HAZARD MITIGATION PLAN UPDATE
ANNEX FOR THE TOWN OF COLCHESTER

Southeastern Connecticut Council of Governments
Multi-Jurisdictional Hazard Mitigation Plan Update

DECEMBER 2017

ADOPTED 1/18/18

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ACKNOWLEDGEMENTS

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1 INTRODUCTION

1.1 Purpose of Annex

The purpose of this HMP annex is to provide an update to the hazard risk assessment and capability assessment provided in the previous HMP, and to evaluate potential hazard mitigation measures and prioritize hazard mitigation projects specific to mitigating the effects of hazards on the Town of Colchester. Background information and the regional effects of pertinent hazards are discussed in the main body of the Southeastern Connecticut Council of Governments (SCCOG) Multi-Jurisdictional Hazard Mitigation Plan. Thus, this annex is designed to supplement the information presented in the Multi-Jurisdictional HMP with more specific detail for Colchester and is not to be considered a standalone document.

The primary goal of this hazard mitigation plan annex is to identify risks to hazards and potential mitigation measures for such hazards in order to ***reduce the loss of or damage to life, property, infrastructure, and natural, cultural, and economic resources.*** This includes the reduction of public and private damage costs. Limiting losses of and damage to life and property will also reduce the social, emotional, and economic disruption associated with a natural disaster. Colchester, with an approved Mitigation Plan, may apply for assistance from FEMA directly as a subgrantee through the state of Connecticut under the various grant programs.

1.2 Setting

Colchester is a suburban town of approximately 50 square miles that lies in the northwest corner of New London County and is bordered by the Towns of Lebanon and Bozrah to the east, the Towns of Salem and East Haddam to the south, the Town of East Hampton to the west, and the Towns of Marlborough and Hebron to the north. Colchester is located approximately 25 miles southeast of Hartford, the Connecticut State capital. The Town of Colchester includes the villages of Westchester and North Westchester as well as the Colchester Village historic center.

The most significant surface water bodies in Colchester include the Blackledge River, Salmon River, Deep River, Jeremy River, Meadow Brook, Judd Brook, Deep River Reservoir, and Babcock Pond. In total, there are 16 sub-regional drainage basins in Colchester.

The major transportation routes through town includes Route 2 which extends from the town line with Marlborough in northwest Colchester to the town line with Lebanon in southeast Colchester, Route 11 which extends from central Colchester south into Salem, and Route 16 which runs east-west through the central portion of town from Lebanon in the east to East Hampton in the west. Other important roadways include Routes 149, 85 and 354 enter Colchester from the southern town line with East Haddam (Route 149) and Salem (Routes 85 and 354) and extend northward toward the northern town line with Hebron.

1.3 Plan Development

The 2012 HMP and its annexes were developed through a series of meetings and the completion of written questionnaires, personal interviews, and workshops as described in the Multi-Jurisdictional HMP update. Since that time, the HMP has been available in municipal offices and available to emergency personnel. Residents have been encouraged to contact the First Selectman's Office, the Planning Office, the Emergency Management Director or the Fire Department (the Colchester Hayward Volunteer Fire Department) with any concerns regarding emergency response or potential projects related to natural hazard damage.

Based on the existing plan, existing information, and hazards that have occurred since 2012, SCCOG determined that the following data collection program would be sufficient to collect data to update the Multi-Jurisdictional plan and each annex.

- A data collection meeting was held with the First Selectman, Town Planner, Building Official, Director of Public Works, Town Engineer, and Wetlands Enforcement Officer on December 15, 2016 to discuss the scope and process for updating the plan and to collect information. The meeting focused on reviewing each section of the existing hazard mitigation plan and annex, critical facilities, and various types of hazards that have affected Colchester and that should be addressed in the update.

- The SCCOG issued a press release on November 4th, 2016 announcing two public information meetings on the multi-jurisdictional HMP update. This press release was published in the Norwich Bulletin and The Day, as well as in relevant local "Patch" news websites. This notice was also posted on the SCCOG Facebook page and website. The public information meetings were held on November 28 and December 1, 2016, at the Town of Groton Library and the SCCOG office, respectively.

- A survey soliciting public input was hosted at www.surveymonkey.com/r/SCCOGHazard from October 17, 2016 through March 17, 2017. Topics addressed by the survey included the types of natural hazards that concern participants, the assets, infrastructure, and government services they feel are most at risk, and the types of mitigation measures they support. The survey link was publicized along with the public meetings in The Day, The Norwich Bulletin, and local *Patch* websites, and at all public meetings.

- The draft that is sent for State review will be posted on the Town of Colchester's website (http://www.colchesterct.gov/pages/index) as well as the SCCOG website (www.seccog.org) for public review and comment. In addition, a hard copy will be made available in the SCCOG office in Norwich. A press release will announce the availability of the HMP for review. This will provide residents, business owners, and other stakeholders throughout the SCCOG region the opportunity to review and comment on a relatively complete draft with all annexes. Comments received from the public will be incorporated into the final draft where applicable following State and Federal comments.

The adoption of this HMP update by the town of Colchester will be coordinated by SCCOG and the Colchester Emergency Management Director and Town Planner. The HMP update must be

adopted within one year of conditional approval by FEMA, or Colchester will need to update the HMP and resubmit it to FEMA for review. The adoption resolution is located in Appendix A of this annex.

1.4 Progress Monitoring

Following adoption, the Emergency Management Director will continue to administer and be the local coordinator of this HMP (as the Emergency Management Director has since 2005) under the authority of the Colchester Board of Selectmen. The Town Planner will serve as deputy coordinator and assist with HMP administration and integration with other town planning documents and efforts. The local coordinator and deputy coordinator will work with with responsible departments as listed in Table 11-1 and ensure that the recommendations of this HMP are considered or enacted. Refer to Section 1.8 of the Multi-Jurisdictional HMP for a description of how the local coordinators will perform progress monitoring. The majority of recommendations in this annex can be accomplished within or with only a slight increase in the operating budgets of the various departments. Projects that require capital improvements or additional funding will need to be approved by the Board of Finance and the Board of Selectmen.

The HMP will be on file in Town Hall at the First Selectman's Office, as well as posted to the Town website. It will be available to all departments to assist in guiding growth decisions. See Section 2.5 for recommendations related to integrating the findings of this HMP into additional town planning documents. Colchester will continue to encourage town residents to contact the Emergency Management Director and the Town Planner, with concerns related to natural hazards or emergency response via the town's website.

The Town will review the status of Plan recommendations each year. The Emergency Management Director and Town Planner will be in charge of overseeing recommended projects and coordinating an annual meeting with applicable departments (those listed in Table 11-1) and other interested departments. Refer to Section 1.8 of the Multi-Jurisdictional HMP for a list of matters to be discussed at the annual meeting, including a review of each recommendation and progress achieved to date, or reasons for why the recommendation has not been enacted. The Emergency Management Director and Town Planner will keep a written record of meeting minutes and the status of the recommendations. These records of progress monitoring will form the basis for the next HMP update.

Colchester understands that the multi-jurisdictional HMP and this annex will be effective for five years from the date of FEMA approval of the first SCCOG jurisdiction regardless of the date of adoption by SCCOG. The Emergency Management Director, Town Planner, and First Selectman will coordinate with SCCOG for the next HMP update which is expected to occur in 2022.

2 COMMUNITY PROFILE

2.1 Physical Setting

Colchester is a suburban town located at the northwestern edge of the SCCOG planning area. Elevations range from approximately 650 feet along Bush Rock Road in the northeast section of Colchester to approximately 75 feet along the Salmon River near the intersection of Comstock Bridge Road and Route 16/Colchester Avenue at the town line with East Hampton. The most densely populated area of town is the Colchester Village Historic District which lies north of the Route 2 and Route 11 intersection in central Colchester where there are residential, commercial and industrial land uses. This area was once an incorporated borough and is listed on the National Register of Historic Places. Much of central Colchester is developed along with a significant amount of land along Route 149 in western Colchester.

Geology is important to the occurrence and relative effects of natural hazards such as earthquakes. Thus, it is important to understand the geologic setting and variation of bedrock and surficial formations in lands underlying Colchester. Dominated by Brimfield Schist, which covers approximately 76% of town stretching across central Colchester, the Town is also covered by two additional bedrock formations: Buttress Dolerite and Hebron Gneiss. Hebron Gneiss covers approximately 24% of outer Colchester with less than 1% covered by buttress Dolerite. There is no defined geographic orientation to the bedrock formations or geologic contacts in town.

The Town's surficial geologic formations include glacial till and stratified drift. Refer to the Multi-Jurisdictional HMP for a generalized view of surficial materials. Till contains an unsorted mixture of clay, silt, sand, gravel, and boulders deposited by glaciers as a ground moraine. Areas associated with the majority of major watercourses and waterbodies mentioned in Section 1.2 include fairly extensive areas underlain by stratified drift in Town. The amount of stratified drift present is important as areas of stratified materials are generally coincident with floodplains. These materials were deposited at lower elevations by glacial streams, and these valleys were later inherited by the larger of our present day streams and rivers. The amount of stratified drift also has bearing on the relative intensity of earthquakes and the likelihood of subsidence.

2.2 Land Use and Development Trends

The Town of Colchester was incorporated in 1698 when land was purchased by Nathaniel Foote from the Sachem of the Mohegan Native American Tribe. Mr. Foote's grandfather had emigrated from Colchester, England, in the early 17th century and Colchester, England was what a group of early English settlers envisioned America to become by laying out a new plantation in a large tract of untouched wilderness. Colchester grew from a church parish-centralized community in its beginnings to a mill community before it was industrialized and then suburbanized once the commercial cities of Middletown, Norwich and New London emerged. Today, it still maintains the suburban character with some commercial and industrial land use,

while largely existing as a residential community. The housing stock in Colchester consists primarily of single family homes.
The suburban town is known for its principal industries of agriculture and manufacture of leather novelties, plastics, machine shops, and metal fabrication. Colchester also has a private airport called Skis Landing Area, which is generally used by small private planes and a heliport at the former Hub Ford, but is currently not utilized.

Babcock Wildlife Management Area and Salmon River State Forest are located in Colchester near the western and southwestern corporate boundaries. These areas are open to the public for hiking and picnics.

According to the "Town of Colchester Open Space Plan" (Adopted October, 2006), Colchester had achieved approximately 6,500 acres or 20% open space protection by 2006. According to the "2006 Land Cover by Area" data developed by the University of Connecticut's Center for Land Use Education and Research (CLEAR), Colchester is dominated by deciduous forest with approximately 59% or approximately 18,850 acres classified as such. The same data includes only approximately 14% (approximately 4,430 acres) classified as "developed" land use. The remaining approximately 27% of land cover in Colchester accounts for undeveloped land including areas of steep slopes, water, wetlands, protected open space, and the like that prohibit the land from being developed.

SCCOG data on land use collected in 2011 indicates that approximately 44% of town land is developed, 20% has been dedicated to open space, and only 35% remains hypothetically open to development. Much of the gap between the CLEAR and SCCOG figures may be due to differences in land use designation criteria. For example, very low density residential is considered developed land by SCCOG, despite the fact that a large portion of each parcel may be open space.

According to the 2011 SCCOG data, 66% of Colchester's developed area is low and very low density residential land, while 10% is medium and high density residential. 13% is transportation, communications, or utility usage. The remaining approximately 11% of the developed area consists of industrial, commercial, and institutional uses.

The 2015 Colchester Plan of Conservation & Development (POCD, effective 6/21/2015) calls for the Town to maintain and supplement the Land Acquisition Fund, to maintain the Open Space Advisory Committee, and to generally pursue acquisition and protection of additional open spaces.

The Colchester POCD also includes a future land use plan. The plan lays out a "Future Growth District" adjacent to and southeast of the Town Center between routes 11 and 16. Other development will be focused on re-use of already developed plots. The Route 11/Route 2 area continues to be the most important and immediate area of planned development in Colchester with water and sewer being extended into this area to promote development.

A number of developments have been recently completed, approved, or are underway:

- A 20,000 square foot building and storage area for a tractor supply company has been constructed south of the Town Center off of route 85. SFHAs are not associated with this area.
- An additional State DOT maintenance facility has been constructed between Route 11 and Route 2 just north of the tractor supply company. SFHAs are not associated with this area.
- The "White Oak Farm" development at 520 Lebanon Avenue continues to move forward. The number of one-acre lots has increased from 134 to an expected 142. The project is estimated to be only 25% complete.
- The "North Woods" active adult age-restricted (over 55 years of age) housing development at 351 Lebanon Avenue is nearly 75% complete. It is expected to have 134 units upon completion.
- A development adjacent to North Woods was originally approved for 30 units, but the permit expired before construction began. A new plan is being submitted that will place 99 condominium and apartment units on the site.

Other smaller areas of development include:

- A karate studio was constructed in 2012-2013
- Seven lots making up the "Usher Swamp" development are under construction on Usher Swamp Road
- Gavire Estates is constructing nine residential lots off of Bull Hill Road
- Park Place Holdings has constructed 17 duplex houses on 27 acres at 309 Old Hebron Road (the development's new road will be called Nature Avenue)
- Alpha Q, Inc. is adding 49,000 square feet to its existing building on Upton Road

A project known as "Settlers Green" has been approved, but development has been put off for years. It is unclear whether this development will ever move forward.

It is likely that Colchester will continue to undergo development in the future and maintain its suburban nature, with a considerable amount of industrial and commercial development.

2.3 Drainage Basins and Hydrology

As mentioned in Section 1.2, the most significant watercourses in Colchester includes the Salmon River which begins following the convergence of the significant tributaries of Jeremy Brook and Blackledge Brook in northwestern Colchester and continues into the Town of East Hampton; the Deep River which begins in southeastern Colchester near Route 354 and flows southerly toward the Town of Salem and ultimately to the Yantic River; and Sherman Brook which beings in east-central Colchester north of Route 2 and flows north of Route 2 easterly into the Town of Lebanon towards the Yantic River. Altogether, there are approximately 23 named watercourses and many unnamed small tributaries in Colchester.

There are a total of 16 subregional watershed basins in Colchester including Bartlett Brook, Blackledge River, Deep River, Dickinson Creek, East Branch Eightmile River, Eightmile River,

Gardner Brook, Jeremy River, Judd Brook, Meadow Brook, Moodus River, Pine Brook, Raymond Brook, Salmon River, Sherman Brook, and Yantic River. Three subregional drainage basins account for approximately 50% of Colchester's land cover; these are the Meadow Brook, Sherman Brook, and Deep River subregional drainage basins. Meadow Brook covers the majority of land cover in the town, accounting for approximately 7,119 acres or approximately 22% of Town land stretching from southeast to northwest across the central portion of Colchester. Sherman Brook accounts for the second largest amount of land cover 15% (4,765 acres) covering most of the northeastern portion, along the town line with the Town of Lebanon. Thirdly, Deep River accounts for 13% (4,181 acres) of Colchester's land cover including the majority of the southeastern portion of Town stretching from the town line with Town of Lebanon westerly approximately to Route 85 including a majority of the land cover between Route 2 southerly to the town line with the Town of Salem.

The most significant surface water impoundment in Colchester is the Deep River Reservoir which is located in the southeast corner of Colchester and stretches from near the town line with the Town of Lebanon southwest to Route 354 near the town line with Salem.

2.4 Governmental Structure

Colchester is governed by a Town Meeting and Board of Selectmen form of government. The authority of town officials is granted by Connecticut General Statutes. The Town Meeting is the legislative body of the town and the Board of Selectmen is responsible for the administration of town policies. The First Selectman is the chief elected official and is responsible for the day-to-day administration of Colchester.

The Town of Colchester has boards, commissions, and committees that can take an active role in hazard mitigation, including the Conservation Commission (includes Wetlands), the Planning and Zoning Commission, the Police Commission, the Building Committee, the Open Space Advisory Committee, the Economic Development Commission, and the Board of Selectmen. Departments and commissions common to all municipalities in SCCOG were described in Section 2.8 of the Multi-Jurisdictional HMP. More specific information for the departments and commissions of the Town of Colchester is noted below:

- The Colchester Hayward Fire Department (CHFD) is a combination of career and volunteer fire fighters who protect lives and property from fire and hazardous incident damage and provides timely emergency medical services to the Town of Colchester and other neighboring municipalities.

- The Building Official is responsible for enforcing building, electrical, mechanical, plumbing, and energy code requirements to promote the safety for the people of Colchester by reviewing and administering the State of Connecticut Building Code.

- The Planning and Zoning Commission is the body that regulates land use and development in Colchester mainly through application of the Zoning Code.

- The Building Committee is charged with overseeing, coordinating and supervising all aspects of the planning and construction process, including selection of an architect and other consultants, choice of contractor, development of project documents and supervision of construction through completion and final acceptance by the Town on individual Town owned building projects.

- The Conservation Commissions responsibilities include the maintenance and update of the Town's Inland Wetlands and Watercourses Regulations, Wetlands Map and the Town's Open Space Plan.

- The Police Commission is a five-member Commission appointed by the Board of Selectmen which has the authority and responsibility for the general supervision and management of the police officers within Colchester and the property and equipment used.

The roles of Town departments have not changed since the time of the previous HMP. Thus, the Town of Colchester is technically, financially, and legally capable of implementing mitigation projects for hazards to the extent that funding is available.

2.5 Review of Existing Plans and Regulations

Colchester has different plans and regulations that recommend or create policies related to hazard mitigation. These policies and regulations are outlined in the Emergency Operations Plan, POCD (2015), Open Space Plan (2006), Zoning Regulations (2015), Subdivision Regulations (2010), Town Code (updated through 12/09/2016), and Inland Wetlands and Watercourse Regulations (2009). The Zoning Regulations were amended to January, 2015, and the floodplain regulations updated since the June 2011 edition. They incorporate NFIP requirements associated with the DFIRM available in 2011. Despite regular updates to the Town Code, its Flood Hazard Areas section has not been updated recently.

Emergency Operations Plan

The Town has an Emergency Operations Plan (EOP) that is updated and certified by the First Selectman annually. This document provides general procedures to be instituted by the First Selectman and/or designee in case of an emergency. Emergencies can include but are not limited to hazard events such as hurricanes and nor'easters. The EOP is directly related to providing emergency services prior to, during, and following a hazard event.

Plan of Conservation and Development (2015)

The POCD was most recently updated in 2015 with contributions from local boards, commissions, committees, citizens and citizen groups. The Plan seeks to be a statement of policies, goals and standards for the physical and economic development of the Town and recommends the most desirable uses types and population densities in various parts of the municipality.

The 2015 Town of Colchester POCD includes the following actions and recommendations:

- ❑ Institute policies to protect natural resources, including floodplains, steep slope, water-supply watersheds, vegetated buffers, National Diversity Database (NDDB) areas, and other sensitive locations.
- ❑ Coordinate with open space organizations in surrounding towns and the region.
- ❑ Encourage Low Impact Development by narrowing road widths in new developments, eliminating curbing in some areas, and reducing parking requirements where feasible.
- ❑ Raise public awareness by educating residents and children on sustainability concepts.
- ❑ Continue to improve flood hazard mitigation plans for recurring events.
- ❑ Manage tree trimming to balance electrical system performance with rural character.
- ❑ Review and improve hazard mitigation plans for recurring events, such as flooding.
- ❑ Continue to review and improve emergency preparedness plans for non-recurring events.
- ❑ Design road connections and bypass roads around the town center to better accommodate traffic volumes and allow for better emergency response.
- ❑ Encourage water conservation, since much of the community relies on groundwater for domestic use.

The Colchester POCD is considered consistent with the current goals and actions of the Hazard Mitigation Plan. The next update to the POCD (scheduled for 2025, beyond the life of the current Hazard Mitigation Plan) will continue to incorporate the elements of the HMP.

Code of the Town of Colchester, Connecticut (Includes legislation adopted through 12/09/2016)

Chapter 64 of the Town Code includes "Flood Hazard Areas" which includes discussion of policies, permit requirements and application procedures related to land use and development in SFHAs within Colchester consistent with the NFIP. The document also states that the SFHAs are those areas designated from the Town and Borough of Colchester Flood Insurance Rate Maps (FIRM) and the Flood Boundary and Floodway Maps dated July 15, 1992 on file in the office of the Town Clerk and with the Building Official. This should be updated to the DFIRM mapping of July 18, 2011.

Zoning Regulations (2015)

Section 9.3 of the Zoning Regulations, "Flood Hazard Overlay Districts," discusses SFHAs in Colchester. The regulations have been updated to be based on the July 18, 2011 FEMA Flood Insurance Study (FIS) and FIRM for New London County.

Subdivision Regulations (2010)

The Subdivision Regulations discuss the standards in the flood plain district in Section 6.6. Although regulations within the document include components of the current NFIP regulations, they are based on the FIRM dated July 15, 1992 and should be updated to the DFIRM mapping of July 18, 2011.

Inland Wetlands and Watercourses Regulations (2009)

The Inland Wetlands and Watercourses Regulations in the Town of Colchester require a permit for certain regulated activities that are within 75 feet or in a wetland or watercourse or that may impact a wetland or watercourse. These regulations build on the preventative flood mitigation provided by the Zoning Regulations by preventing fill and sedimentation that could lead to increased flood stages.

2.6 Critical Facilities, Sheltering Capacity, and Evacuation

Colchester considers several facilities to be critical to ensure that emergencies are addressed while day-to-day management of the town continues. Critical facilities are presented on figures throughout this annex and summarized in Table 2-1. No critical facilities are located within a SFHA. These facilities are described in more detail below.

Colchester Hayward Fire Department (Companies 1 & 2)

Colchester has two fire companies (Companies 1 and 2) which are staffed by both voluntary and professional firefighters. Both fire companies work together to serve Colchester and provide support to neighboring municipalities with fire suppression, emergency response and rescue. The two fire company buildings are outfitted with standby power supply sources via generators and neither is located in a SFHA. As for professional services, the Fire Department employs eight full-time firefighters and two weekend part time Emergency Medical Technicians (EMT).

Jack Jackter Elementary School

Jack Jackter Elementary School is both the Town's EOC and the Town's back-up shelter. The school houses essential equipment needed for EOC operations and can hold 350 persons as a backup shelter.

Bacon Academy

The Town's main shelter is Bacon Academy, which houses a 500 kV generator and is American Red Cross (ARC)-certified with a capacity of 450 persons. This shelter was previously run by Red Cross volunteers, but is now run by other certified shelter operators.

Town Hall

Colchester's Town Hall houses many important offices and departments critical to hazard mitigation planning including the Police Department, the First Selectman's Office, the Building Department and the office of the Emergency Management Director. The facility is also outfitted with a generator.

Table 2-1: Critical Facilities

Facility	Address or Location(s)	Emergency Power	Shelter	In SFHA
Emergency Services				
Colchester Hayward Fire Dept. Co. 1 & 2	52 Old Hartford Rd. / 424 Westchester Rd.	✓		
Colchester Police Department	127 Norwich Avenue	✓		
Municipal				
Town Hall	127 Norwich Avenue	✓		
Jack Jackter Elementary School*	362 Halls Hill Road	✓	✓	
Bacon Academy	611 Norwich Avenue	✓	✓	
Public Works Garage	300 Old Hartford Road	✓		
Cabin Road Wellfield WTP	140 Taintor Hill Road	✓		
Cabin Road Wellfield (Wells 3 and 5)	140 Taintor Hill Road	✓		✓
Judd Brook Wellfield (Well 4)	183 Lebanon Avenue	✓		✓
Elmwood water pump station	550 Elmwood Heights	✓		
Highland Farm water tank	36 Highland Circle			
Prospect Hill Sewer P.S.	31 Prospect Hill Road	✓		
Nursing Homes, Senior Living and other Vulnerable Housing Developments				
Apple Rehab Center	36 Broadway Street	✓		
Colchester Commons Mobile Home Park	Lebanon Avenue			
Dublin Village	300 Lebanon Avenue			
Gan Aden	385 South Main Street			
Gan Aden Chestnut	28 Chestnut Hill Road			
Gan Aden Field	564 Norwich Avenue			
Gan Aden Too	564 Norwich Avenue			
Genesis Elder Care	59 Harrington Court	✓		
Ponemah Village	283 Westchester Road			
Westchester Village Mobile Home Park	Shailor Hill Road			
Communications Infrastructure				
State Communication Tower	95 O'Connell Rd	✓		
State Communication Tower	11 Munn Rd. (Windham Ave.)	✓		
Health Care Facilities				
Backus Health Care	151 Broadway Street			

*Emergency Operations Center (EOC)

Communications

The Town includes the two state communication towers on 95 O'Connell Road and 11 Munn Road in its list of critical facilities. Additionally, the KX Dispatch (Connecticut State Police Troop K) is located in Colchester and links into dispatch services with other neighboring municipalities including Hebron, Salem, East Haddam, East Hampton, Haddam Neck, Marlborough, and Bozrah.

Colchester's communication with its residents, visitors, and businesses and its communications with outside emergency preparedness and response groups is adequate. The town employs the CT Alert "Everbridge" Emergency Notification System for Reverse 9-1-1 and encourages its residents to sign up for the service via the CT Alert Emergency Notification System web site (http://www.ct.gov/ctalert/site/default.asp).

During Tropical Storm Irene, communication with Connecticut Light & Power (CL&P) (now Eversource) was pursued by the Town, however CL&P's response was considered less than adequate. The outage following Tropical Storm Irene lasted seven to nine days in Colchester and trees blocked many roadways deeming both state and municipal roadways impassible and many wires were downed. Colchester sought to improve communication with CL&P moving forward in an effort to prevent a prolonged outage such as the one following Tropical Storm Irene. Eversource's Liaison Program was used in subsequent winter storms and other major storms to improve communication, as explained in Section 5.2.

Additional Municipal Facilities

The Public Works Garage is houses the equipment, materials and staff needed to respond to natural hazard damage. The garage is located to the west of Town Center near Route 2 on Old Hartford Road.

The Town also considers its water and wastewater infrastructure to be critical facilities. Water and wastewater infrastructure includes Water Treatment Facility at 140 Taintor Hill Road, the Cabin Road Wellfield located adjacent to the treatment facility, the 31 Prospect Hill Road sewer pump station, the water booster station at 550 Elmwood Heights, the Highland Farm Water Tank at 36 Highland Circle, and Well No. 4 at 183 Lebanon Avenue. A new pumping station has been installed next to the Connecticut DOT garage since 2012.

The town acquired the Colchester Senior Citizens Center from its private owner and operator in October of 2016. This is considered a critical facility.

Private Facilities

The town considers some types of private facilities within its list of critical facilities. This list consists of eight nursing homes / senior living facilities (two of which are now owned by the Town and so not a private facility) and two mobile home parks. Colchester Housing Authority has two locations (Dublin Village and Ponemah Village).

Evacuation Routes

Colchester's EOP describes the Town's evacuation plans. The Emergency Management Director is responsible for maintaining complete records and reports associated with tracking the status of evacuation events including evacuation notices, the number of persons evacuated and the number of evacuees in shelter/mass care centers. Additionally, the Emergency Management Director is responsible for maintaining up-to-date evacuation route maps that depict designated primary and alternate evacuation routes.

The highest capacity egress routes from Colchester include:

- Route 2: oriented east-west; runs from Lebanon to Marlborough across the center of Colchester
- Route 16: oriented northeast-southwest; enters Colchester from Lebanon to the east, exits into East Hampton in the west
- Route 11: runs from Route 2 just south of the center of Colchester southerly to Salem
- Route 85: extends from the Salem town line northerly through the Town Center and continues north into Hebron

3 INLAND FLOODING

3.1 Setting / Historic Record

Flooding is the primary hazard that impacts the town each year as documented in the previous HMP. While riverine flooding is of primary concern, nuisance flooding and poor drainage are also issues at some locations in the town. Flooding is typically caused by heavy rainstorms, but can also be caused by relatively light rains falling on frozen ground. Flooding of roadways is more common than damage to structures in the Town of Colchester.

The March 2010 storms continue to be considered the event that caused the most widespread flooding in Colchester since the town began participating in the multi-jurisdiction hazard mitigation plan, causing basement flooding, roadway flooding, and nuisance flooding. However, the areas impacted by the March 2010 storms are not typically impacted by floodwaters. Following the basement flooding of March 2010, the Town submitted reimbursement requests to FEMA, but was not reimbursed. At a December 2016 meeting, Town personnel noted that even during the major 2010 floods, no structural damage was observed to buildings in Town.

3.2 Existing Capabilities

The town attempts to mitigate inland flood damage and flood hazards by utilizing a wide range of measures including restricting activities in floodprone areas, placing riprap in locations currently experiencing bridge scour, promoting flood insurance, maintaining drainage systems, providing education and outreach, and by utilizing the reverse 9-1-1 warning system. Many mitigation measures are common to all hazards and therefore are listed in Section 11.1.1. No structural flood control projects are located within or upstream of Colchester, although some existing dams provide a small amount of flood mitigation.

Bridge Replacements, Drainage, and Maintenance

The Department of Public Works cleans and inspects catch basins and culverts at least annually or more often if problems are noted. When flooding occurs, the Public Works Director or either Fire Company typically handles complaints from residents. For example, the Public Works department would inspect bridges and culverts and erect barricades to close roads, while the Fire Companies respond to calls requesting help for flooded basements. Drainage complaints are directed to the Public Works Director.

Bridge and culvert upgrades have occurred since the previous edition of this HMP:

- The New London Road (Route 85) bridge over Cabin Brook (at Lake Hayward Road) was upgraded by the State
- The culverts of the Norwich Avenue (Route 616) stream crossing at Caverly Mill Road was upgraded to box culverts

Culverts under Marvin Road were upgraded in 2011 (this was not noted in the previous plan).

In addition, scour protection measures have been installed at the Paper Mill Road Bridge. This action has reduced the risk of erosion and undermining of this bridge.

Regulations, Codes, and Ordinances

Colchester has planning and zoning tools in place that incorporate floodplain management. These meet, and sometimes exceed, baseline NFIP requirements. The Zoning Regulations require, for example, one foot of freeboard between first floors of structures and the FEMA BFE, and define substantial improvement to a building as the cumulative cost of work performed over the course of one year.

The Town also has Subdivision Regulations that require adequate drainage (Section 6.4) be provided to reduce exposure to flood hazards. Regulations covering development in and/or near inland wetland areas also exist within the Inland Wetlands and Watercourses Regulations.

Acquisitions, Elevations, and Property Protection

The Town acquired the Norton Paper Mill Property in 2014, removed the Norton Paper Mill Dam on the site, and is converting the property to a park to encourage recreational access to the river and maintain the land as open space. This acquisition and subsequent project removed the risks posed by the existence of a dam on the site, will prevent future development from occurring within the flood hazard zone, and will limit watershed land-use changes that could increase flooding downstream.

No other acquisitions or elevations of floodprone properties have occurred since the previous HMP. Property protection has focused instead on preventive measures and maintaining and upgrading drainage systems.

Flood Watches and Warnings

The First Selectman and the Fire Companies access weather reports through the National Weather Service and local media. Colchester also participates in the CT Alerts "Everbridge" Emergency Alerting and Notification Reverse 9-1-1 System and actively recruits its residents and businesses to enroll in the service. As a result, Colchester has the capability to telephone warnings into specific areas of Town. Use of this service allows the town the ability to receive geographically specific weather warnings when storms are imminent.

Summary

Policies relevant to inland flood mitigation in Colchester include:

- ❑ Current participation and a policy of continued future participation in the NFIP
- ❑ Drainage system inspection and maintenance is the responsibility of the DPW

- ❑ The DPW and Fire Company respond to public complaints about flooding and drainage issues
- ❑ Zoning regulations require one foot of freeboard above the FEMA BFE
- ❑ Zoning regulations define substantial improvement as cumulative over one year
- ❑ Subdivision Regulations require adequate drainage be constructed on new developments

Relevant programs include:

- ❑ A bridge scour management program that protect bridges through riprap placement
- ❑ Catch basin and culvert monitoring and maintenance
- ❑ A reverse 9-1-1 system to warn residents of impending hazard events
- ❑ A modest private property acquisition and open space creation program

The Town continues to restrict building activities inside floodprone areas and control construction of bridges, culverts, and drainage systems. These processes are carried out by the Planning and Zoning Department, Department of Public Works, and Town Engineer.

Many of Colchester's capabilities to mitigate for inland flooding have improved since the previous HMP edition, while others continue to be robust. Specifically, Colchester completed an important scour protection project at Paper Mill Bridge Road, an update to its zoning regulations, and a flood-prone land acquisition in the last five years.

3.3 Vulnerabilities and Risk Assessment

This section discusses specific areas at risk to inland flooding within Colchester.

3.3.1 Vulnerability Analysis of Areas along Watercourses

Parts of Dickinson Creek, the Salmon River, the Blackledge River, the Jeremy River, Meadow Brook, Pine Brook and Babcock Pond, Gillette Brook, Day Meadow Brook, Judd Brook, Governor Brook, Nelkin Brook, Cabin Brook, Hall Brook, Sherman Brook, Deep River and the Deep River Reservoir, Standish Brook and Witch Meadow Brook are associated with a SFHA. Sections of the Judd Brook, Day Meadow Brook and Meadow Brook are mapped as the SFHA Zone AE, indicating that flood elevations are available. Additional mapped SFHA floodplains are Zone A, indicating that elevations are not available.

The DFIRMs adopted in 2011 revealed two relatively large changes in Colchester: the Boretz Road area and the area adjacent to the Settlers Green residential project described in Section 2.0. A LOMR was reportedly completed for the Settlers Green project.

Refer to Figure 3-1 for the location of SFHAs within Colchester. There are a few areas of town where flooding is hazardous to residents, buildings, or roadways:

- ❑ Lakeview Drive at Pickerel Lake suffers from poor drainage and nuisance flooding.
- ❑ An older subdivision in the Town Center experiences frequent basement flooding.
- ❑ A few bridges in Town are currently subject to ongoing scour.

- One home on Caverly Mill Road is subject to unsafe access conditions during significant floods. The wooden bridge requires beam replacement, yet still will be impassible.

The DFIRM mapping suggests that these transportation routes can be negatively affected by extreme flooding:

- Route 2, which is oriented east-west and runs from Lebanon to Marlborough across the center of Colchester,
- Route 16, which is oriented northeast-southwest and also enters Colchester from Lebanon to the east, but exits into East Hampton in the west,
- Route 11 which runs from Route 2 just south of the center of Colchester southerly to Salem, and
- Route 85 which extends from the Salem town line northerly through the Town Center and continues north into Hebron.

The Caverly Mill Road Bridge over Sherman Brook continues to be a location of concern for the Town. This road extends south off of Norwich Avenue and dead-ends at Route 2. The home at the terminus of the road is accessed via a wooden bridge over Sherman Brook, and during floods the home cannot be accessed safely.

The DFIRM mapping shows FEMA flood zones stretching across all major roadways. According to town officials, the most problematic areas are those bridges that are subject to scour. The town wishes to place riprap in these locations to prevent further scour.

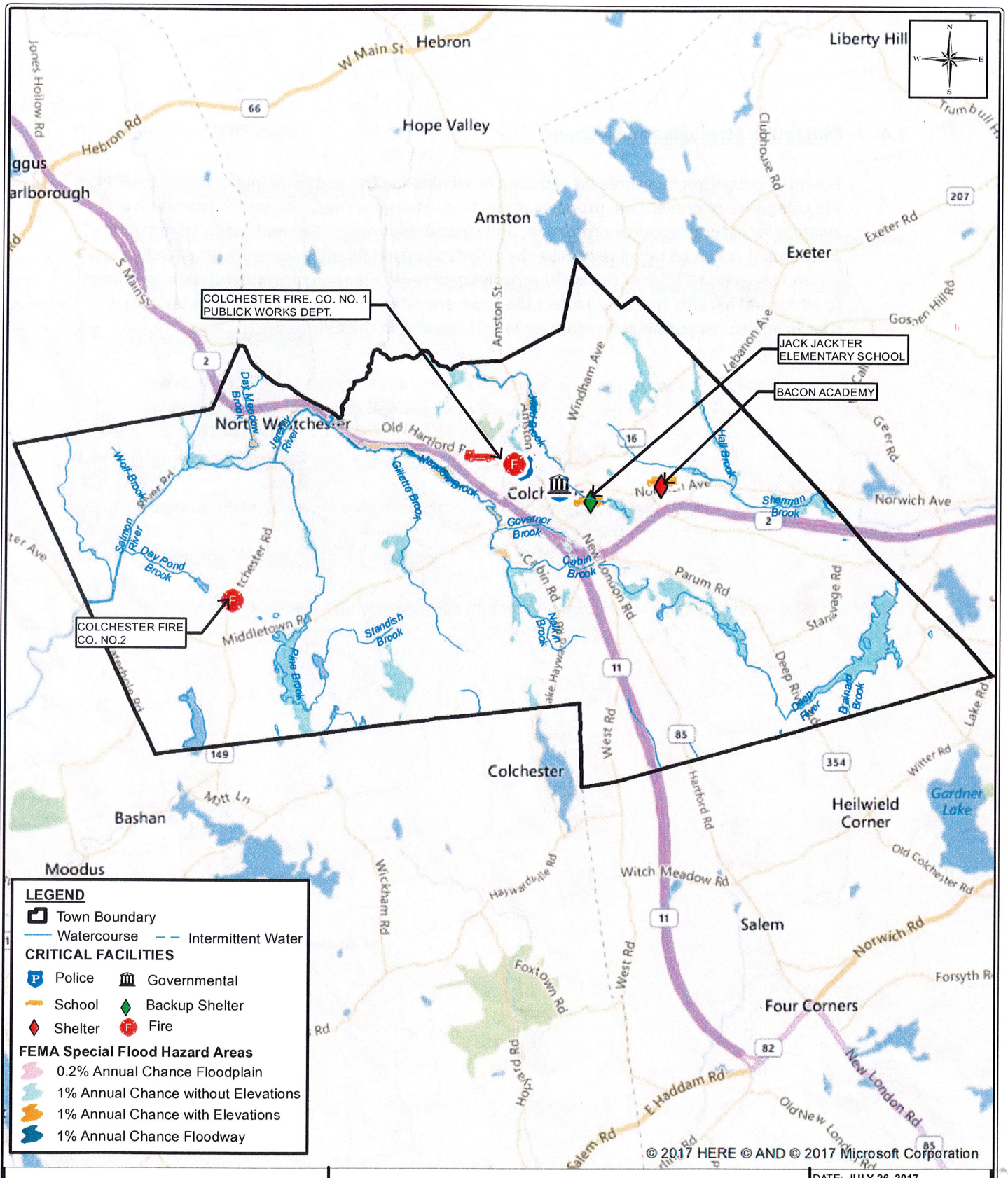
3.3.2 Vulnerability Analysis of Private Properties

As noted in Table 3-4 of the Multi-Jurisdictional HMP, a total of 42 structures in Colchester appear to be located in an SFHA floodplain. The majority of these structures are located in and around the Town Center and along Route 2 from the Town Center north towards the Hebron town line. Many of these structures are residential while a few are either commercial or industrial. Thirty-five structures appears to be located within the Zone A floodplain (the SFHA floodplain without flood elevations defined), while the remaining seven appear to be located either within Zone AE or the floodway in Zone AE.

Town personnel indicate that structures typically do not get flooded in Colchester due to riverine or overbank flood conditions, despite their locations in SFHAs. As shown in the table of the Multi-Jurisdictional HMP, there are no repetitive loss properties in town. Such properties are those which have received two or more claim payments of more than $1,000 from the NFIP with any rolling 10-year period for the home or business. Town personnel noted that, while the March 2010 rain events caused many basements to flood, no structural damage was incurred by the event. The Town submitted reimbursement requests to FEMA, however Colchester was not reimbursed.

3.3.3 Vulnerability Analysis of Critical Facilities

As noted in Section 2.6, critical facilities that are structures are not located within SFHAs. The Town's public water supply wells are located in SFHAs but the wellheads are raised above base flood elevations. Therefore, flood risks to critical facilities are low.



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FEMA SPECIAL FLOOD HAZARD AREAS

SCCOG HAZARD MITIGATION UPDATE
TOWN OF COLCHESTER ANNEX

COLCHESTER, CONNECTICUT

SOURCE: NATIONAL FLOOD HAZARD LAYER, FEMA, 2017

DATE: JULY 26, 2017		
SCALE: 1"=9,000'		
PROJ. NO.: 3570-09		
DESIGNED SB	DRAWN PS	CHECKED DM

DRAWING NAME:

FIG. 3-1

3.4 Mitigation Strategies and Actions

Potential mitigation measures for reducing or eliminating the impact of inland flooding fall into the categories of prevention, property protection, emergency services, public education and awareness, natural resource protection, and structural projects. General potential mitigation measures that can be taken to reduce the effects of inland flooding were discussed in Section 3.7 and in Section 11.2.2 of the Multi-Jurisdictional HMP. General recommendations pertinent to all natural hazards that could affect the town are listed in Section 11 of this annex, as are specific measures pertinent to reducing inland flooding in the Colchester.

4 COASTAL FLOODING

4.1 Setting / Historic Record

Colchester is not located along the coastline nor is it located in a potential hurricane surge zone. As such, no coastal flooding or storm surge has affected the town since the last HMP. Therefore, the town is not considered to be affected by coastal flooding and storm surge.

4.2 Existing Capabilities

Due to the town not being on the coast, it does not have and/or need regulations to restrict development due to coastal flooding hazards.

4.3 Vulnerabilities and Risk Assessment

No areas of the town are vulnerable to coastal flooding or storm surge.

4.4 Mitigation Strategies and Actions

No mitigation measures for reducing the impact of coastal flooding or storm surge in the town are necessary or are proposed.

5 HURRICANES AND TROPICAL STORMS

5.1 Setting / Historic Record

Several types of hazards may be associated with tropical storms and hurricanes including heavy or tornado winds, heavy rains, and flooding. Flooding hazards are discussed in Section 3 of this annex. Wind hazards are widespread and can affect any part of the town. However, some buildings in the town are more susceptible to wind damage than others.

Tropical Storm Irene impacted the town in August 2011. Sections of trees fell throughout the town and the region causing power outages lasted up to seven to nine days in Colchester. The Town learned that communication between the Town and its power utility at the time, Connecticut Light & Power (CL&P), needed to greatly improve in order to efficiently and effectively clear roadways throughout town in the future.

In 2012, Hurricane Sandy, a hybrid storm with both tropical and extra-tropical characteristics, brought high winds and coastal flooding to southern New England. Record breaking high tides and wave action was combined with sustained winds of 40 to 60 mph and wind gusts of 80 to 90 mph. Emergency managers recommended mandatory evacuations of 362,000 people that lived in low lying areas. Widespread significant statewide power outages of 667,598 lasted up to 8 days. The town of Colchester received over $120,000 in disaster relief from FEMA to cover the cost of damages from the storm. The storm cost the Town $96,976 in contractor labor and forced labor. Town personnel reported that trees and power lines were downed across Town.

5.2 Existing Capabilities

Wind Loading

Wind loading requirements for new buildings are addressed through the Connecticut Building Code which is utilized by the town. Effective October 1, 2016, the ultimate design wind speed for Colchester ranges from 120 to 140 miles per hour depending on the building use (for example, hospitals must be designed to the higher wind speed). Wind loading requirements are addressed through the state building code. The Connecticut State Building Code was most recently adopted with an effective date of October 1, 2016. The code specifies the design wind speed for construction in all the Connecticut municipalities. The ultimate design wind speed for Colchester ranges from 120 to 140 miles per hour depending on the building use (for example, hospitals must be designed to the higher wind speed). Note that changes in design wind speed figures since the previous HMP are largely the result of a shift from "nominal" to "ultimate" wind speeds, for compatibility purposes; see the Connecticut Building Code or the American Society of Civil Engineers website for more information. Colchester has adopted the Connecticut Building Code as its building code.

Tree Maintenance and Removal

Parts of trees (limbs) or entire tall and older trees may fall during heavy wind events, potentially damaging structures, utility lines, and vehicles. Utility lines are placed underground in new developments; however most electrical lines have historically been installed above ground. Some streetscaping of Lebanon Avenue included the use of solar lighting as opposed to traditional electrical lines.

The Tree Warden and Colchester Department of Public Works (DPW) were granted an increase in operating budget in the 2015-2016 fiscal year. The Town now dedicates approximately $18,000 a year to tree maintenance, up from approximately $13,000 previously. The DPW also replaced its old wood-chipper with a new one that has a higher capacity, which will help respond to debris-creating events. The Tree Warden contracts with local tree companies when the Town's maintenance and response capacities are exceeded. This pivot to focusing on local companies, rather than larger regional or national companies, reduces waiting time and improves communication and coordination.

Power Utility Coordination

The Tree Warden coordinates tree removal and maintenance with the local power utility. Since the previous HMP, CL&P has been acquired by Eversource. In response to the major power-outages caused by Tropical Storm Irene and Hurricane Sandy, as well as significant winter storm events, Eversource has taken an aggressive approach to tree maintenance and has improved communication and coordination with municipalities. Colchester personnel report that Eversource has enhanced its tree clearing efforts, has updated its facilities, and has been working to strengthen the power grid and build in redundancies. They also report that they plan to remove one substation from service while doubling capacity at another site.

Town personnel believe that communication with the company, thanks to Eversource's liaison program, has been consistent and helpful. While staff report Eversource's response to storm events has improved significantly from CL&P's response capabilities in 2011 and 2012, they feel that capacity is still limited. For example, the Town has to wait for and Eversource "make-safe" crew to arrive to address downed wires before the Town is able to perform any response activities; this may take a long time, possibly because Eversource does not have enough personnel.

The Town enforces a requirement that utilities be located underground in new developments.

Debris Management

The Town's transfer station accepts brush, tree trunks, limbs, and leaves and typically sees an increase in collections following wind storms; in a major debris-generation event, the Ruby Cohen Fields may be used as a backup debris storage space. This material is reused within Colchester whenever possible. The Town also has agreements with companies to chop/chip following heavy wind events in order to ensure that cleanup occurs as efficiently as possible.

Warning and Communication

Warning is one of the best ways to prevent damage from hurricanes and tropical storms, as these storms often are tracked well in advance of reaching Connecticut. The town can access National Weather Service forecasts via the internet as well as listening to local media outlets (television, radio) to receive information about the relative strength of the approaching storm. This information provides the resources needed to determine whether or not to activate its EOP and encourage residents to take protective or evacuation measures if appropriate.

In addition, Colchester subscribes to the statewide CT Alert "Everbridge" Reverse 9-1-1 Emergency Notification System which provides residents the ability to register to receive warnings, critical information and area specific alerts.

Critical Facilities and Shelters

All of Colchester's critical emergency service, municipal, communications, wastewater, and water distribution facilities (including wastewater pumping stations and drinking water wellfields) are outfitted with emergency power. Additionally, many private properties have acquired backup power generators in recent years. None of the gas stations (privately-owned) in Town have emergency power. This has caused difficulties in the past when fuel is unavailable during a town-wide outage. The Town is interested in finding a way to address this issue.

Although hurricanes that have impacted Colchester have historically passed in a day's time, additional regional shelters could be outfitted following a storm with the assistance of the American Red Cross on an as-needed basis for long-term evacuees.

Summary

Colchester's hurricane-mitigation capabilities are centered its tree-limb maintenance program and coordination with the power utility.

Policies relevant to hurricane mitigation include:

- ❑ Implementation of the most up-to-date edition of the Connecticut State Building Code
- ❑ Burial of utility lines in new development
- ❑ Support of an adequate tree maintenance budget
- ❑ Utilization of designated debris storage sites after events
- ❑ Maintenance of trees alongside public roads and in public spaces is the responsibility of the appointed Tree Warden
- ❑ Maintenance of trees on private property is the responsibility of the landowner

Relevant programs include:

- ❑ A roadside tree maintenance and removal program run by the DPW under the supervision of the Tree Warden
- ❑ A program to note and encourage residents to cut dangerous trees on their properties

- ❑ Active coordination with Eversource (improved since CL&P was taken over by Eversource and the Eversource liaison program was initiated)

An additional capability that has improved since the previous HMP edition is the number and distribution of both municipal and privately-owned power generators.

Overall, Town officials feel their wind-event preparation and response capabilities, including tree maintenance, debris removal, utility coordination, and communication, have improved since the previous edition of this HMP. Nevertheless, the Town would like to continue to work on improving its tree maintenance program. It is also interested in addressing the lack of emergency power available to gas stations in Town, and the loss of access to fuel during power outages.

5.3 Vulnerabilities and Risk Assessment

The entire town is vulnerable to hurricane and tropical storm wind damage and from any tornadoes (Section 6) accompanying the storm, as well as inland flooding (Section 3). Of particular concern are the blockage of roads and the damage to the electrical power supply from falling trees and tree limbs. There was a town-wide seven to nine day power outage due to tree damage to utility lines following Tropical Storm Irene in 2011, and widespread power outages after Hurricane Sandy in 2012.

A majority of structures built in town do not meet current building codes and are particularly susceptible to roof and window damage from high wind events. This risk to structures will be reduced with time as these buildings are remodeled or replaced with buildings that meet current codes. Those newer structures put in place since the 1990s are less vulnerable to damage from hurricanes and/or tropical storms. Colchester municipal staff note that many Town-owned buildings have been constructed in the last 40 years (since the 1970s), were built to code at the time, and are expected to be wind resistant. Older Town-owned buildings have withstood significant wind events and, therefore, are also expected to be wind resistant. Concern over wind damage to Town-owned buildings is therefore fairly low.

Town personnel are concerned about the vulnerability of gas stations in Town. As noted previously, none of these businesses have emergency power generators; consequently, fuel can be difficult to obtain during a power outage.

The strength of a large hurricane could cause a moderate economic impact to the town. The potential economic effect of wind damage to SCCOG was evaluated in the Multi-Jurisdictional HMP. A separate analysis was not performed specifically for Colchester.

5.4 Mitigation Strategies and Actions

Potential mitigation measures for reducing or eliminating the impact of wind damage fall into the categories of prevention, property protection, emergency services, public education and awareness, natural resource protection, and structural projects. General potential mitigation measures that can be taken to reduce the effects of wind damage from hurricanes and tropical storms were discussed in Section 5.7 and in Section 11.2.3 of the Multi-Jurisdictional HMP. General recommendations pertinent to all natural hazards that could affect the town are listed in Section 11 of this annex, as are specific measures pertinent to reducing wind damage to Colchester.

6 SUMMER STORMS AND TORNADOES

6.1 Setting / Historic Record

Similar to hurricanes and winter storms, wind damage associated with summer storms and tornadoes has the potential to affect any area of Colchester. Furthermore, because these types of storms and the hazards that result (flash flooding, wind, hail, and lightning) might have limited geographic extent, it is possible for a summer storm to harm one area within the town without harming another. Such storms occur in the town each year, although hail and direct lightning strikes to the town are rarer. No tornadoes have occurred in the town since the last HMP.

Several severe storms have impacted the region since the last HMP, some of which have caused significant damage. Notable events include:

- On June 18, 2012 a stalled front in the vicinity coupled with a passing upper level disturbance produced an isolated severe thunderstorm in New London County. Wires were reported down on Route 85.
- On June 23, 2015 a passing cold front triggered multiple severe thunderstorms across the entirety of Southern Connecticut. Numerous trees and wires were reported down throughout Colchester.

6.2 Existing Capabilities

Warning is the most viable and therefore the primary method of existing mitigation for tornadoes and thunderstorm-related hazards. The NOAA National Weather Service issues watches and warnings when severe weather is likely to develop or has developed, respectively. The town can access National Weather Service forecasts via the internet as well as listen to local media outlets (television, radio) to receive information about the relative strength of the approaching storm. This information allows the town to activate its EOP and encourage residents to take protective measures if appropriate.

Aside from warnings, additional methods of mitigation for wind damage are employed by the town as explained in Section 5.2 within the context of hurricanes and tropical storms. In addition, the Connecticut Building Code includes guidelines for the proper grounding of buildings and electrical boxes to protect against lightning damage.

Summary

Programs and policies of Colchester related to summer storm and tornado mitigation include monitoring of severe weather conditions by the Town Emergency Management Director, communication with the public about impending storm events, and enforcement of the most up-to-date edition of the Connecticut Building Code. Other programs and policies relevant to high wind hazards are summarized in section 5.2. In general, municipal capabilities to mitigate

thunderstorm and tornado damage have not increased significantly since the 2012 edition of the hazard mitigation plan was adopted.

6.3 Vulnerabilities and Risk Assessment

Summer storms are expected to occur each year and are expected to at times produce heavy winds, heavy rainfall, lightning, and hail. All areas of the town are equally likely to experience the effects of summer storms. The density of damage is expected to be greater near the more densely populated area of the town.

Most thunderstorm damage is caused by straight-line winds exceeding 100 mph. Experience has generally shown that wind in excess of 50 miles per hour (mph) will cause significant tree damage during the summer season as the effects of wind on trees is exacerbated when the trees are in full leaf. The damage to buildings and overhead utilities due to downed trees has historically been the biggest problem associated with wind storms. Heavy winds can take down trees near power lines, leading to the start and spread of fires. Such fires can be extremely dangerous during the summer months during dry and drought conditions. Fortunately, most fires are quickly extinguished due to the town's strong fire response and coordination with Connecticut DEEP fire fighters.

Lightning and hail are generally associated with severe thunderstorms and can produce damaging effects. All areas of the town are equally susceptible to damage from lightning and hail, although lightning damage is typically mitigated by warnings and proper grounding of buildings and equipment. Hail is primarily mitigated by warning, although vehicles and watercraft can often not be secured prior to the relatively sudden onset of a hailstorm. Lightning and hail are considered likely events each year, but typically cause limited damage in the town. Older buildings are most susceptible to lightning and hail damage since many were constructed prior to current building codes, and many campgrounds offer little structural protection from the elements.

Although tornadoes pose a threat to all areas of Connecticut, their occurrence is least frequent in New London County as compared with the rest of the Connecticut. Thus, while the possibility of a tornado striking the town exists, it is considered to be an event with a very low probability of occurrence.

6.4 Mitigation Strategies and Actions

General potential mitigation measures that can be taken to reduce the effects of wind damage were discussed in Section 5.7 and in Section 11.2.3 of the Multi-Jurisdictional HMP. No additional recommendations are available specific to reducing damage from summer storms and tornadoes. Refer to Section 11 of this annex for recommendations related to wind damage and general recommendations related to emergency services in Colchester.

7 WINTER STORMS AND NOR'EASTERS

7.1 Setting / Historic Record

Similar to hurricanes and summer storms, winter storms have the potential to affect any area of the town. However, unlike summer storms, winter storms and the hazards that result (wind, snow, and ice) have more widespread geographic extent. In general, winter storms are considered highly likely to occur each year (major storms are less frequent), and the hazards that result (nor'easter winds, snow, and blizzard conditions) can potentially have a significant effect over a large area of the town.

The winter storms of 2010-2011 had a significant effect on the town. The privately-owned Butler Building (which houses construction equipment) in town collapsed during the 2010-2011 winter, and a total of 12 homes were in danger with severe deflection and cracked sheetrock. All town-owned buildings were evaluated and critical roof areas were cleared. The town assisted some residents in clearing roofs with ladder trucks.

Winter Storm Alfred in October 2011 caused tree damage because Colchester received seven inches of wet, heavy snow. Even though the town experienced severe damage following Tropical Storm Irene just months before, some outages lasted five days in Colchester following Alfred. CL&P took harsh criticism in the wake of the storm due to poor communication with municipalities.

Winter storms and nor'easters have affected the town since the last HMP as reported to the NCDC and reported by town officials. The year 2013 featured exceptional snow events that severely taxed snow removal abilities of towns in the region. The blizzard of 2013 in early February dumped one to two feet of snow on the region. Another snowstorm struck the region in mid-March, 2013 dumping upwards of one to two feet of snow in some parts of the county. Colchester received nearly $90,000 in federal aid from FEMA to help cover storm cleanup costs; the Town reports $105,000 in contractor and forced labor costs.

The 2015 winter also saw a number of significant snow events in Town. Two major snow events in particular dropped over 18 inches of snow across the region and closed roads. Over the course of the winter season Colchester spent approximately $104,000 on contractor and forced labor costs of the response.

7.2 Existing Capabilities

Existing programs applicable to winter storm winds are the same as those discussed in Sections 5.2 and 6.2. Programs that are specific to winter storms are generally those related to preparing plows and sand and salt trucks; tree trimming and maintenance to protect power lines, roads, and structures; and other associated snow removal and response preparations.

As it is almost guaranteed that winter storms will occur annually in Connecticut, it is important to locally budget fiscal resources toward snow management. Snow is the most common natural hazard requiring additional overtime effort from town staff, as parking lots and roadways need constant maintenance during storms. Colchester has instituted a snow-budget reserve system, such that when the snow maintenance budget for a particular fiscal year is not used, the excess is put into a reserve fund that can only be used for future snow removal activities. This helps ensure that fluctuations in the severity of winter snow seasons will not inadvertently lead to underfunding of snow maintenance activities.

The Public Works Department oversees snow removal in the town through deployment of 10 town trucks and four contracted trucks. The crew operates on 14 snow plowing routes. The Connecticut Department of Transportation (DOT) plows the State roadways, while the town prioritizes routes by steepness, proximity to major facilities such as schools and other factors. A high priority is given to school bus routes that include steep hills. Salt is used for deicing in Colchester. Colchester's "Snow and Ice Control Plan" (revised to 12/20/2007) is available to the public through the Town's website (on the Highway Department page). This increases transparency and allows residents to understand how winter maintenance decisions are made.

The Connecticut Building Code specifies that a pressure of 30 pounds per square foot be used as the base "ground snow load" for computing snow loading for roofs. The town monitors and shovels the roofs of municipal buildings when snow loads accumulate, and many residents and businesses shovel or plow their roofs. When necessary, the Town has a procedure to procure volunteers to assist with snow clearing from roofs. The Town does not have a written prioritization for roof clearing activities, and does not think such a document would improve their capability. Colchester schools have their own roof-clearing protocols; the load capacities of these roofs have been calculated, and the schools administrations oversee monitoring.

Summary

Colchester's winter storm mitigation and response capabilities have improved sharply since the previous edition of the HMP.

Colchester's relevant policies include:

- ❑ The DPW is primarily responsible for snow removal using its own trucks and heavy equipment
- ❑ Private companies are contracted to assist the DPW as necessary
- ❑ Clearing of State, Town, and private roads are the responsibility of the State, Town, and private communities, respectively
- ❑ The "Snow and Ice Control Plan" is posted to the Town website to improve public communication
- ❑ Schools are responsible for monitoring and clearing of their roofs

Relevant programs include:

- ❑ A "snow reserve" ensures the Town has sufficient funds to operate throughout more costly snow seasons
- ❑ A proven and robust municipal building roof monitoring and clearing program, with volunteer help as needed

Colchester's winter storm mitigation capabilities, and improvements to those capabilities, also address hazards related to falling tree limbs, power outages, and flooding. These have been addressed in sections 3.2 and 5.2.

7.3 Vulnerabilities and Risk Assessment

Severe winter storms can produce an array of hazardous weather conditions, including heavy snow, microclimates, blizzards, freezing rain and ice pellets, flooding, heavy winds, and extreme cold. Further "flood" damage could be caused by flooding from frozen water pipes. Often, tree limbs on roadways are not suited to withstand high wind and snow or ice loads.

Warning and education can prevent most injuries from winter storms. Most deaths from winter storms are indirectly related to the storm, such as from traffic accidents on icy roads and hypothermia from prolonged exposure to cold. Damage to trees and tree limbs and the resultant downing of utility cables are a common effect of these types of events. Secondary effects can include loss of power and heat.

As a result of a significant change in elevation in town with elevations ranging from approximately 650 feet along Bush Rock Road to approximately 75 feet along the Salmon River, there are many steep slopes and sometimes significant differences in snowfall totals dependent on elevation. This presents the possible situation of wintry weather impacting the highest elevations while the lowest elevations are not impacted.

In general, there are few steep slopes that require extra salting of the roadways in necessary locations to alleviate trouble spots. Town officials did not indicate this to be a major mitigation issue but rather an issue that deserves priority when town staff begins their treatment of roads. These areas are usually treated first by town staff during and following winter storms.

7.4 Mitigation Strategies and Actions

Potential mitigation measures for flooding caused by nor'easters include those appropriate for flooding that were discussed in Section 3.7 of the Multi-Jurisdictional HMP and Section 11 of this annex. However, winter storm mitigation measures must also address blizzards, snow, and ice hazards. General potential mitigation measures that can be taken to reduce the effects of wind damage were discussed in Section 5.7 and in Section 11.2.3 of the Multi-Jurisdictional HMP and Section 11 of this annex.

8 EARTHQUAKES

8.1 Setting / Historic Record

An earthquake is a sudden rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. Earthquakes can cause buildings and bridges to collapse; disrupt gas, electric, and telephone lines; and often cause landslides, flash floods, fires, avalanches, and tsunamis. Earthquakes can occur at any time and often without warning. Detailed descriptions of earthquakes, scales, and effects can be found in Section 8 of the Multi-Jurisdictional HMP. Despite the low probability of an earthquake occurrence, earthquake damage presents a potentially catastrophic hazard to the town. However, it is very unlikely that the town would be at the epicenter of such a damaging earthquake. No major earthquakes have affected the town since the last HMP.

8.2 Existing Capabilities

The Connecticut Building Codes include design criteria for buildings specific to each region as adopted by Building Officials and Code Administrators (BOCA). These include the seismic coefficients for building design in Colchester. The town has adopted these codes for new construction, and they are enforced by the Zoning Enforcement Officer.

Due to the infrequent nature of damaging earthquakes, town land use policies do not directly address earthquake hazards. However, the potential for an earthquake and emergency response procedures is addressed in the town's EOP.

Summary

In general, municipal capabilities to mitigate earthquake damage have not increased since the 2012 edition of the hazard mitigation plan was adopted. This is because the hazard continues to pose a low risk of damage to the Town.

8.3 Vulnerabilities and Risk Assessment

Surficial earth materials behave differently in response to seismic activity. Unconsolidated materials such as sand and artificial fill can amplify the shaking associated with an earthquake. As noted in Section 2.1, areas adjacent to the most significant surface water bodies in Colchester including the Blackledge River, Salmon River, Deep River, Jeremy River, Meadow Brook, Judd Brook, Gardner Lake, Deep River Reservoir, and Bobcock Pond and some smaller water bodies have fairly extensive areas underlain by stratified drift. These areas are likely more at risk for earthquake damage than the areas of the town underlain by glacial till. The best mitigation for future development in areas of sandy material is the application of the most stringent standards in the Connecticut Building Code, exceeding the building code requirements, or, if the town deems necessary, the possible prohibition of new construction.

Unlike seismic activity in California, earthquakes in Connecticut are not associated with specific known active faults. However, bedrock in Connecticut and New England in general is typically formed from relatively hard metamorphic rock that is highly capable of transmitting seismic energy over great distances. For example, the relatively strong earthquake that occurred recently in Virginia was felt in Connecticut because the energy was transmitted over a great distance through such hard bedrock.

The built environment in the town primarily includes some more recent construction that is seismically designed. However, most buildings were built before the 1990s and therefore are not built to current building codes. In addition, there are areas such as town parks with recreational buildings or shelters that may not be seismically designed. Thus, it is believed that most buildings would be at least moderately damaged by a significant earthquake. Those town residents who live or work in older, non-reinforced masonry buildings are at the highest risk for experiencing earthquake damage.

Areas of steep slopes can collapse during an earthquake, creating landslides. With a difference of upwards of five hundred feet in elevation, Colchester has areas of steep slopes and bluffs, although the majority of these features occur in undeveloped areas. Thus, landslides are not a great concern in the town.

Seismic activity can also break utility lines such as water mains, gas mains, electric and telephone lines, and stormwater management systems. Damage to utility lines can lead to fires, especially in electric and gas mains. Dam failure can also pose a significant threat to developed areas during an earthquake. For this HMP, dam failure has been addressed separately in Section 10.0. As noted previously, most utility infrastructure in the town is located above ground. A quick and coordinated response with Eversource will be necessary to inspect damaged utilities following an earthquake, to isolate damaged areas, and to bring backup systems online. The coordinated response is covered in the Colchester EOP.

A *HAZUS-MH* analysis of the potential economic and societal impacts to the SCCOG region from earthquake damage is detailed in the Multi-Jurisdictional HMP. The analysis addresses a range of potential impacts from any earthquake scenario, estimated damage to buildings by building type, potential damage to utilities and infrastructure, predicted sheltering requirements , estimated casualties, and total estimated losses and direct economic impact that may result from various earthquake scenarios.

8.4 Mitigation Strategies and Actions

Due to the low probability of occurrence, potential mitigation measures related to earthquake damage primarily include adherence to building codes and emergency response services. Both of these are mitigation measures common to all hazards as noted in Section 11 of this annex. The Multi-Jurisdictional HMP also includes additional recommendations for mitigating the effects of earthquakes that are also listed in Section 11.

9 WILDFIRES

9.1 Setting / Historic Record

Wildfires are considered to be highly destructive, uncontrollable fires. The most common causes of wildfires are arson, lightning strikes, and fires started from downed trees hitting electrical lines. Thus, wildfires have the potential to occur anywhere and at any time in both undeveloped and developed areas of Colchester. Structural fires in higher density areas of the town are not directly addressed herein.

According to town officials, Colchester has experienced a few multi-acre burns including a 25 acre burn in the Babcock Wildlife area approximately eight years ago. Small fires have historically occurred during dry spring weather in Connecticut.

9.2 Existing Capabilities

Monitoring of potential fire conditions is an important part of mitigation. The Connecticut DEEP Forestry Division uses the rainfall data recorded by the Automated Flood Warning system to compile forest fire probability forecasts. This allows the DEEP to monitor drier areas to be prepared for forest fire conditions. The town can access this information over the internet. The town also receives "Red Flag" warnings via local media outlets.

Existing mitigation for wildland fire control is typically focused on building codes, public education, Fire Department training, and maintaining an adequate supply of equipment. The two Colchester Fire Companies have access to both a Gator ATV and a brush truck. Construction of emergency fire access routes is required in new developments.

The Colchester Fire Department regularly reviews and maintains its firefighting-water supply, ensuring it is able to fight fires throughout Town, both in areas served by public water supply and those outside of the service area. The Department has an ongoing dry-hydrant development program for areas without public water supply. Since the previous HMP, the dry hydrant located at Papermill Road (for which the Norton Paper Mill Dam impoundment was the water source) was made obsolete by removal of the Norton Paper Mill Dam. A new dry hydrant was installed on Waterhole Road near Stoneridge Road.

The Town is developing a new well within the public water system, increasing the system's water capacity. It has also developed a high pressure zone. Both projects have increased firefighting capability within the area served by the public water system.

The Connecticut DEEP has recently changed its Open Burning Program. It now requires individuals to be nominated and designated by the Chief Executive Officer in each municipality that allows open burning and to take an online training course and exam to become certified as an "Open Burning Official." Colchester has designated two Open Burning Officials. Permit template forms were also revised that provide permit requirements so that the

applicant/permittee is made aware of the requirements prior to, during, and after burn activity. The regulated activity is then overseen by the Town.

The Town often recommends a fire pond or dry hydrant for new developments; however, neither is required. Draft subdivision amendments which have yet to be approved have some language regarding fire ponds and dry hydrants, although neither is required for new developments.

Information about the dangers of wildfires and how to prevent wildfires is available through the Town website and in Town Hall. The Colchester Fire Department Website includes a link to DEEP's Daily Forest Fire Danger Report website.

Summary

Colchester policies that mitigate wildfire hazards include:

- ❑ Enforcement of wildfire-mitigation measures within the Town's building code and zoning regulations
- ❑ Participation in the State's Open Burning Program

Relevant programs include:

- ❑ Ongoing evaluation and expansion of the Town's dry hydrant network
- ❑ Improvement of the Town's public water system
- ❑ Public outreach, awareness, and education programs, including hosting wildfire awareness and DEEP fire danger level information on the Town website and at Town Hall
- ❑ Ongoing review of and upgrades to the fire departments firefighting equipment

Between these policies and programs, the Gator all-terrain vehicle (ATV) and brush truck available to both Fire Companies, and ongoing firefighter training, Colchester believes its services are fully capable. The Volunteer Fire Companies will continue to evaluate the level of risk and the need for additional hydrants or fire ponds as development continues in the future.

9.3 Vulnerabilities and Risk Assessment

Forests and inaccessible tracks of land are at the highest risk for wildfires. However, according to town officials, the only area that was specifically mentioned as having a significant wildfire in the past is the Babcock Wildlife Area which is described above in Section 9.1. The town feels that the Gator ATV and brush truck are sufficient, along with existing fire ponds and dry hydrants. Refer to Figure 9-1 in the Multi-Jurisdictional HMP for a general depiction of wildfire risk areas region-wide.

9.4 Mitigation Strategies and Actions

The Town of Colchester is generally a moderate risk area for wildfires. Potential mitigation measures for wildfires include a combination of prevention, education, and emergency planning measures as presented in Section 11.

10 DAM FAILURE

10.1 Setting / Historic Record

Dam failures can be triggered suddenly with little or no warning and often in connection with natural disasters such as floods and earthquakes. Dam failures can occur during flooding when the dam breaks under the additional force of floodwaters. In addition, a dam failure can cause a chain reaction where the sudden release of floodwaters causes the next dam downstream to fail. While flooding from a dam failure generally has a limited geographic extent, the effects are potentially catastrophic depending on the downstream population. A dam failure affecting Colchester is considered a possible event each year with potentially critical effects. No dam failures affected the town since the time of the last HMP.

10.2 Existing Capabilities

The Connecticut DEEP administers the Dam Safety Section and designates a classification to each state-registered dam based on its potential hazard as detailed in the regional plan. Owners of high and significant hazard dams are required to maintain Emergency Action Plans (EAPs), updated every two years, for such dams.

As noted in the Multi-Jurisdictional HMP, the lone high or significant hazard dam in Colchester is the Deep River Reservoir Dam, a Class C (high hazard) dam located near the Lebanon town line (Figure 10-1). The EAP for this dam was revised in 2015 to include new failure analysis and inundation mapping. The inundation area is downstream of the dam, entirely outside of Colchester.

The Norton Paper Mill Dam was demolished in 2014, removing all risk of dam failure at that site.

Town staff report that they regularly act as a liaison between DEEP and private dam owners, actively helping those owner navigate DEEP requirements.

Summary

Policies and Programs in Colchester that serve to mitigate dam failure hazards include removal of dams when possible and appropriate, and assisting private dam owners meet DEEP requirements. In general, municipal capabilities to mitigate dam failure damage have not increased significantly since the 2012 edition of the hazard mitigation plan was adopted. However, changes in the State's regulation of dams have increased Statewide capabilities sharply.

10.3 Vulnerabilities and Risk Assessment

As mentioned above, the Deep River Reservoir Dam (Class C) is the lone high hazard (Class C) or significant hazard (Class B) dam in Colchester, although 18 additional CT DEEP-registered dams

ranging in classification from BB to unclassified are located within town limits according to the "Connecticut Dams" data file, published in 1996. The "Listing of High, Significant, and Moderate Hazard Dam Owners and Dams in Connecticut" lists three Class BB dams in Town, in addition to the Class C Deep River Reservoir, as of January 2016.

Failure of a Class C dam would result in any of the following: loss of life; major damage to habitable structures, residences, hospitals, convalescent homes, schools, and main highways; and a significant economic loss.

The description of the Deep River Reservoir Dam below is based on information available at the Connecticut DEEP Dam Safety Section and in files of Norwich Public Utilities and Milone & MacBroom, Inc. It is noted that the failure of any of the other dams in Town could also have impacts on human life and property within Colchester, although these are not discussed in detail here in favor of the high hazard class.

- *Deep River Reservoir* is a Class C dam located at the north end of the reservoir, upstream of the Deep River Water Treatment Plant and Reservoir Avenue. This dam is owned by Norwich Public Utilities, a municipal utility corporation.

  According to a 2017 Dam Inspection report by Milone & MacBroom, Inc., the dam consists of an earthen embankment with a concrete core wall, a stepped concrete spillway, and a gatehouse with outlet works. In 1972, the dam was raised by 24 feet to its present configuration. Construction included a new earthen embankment, concrete spillway, a gatehouse, and auxiliary earthen dike and spillway. The dam is 810 feet long, 62 feet high, and has an average top width of 20 feet. The dam outlet consists of a 42-inch steel pipe within a 48-inch diameter concrete pipe. The outlet pipe divides to two branches downstream of the dam, a 30-inch pipe and a 42-inch pipe. The 30-inch pipe discharges to the water treatment plant located several thousand feet downstream. The 42-inch pipe releases to the downstream channel at the toe of the slope.

  The spillway is a 90-foot wide concrete ogee crest structure. The spillway channel is a 90-foot wide concrete chute with 10-foot high walls. A concrete gatehouse/outlet works control tower is centrally located on the upstream side of the dam.

  The dam is equipped with a breakaway dike located along the northwest shoreline of the reservoir. The dike is earthen and approximately 240 feet long. The left and right shorelines of the dike are lined with riprap and overgrown with vegetation. The center 50 feet is unprotected and constructed of fine earthen material such that the central section would give way when water levels in the reservoir are rising. The crest of the dike was approximately 20 feet above the reservoir water level on the date of inspection. Water escaping the reservoir through the dike is constrained by natural topography and eventually flows into the inundation area downstream of the Deep River Dam in the low lying area adjacent to the water treatment plant. The topography downstream of the dike has been modified to create a flow path through a naturally existing chute. The flow path has been lined with riprap, presumably to provide erosion protection.

The spillway discharges to Deep River, which flows under Reservoir Road through twin culverts. Deep River flows through a marshy lowland before intersecting Route 2. The culvert under Route 2 is a 13-foot high by 16-foot wide cast-in-place concrete box culvert with flared wingwalls. Downstream of Route 2, the Deep River joins Sherman Brook and flows into the Yantic River.

The Deep River Dam EAP was updated in 2015 and includes a dam failure inundation area. Dam failure could result in damage to Route 2 and to several houses located approximately 2,500 feet downstream of the dam. However, only one structure owned by Norwich Public Utilities would be damaged in Colchester. The inundation area includes the Deep River Water Treatment Plant as well as the Lebanon Pines alcohol and drug rehabilitation facility in Lebanon.

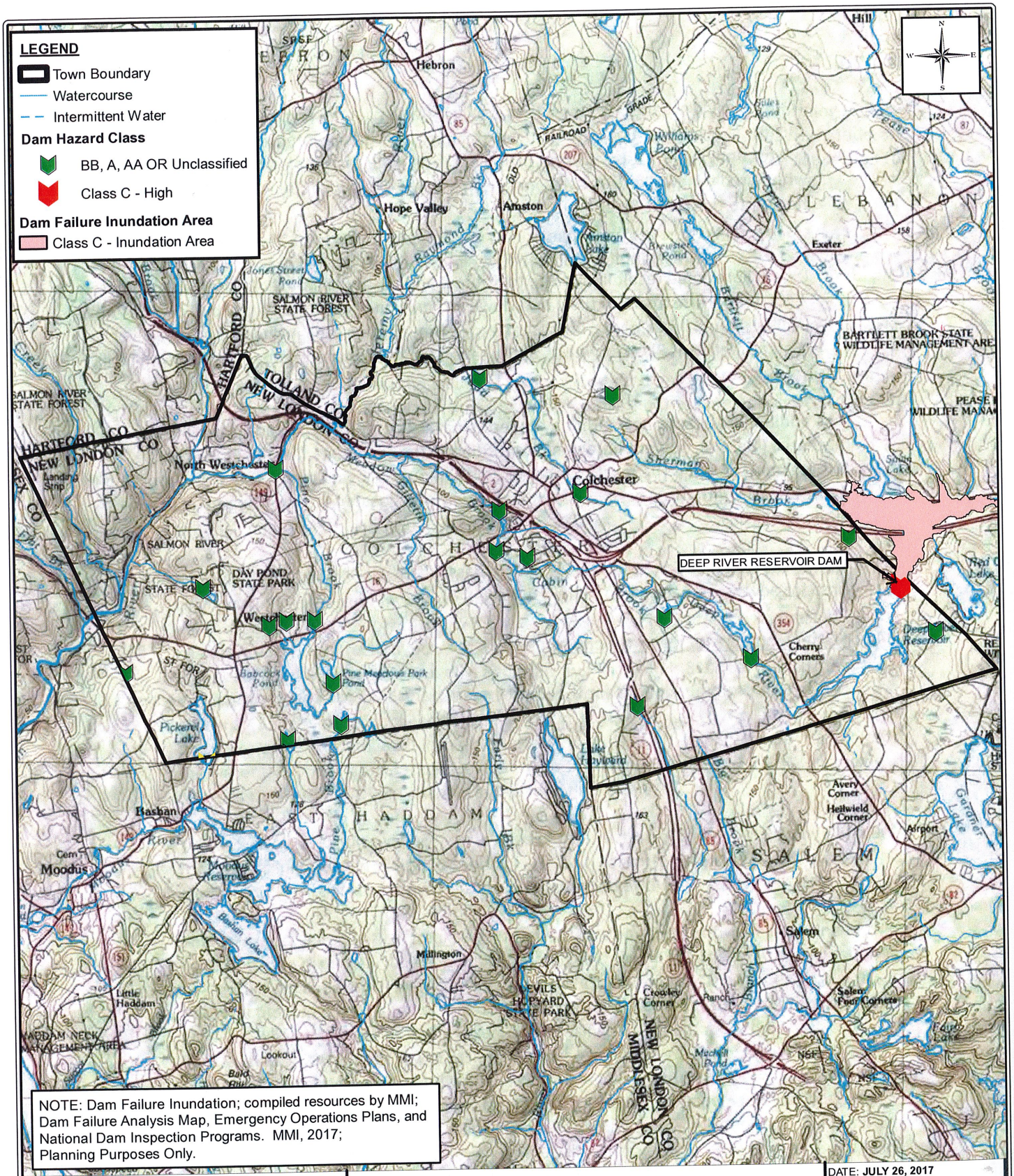
The additional 18 dams held either a moderate hazard potential (Class BB), a low hazard potential (Class A), or were unranked. According to the same data file, the Pine Brook subregional basin has the most number of dams in four, followed by the Meadow Brook and the Latimer basin with three each. The remaining dams are located in six of the remaining 16 drainage basins.

Due to the fact that Colchester has only one Class C dam, Colchester is considered a low risk area for adverse impacts due to dam failure.

10.4 Mitigation Strategies and Actions

Suggested recommendations for the lower-hazard dams in Colchester are listed in Section 11.

MXD: Y:\3570-09\Maps\annex_maps\Colchester\Figure 10-1.mxd



NOTE: Dam Failure Inundation; compiled resources by MMI; Dam Failure Analysis Map, Emergency Operations Plans, and National Dam Inspection Programs. MMI, 2017; Planning Purposes Only.

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HIGH & SIGNIFICANT HAZARD DAMS

SCCOG HAZARD MITIGATION UPDATE
TOWN OF COLCHESTER ANNEX

COLCHESTER, CONNECTICUT

SOURCE: DAM HAZARD CLASS; DAMS, CTDEEP 1996 & LISTING OF DAMS; CTDEEP, 2016

DATE: JULY 26, 2017
SCALE: 1"=9,000 '
PROJ. NO.: 3570-09

DESIGNED	DRAWN	CHECKED
SB	PS	DM

DRAWING NAME:

FIG. 10-1

11 MITIGATION STRATEGIES AND ACTIONS

11.1 Status of Mitigation Strategies and Actions

The previous edition of the SCCOG Multi-Jurisdictional HMP and Town of Colchester annex listed a suite of hazard mitigation actions applicable both locally and region-wide. These actions, along with commentary regarding the status of each, are listed in the tables in this section. Additionally, new actions were developed in the process of developing this HMP update. These are listed at the end of each hazard section below.

11.1.1 Actions Applicable to All Hazards

Actions Applicable to All Hazards		
Action	**Status**	**Status**
Regional Coordination		
Continue to promote inter-jurisdictional coordination efforts for emergency response.	*Capability*	*Completed through mutual-aid agreements and SCCOG regional hazard management initiatives. This action is reclassified as a capability.*
Continue to promote local and regional planning exercises that increase readiness to respond to disasters.	*Capability*	*Completed through local participation in regional and statewide exercises. This action is reclassified as a capability.*
Continue to evaluate communication capabilities and pursue upgrades to communication ensuring redundant layers of communication are in place within the town and with other SCCOG communities, New London County, and the State of Connecticut.	*Capability*	*Performed by Emergency Management Director and Volunteer Fire Department. This action is reclassified as a capability.*
Continue to promote regional transportation planning through SCCOG to balance general transportation, shipping, and potential evacuation needs.	*Capability*	*This action is the responsibility of, and is being performed by, SCCOG. This action is redefined as a regional capability, and is dropped.*
Work with SCCOG to perform a regional study to identify the vulnerability of critical facilities that may be unable to withstand natural hazard damage. Emphasis should be placed on critical infrastructure, shelters and other sites to ensure structural integrity against various hazards and adequacy of backup supplies.	*Complete*	*This action is the responsibility of, and was performed by, SCCOG. None of the facilities in the analysis were located in Colchester.*
Local Emergency Response		
Continue to review and update the town EOP at least once annually.	*Capability*	*Performed by Emergency Management Director. This action is redefined as a capability.*
Continue to maintain emergency response training and equipment and upgrade equipment when possible.	*Capability*	*Performed by Emergency Management Director and Volunteer Fire Department. This action is reclassified as a capability.*

Actions Applicable to All Hazards		
Action	**Status**	**Status**
Encourage local officials to attend FEMA-sponsored training seminars at the Emergency Management Institute (EMI) in Emmitsburg, Maryland. All of these workshops are free of charge. Tuition, travel and lodging are provided by FEMA for the EMI training. Annual training sessions include emergency management, environmental reviews, the FEMA grant programs, the NFIP and CRS and others related to other hazards.	*Capability*	*Town staff go through training, and at this point most of the critical staff have been trained up to Incident Command System (ICS) levels 400 to 700.* *Elected officials are also trained to lower ICS levels as a matter of policy.* *Staff and elected-official attendance of trainings is an ongoing policy. This action is reclassified as a capability.*
Continue to evaluate emergency shelters, update supplies, and check communication equipment.	*Capability*	*This action is the responsibility of the Emergency Management Director.* *It is reclassified as a capability.*
Ensure that emergency procedures are in place to minimize the potential for any releases of propane, fires, or explosions at the propane business in the center of town.	*Capability*	*Municipal staff indicated that such procedures are in place.* *This action is reclassified as a capability.*
Pursue the ARC-certification of the main shelter, Bacon Academy and the back-up shelter, Jack Jackter Elementary School which is also the Town's EOC.	*Carry Forward / Modify*	*Bacon Academy shelter is ARC-certified and operated by ARC-certified shelter operators.* *Jack Jackter Elementary school has not been certified; as a backup shelter, certification was a lower priority than other activities.* *Bacon Academy's certification is reclassified as a capability.* *Implementation of necessary actions to certify Jack Jackter Elementary School is carried forward as a new action.*
Continue to promote dissemination of public information regarding natural hazard effects and mitigation measures into local governmental and community buildings. Specifically, ⇨ Obtain copies of the disaster planning guides and manuals from the "Are You Ready?" series (http://www.ready.gov/are-you-ready-guide). ⇨ Encourage residents to purchase NOAA weather radios with an alarm feature. ⇨ Post hazard preparedness information on the town's website. Include links to established sources at the State of Connecticut and FEMA.	*Capability*	*Links to hazard preparedness information are available through the Town website and the Fire Department website. Information is also available at the Town Hall.* *This action is reclassified as a capability.*
Continue to encourage town residents to register with the CT Alert Emergency Notification System via the ENS website (http://www.ct.gov/ctalert/site/default.asp) and continue to highlight this on the Town's web site.	*Capability*	*This action is reclassified as a capability.*
Prevention		
Develop a checklist for land development applicants that cross-references the specific regulations and codes related to disaster resilience.	*Capability*	*The Town has a checklist associated with the fee schedule for permit applications. This is a list of all application requirements, and includes references to specific regulations and codes.* *This action is reclassified as a capability.*

Actions Applicable to All Hazards		
Action	**Status**	**Status**
Integrate elements of this HMP into the *Plan of Conservation and Development* during the next update and beyond.	*Capability*	*There are a number of POCD actions with the goal of "not interfering with natural features" which serve to both promote preservation and lower vulnerability to hazards. This action is taken as policy and is reclassified as a capability.*
Consider requiring the underground installation of utilities for new development to the greatest extent/feasibility. Areas of shallow bedrock will likely be limiting.	*Capability*	*This is a requirement. (Zoning S:5.6, 8.1; Subdivision S:7.10). This action is reclassified as a capability.*
Continue reviewing building plans to ensure proper access for emergency vehicles.	*Capability*	*This is a requirement (Zoning S:8:10; Subdivision S:6.30 This action is reclassified as a capability.*
Continue to enforce the appropriate building code for new building projects.	*Capability*	*This action is reclassified as a capability.*
Encourage residents to install and maintain lightning rods on their buildings.	*Delisted*	*The Town has not seen strong evidence that installation of lightning rods on private residential property will be helpful. Additionally, there is little access in this area to companies capable to performing such installations. This action is dropped.*
Natural Resource Protection & Open Space		
Continue to regulate development in protected and sensitive areas including steep slopes, wetlands, and floodplains.	*Capability*	*Colchester's Zoning Regulations and POCD were updated hand-in-hand; these, along with Inland Wetlands Regulations, all include natural resource protections and encourage the creation and preservation of open space. This action is reclassified as a capability.*
Public Education & Awareness		
Conduct a "Natural Hazards Fair" so that interested parties can familiarize themselves with natural hazard mitigation options. Consider working different "hazard weeks" into public education plans when possible tying into national hazard weeks such as "Fire Prevention Week", "Hurricane Preparedness Week", and others.	*Delisted*	*This action has not been performed due to budget constraints and an uncertainty as to the effectiveness of such an effort. This action is dropped, and other public education and awareness actions are proposed instead.*

Other mitigation actions performed by the Town since the previous HMP include:

- The Town developed and implemented a pre-event checklist to help ensure it is prepared for hazardous weather events. This is an internal document.
- As noted elsewhere, the Town hired certified shelter operators to run the emergency shelter in place of Red Cross volunteers, improving shelter operations and reliability.

Other actions or strategies developed during the HMP update include:

- Implement necessary actions to secure ARC-certification of the Jack Jackter Elementary School backup shelter.
- Develop and send out a Hazard Mitigation Information mailer every couple of years to provide residents with up-to-date information about local risks, mitigation and response measures, and actions they can take.
- Provide brochures about hazard mitigation at the Public Library.

- ❑ Improve the visibility of hazard mitigation information on the Town Website

The Town has acquired a set of early warning sirens from the decommissioned Connecticut Yankee nuclear power plant. These sirens are PA-capable. The Town has developed the following action related to those sirens:

- ❑ Revamp Connecticut Yankee early warning sirens and locate them around Town. Develop a protocol to use sirens to broadcast warnings and other information about emergency events.

11.1.2 Actions Applicable to Inland Flooding

Actions Applicable to Inland Flooding		
Action	**Status**	**Status**
Prevention		
Continue to regulate new development activities within SFHAs to the greatest extent possible within the local land use regulations.	*Capability*	*Accomplished through Town ordinances, regulations, and permitting procedures. This action is reclassified as a capability.*
Require developers to demonstrate whether detention or retention of stormwater is the best option for reducing peak flows downstream.	*Capability*	*Required by Zoning Regulations (Appendix 1 S:2, updated January 15, 2015). This action is complete and reclassified as a capability.*
Conduct an annual inspection of floodprone areas that are accessible to town officials. Determine if potential flood damage is stormwater facility related and make recommendations as appropriate.	*Capability*	*Performed by the DPW and EMD. This action is reclassified as a capability.*
Both Subdivision and Zoning Regulations should be updated to integrate the NFIP regulations associated with the current DFIRM mapping which, for New London County, was updated on July 18, 2011.	*Carry Forward*	*This action has been completed within the Zoning Regulations; however Subdivision Regulations and the Flood Hazard Areas Ordinance continue to refer to the previous FIS and FIRM.* *This action is partially completed. Updating the Subdivision Regulations and Flood Hazard Areas Ordinance to integrate the most recent NFIP FIS and FIRM is carried forward (see below).*
Property Protection		
Incorporate information on the availability of flood insurance into all hazard-related public education workshops.	*Delisted*	*Colchester does not run hazard-related public education workshops. NFIP information is available through the Town website and at the Town Hall. Town staff feel this is an effective way of disseminating that information, and this action is not necessary.* *This action is dropped.*
Make available FEMA-provided flood insurance brochures at public accessible places such as the local government buildings. Encourage residents to purchase flood insurance if they are located within a FEMA SFHA.	*Capability*	*NFIP information is available through the Town website (Emergency Management Page) and at the Town Hall.*
Provide technical assistance to owners of non-residential structures that suffer flood damage regarding floodproofing measures such as wet and dry floodproofing.	*Capability*	*The Town is not aware of any non-residential structures in Town that suffer flood damage. However, the Town is capable of providing such assistance.* *This action is reclassified as a capability.*

Actions Applicable to Inland Flooding		
Action	**Status**	**Status**
Encourage residents to continue to submit flood insurance claims following damage events.	*Capability*	*Flood events have not caused structural damage, even the floods of 2010. Nevertheless, if residents were to suffer flood damage, the Town would encourage them to submit flood insurance claims.* *This action is reclassified as a capability.*
Emergency Services		
Pursue mutual aid agreements with such organizations as the American Red Cross and the Boy Scouts of America to provide volunteer labor during flooding to assist with response activities.	*Delisted*	*The Town believes that volunteer labor is unreliable. CERT volunteers have been found to be unavailable during hazard events because they are responding to their own issues. Furthermore, the volunteer fire department consists of volunteer emergency responders, so there is a limited pool of additional volunteers. The Town therefore does not wish to pursue this action. This action is dropped.*
Public Education and Awareness		
Visit schools (as is currently done under fire prevention) and educate children about the risks of floods (and other natural hazards) and how to prepare for them.	*Delisted/ Capability*	*The Wetlands Enforcement Officer goes to the elementary school and teaches students about environmental protection generally. This includes information about flood hazards. Generally, the Town does not wish to focus on educating children about natural hazards, as they expect practical benefits will be limited. They prefer to focus on adult education.* *This action is dropped. The wetland officer's visits are reclassified as a capability.*
Encourage builders, developers, and architects to become familiar with the NFIP land use and building standards by attending annual workshops.	*Delisted*	*The Town does not hold annual workshops, nor allow construction of new buildings in the Special Flood Hazard Area (except functionally dependent uses). Information about the NFIP is provided as needed on a case-by-case basis. This action is deemed unnecessary and is dropped.*
Natural Resource Protection		
Pursue the acquisition of additional municipal open space in SFHAs.	*Complete/ Capability*	*The Open Space Advisory Committee explores acquisition options on an ongoing basis. Acquisition of the Norton Paper Mill land is an example of this work.* *This action is reclassified as a capability.*
Continue to aggressively pursue wetlands protection through existing wetlands regulations. Incorporate performance standards into subdivision reviews to include additional protective measures such as conservation easement areas around wetlands and watercourses.	*Capability*	*This action is performed by the Planning & Zoning Department and the Conservation Commission. It is reclassified as a capability.*
Structural Projects		
Utilize recently available extreme rainfall data to determine existing sizing of culverts. Encourage bridge replacements and culvert replacements in areas found to be undersized. Web sites such as http://precip.eas.cornell.edu/ publish this information.	*Delisted*	*It appears that extreme rainfall data is used for some projects, but the procedure is not be formalized.* *This action is dropped and replaced with that listed below this table.*
Continue to perform catch basin and culvert surveys to perform maintenance and cleaning and to identify and prioritize structures in need of replacement.	*Capability*	*Catch basins and culverts are inspected at the same time they are cleaned. Inspections and cleanings are performed as needed. This action is reclassified as a capability.*

Actions Applicable to Inland Flooding		
Action	**Status**	**Status**
Pursue funding to place riprap in areas of bridge scouring throughout town to limit further damage.	*Capability*	*This is performed on an ongoing basis. Installation of riprap for scour protection at the Paper Mill Road Bridge is an example of this. This action is reclassified as a capability.*
Work with the homeowners at the end of Caverly Mill Road to formally abandon the road and convert it into a private driveway. The town will continue to warn the two homeowners prior to significant storms of the likelihood of flooding. This action remains from the 2005 Hazard Mitigation Plan Annex, but was mistakenly referred to as the "Savin's Pond" bridge.	*Delisted*	*The Town no longer believes this action is viable. There are multiple parcels at the end of the road that may be developed, making it important for the Town to maintain the road. This action is dropped.*

Other mitigation actions performed by the Town since the previous HMP include:

- The wetland enforcement officer visits elementary school classrooms to teach students about environmental protection. This does not necessarily address hazards directly, but it does help students understand the natural systems that can generate hazards.
- Colchester switched from sand to salt for road deicing, decreasing the amount of sediment runoff from roads, and therefore decreasing the buildup of sediment in drainage infrastructure.

Other actions or strategies developed during the HMP update include:

- Update the Subdivision Regulations (Section 6.6) and Flood Hazard Areas Ordinance (Section 64.2) to integrate the most recent NFIP FIS and FIRM.
- Develop formalized guidance for culvert and bridge construction and replacement that requires utilization of the most up-to-date extreme rainfall data from http://precip.eas.cornell.edu (update to Zoning Regulations Appendix 1 S:2.1)
- Elevate Caverly Mill Road and elevate and replace the Caverly Mill Road Bridge over Sherman Brook.
-

11.1.3 Actions Applicable to Wind Damage from Hurricanes, Tropical Storms, Summer Storms, Tornadoes, and Winter Storms

Action	**Status**	**Status**
Prevention		
Work with Connecticut Light & Power to improve communications and coordination to limit the replication of the outages such as the significant outages following Tropical Storm Irene and Winter Storm Alfred of 7-9 and 5 days respectively.	*Capability*	*Connecticut Light & Power has been acquired by Eversource. The Eversource Liaison Program has improved communication and coordination with the utility. Outage response is better than 5 years ago. Further improvements are ongoing. This action is reclassified as a capability.*
Encourage Connecticut Light & Power to also cut down trees as opposed to just trimming trees near power lines.	*Capability*	*Connecticut Light & Power has been acquired by Eversource. Eversource's enhanced tree clearing program has been implemented. This action is reclassified as a capability.*

Action	Status	Status
Continue to contract out appropriate tree maintenance to the greatest extent possible.	*Capability*	*This action is reclassified as a capability.*
Property Protection		
Promote the use of functional shutters for older buildings in the town to guard against window breakage which can result in structural failure.	*Delisted*	*The Town does not believe that window blowout is a significant issue, and is concerned about the effect of shutter installation on historic commission priorities. This action is dropped.*
The Building Official should make information on wind-resistant construction techniques (such as hurricane straps) available to all building permit applicants.	*Capability*	*This action is completed through building code requirements, with information to exceed standards provided on a case-by-case basis. This action is reclassified as a capability.*
Encourage commercial building owners to develop Emergency Response Plans and identify mitigation opportunities.	*Capability*	*The Emergency Management Director has done this through general hazard public information meetings. This action is reclassified as a capability.*
Emergency Services		
Consider surveying all town-owned buildings to determine their ability to withstand wind loading, particularly shelters and schools. Such effort could be included in the regional critical facility study described in Section 2.8.	*Delisted*	*Many Town-owned buildings have been constructed in the last 40 years (since the 1970s), were built to code at the time, and are expected to be wind resistant. Older Town-owned buildings have withstood significant wind events and, therefore, are also expected to be wind resistant. Concern over wind damage to Town-owned buildings is therefore fairly low. The Town does not feel that surveying buildings beyond those surveyed as part of the SCCOG critical facility study is necessary. This action is dropped.*
Public Education and Awareness		
Visit schools (as is currently done under fire prevention) and educate children about the risks of wind events (and other natural hazards) and how to prepare for them	*Delisted*	*Generally, the Town does not wish to focus on educating children about natural hazards, as they expect practical benefits will be limited. They prefer to focus on adult education. This action is dropped.*

Other mitigation actions performed by the Town since the previous HMP include:

- The Town has designated two debris storage and management areas:
  - Primary: Transfer Station
  - Secondary: Ruby Cohen Fields

11.1.4 Actions Exclusively Applicable to Winter Storms

Action	Status	Status
Consider drafting a written plan for inspecting and prioritizing the removal of snow from town-owned structures.	*Delisted*	*Roofs are monitored, and removal procedures are in place; however, there is no written plan or prioritization. Such a plan is not expected to increase the Town's roof monitoring and snow removal capabilities. This action is deemed unnecessary and is dropped.*

Action	Status	Status
Continue making funding available to the Public Works Department each budget year for clearing snow from roads and parking lots.	*Capability*	*The Town has instituted and snow reserve budget so that excess snow removal funds from a particular year are saved and reserved for future snow removal. This action is reclassified as a capability.*
Provide information for generally protecting town residents during cold weather and for mitigating icing and insulating pipes at residences.	*Capability*	*Information is sent out to residents through email. This action is reclassified as a capability.*
Consider posting the snow plowing routes in Town Hall and on the town's web site such that residents and business owners may better understand their risks during winter travel.	*Capability*	*Snow routes are not posted due to their variability. The Snow and Ice Control Policy is posted on the Town website, allowing the public to understand how decisions are made. This action is reclassified as a capability.*
Continue to identify areas that are difficult to access during winter storm events and develop contingency plans for emergency personnel.	*Capability*	*No difficult-to-access areas have been found. This action is reclassified as a capability.*

Other actions, listed in the previous plan in a different hazard section but here relocated to the "All Hazards" section, were as follows:

Other actions or strategies developed during the HMP update include:

- ❑ Review the Snow and Ice Control Policy to determine whether updates are necessary. Update if necessary.

11.1.5 Actions Applicable to Earthquakes

Action	Status	Status
Ensure that town departments have adequate backup supplies and facilities for continued functionality in case earthquake damage occurs to these buildings and critical facilities. This should be part of the regional critical facility study discussed in Section 2.8.	*Capability*	*The Town feels that maintaining a sufficient amount of backup supplies is not financially feasible given that low likelihood of an earthquake that would require such supplies. This action is dropped.*
Consider preventing residential development in areas prone to collapse such as below steep slopes or in areas underlain by stratified drift and prone to liquefaction.	*Capability*	*Zoning regulations set limits to the grade on which construction can occur. No significant liquefaction-prone areas exist in Town. This action is reclassified as a capability.*

11.1.6 Actions Applicable to Wildfires

Action	Status	Status
Continue to evaluate dry hydrants, fire ponds, and areas at risk of wildfire in the town if /when they develop.	*Capability*	*The Volunteer Fire Department performs such an evaluation regularly. It has noted the loss of the dry hydrant at Norton Mill Pond. This action is reclassified as a capability.*

Action	Status	Status
Consider placing fire pond or dry hydrants language into Subdivision Regulation amendments.	*Capability/ Carry Forward*	*Subdivision Regulations have not been updated or amended in the last five years. Language on dry hydrant installation in detention basins was included in the 2015 Zoning Regulation amendments. Inclusion in Zoning Regulation amendments is classified as a capability. Inclusion is Subdivision Regulation amendments is carried forward.*
Continue to support public outreach programs to increase awareness of forest fire danger, equipment usage, and protecting homes from wildfires. Educational materials should be made available at the Town Hall.	*Capability*	*This action is reclassified as a capability.*
Ensure that provisions of town regulations regarding fire protection facilities and infrastructure are being enforced.	*Capability*	*This action is reclassified as a capability.*

Other mitigation actions performed by the Town since the previous HMP include:

- ❑ The Town is installing a new well within the public water system, increasing firefighting water supply.
- ❑ The Town developed a high pressure zone recently that will increase its capacity to use public water to fight fires within the public water system service area.
- ❑ A new dry hydrant was installed on Waterhole Road.

Other actions or strategies developed during the HMP update include:

- ❑ Determine whether a dry hydrant is needed to replace the one decommissioned with the removal of the Norton Paper Mill Dam. Install a new hydrant if needed.

11.1.7 Actions Applicable to Dam Failure

Action	Status	Status
Work with the CT DEEP to provide assistance to the 18 owners of low-ranking dams (Classes BB, A, AA and unranked) regarding resources available for inspections and maintenance including the Paper Mill Dam and the Linwood Dam which CT DEEP is currently involved in.	*Capability*	*The Town acts as a go-between for DEEP and private Dam owners. They have been active in helping those owners. This action is reclassified as a capability.*

Other mitigation actions performed by the Town since the previous HMP include:

- ❑ The Norton Paper Mill Dam was demolished in 2014, removing all risk of dam failure at that site.

11.2 Prioritization of Specific Actions

As explained in Section 11.3 of the Multi-Jurisdictional HMP, the STAPLEE method was utilized in this annex to prioritize actions. Table 11-1 presents the STAPLEE matrix for the Town of Colchester. Each action includes the department or commission responsible for implementing

the action, a proposed schedule, and whether or not the action is new or originally from the previous HMP. Refer also to Section 2.7 for the list of previous plan actions and whether or not each action was carried forward into this HMP.

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Action or Strategy #	Table 11-1: Mitigation Actions and Strategies for Colchester 2016 - 2021	Status	Responsible Department[1]	Fiscal Year					Cost	Potential Funding Sources[2]	Weighted STAPLEE Criteria[3]															Total STAPLEE Score	Priority for Community
											Benefits								Costs									
				7/2018-6/2019	7/2019-6/2020	7/2020-6/2021	7/2021-6/2022	7/2022-6/2023	Minimal <$1,000 Low < $10,000 Mod. < $100,000 High > $100,000		Social	Technical (x2)	Administrative	Political	Legal	Economic (x2)	Environmental	STAPLEE Subtotal	Social	Technical (x2)	Administrative	Political	Legal	Economic (x2)	Environmental	STAPLEE Subtotal		
1	Implement necessary actions to secure ARC-certification of the Jack Jackter Elementary School backup shelter.	Carried Forward	EM			x			Moderate	CIB	1	1	1	1	1	0	0	6.0	0	0	0	0	0	-0.5	0	-1.0	5.0	Low
2	Develop and send out a Hazard Mitigation Information mailer every couple of years to provide residents with up-to-date information about local risks, mitigation and response measures, and actions they can take.	New	EM		x			x	Low	OB	1	1	1	1	1	0.5	0	7.0	0	0	0	0	0	0	0	0.0	7.0	High
3	Provide brochures about hazard mitigation at the Public Library.	New	EM	x					Low	OB	1	1	1	1	1	0.5	0	7.0	0	0	0	0	0	0	0	0.0	7.0	High
4	Improve the visibility of hazard mitigation information on the Town Website	New	EM	x					Low	OB	1	1	1	1	1	0.5	0	7.0	0	0	0	0	0	0	0	0.0	7.0	High
5	Revamp Connecticut Yankee early warning sirens and locate them around Town. Develop a protocol to use sirens to broadcast warnings and other information about emergency events	New	EM				x		Moderate	CIB	1	1	1	1	1	0.5	0	7.0	0	0	0	0	0	-0.5	0	-1.0	6.0	Medium
6	Update the Subdivision Regulations (Section 6.6) and Flood Hazard Areas Ordinance (Section 64.2) to integrate the most recent NFIP FIS and FIRM.	Carried Forward	PL	x					Minimal	OB	1	1	1	1	1	0	0	6.0	0	0	0	0	0	0	0	0.0	6.0	Medium
7	Develop formalized guidance for culvert and bridge construction and replacement that requires utilization of the most up-to-date extreme rainfall data from http://precip.eas.cornell.edu (update to Zoning Regulations Appendix 1 S:2.1)	New	DPW		x				Low	OB	1	1	1	1	1	0.5	0	7.0	0	0	0	0	0	0	0	0.0	7.0	High
8	Elevate Caverly Mill Road and elevate and replace the Caverly Mill Road Bridge over Sherman Brook.	New	DPW				x		High	CIB	0.5	1	1	1	1	0.5	0.5	7.0	0	0	0	0	0	-1	0	-2.0	5.0	Low
9	Review the Snow and Ice Control Policy to determine whether updates are necessary. Update if necessary.	New	DPW			x			Low	OB	1	1	1	1	1	0	0	6.0	0	0	0	0	0	0	0	0.0	6.0	Medium
10	Consider placing fire pond or dry hydrants language into Subdivision Regulation amendments.	Carried Forward	PL	x					Minimal	OB	1	1	1	1	1	0.5	0.5	7.5	0	0	0	0	0	0	-0.5	-0.5	7.0	High
11	Determine whether a dry hydrant is needed to replace the one decommissioned with the removal of the Norton Paper Mill Dam. Install a new hydrant if needed.	New	EM		x				Low	CIB	0.5	1	1	1	1	0.5	0.5	7.0	0	0	0	0	0	0	-0.5	-0.5	6.5	Medium

[1]Notes
DPW = Department of Public Works & Engineering
EM = Emergency Management
PL = Planning Department

[2]Notes
CIB = Capital Improvement Budget
EOC = EOC Grants
HMA = FEMA Grant Programs
OB = Operating Budget

[3]Notes
Beneficial or favorable ranking = 1
Neutral or Not Applicable ranking = 0
Unfavorable ranking = -1

Technical and Economic Factors have twice the weight of the remaining categories (i.e. their values are counted twice in each subtotal).

APPENDIX A

ADOPTION RESOLUTION

CERTIFICATE OF ADOPTION
TOWN OF COLCHESTER BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE HAZARD MITIGATION PLAN UPDATE, 2017

WHEREAS, the Town of Colchester has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of those natural hazards profiled in the plan (e.g. *flooding, high wind, thunderstorms, winter storms, earthquakes, dam failure, and wildfires)*, resulting in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Colchester Board of Selectmen approved the previous version of the Plan in 2012; and

WHEREAS, the Southeastern Connecticut Council of Governments, of whom the Town of Colchester is a member, has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its Hazard Mitigation Plan Update, 2017 under the requirements of 44 CFR 201.6; and

WHEREAS, committee meetings were held and public input was sought in 2016 and 2017 regarding the development and review of the Hazard Mitigation Plan Update, 2017; and

WHEREAS, the Plan specifically addresses hazard mitigation strategies and Plan maintenance procedures for the Town of Colchester; and

WHEREAS, the Plan recommends several hazard mitigation actions that will provide mitigation for specific natural hazards that impact the Town of Colchester, with the effect of protecting people and property from loss associated with those hazards; and

WHEREAS, adoption of this Plan will make the Town of Colchester eligible for funding to alleviate the impacts of future hazards; now therefore be it

RESOLVED by the Board of Selectmen:

1. The Plan is hereby adopted as an official plan of the Town of Colchester;
2. The respective officials identified in the mitigation strategy of the Plan are hereby directed to pursue implementation of the recommended actions assigned to them;
3. Future revisions and Plan maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.
4. An annual report on the progress of the implementation elements of the Plan shall be presented to the Board of Selectmen.

Adopted this 18 **day of** Jan., 201~~5~~ **by the Board of Selectmen of Colchester, Connecticut**

First Selectman

IN WITNESS WHEREOF, the undersigned has affixed his/her signature and the corporate seal of the Town of Colchester this 19th day of January 2018

Gayle Furman
Town Clerk