: Areas of undetermined but possible flood hazard.

Insurance rates and floodplain management measures will vary depending on the zone.

(Ord. of 2-4-98)

## Chapter 10 FOOD AND FOOD ESTABLISHMENTS\*

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\***Charter references:** Authority to regulate sale of meat, milk, vegetables, butter, margarine, produce or food of any kind, § 536; inspection of meat, food and milk, § 2135.

**Cross references:** Garbage, trash and refuse, Ch. 11; health, Ch. 12; licenses, permits and miscellaneous business regulations, Ch. 14.

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Art. I. In General, §§ 10-1--10-25

Art. II. Eating and Drinking Establishments, §§ 10-26--10-50

Div. 1. Generally, §§ 10-26--10-35

Div. 2. Licenses, §§ 10-36--10-50

Art. III. Self Service Food or Beverage Vending Machines, §§ 10-51--10-56

## ARTICLE I. IN GENERAL

### Sec. 10-1. Inspection--Food dispensers.

The board of health, by its duly authorized representatives, shall inspect all soda fountains, restaurants, hotels, meat or grocery stores or other places where produce or provisions for human consumption are sold or offered for sale at intervals established by regulations of the board of health within guidelines issued by the state board of health or at least once in three (3) months.

(Code 1970, § 11-7; Ord. of 6-74)

### Sec. 10-2. Same--Food and drink; full and free access; examination and condemnation.

- (a) *Inspections authorized.* The director of health, any sanitarian or any duly authorized representative of the board of health is hereby authorized to inspect, take samples of and examine any food, drink and other substances used or intended to be used for human consumption as often as may be necessary for the detection of unwholesomeness or adulteration.
- (b) *Free inspections required.* All dealers in food, their agents and all persons engaged in the transportation of food or drink shall upon request of any duly authorized representative of the board of health fully and freely permit any such inspection.
- (c) *Condemnation of unfit food.* The director of health, any sanitarian or any duly authorized representative of the board of health shall condemn, forbid the sale of and cause to be denatured when possible, or cause to be removed or destroyed any food or drink found,

# **FLOOD DAMAGE PREVENTION ORDINANCE**

## **SECTION 1. STATUTORY AUTHORIZATION FINDING OF FACT PURPOSE AND OBJECTIVES.**

### **1.1 STATUTORY AUTHORIZATION**

The Legislature of the State of Connecticut has in Section 7-148 (c) (7) of the General Statutes delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety and general welfare of its citizenry. Therefore, the Town Council of the Town of Plainville, Connecticut, does ordain as follows:

### **1.2 FINDINGS OF FACT**

**1.2.1** The flood hazard areas of the Town of Plainville are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

**1.2.2** These flood losses are caused by the cumulative effect of obstructions in flood plains causing increases in flood heights and velocities, and by the occupancy in flood hazard lands which are inadequately elevated, flood proofed, or otherwise unprotected from flood damages.

### **1.3 STATEMENT OF PURPOSE**

It is the purpose of this ordinance to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

**1.3.1** Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;

**1.3.2** Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

**1.3.3** Control the alteration of natural flood plains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;

**1.3.4** Control filling, grading, dredging and other development which may increase erosion or flood damage; and

**1.3.5** Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

#### **1.4 OBJECTIVES**

The objectives of this ordinance are:

**1.4.1** To protect human life and health;

**1.4.2** To minimize expenditure of public money for costly flood control project;

**1.4.3** To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

**1.4.4** To minimize prolonged business interruptions;

**1.4.5** To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in flood plains;

**1.4.6** To help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize flood blight areas; and

**1.4.7** To insure that potential home buyers are notified that property is in a flood area.

#### **SECTION 2. DEFINITIONS.**

**2.1** Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

**2.1.1 "Addition (to an existing building)"** means any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other

than a fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by independent perimeter load-bearing walls is a new/separate structure.

**2.1.2 "Appeal"** means a request for a review of the Town Engineer's interpretation of any provision of this ordinance or a request for a variance.

**2.1.3 "Area of special flood hazard"** is the land in the flood plain within a community subject to one percent or greater chance of flooding in any given year.

**2.1.4 "Base flood"** means the flood having a one percent chance of being equaled or exceeded in any given year.

**2.1.5 "Base Flood Elevation (BFE)"** means the elevation of the crest of the base flood or 100-year flood. The height in relation to mean sea level expected to be reached by the waters of the base flood at pertinent points in the floodplains of coastal and riverine areas.

**2.1.6 "Basement"** means that portion of a building having its floor subgrade (below ground level) on all sides.

**2.1.7 "Building"** means any structure built for support, shelter or enclosure for any occupancy or storage.

**2.1.8 "Cost"** as related to substantial improvements, the costs of any reconstruction, rehabilitation, addition, alteration, repair or other improvement of a structure shall be established by a detailed written contractor's estimate. The estimate shall include, but not be limited to: the cost of materials (interior finishing components, structural components, utility and service equipment); sales tax on materials; building equipment and fixtures, including heating and air conditioning and utility meters; labor; built-in appliances; demolition and site preparation; repairs made to damaged parts of the building worked on at the same time; contractor's overhead; contractor's profit and grand total. Items to be excluded include cost of plans and specifications; surveys costs; permit fees; outside improvement such as septic systems, water supply wells, landscaping, sidewalks, fences, yard lights, irrigation systems and detached structures such as garages, sheds and gazebos.

**2.1.9 "Development"** means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavating, drilling operations, or storage of equipment or materials.

**2.1.10 "Elevated Building"** means a non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, piling, columns (posts and piers), shear walls, or breakaway walls.

**2.1.11 "Existing Manufactured Home Park or Subdivision"** means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are affixed (including; as a minimum, the installation of utilities, the construction of streets; and either final site grading or the pouring of concrete pads is completed before the effective date of the floodplain management regulations adopted by a community).

**2.1.12 "Expansion to an Existing Manufactured Home Park or Subdivision"** means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

**2.1.13 "Federal Emergency Management Agency (FEMA)"** means the federal agency that administers the National Flood Insurance Program (NFIP).

**2.1.14 "Flood" or "Flooding"** means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. the overflow of inland water;
2. the unusual and rapid accumulation or runoff of surface water from any source.

**2.1.15 "Flood Boundary and Floodway Map"** means an official map of a community on which the Federal Emergency Management Agency has delineated the boundaries of the floodway.

**2.1.16 "Flood Insurance Rate Map (FIRM)"** means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

**2.1.17 "Flood Insurance Study"** is the official report by the Federal Emergency Management Agency. The report contains flood profiles, as well as the Flood Boundary Floodway Map and the water surface elevation of the base flood.

**2.1.18 "Floodway"** means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

**2.1.19 "Floor"** means the top surface of an enclosed area in a building (including basement) i.e.: top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.

**2.1.20 "Functionally dependent facility"** means a facility which cannot be used for its intended purpose unless it is located in close proximity to water, such as a docking or port facility necessary for the unloading of cargo or passengers, shipbuilding, ship repair, or seafood processing facilities. The term does not include long-term storage, manufacture, sales or service facilities.

**2.1.21 "Highest Adjacent Grade (HAG)"** means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

**2.1.22 "Historic Structure"** means any structure that is: (a) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (b) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historic significance of registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or (d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either : (1) By an approved state program as determined by the Secretary of the Interior or (2) Directly by the Secretary of the Interior in states without approved programs.

**2.1.23 "Lowest floor"** means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, is not considered a building's lowest floor.

**2.1.24 "Market Value"** means the market value of the structure determined by an independent appraisal by a professional appraiser.

**2.1.25. "Manufactured (Mobile) home"** means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term also includes similar transportable structures placed on a site for 180 consecutive days or longer and intended to be improved property.

**2.1.26 "Manufactured home park or subdivision"** means a parcel, or contiguous parcels, of land divided into two or more manufactured home lots for rent or sale.

**2.1.27 "Mean Sea Level (MSL)"** means the North American Vertical Datum (NAVD) of 1988 or other datum, to which base flood elevation shown on a community's Flood Insurance Rate Map (FIRM) are referenced.

**2.1.28 "National Geodetic Vertical Datum (NGVD)"** as corrected in 1929 is a vertical control used as a reference for establishing varying elevations within the flood plain.

**2.1.29 "New Construction"** Structures for which the "start of construction" commenced on or after September 26, 2008 the effective date of the floodplain management regulations, and includes any subsequent improvements to such structures.

**2.1.30 "Recreational Vehicle"** (a.k.a. park trailers, travel trailers, camp trailers and similar transportable structures) means a vehicle which is:

1. Built on a single chassis;
2. 400 sq. feet or less when measured at the longest horizontal projection;
3. Designed to be self propelled or permanently towable by a light duty truck; and
4. Designed primarily not for use as a permanent dwelling but as a temporary living quarters for recreational, camping, travel or seasonal use.

**2.1.31 "Sand dunes"** means naturally occurring accumulations of sand in ridges or mounds landward of the beach.

**2.1.32 "Special Flood Hazard Area (SFHA)"** – The land in the floodplain within a community subject to a one (1) percent or greater chance of flooding in any given year. SFHAs are determined utilizing the base flood elevations (BFE) provided on the flood profiles in the

Flood Insurance Study (FIS) for a community. BFEs provide on Flood Insurance Rate Map (FIRM) are only approximate (rounded up or down) and should be verified with the BFEs published in the FIS for a specific location. SFHAs include, but are not necessarily limited to, the land shown as Zones A, A1-30, AE, AO, AH, and the Coastal High Hazard Areas shown as Zones V, V1-30 and VE on a FIRM. The SFHA is also called the Area of Special Flood Hazard.

**2.1.33 "Start or construction"** includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading or filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footing, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

For a "substantial improvement," the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

**2.1.34 "Structure"** means a walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank, or other man-made facilities or infrastructures.

**2.1.35 "Substantial Damage"** means damage of any origin sustained by a structure, whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**2.1.36 "Substantial improvement"** means any combination of repairs, reconstruction, alteration, or improvements to a structure, taking place over a ten (10) year period in which the cumulative cost equals or exceeds fifty percent of the market value of the structure. The market value of the structure should be (1) the appraised value of the structure using the cost approach to value method prior to the start of initial repair or improvement, or (2) in the case of damage, the value of the structure prior to the damage occurring. For the purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling,

floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include any project for improvement of a structure required to comply with existing health, sanitary or safety code specifications which are solely necessary to assure safe living conditions.

**2.1.37 "Variance"** is a grant of relief from the requirements of this ordinance which permits construction in a manner otherwise prohibited by this ordinance where specific enforcement would result in unnecessary hardship.

**2.1.38 "Violation"** is the failure of a structure or other development to be fully compliant with the community's Floodplain Management Ordinance. A structure or other development without required permits, lowest floor elevation documentation, floodproofing certificates or required floodway encroachment calculations is resumed to be in violation until such time as that documentation is provided.

**2.1.39 "Water Surface Elevation"** means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other datum, where specified) of floods of various magnitudes and frequencies in the flood plains of riverine areas.

### **SECTION 3. GENERAL PROVISIONS.**

#### **3.1 LANDS TO WHICH THIS ORDINANCE APPLIES**

This Ordinance shall apply to all areas of special flood hazard within the jurisdiction of the Town of Plainville

#### **3.2 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD**

The areas of special flood hazard identified by the Federal Emergency Management Agency in its "The Flood Insurance Study for the Town of Plainville" effective September 26, 2008 with accompanying Flood Insurance Rate Maps September 26, 2008 subsequent revisions thereto, are adopted by reference and declared to be part of this regulations. Since mapping is legally adopted by reference into the regulation it must take precedence when more restrictive until such time as a map amendment is obtained, or any revision thereafter, with accompanying floodway maps and other supporting data, and any revision thereto, are adopted by reference and declared to be a part of this Ordinance.

### **3.3 ESTABLISHMENT OF FLOOD PLAIN MANAGEMENT**

A Development Permit shall be required in conformance with the provisions of this Ordinance prior to the commencement of any development activities.

### **3.4 COMPLIANCE**

No structure or land shall hereafter be located, extended, converted or structurally altered without full compliance with the terms of this Ordinance and other applicable regulations.

### **3.5 ABROGATION AND GREATER RESTRICTIONS**

This Ordinance is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this Ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

### **3.6 INTERPRETATION**

In the interpretation and application of this Ordinance all provisions shall be: (1) considered as minimum requirements; (2) liberally construed in favor of the governing body; and (3) deemed to neither limit nor repeal any other powers granted under State Statutes.

### **3.7 WARNING AND DISCLAIMER OF LIABILITY**

The degree of flood protection required by this Ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This Ordinance does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This Ordinance shall not create liability on the part of the Town of Plainville or an officer or employee thereof for any flood damages that result from reliance on this Ordinance or any administrative decision lawfully made thereunder.

### **3.8 SEVERABILITY**

If any section, subsection, paragraph sentence, clause or phase of this regulation should be declared invalid for any reason whatsoever, such decision shall not affect the remaining portions

of this regulation, which shall remain in full force and effect; and to this end the provisions of this regulation are hereby declared to be severable.

## **SECTION 4. ADMINISTRATION.**

### **4.1 DESIGNATION OF THE ORDINANCE ADMINISTRATOR**

The Town Engineer is hereby appointed to administer and implement the provisions of this ordinance.

### **4.2 PERMIT PROCEDURES**

Application for a development permit shall be made to the Town Engineer on forms furnished by him or her prior to any development activities, and may include, but not be limited to, the following: plans, in duplicate, drawn to scale, showing the nature, location, dimensions and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, the location of the foregoing and the appropriate filing fee. All submissions including plans, maps, reports and other pertinent data shall have an area for the signature of appropriate Town of Plainville Officials and shall be certified by the appropriate professionals. The following information is required for all applications:

#### **4.2.1 Application Stage**

**4.2.1 a.** Elevation in relation to mean sea level of the proposed lowest floor (including basement) of all structures. See Section 5.3.1 a;

**4.2.1 b.** Elevation in relation to mean sea level to which any non-residential structure will be flood proofed. See Section 5.3.1 b. 2;

**4.2.1 c.** Description of the extent to which any watercourse will be altered or relocated as a result of proposed development;

**4.2.1 d.** A statement as to whether or not the proposed alterations to an existing structure meet the criteria of the Substantial Improvement definition, Section 2.1.36;

**4.2.1 e.** A statement as to whether there will be dry access to the structure during a 100-year storm event. Where applicable the following certifications by a registered engineer or architect are required, and must be provided to the Town Engineer. The design and methods of

construction must be certified to be in accordance with accepted standards of practice, and with the provisions of Section 5.3;

**4.2.1 f.** Non-residential flood proofing must meet the provisions of Section 5.3.1 (b) (2);

**4.2.1 g.** Enclosed areas below the base flood elevation - if the minimum design criteria in Sections 5.3.2 a - 5.3.2 c are not used then the design and construction methods must be certified as explained in Section 5.3.2;

**4.2.1 h.** No increase in flood heights may be allowed. Any development in a floodway must meet the provisions of Section 5.3.3.

#### **4.2.2 CONSTRUCTION STAGE**

As-built drawings shall be certified A-2 standard by a licensed surveyor. Upon completion of the applicable portion (foundation) of construction the applicant shall provide as-built verification to the Town Engineer of the following, as is applicable:

**4.2.2 a.** As-built elevation data to be provided:

1. For structures in A and A1-30 zones, provide as-built elevation of the top of the lowest floor (including basement).
2. For floodproofed structures, provide as-built elevation to which the floodproofing is effective.
3. Failure to comply with the provisions of this subsection shall

result in the revocation of the development permits issued pursuant to this Ordinance.

**4.2.2 b.** Deficiencies detected during the review of the post construction conditions and as-built records by the Town shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to comply in a timely manner shall result in the issuance of a stop-work order for the entire project.

#### **4.3 DUTIES AND RESPONSIBILITIES OF THE ENGINEERING AND BUILDING OFFICIALS**

**4.3.1** Duties of the Town Engineer shall include, but not be limited to:

**4.3.1 a.** Review all permit applications to determine whether proposed building sites will be reasonably safe from flooding.

**4.3.1 b.** Review all development permits to assure that the permit requirements of this ordinance have been satisfied.

**4.3.1 c.** Advise permittee that additional Federal or State permits may be required, and if specific Federal or State permit requirements are known, require that copies of such permits be provided and maintained on file with the development permit. Possibly including but not limited to: Water Diversion, Dam Safety, Corps of Engineers 404.

**4.3.1 d.** Notify the Regional Planning Agency and the affected municipality at least 35 days prior to the public hearing if any change of regulation or use of a flood zone will affect an area within 500 feet of another municipality.

**4.3.1 e.** Notify adjacent communities and the Department of Environmental Protection, Water Resources Unit, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.

**4.3.1 f.** Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.

**4.3.1 g.** Record the as-built elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures in accordance with Section 5.3.1.a.

**4.3.1 h.** Record the as-built elevation (in relation to mean sea level) to which the new or substantially improved structures have been flood-proofed, in accordance with Section 5.3.1.b.

**4.3.1 i.** Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the Town Engineer shall make the necessary interpretation. The Applicant may be required to provide survey and engineering information where not provided through other sources. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.

**4.3.1 j.** When base flood elevation data or floodway data have not been provided in accordance with Section 3.2, then the Town Engineer shall obtain, review and reasonably administer any base flood elevation and floodway data available from a Federal, State or other source, including professionals retained by the Applicant, in order to administer the provisions of Section V.

**4.3.2** Duties of the Building Official shall include, but not be limited to:

**4.3.2 a.** When floodproofing is utilized for a particular structure the Building Official shall obtain certification from a registered professional engineer or architect, in accordance with Section 5.3.1.b.2.

**4.3.2 b.** All records pertaining to the provisions of this Ordinance shall be maintained in the office of the Building Official.

## **SECTION 5. PROVISIONS FOR FLOOD HAZARD REDUCTION**

### **5.1 GENERAL STANDARDS**

In all areas of special flood hazard the following provisions are required:

**5.1.1** New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;

**5.1.2** New construction and substantial improvements shall be constructed with materials resistant to flood damage;

**5.1.3** New construction and substantial improvements shall be constructed by methods and practices that minimize flood damage;

**5.1.4** Electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

**5.1.5** New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;

**5.1.6** New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems, and discharges from the system into flood waters, and shall be subject to review and approval by the Superintendent of the Plainville Water Pollution Control Authority.

**5.1.7** On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding and shall be subject to review and approval by the Plainville Town Sanitarian.

**5.1.8** In any portion of a watercourse which is altered or relocated, the flood carrying capacity shall be maintained; and

**5.1.9** A structure already in compliance with the provisions of this Ordinance shall not be made non-compliant by any alteration, repair, reconstruction or improvement to the structure.

## **5.2. STANDARDS FOR STREAM WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS FLOODWAYS AND/OR MAPPED FLOODING**

Base flood elevations for flood prone areas without established information shall be determined by using the scaling method. The designated A Zone from the FIRM map at the particular location shall be transposed onto the Town's topographical map. The Applicant may supplement the Town's topographical map upon approval of the Town Engineer. Any supplemental topographical information shall be certified by a surveyor registered in the State of Connecticut.

The flood elevation shall be determined by the ground elevation of the transposed A Zone area. The highest ground elevation between both A Zone boundaries shall be the base flood elevation in the absence of established information.

## **5.3 SPECIFIC STANDARDS**

**5.3.1.a** In all areas of special flood hazard A1-30, AE, and AH where base flood elevation data has been provided, as set forth in Sections 3.2 or 4.3.1.k, the following provisions are required:

**5.3.1.a.1 Residential Construction.** New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to two (2) feet above the base flood elevation. (See also Section 6.4.)

**5.3.1.a.2 Manufactured homes** shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to or above BFE and be securely anchored to an adequately anchored foundation system. Manufactured homes placed or substantially improved within Zones A1-30, AH, AE shall meet one of the following location criteria: outside of a manufactured home park or subdivision; in a new manufactured home park or subdivision; in an expansion to an existing manufactured home park or subdivision or in an existing manufactured home park or subdivision in which a manufactured home has incurred substantial damage as a result of a flood.

**5.3.1.b Non-residential Construction.**

**5.3.1.b.1** New construction or substantial improvement of any commercial, industrial, or non-residential structure located in Zone A1-30, AE and AH shall have the lowest floor, including basement, elevated to two (2) feet above the base flood elevation; or

**5.3.1.b.2** Non-residential structures located in all A zones may be flood-proofed to two (2) feet above base flood elevation in lieu of the lowest as-built elevation being elevated two (2) feet above base flood elevation provided that together with all attendant utilities and sanitary facilities the areas of the structure below the base flood elevation are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall review and/or develop structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with acceptable standards or practices for meeting the provisions of this subsection. Such certification shall be provided to the official as set forth in Section 4.2.1.f.

**5.3.1.b.3** All manufactured homes to be placed or substantially improved shall be installed using methods and practices which minimize flood damage. They shall also be elevated and anchored to resist flotation, collapse and lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties.

**5.3.1.b.4** Elevation construction standards shall include piling foundations placed no more than ten (10) feet apart, and the provision of reinforcement for piers more than six (6) feet above ground level. Adequate access and drainage shall also be provided.

**5.3.2 Enclosed Areas Below Base Flood Elevation.**

New construction or substantial improvements to buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall be designed to allow for the entry and exit of flood waters to automatically equalize hydrostatic flood forces on exterior walls.

**5.3.2.a** Designs for complying with the requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:

**5.3.2.a.1** Provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;

**5.3.2.a.2** The bottom of all openings shall be no higher than one (1) foot above grade; and

**5.3.2.a.3** Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of flood waters in both directions.

**5.3.2.b** Electrical, plumbing and other utility connections are prohibited below the base flood elevation.

**5.3.2.c** Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator).

**5.3.3 Floodways.** Located within areas of special flood hazard established in Section 3.2 are areas designated as floodways on the community's Flood Boundary and Floodway Map. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and have erosion potential, the following provisions shall apply:

**5.3.3.a** Prohibit encroachments, including fill, new construction, substantial improvements and other developments unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that encroachments shall not result in any (0.00) increase in flood levels during occurrence of the base flood discharge.

**5.3.3.b** In zones where base flood elevations have been determined, but before a floodway is designated, no new construction, substantial improvement or other development (including fill) shall be permitted which will increase base flood elevations more than one (1) foot at any point

along the watercourse when all anticipated development is considered cumulatively with proposed development.

**5.3.3.c** The Town may request floodway data of an Applicant for watercourses without FEMA-published floodways. When such data is provided by an Applicant or whenever such data is available from any other source in response to the Town's request or not, the Town shall adopt a regulatory floodway based on the principle that the floodway must be able to convey the waters of the base flood without increasing the water surface elevation more than one (1) foot at any point along the watercourse.

**5.3.3.d.** The water holding capacity of the floodplain, except those areas that are tidally influenced, shall not be reduced. Any reduction caused by filling, new construction, or substantial improvements involving an increase in footprint to the structure shall be compensated for by deepening and/or widening of the floodplain. Storage shall be provided on-site, unless easements have been gained from adjacent property owners; it shall be provided within the same hydraulic reach and a volume not previously used for flood storage; it shall be hydraulically comparable and incrementally equal to the theoretical volume of flood water at each elevation, up to and the 100 year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. Compensatory storage can be provided off-site if approved by the municipality.

**5.3.3.e** Within the floodplains, except those areas which are tidally influenced, as designated on the Flood Insurance Rate Map (FIRM) for the community, encroachments resulting from filling, new construction or substantial improvements involving an increase in footprint of the structure, are prohibited unless the applicant provides certification by a registered professional engineer demonstrating, with supporting hydrologic analyses performed in accordance with standard engineering practice, that such encroachment shall not result in any (0.00 feet) increase in flood levels (base flood elevation). Work within the floodplain and land adjacent to the floodplain, including work to provide compensatory storage shall not be constructed in such a way so as to cause an increase in flood stage or flood velocity.

**5.3.3.f** Above-ground storage tanks (oil, propane, etc.) which are located outside or inside of the structure must either be elevated above the base flood elevation (BFE) on a concrete pad or be securely anchored with tie-down straps to prevent floatation or lateral movement, have the top of

the fill pipe extended above the BFE, and have a screw fill cap that does not allow for the infiltration of flood water.

**5.3.3.g** If any portion of a structure lies within the Special Flood Hazard Area (SFHA), the entire structure is considered to be in the SFHA. The structure includes any attached additions, garages, decks, sunrooms or any other structure attached to the main structure. (Decks or porches that extend into a more restrictive zone will require the entire structure to meet the requirements of the more restrictive zone.)

**5.3.3.h** If a structure lies within two or more flood zones, the construction standards of the most restrictive zone shall apply to the entire structure (i.e., V zone is more restrictive than A zone; structure must be built to the highest BFE). The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. (Decks or porches that extend into a more restrictive zone will require the entire structure to meet the requirements of the more restrictive zone.)

**5.3.3.i** New construction, substantial improvements and repair to structures that have sustained substantial damage cannot be constructed or located entirely or partially over water.

**5.4 Recreational Vehicle** All recreational vehicles placed on sites within Zones A1-30, AH or AE must be either: on the site for fewer than 180 consecutive days and be fully licensed and ready for highway use or meet the elevation and anchoring requirements of a manufactured home.

## **SECTION 6. STANDARDS FOR SUBDIVISION PROPOSALS.**

In all special flood hazard areas the following requirements shall apply:

**6.1** All subdivision proposals shall be consistent with the need to minimize flood damage;

**6.2** All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;

**6.3** All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazard; and

**6.4** In Zone A, base flood elevation data shall be provided for subdivision proposals and other proposed development (including manufactured home parks and subdivisions) which are five acres or fifty lots, whichever occurs first.

## **SECTION 7. VARIANCE PROCEDURES.**

**7.1** The Zoning Board of Appeals as established by the Town of Plainville shall hear and decide appeals and requests for variances from the requirements of this Ordinance.

**7.2** The Zoning Board of Appeals shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the Town Engineer or Building Official in the enforcement or administration of this Ordinance.

**7.3** Any person aggrieved by the decision of the Zoning Board of Appeals or any person owning land which abuts or is within a radius of one hundred (100) feet of the land in question may appeal within fifteen (15) days after such decision to the State Superior Court of the Judicial District of New Britain at New Britain, as provided in Section 8-8 of the General Statutes.

## **7.4 SPECIFIC SITUATION VARIANCES**

**7.4.1 Buildings on an Historic Register.** Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places without regard to the procedures set forth in the remainder of this section, except for Section 7.5.3.a - 7.5.3.d, and provided the proposed reconstruction, rehabilitation or restoration will not result in the structure losing its historical character.

**7.4.2 Pre-existing small lot location.** Variances may be issued by a community for new construction and substantial improvements to be erected on a lot of one-half acre or less in size, contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with Section 7.5.3.a - 7.5.3.d.

**7.4.3 Functional dependent uses.** Variances may be issued for new construction and substantial improvement and other development necessary for the conduct of a functionally dependent use provided the structure or other development is protected by methods that minimize flood damage, create no additional threat to public safety and meet the requirements of Section 7.5.3.a -7.5.3.d.

**7.4.4 Floodway prohibition.** Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

## **7.5 CONSIDERATIONS FOR GRANTING OF VARIANCES**

**7.5.1** In passing upon such applications, the Zoning Board of Appeals shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance; and:

**7.5.1 a.** The danger that materials may be swept onto other lands to the injury of others;

**7.5.1 b.** The danger to life and property due to flooding or erosion damage;

**7.5.1 c.** The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

**7.5.1 d.** The importance of the services provided by the proposed facility to the community;

**7.5.1 e.** The necessity of the facility to waterfront location, in the case of a functionally dependent facility;

**7.5.1 f.** The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;

**7.5.1 g.** The compatibility of the proposed use with existing and anticipated development;

**7.5.1 h.** The relationship of the proposed use to the comprehensive plan and flood plain management program for that area;

**7.5.1 i.** The safety of access to the property in times of flood and for ordinary and emergency vehicles;

**7.5.1 j.** The expected heights, velocity, duration, rate of rise and sediment transport of flood waters and the effects of wave action, if applicable, expected at the site; and

**7.5.1 k.** The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

**7.5.2** Upon consideration of the factors listed above, and the purposes of this Ordinance, the Zoning Board of Appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this Ordinance.

**7.5.3 Conditions for Variances**

**7.5.3 a.** Variances shall be issued only upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and in the instance of a historical building, a determination that the variance is the minimum necessary so as to not destroy the historic character and design of the building.

**7.5.3 b.** Variances shall be issued only upon (1) a showing of good and sufficient cause, (2) a determination that failure to grant the variance will result in exceptional hardship, and (3) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

**7.5.3 c.** Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the structure is to be built, and stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation up to amounts as high as \$25 for \$100 of insurance.

**7.5.3 d.** The Building Official shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

**7.6 Penalties for Violation.** Violation of the provisions of this Ordinance or failure to comply with any of its requirements, including violation of condition and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates this Ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$250.00 per day if proven done willfully and \$100.00 per day if not, or imprisoned for not more than ten (10) days for each day of violation, or both and, in addition, shall pay all costs and reasonable legal fees involved in the case. Nothing herein contained shall prevent the Town of Plainville from taking such other lawful action as is necessary to prevent or remedy any violation.

**SECTION 8. REPEAL.**

Upon the effective date of this Ordinance, the prior Flood Damage Prevention Ordinance is hereby repealed.

Adopted by the Town Council June 21, 1993

Amended August 4, 2008

8. **Inspection and Release of Bond:** Inspections shall be made by the Commission or its designated agent during the development to ensure compliance with the certified plan and that control measures and facilities are properly performed or installed and maintained. The Commission may require the permittee to verify through progress reports that soil erosion and sediment control measures and facilities have been performed or installed and maintained. The Commission may require the permittee to verify through progress reports that soil erosion and sediment control measures and facilities have been performed or installed according to the certified plan and are being operated and maintained.

Upon completion of all work specified in the certified plan, the applicant shall notify the Commission thereof and submit a report, including maps as necessary, certifying that the soil erosion and sediment control measures have been completed as approved or as may have been modified with the prior approval by the Commission. Upon receipt of the report and inspection of the site by the Commission or its designated agent, the Commission may release any bond posted upon the finding that the provisions of the certified plan have been complied with.

## C. FLOOD DAMAGE PREVENTION REGULATIONS

1. **Statutory Authorization, Finding of Fact, Purpose and Objectives:** Statutory authorization. The legislature of the State of Connecticut has in Section 8-2 of the General Statutes delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the Planning and Zoning Commission of the Town of Plymouth does hereby promulgate the following:

- i. The flood hazard areas of the Town of Plymouth are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, flood-proofed, or otherwise unprotected from flood damages.

- ii. It is the purpose of these regulations to promote the public health, safety and general welfare and to minimize the public and private losses due to flood conditions in specific areas by provisions designed to:
- a. Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion hazards, or which result in damaging increase in erosion or in flood heights or velocities;
  - b. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
  - c. Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;

- d. Control filling, grading, dredging and other development which may increase erosion or flood damage, and;
  - e. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.
- iii. The objectives of these Regulations are:
- a. To protect human life and health;
  - b. To minimize expenditure of public money for costly flood control projects;
  - c. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
  - d. To minimize business interruptions;
  - e. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
  - f. To help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize flood blight areas; and,
  - g. To insure that potential home buyers are notified that property is in a flood area.

**2. General Provisions:** These Regulations shall apply to all areas of special flood hazard within the jurisdiction of the Town of Plymouth.

- i. Such areas of special flood hazard identified by the Federal Emergency Management Agency in its report entitled “Flood Insurance Study”, Flood Insurance Rate Maps, Town of Plymouth dated November 6, 1998, with accompanying floodway maps and other supporting data, and any revision thereto, are adopted by reference and declared to be part of these Regulations;
- ii. A zoning permit or subdivision plan approval shall be required in compliance with the provisions of the Zoning Regulations and/or Subdivision Regulations (including these Flood Damage Prevention Regulations) prior to commencement of any development activities;
- iii. No structure or land shall hereafter be located, extended, converted or structurally altered without full compliance with the terms of these regulations and other applicable Regulations;
- iv. These Regulations are not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where these Regulations and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail;
- v. In the interpretation and application of these Regulations, all provisions shall be: 1) considered as minimum requirements; 2) liberally construed in favor of the governing body, and; 3) deemed neither to limit nor repeal any other powers granted under state statutes;

- vi. The degree of flood protection required by these Regulations is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. These Regulations do not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damage. These Regulations shall not create liability on the part of the Town or by any officer or employee thereof for any flood damages that result from reliance on these Regulations or any administrative decision lawfully made there under.

**3. Administration:** Designation of the Flood Plain Prevention Administrator. The Planning and Zoning Commission shall administer and implement the Flood Damage Prevention Regulations.

Application for a flood hazard permit shall be made to the Planning & Zoning Commission on forms furnished by it prior to any development activity, and may include, but not be limited to, the following plans (in a number specified by the Commission) drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing and proposed structures, fill, storage of materials, drainage facilities and the location of the foregoing. Specifically, the following information is required:

- i. Application Stage
  - a. Elevation in relation to mean sea level of the proposed lowest floor (including basement) of all structures;
  - b. Elevation in relation to mean sea level to which any non-residential structure will be flood-proofed;
  - c. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development;
  - d. A statement as to whether or not proposed alterations to an existing structure meet the criteria of the substantial improvement definition;
  - e. A statement as to whether there will be dry access to the structure during the 100-year storm event. Where applicable, the following certifications by a registered engineer or architect are required, and must be provided to the Commission. The design and methods of construction are in accordance with accepted standards of practice, and with the provisions of the Flood Damage Prevention Regulations;
  - f. Non-residential flood proofing must meet the provisions of these regulations;
  - g. Enclosed areas below the base flood elevation if the minimum design criteria are not used then the design and construction methods must be certified;
  - h. No increase in floodway heights may be allowed. Any development in a floodway must meet the provisions of these regulations.

- ii. Construction Stage. Upon completion of the applicable portion of construction, the applicant shall provide verification to the Commission of the following as is applicable and pertaining to the lowest floor elevation: Elevation to be verified for:
  - a. A structure in a numbered A Zone is the top of the lowest floor (including basement);
  - b. A structure which has been floodproofed is the elevation to which the flood-proofing is effective;

Deficiencies detected by the review of the above listed shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby, shall be cause to issue a stop-work order for the project.

**4. Duties and Responsibilities:** Duties and responsibilities of the Commission shall include, but not be limited to:

- i. Review all permit applications to determine whether proposed building sites will be reasonably safe from flooding;
- ii. Review all development permits to assure that the permit requirements of these Regulations have been satisfied;
- iii. Advise applicant that additional Federal or State permits may be required, and if specific Federal or State permit requirements are known, require that copies of such permits be provided and maintained on file with the development permit. Possible permits include, but are not limited to: Water Division, Dam Safety, Corps of Engineers 404;
- iv. Notify the Regional Planning Commission and the affected municipality at least 35 days prior to the public hearing if any change of the Regulations or use of a floodplain zone will affect an area within 500 feet of another municipality;
- v. Notify adjacent communities and the Department of Environmental Protection, Water Resources Unit prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency;
- vi. Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished;
- vii. Record the elevation (in relation to mean sea level) to which the new or substantially improved structures have been flood-proofed;
- viii. When flood-proofing is utilized for a particular structure, the Commission shall obtain certification from a registered professional engineer or architect;

- ix. Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the Commission shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided herein;
- x. When base flood elevation data or floodway data have not been provided in accordance with Section 2 hereof, then the Commission shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source in order to administer the provisions in Section 4;
- xi. All records pertaining to the provisions of these Regulations shall be maintained by the Zoning Enforcement Officer.

**5. Provisions for Flood Hazard Reduction:** In all areas of special flood hazard, the following provisions are required:

- i. New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;
- ii. New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
- iii. New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- iv. Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
- v. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- vi. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the system into flood waters;
- vii. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding;
- viii. All manufactured homes (including any recreational vehicle placed on a site for 180 consecutive days or longer) to be placed, or substantially improved shall be elevated so that the lowest floor is above the base flood elevation;
  - a. It shall be placed on a permanent foundation which itself is securely anchored and to which the structure is securely anchored so that it will resist flotation, lateral movement, and hydro-static and hydro-dynamic pressures. Anchoring may include, but not be limited to, the use of over-the-top or frame ties to ground anchors;
  - b. It shall be installed using methods and practices which minimize flood damage;
  - c. Adequate access and drainage should be provided;

- d. Elevation construction standards include, piling foundations placed no more than 10 feet apart, and reinforcement is provided for piers more than six feet above ground level;
- ix. In any portion of a watercourse which is altered or re-located, the flood carrying capacity shall be maintained and;
- x. A structure already in compliance with the provisions of these Regulations shall not be made non-compliant by any alteration, repair, reconstruction or improvement to the structure.

**6. Standards for Stream without Established Base Flood Elevations and/or Flooding:**

Obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, including data developed pursuant to these Regulations, as criteria for requiring that new construction, substantial improvements, or other development in Zone A on the Town's FIRM meet the standards of these regulations.

When utilizing data other than that provided by the Federal Emergency Management Agency, the following standard applies: Select and adopt a regulatory floodway based on the principal that the area chosen for the regulatory floodway must be designed to carry the waters of the base flood, without increasing the water surface elevation of that flood more than one foot at any point.

**7. Standards for Areas with Established Elevations:** In all areas of flood hazard A1-30, AE, AH where base flood elevation data has been provided, as set forth in Section 2 or 4, the following provisions are required:

- i. New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated at least to one (1) foot above the level of the base flood elevation;
- ii. New construction or substantial improvement of any commercial, industrial, or non-residential structure located in Zone A-1-30, AE & AH shall have the lowest floor, including basement, elevated at least to one (1) foot above the level of the base flood elevation; or
- iii. Non-residential structures located in all A-Zones may be flood-proofed in lieu of being elevated provided that together with all attendant utilities and sanitary facilities the areas of the structure below the required elevation are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall review and/or develop structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with acceptable standards of practice for meeting the provisions of this subsection;
- iv. New construction or substantial improvements of elevated buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall be designed to preclude finished living space and designed to allow for the entry and exit of flood waters to automatically equalize hydrostatic flood forces on exterior walls;

- a. Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria;
  - 1) Provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
  - 2) The bottom of all openings shall be no higher than one foot above grade, and;
  - 3) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of flood waters in both directions;
- b. Electrical, plumbing, and other utility connections are prohibited below the base flood elevations;
- c. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator);
- v. Floodways. Located within areas of special flood hazard established in Section 2 are areas designated as floodways on the Town's Flood Boundary and Floodway Map. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and has erosion potential, the following provisions shall apply;
  - a. Prohibit encroachment, including fill, new construction, substantial improvements and other developments unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that encroachments shall not result in any (0.00) increase in flood levels during occurrence of the base flood discharge;
  - b. In A-Zones where base flood elevations have been determined, but before a floodway is designated, require that no new construction, substantial improvement, or other development (including fill) be permitted which would increase base flood elevations more than one (1) foot at any point along the water-course when all anticipated development is considered cumulatively with the proposed development.

**8. Standards for Subdivision Proposals:** In all special flood hazard areas, the following requirements shall apply:

- i. All subdivision proposals shall be consistent with the need to minimize flood damage;
- ii. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
- iii. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards, and;
- iv. In Zone A base flood elevation data shall be provided for subdivision proposals.

- 9. Variance Procedures:** The Zoning Board of Appeals as established by the Town shall hear and decide appeals and requests for variances from the requirements of these Regulations.

The Zoning Board of Appeals shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Commission in the enforcement or administration of these Regulations.

Any person aggrieved by the decision of the Zoning Board of Appeals or any person owning land which abuts or is within one hundred feet (100) of the land in question may appeal within fifteen (15) days after such decision to the Superior Court as provided in Section 8-8 of the General Statutes.

- i. Specific situation variances – the following general standards shall apply to the granting of variances:
  - a. Buildings on a Historic Register. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places without regard to the procedures set forth in the remainder of this section, provided the proposed reconstruction, rehabilitation, or restoration will not result in the structure losing its historical character;
  - b. Existing, small lot location. Variance MAY be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level;
  - c. Floodway prohibition. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- ii. Considerations for granting of variances. In passing upon such applications, the Zoning Board of Appeals shall consider all technical evaluations, all relevant factors, all standards specified in other Sections of these Regulations, and:
  - a. The danger that materials may be swept onto other lands to the injury of others;
  - b. The danger to life and property due to flooding or erosion damage;
  - c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
  - d. The importance of the services provided by the proposed facility to the community;
  - e. The necessity of the facility to waterfront location, in the case of a functionally dependent facility;
  - f. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
  - g. The compatibility of the proposed use with existing and anticipated development;
  - h. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
  - i. The safety of access to the property in times of flood for ordinary and emergency vehicles;
  - j. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters;

- k. The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

Upon consideration of the factors listed above, and the purposes of these regulations, the Zoning Board of Appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of these Regulations.

- iii. Conditions for variances shall comply with the following:
  - a. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief, and in the instance of a historical building, the determination that the variance is the minimum necessary so as not to destroy the historic character and design of the building;
  - b. Variances shall only be issued upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances;
  - c. Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the structure is to be built and stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation up to amounts as high as \$25 for \$100 of insurance coverage;
  - d. The Zoning Enforcement Officer shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.
- iv. Violation of the provisions of these Regulations or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates these regulations shall be subject to a fine as provided for by the General Statutes of the State of Connecticut and shall pay all costs and reasonable legal fees involved in the case. Nothing herein contained shall prevent the Town from taking such other lawful action as is necessary to prevent or remedy any violation.

## **D. AQUIFER/WATERSHED PROTECTION REGULATIONS**

- 1. Statutory Authorization; Statement of Purpose:** Major sources of Plymouth's and Bristol's drinking water lie in the northeastern quadrant of the community. A series of wells operated by the Connecticut Water Company draw from a large stratified drift underlying much of Terryville. The City of Bristol Water Department maintains several surface reservoirs within the Department's extensive landholdings in Plymouth. The separate watersheds areas have been identified. Protection of these resources is vital to ensure adequate supply of safe drinking water. This protection can be best achieved by regulations that control pollution within those areas as authorized by Sec. 22a-354a through 22a-354bb of the Connecticut General Statutes.

**SECTION SIX  
FLOODPLAIN ZONING**

**6-01 STATUTORY AUTHORIZATION, FINDING OF FACT, PURPOSE AND OBJECTIVES**

**6-01.1 STATUTORY AUTHORIZATION**

The Legislature of the State of Connecticut has in Section 7-148(c) (7) of the General Statutes delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the Planning and Zoning Commission of Southington, Connecticut, does ordain as follows:

**6-01.2 FINDINGS OF FACT**

- A. The flood hazard areas of Southington are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.
- B. These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, flood-proofed, or otherwise unprotected from flood damages, and an increase in impervious areas of watersheds.

**6-01.3. STATEMENT OF PURPOSE**

It is the purpose of this regulation to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- A. Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;
- D. Control filling, grading, dredging and other development which may increase erosion or flood damage, and;
- E. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

6-01.4

**OBJECTIVES**

- A. To protect human life and health;
- B. To minimize expenditure of public money for costly flood control projects;
- C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. To minimize prolonged business interruptions;
- E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
- F. To help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize flood blight areas, and;
- G. To insure that potential home buyers are notified that property is in a flood area.

6-02. **DEFINITIONS** (Applicable to Section 6 of these regulations)

6-02.1. Unless specifically defined below, words or phrases used in these regulations shall be interpreted so as to give them the meaning they have in common usage and to give this regulations its most reasonable application.

- A. **“Addition (to an existing building)”** means any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by independent perimeter load-bearing walls is new construction.
- B. **“Appeal”** means a request for a review of the Town Planner’s interpretation of any provision of this ordinance or a request for a variance.
- C. **“Area of shallow flooding”** means a designated AO or VO Zone on a community’s Flood Insurance Rate Map with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.
- D. **“Area of special flood hazard”** is the land in the floodplain within a community subject to one percent or greater chance of flooding in any given year.
- E. **“Base flood”** means the flood having a one percent chance of being equaled or exceeded in any given year.

- F. **“Base Flood Elevation” (BFE)** – The elevation of the crest of the base flood or 100-year flood. The height in relation to mean sea level expected to be reached by the waters of the base flood at pertinent points in the floodplains of coastal and riverine areas.<sup>1</sup>
- G. **“Basement”** means that portion of a building having its floor subgrade (below ground level) on all sides.
- H. **“Building”** means any structure built for support, shelter, or enclosure for any occupancy or storage.
- I. **“Cost”** – As related to substantial improvements, the cost of any reconstruction, rehabilitation, addition, alteration, repair or other improvement of a structure shall be established by a detailed written contractor’s estimate. The estimate shall include, but not be limited to: the cost of materials (interior finishing components, structural components, utility and service equipment); sales tax on materials; building equipment and fixtures, including heating and air conditioning and utility meters; labor, built-in appliances; demolition and site preparation; repairs made to damaged parts of the building worked on at the same time; contractor’s overhead; contractor’s profit; and grand total. Items to be excluded include: cost of plans and specification; survey costs; permit fees; outside improvements such as septic systems, water supply wells, landscaping, sidewalks, fences, yard lights, irrigation systems, and detached structures such as garages, sheds, and gazebos.<sup>2</sup>
- J. **“Development”** means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavating, drilling operations, or permanent storage of materials or equipment.
- K. **“Elevated building”** means a non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns (posts and piers), shear walls, or breakaway walls.
- L. **Existing Manufactured Home Park or Subdivision** – A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured home are to be affixed (including, as a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.<sup>3</sup>

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<sup>1</sup> New, ZA #545, effective 5/3/08

<sup>2</sup> New, ZA #545, effective 5/3/08

<sup>3</sup> New, ZA #545, effective 5/3/08

- M. Expansion to an Existing Manufactured Home Park or Subdivision – The preparation of additional sites by the construction of facilities for servicing the lots on which the manufacturing homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).<sup>1</sup>
- N. Federal Emergency Management Agency (FEMA) -- The federal agency that administers the National Flood Insurance Program (NFIP).<sup>2</sup>
- O. “Flood” or “flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas from:
1. The overflow of inland water;
  2. The unusual and rapid accumulation or runoff of surface waters from any source.
- P. “Flood Insurance Rate Map (FIRM)” means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.
- Q. “Flood Insurance Study” is the official report by the Federal Emergency Management Agency which contains examinations, evaluation and determination of flood hazards and corresponding flood profiles and water surface elevations. The report contains flood profiles, as well as the flood Boundary Floodway Map and the water surface elevation of the base flood.
- R. “Floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.
- S. “Floor” means the top surface of an enclosed area in a building (including basement), i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.
- T. “Functionally Dependent Facility” means a facility which cannot be used for its intended purpose unless it is located in close proximity to water such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, ship repair, or seafood processing facilities. The term does not include long-term storage, manufacture, sales, or service facilities.

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<sup>1</sup> New, ZA #545, effective 5/3/08

<sup>2</sup> New, ZA #545, effective 5/3/08

- U. **“Highest Adjacent Grade”** means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a structure.
- V. **“Lowest Floor”** means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a building’s lowest floor. Such areas must be designed in accordance with Section 6-05.3.B of these Regulations.
- W. **“Manufactured Home”** means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term also includes recreational vehicles, park trailers, travel trailers, and similar transportable structures placed on a site for 180 consecutive days or longer and intended to be improved property.
- X. **“Manufactured Home Park or Subdivision”** a parcel, or contiguous parcels, of land divided into two or more manufactured home lots for rent or sale.
- Y. **Market Value** – Market value of the structure shall be determined by an independent appraisal by a professional appraiser.<sup>1</sup>
- Z. **“Mean Sea Level”** means, for purposes of the National Flood Insurance Program, the North American Vertical Datum (NAVD) of 1988 or other datum, to which base flood elevations shown on a community’s Flood Insurance Rate Map (FIRM) are referenced.<sup>2</sup>
- AA. **“National Geodetic Vertical Datum (NGVD)”** as corrected in 1929 is a vertical control used as a reference for establishing varying elevations within the floodplain.
- BB. **“New Construction”** means structures for which the “start of construction” commenced on or after May 3, 2008, which is the effective date of this ordinance (not revision date).<sup>3</sup>
- CC. **New Manufactured Home Park or Subdivision** – A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the floodplain management regulations adopted by the Community.<sup>4</sup>
- DD. **“Recreational Vehicle”** means a vehicle which is:

<sup>1</sup> New, ZA #545, effective 5/3/08

<sup>2</sup> Revised, ZA #545, effective 5/3/08

<sup>3</sup> Revised, ZA #545, effective 5/3/08

<sup>4</sup> New, ZA #545, effective 5/3/08

- (a) Built on a single chassis;
  - (b) 400 square feet or less when measured at the largest horizontal projection;
  - (c) Designed to be self-propelled or permanently towable by a light duty truck; and
  - (d) Designed primarily not for use as a permanent dwelling but as a temporary living quarters for recreational, camping, travel or seasonal use.
- EE. **“Start of Construction”** (For other than new construction or substantial improvements under the Coastal Barrier Resources Act (P.L. 97-348), including substantial improvement means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footing, piers or foundations or the erection of the temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.
- FF. **“Structure”** means a walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank, or other man-made facilities or infrastructures.
- GG. **“Substantial Damage”** means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
- HH. **“Substantial Improvement”** means any combination of repairs, reconstruction, alteration, or improvements to a structure, taking place during the life of a structure, in which the cumulative cost equals or exceeds fifty percent of the market value of the structure. The market value of the structure should be: (1) the appraised value of the structure prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the structure prior to the damage occurring. For the purposes of this definition, “Substantial Improvement” is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or

not that alteration affects the external dimensions of the structure. The term does not, however, include any project for improvement of the structure required to comply with existing health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions.

- II. “Variance” is a grant of relief from the requirements of this ordinance which permits construction in a manner otherwise prohibited by this ordinance where specific enforcement would result in unnecessary hardship.
- JJ. “Violation” – Failure of a structure or other development to be fully compliant with the community’s floodplain management regulations. A structure or other development without required permits, lowest floor elevation documentation, flood-proofing certificates or required floodway encroachment calculations is presumed to be in violation until such time as that documentation is provided.<sup>1</sup>
- KK. “Water Surface Elevation” means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other datum, where specified) of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

6-03. GENERAL PROVISIONS

6-03.1 LANDS TO WHICH THIS REGULATION APPLIES

This regulation shall apply to all areas of special flood hazard within the jurisdiction of Southington.

6-03.2 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD

The areas of special flood hazard identified by the Federal Emergency Management Agency in its Flood Insurance Study (FIS) for the Town of Southington, dated April 15, 2002 and revised effective September 26, 2008, with accompanying Flood Insurance Rate maps (FIRM) and other supporting data, and any revision thereto, are adopted by reference and declared to be a part of this ordinance. Since mapping is legally adopted by reference into this regulation it must take precedence when more restrictive until such time as a map amendment is obtained.<sup>2</sup>

6-03.3 ESTABLISHMENT OF THE FLOODPLAIN MANAGEMENT

A Development Permit shall be required in conformance with the provisions of this regulation prior to the commencement of any development activities.

6-03.4 COMPLIANCE

No structure or land shall hereafter be located, extended, converted or structurally altered without full compliance with the terms of this regulation and other applicable regulations.

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<sup>1</sup> new, ZA #545, effective 5/3/08

<sup>2</sup> revised, ZA #545, effective 5/3/08

### 6-03.5 ABROGATION AND GREATER RESTRICTIONS

This regulation is not intended to repeal, abrogate or impair any existing easements, covenants, or deed restrictions. However, where this regulation and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

### 6-03.6 INTERPRETATION

In the interpretation and application of this regulation; all provisions shall be: (1) considered as minimum requirements; (2) liberally construed in favor of the governing body, and; (3) deemed neither to limit nor repeal any other powers granted under state statutes.

### 6-03.7 WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection required by this regulation is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This regulation does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This regulation shall not create liability on the part of Southington or by any officer or employee thereof for any flood damages that result from reliance on this regulation or any administrative decision lawfully made thereunder.

### 6-03.8 ADDITIONAL PROVISIONS

a. **Compensatory Storage** - The water holding capacity of the floodplain, except those areas that are tidally influenced, shall not be reduced. Any reduction caused by filling, new construction, or substantial improvements involving an increase in footprint to the structure shall be compensated for by deepening and/or widening of the floodplain. Storage shall be provided on-site, unless easements have been gained from adjacent property owners; it shall be provided within the same hydraulic reach and a volume not previously used for flood storage; it shall be hydraulically comparable and incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. Compensatory storage can be provided off-site if approved by the municipality.<sup>1</sup>

b. **Equal Conveyance** - Within the floodplain, except those areas which are tidally influenced, as designated on the Flood Insurance Rate Map (FIRM) for the community, encroachments resulting from filling, new construction or substantial improvements involving an increase in footprint of the structure, are prohibited unless the applicant provides certification by a registered professional engineer demonstrating, with supporting hydrologic and hydraulic analyses performed in accordance with standard engineering practice, that such encroachments shall not result in any (0.00 feet) increase in flood levels (base flood elevation). Work within the floodplain and the land adjacent to the floodplain, including work to provide compensatory

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<sup>1</sup> New, ZA #545, effective 5/3/08

storage shall not be constructed in such a way as to cause an increase in flood stage or flood velocity.<sup>1</sup>

c. Aboveground Oil Tanks - Above-ground storage tanks (oil, propane, etc.) which are located outside or inside of the structure must either be elevated above the base flood elevation (BFE) on a concrete pad, or be securely anchored with tie-down straps to prevent flotation or lateral movement, have the top of the fill pipe extended above the BFE, and have a screw fill cap that does not allow for the infiltration of flood water.<sup>2</sup>

d. No Structure Entirely or Partially Over Water - New construction, substantial improvements and repair to structures that have sustained substantial damage cannot be constructed or located entirely or partially over water.<sup>3</sup>

e. Structures in Two Flood Zones - If a structure lies within two or more flood zones, the construction standards of the most restrictive zone apply to the entire structure (i.e. V zone is more restrictive than A zone; structure must be built to the highest BFE). The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. Decks or porches that extend into a more restrictive flood zone will require the entire structure to meet the standards of the more restrictive zone.<sup>4</sup>

## 6-04 ADMINISTRATION

### 6-04.1 DESIGNATION OF THE REGULATION ADMINISTRATOR

The Town Planner is hereby appointed to administer and implement the provisions of this regulation.

### 6-04.2 PERMIT PROCEDURES

Application for a Floodplain Filling Permit shall be made to the Town Planner on forms furnished by him or her prior to any development activities, and may include, but not be limited to, six (6) copies of the following plans drawn to scale showing the nature, location, dimensions, and elevations of the area in question, existing or proposed structures, fill, storage of materials, drainage facilities and the locations of the foregoing. Specifically, the following information is required:<sup>5</sup>

#### A. Application Stage

1. Elevation in relation to mean sea level of the proposed lowest floor (including basement) of all structures, Section 6-05.3 A.1.;
2. Elevation in relation to mean sea level to which any non-residential structure will be flood-proofed, Section 6-05.3 A.1. (b);

<sup>1</sup> new, ZA #545, effective 5/3/08

<sup>2</sup> new, ZA #545, effective 5/3/08

<sup>3</sup> new, ZA #545, effective 5/3/08

<sup>4</sup> new, ZA #545, effective 5/3/08

<sup>5</sup> revised, effective 5/8/07

3. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development;
4. A statement as to whether or not the proposed alterations to an existing structure meets the criteria of the substantial improvement definition Section 6-02.1 AA.;
5. A statement as to whether there will be dry access to the structure during the 100 year storm event.

Where applicable, the following certifications by a registered engineer or architect are required, and must be provided to the Town Planner. The design and methods of construction must be certified to be in accordance with accepted standards of practice, and with the provisions of Article 5, Section B.

6. Non-Residential Flood Proofing - Must meet the provisions of Section 6-05.3 A 1.(a) and (b).
7. Enclosed Areas Below the Base Flood Elevation - If the minimum design criteria in Section 6-05.3 B.1 through 6-05.3 B.1.3. is not used, then the design and construction methods must be certified as explained in Section 6-05.3 B.
8. No increase in Floodway or Floodway Fringe Heights may be allowed. No alterations are permitted within the floodway.
9. Structural Anchoring - must meet the provisions of Section 6-05.

**B. Construction Stage**

Upon completion of the applicable portion of construction, the applicant shall provide verification to the Town Planner of the following as is applicable:

1. Lowest floor elevation - The elevation to be verified for:
  - (a) A structure in any A zone is the top of the lowest floor (including basement) Section 6-05.3 A.1.;
  - (b) A structure which has been floodproofed is the elevation to which the floodproofing is effective Section 6-05.3 A.1.(a).
2. Deficiencies detected by the review of the above listed shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby, shall be cause to issue a Cease and Desist Order for the project.

**6-04.3 DUTIES AND RESPONSIBILITIES OF THE TOWN PLANNER**

Duties of the Town Planner shall include, but not be limited to:

- A. Review all permit applications to determine whether proposed building sites will be reasonably safe from flooding.
- B. Review all development permits to assure that the permit requirements of this regulation have been satisfied.
- C. Advise permittee that additional Federal or State permits may be required, and if specific Federal or State permit requirements are known, require that copies of such permits be provided and maintained on file with the development permit. Possibly including but not limited to: DEP, Water Diversion, DEP Dam Safety, and/or Corps of Engineers 404.
- D. Notify the Regional Planning Agency and the affected municipality at least 35 days prior to the public hearing if any change of regulation or use of a flood zone will affect an area within 500 feet of another municipality.
- E. Notify adjacent communities and the Department of Environmental Protection, Water Resources Unit prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- F. Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- G. Record the elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, in accordance with Section 6-05.3 A.1.
- H. Record the elevation (in relation to mean sea level) to which the new or substantially improved structures have been flood-proofed, in accordance with Section 6-05.3 A.1(a).
- I. When flood-proofing is utilized for a particular structure, the Town Planner shall obtain certification from a registered professional engineer or architect, in accordance with Section 6-05.3 A.1.(a).
- J. Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the Town Engineer shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.
- K. When base flood elevation data or floodway data have not been provided in accordance with Article 3, Section B, then the Town Engineer shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source in order to administer the provisions of Section 6-05.

- L. All records pertaining to the provisions of this ordinance shall be maintained in the office of the Town Planner.
- M. The Town Planner shall refer all requests for development within an area of special flood hazard to the Conservation Commission, in order to obtain their recommendation to the Planning and Zoning Commission.
- N. The Planning and Zoning Commission shall give final approval to all requests for development within an area of special flood hazard; providing, that a two-thirds (2/3) vote is required to override a negative recommendation of the Conservation Commission.

## **6-05 PROVISIONS FOR FLOOD HAZARD REDUCTION**

### **6-05.1 GENERAL STANDARDS**

In all areas of special flood hazard the following provisions are required:

- A. New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;
- B. New construction and substantial improvements shall be constructed with materials resistant to flood damage;
- C. New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- D. Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- E. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- F. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the system into flood waters;
- G. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding;
- H. **Manufactured Homes**
  - 1. All manufactured homes (including recreational vehicles placed on a site for 180 consecutive days or longer) to be placed, or substantially improved shall be elevated so that the lowest floor is two feet above the base flood elevation;

2. It shall be placed on a permanent foundation which itself is securely anchored and to which the structure is securely anchored so that it will resist flotation, lateral movement, and hydrostatic and hydrodynamic pressures. Anchoring may include, but not be limited to, the use of over-the-top or frame ties to ground anchors;
  3. It shall be installed using methods and practices which minimize flood damage;
    - (a) Adequate access and drainage should be provided;
    - (b) Elevation construction standards include, piling foundations placed no more than 10 feet apart, and reinforcement is provided for piers more than six feet above ground level;
- I. In any portion of a watercourse which is altered or relocated the flood carrying capacity shall be maintained, and;
- J. A structure already in compliance with the provisions of this regulation shall not be made non-compliant by any alteration, repair, reconstruction or improvement to the structure.
- K. All recreational vehicles to be placed on sites within Zones A1-30, AE, AO and AH on the community's Flood Insurance Rate Map shall either:
- i. Be on the site for fewer than 180 days;
  - ii. Be fully licensed and ready for highway use; or
  - iii. Meet the elevation, anchoring and other requirements for a manufactured home provided in 6-05.1 H.
- L. Portion of Structure in Flood Zone - if any portion of a structure lies within the Special Flood Hazard Area (SFHA), the entire structure is considered to be in the SFHA. The entire structure must meet the construction requirements of the flood zone. The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. Decks or porches that extend into a more restrictive flood zone will require the entire structure to meet the standards of the more restrictive zone.<sup>1</sup>

6-05.2. **STANDARDS FOR STREAM WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS AND/OR FLOODING**

Obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, including data developed pursuant to Section 6-05.3 A.1. of this regulation, as criteria for requiring that new construction, substantial improvements, or other development in Zone A on the Town's FIRM and meet the standards in Section 6-05.3 A.1., 6-05.3 C. and 6-06.

<sup>1</sup> new, ZA #545, effective 5/3/08

6-05.3

**SPECIFIC STANDARDS**

- A. In all areas of special flood hazard A1-30, AE, AH where base flood elevation data has been provided, as set forth in 6-03.2, or 6-04.3 J., the following provisions are required:
1. **Residential Construction:** New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated at least to two feet above the base flood elevation:
    - (a) New construction or substantial improvement of any commercial, industrial, or non-residential structure located in Zone A1-30, AE & AH shall have the lowest floor, including basement, elevated at least to one foot above the level of the base flood elevation; or,
    - (b) Non-residential structures located in all A-Zones may be flood-proofed in lieu of being elevated provided that together with all attendant utilities and sanitary facilities the areas of the structure below the required elevation are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall review and/or develop structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with acceptable standards of practice for meeting the provisions of this subsection. Such certification shall be provided to the official as set forth in 6-04.2 A.6.
- B. **Elevated building.** New construction or substantial improvements of elevated buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation in areas other than the basement shall be designed to preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.
1. Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
    - (a) Provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding:
    - (b) The bottom of all openings shall be no higher than one foot above grade; and
    - (c) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of

floodwaters in both directions.

2. Electrical, plumbing, and other utility connections are prohibited below the base flood elevation;
  3. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator).
- C. Floodways: Located within areas of special flood hazard established in Section 6-03.2. are areas designated as floodways on the community's Flood Boundary and Floodway Map. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and has erosion potential, the following provision shall apply:
1. All encroachments in the floodway shall be prohibited.
  2. In A zones where base flood elevations have been determined, but before a floodway is designated, no new construction, substantial improvement, or other development (including fill) shall be permitted which will increase base flood elevations more than one (1) foot at any point along the watercourse when all anticipated development is considered cumulatively with the proposed development.
  3. The Town Planner may request floodway data of an applicant for watercourses without FEMA-published floodways. When such data is provided by an applicant or whenever such data is available from any other source, the Town of Southington shall adopt a regulatory floodway based on the principle that the floodway must be able to convey the waters of the base flood without increasing the water surface elevation more than one (1) foot at any point along the watercourse.

#### 6-05.4. STANDARDS FOR AREAS OF SHALLOW FLOODING (AO ZONES)

Located within the areas of special flood hazard established in Article 3, Section B, are areas designated as shallow flooding areas (Zones AO & AH). These areas have special flood hazards associated with base flood depths of one to three feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate.

- A. In AO Zones, the following provisions apply:
1. All new construction and substantial improvements of residential structures shall have the lowest floor, including basement, elevated two feet above the depth number specified on the Flood Insurance Rate Map, in feet, above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement, shall be elevated, at least two (2) feet above the highest

adjacent grade.

2. All new construction and substantial improvements of non-residential structures shall:
  - (a) Have the lowest floor, including basement, elevated one foot above the depth number specified on the Flood Insurance Rate Map, in feet, above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement shall be elevated at least two (2) feet above the highest adjacent grade, or
  - (b) Together with attendant utility and sanitary facilities be completely flood-proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
3. On-site drainage for all proposed structures in Zone AO and AH located on slopes shall provide adequate drainage paths to guide floodwaters around and away from such structures.
4. Development, including filling, within areas of special flood hazard shall be limited to 25%, by volume, of the flood storage within that particular ownership. Flood storage filled in a development shall be compensated by excavation within the site including excavation to allow for an increase in stormwater runoff caused by additional impervious area.
5. In Zones AE along watercourses that have not been designated a regulatory floodway, no new construction, substantial improvement, or other development shall be permitted; unless it is demonstrated that the cumulative effect of the proposed development will not increase that water surface elevation of the base flood more than one foot at any point within the Town.

## **6-06 STANDARDS FOR SUBDIVISION PROPOSALS**

In all special flood hazard areas the following requirements shall apply:

- 6-06.1 All subdivision proposals shall be consistent with the need to minimize flood damage;
- 6-06.2 All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
- 6-06.3 All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards, and;
- 6-06.4 In Zone A, Base flood elevation data shall be provided for all subdivision proposals

and other proposed development.

**6-07 VARIANCES PROCEDURES**

**6-07.1** The Zoning Board of Appeals shall hear and decide appeals and requests for variances from the requirements of this regulation.

**6-07.2** The Zoning Board of Appeals shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Town Planner in the enforcement or administration of this regulation.

**6-07.3** Any person aggrieved by the decision of the Zoning Board of Appeals or any person owning land which abuts or is within a radius of one hundred feet (100) of the land in question may appeal within 15 days after legal notice of such decision to the State Superior Court of Hartford/New Britain, as provided in Section 8-8 of the General Statutes, as amended.

**6-07.4 BUILDINGS ON AN HISTORIC REGISTER**

Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places without regard to the procedures set forth in the remainder of this section, except for Section 6-07.7 A. through 6-07.7 D., and provided the proposed reconstruction, rehabilitation, or restoration will not result in the structure losing its historical character.

No renovations or alterations may be made to an historical structure without due consideration and effort to incorporate design concepts which, while preserving the historical character of the building, will also serve to reduce the potential for future flood damage and threat to human life and property.

**6-07.5 FLOODWAY PROHIBITION**

Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

**6-07.6 CONSIDERATIONS FOR GRANTING OF VARIANCES**

- A.** In passing upon such application, the Zoning Board of Appeals shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:
- 1.** The danger that materials may be swept onto other lands to the injury of others;
  - 2.** The danger to life and property due to flooding or erosion damage;
  - 3.** The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

4. The importance of the services provided by the proposed facility to the community;
  5. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use
  6. The compatibility of the proposed use with existing and anticipated development;
  7. The relationship of the proposed use to the Comprehensive Plan and Floodplain Management Program for that area;
  8. The safety of access to the property in times of flood for ordinary and emergency vehicles;
  9. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site, and;
  10. The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.
- B. Upon consideration of the factors listed above, and the purposes of this regulation, the Zoning Board of Appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this regulation.

**6-07.7 CONDITIONS FOR VARIANCES**

- A. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and in the instance of a historical building, a determination that the variance is the minimum necessary as not to destroy the historic character and design of the building.
- B. Variances shall only be issued upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship, and; (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing town regulations.
- C. Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the structure is to be built and stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation up to amounts as high as \$25 for \$100 of insurance coverage.

- D. The Town Planner shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

#### 6-08 PENALTIES FOR VIOLATIONS

Violation of the provisions of this regulation or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$250.00 per day if proven done willfully and \$100.00 per day if not, or imprisoned for not more than 10 days for each day of violation, or both, and in addition, shall pay all costs and reasonable legal fees involved in the case. Nothing herein contained shall prevent the Town of Southington from taking such other lawful action as is necessary to prevent or remedy any violation.

#### 6-09 SEVERABILITY

If any section, provision, or portion of this Regulation is adjudged unconstitutional or invalid by a court for any reason whatsoever, the remainder of the Regulation shall not be affected, which shall remain in full force and effect; and to this end the provisions of this Regulation are hereby declared to be severable.

#### 6-10 EFFECTIVE DATE OF REGULATIONS<sup>1</sup>

Adopted May 19, 1981  
Effective June 3, 1981  
Revised to May 3, 2008

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<sup>1</sup> New, ZA #545, effective 5/3/08