Manchester

Manchester is a fully suburban community of over 58,000 located east of East Hartford. The Town covers about 27.3 square miles. Elevation ranges from about 80 to 500 feet above sea level and Manchester’s land area drains primarily to the Hockanum River and its watershed. Small areas along the southern border of the town drain to the main stem of the Connecticut River Watershed. In addition to the Hockanum River, other major waterways in Manchester include: Bigelow, Birch Mountain, Lydall and Porter Brooks. Several regionally significant transportation routes run through Manchester including Interstates 84, 384 and 291, as well as state routes 44/6 and 83. Principal industries include: engineered fibers, steel metal fabrication, plastics, machine tool companies, printing, warehouse/distribution facilities, electronic equipment, aircraft and missile components. Manchester is also home to one of the largest regional retail concentrations in New England. The Buckland Hills area includes over 3 million square feet of retail and services anchored by the Buckland Hills Mall, over 300 hotel rooms, restaurants, and movie theaters. The Town also boasts the Cheney Brothers National Register Historic District which includes historic mills and housing, and the downtown Main Street National Historic Register district.

Challenges

Manchester owns and operates its own water company. The protection and management of significant forested watershed land and the multiple stratified-drift aquifers relied upon by the residents of Manchester is paramount. In addition, Manchester is fortunate to have a significant open space recreation area of regional importance. The vast and rugged forested landscape known as Case Mountain Recreation Area poses some fire risk, especially at the natural/residential interface. Finally, there is some hazard potential to Manchester if there is a failure of an impoundment in towns upstream. Manchester will continue to maintain communications regarding potential hazards.

Since 2008, the Town of Manchester Public Works Department has received Flood Plain Zone and Wetlands Permit approval for five (5) projects including structural improvements to stormwater drainage infrastructure in Special Flood Hazard Areas that help mitigate flood risks. No new construction of primary residential or commercial structures has been permitted in the Special Flood Hazard Area. The Planning and Zoning Commission and Inland Wetlands and Watercourses Agency has approved several minor structural renovations, installation of accessory structures and site improvements in regulated areas in accordance with the flood hazard reduction and resource compensation standards outlined in the Zoning and Inland Wetlands and Watercourses Regulations. Manchester revised its Flood Plain Zone regulations in 2008 to meet required standards for participation in the National Flood Insurance Program. In accordance with the adopted standards, encroachments in the floodway are prohibited and any reduction of water holding capacity in the Special Flood Hazard Area caused by filling, new construction or substantial improvements shall be compensated for by deepening and/or widening of the flood plain.

The National Flood Insurance Program has paid 26 property damage claims in Manchester totaling $106,585 to-date. Manchester has had four Repetitive Loss Property claims on two properties totaling $43,204 to-date. A significant flood event could result in much damage. CRCOG used FEMA’s Hazus-MH model to analyze the risks that the community might face from flooding. The model estimates that economic losses to the town including residential and commercial damage and business interruptions due to a flood having a 1% chance of occurring any given year (the 100-year flood) would be over $64 million. The impacts of such a flood are summarized below:
<table>
<thead>
<tr>
<th>Estimated Damages from 100-Year Flood</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Households Displaced</td>
<td>542</td>
<td></td>
</tr>
<tr>
<td>People Needing Shelter</td>
<td>983</td>
<td></td>
</tr>
<tr>
<td>Buildings at Least Moderately Damaged</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Total Estimated Economic Losses</td>
<td>$64,350,000</td>
<td></td>
</tr>
<tr>
<td>Total Residential Building &amp; Content Losses</td>
<td>$16,900,000</td>
<td></td>
</tr>
<tr>
<td>Total Commercial, Industrial &amp; Other Building &amp; Content Losses</td>
<td>$47,180,000</td>
<td></td>
</tr>
<tr>
<td>Total Business Interruption Losses</td>
<td>$280,000</td>
<td></td>
</tr>
</tbody>
</table>

CRCOG also used FEMA’s Hazus-MH model to analyze the risks that the Town of Manchester might face from a hurricane as powerful as the 1938 hurricane. The model estimates that economic losses to the town including residential and commercial damage and business interruptions due to such a Category 3 hurricane would be nearly $320 million. The impacts of such a storm are summarized below:

<table>
<thead>
<tr>
<th>Estimated Damages from a 1938 Strength Hurricane</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Households Displaced</td>
<td>341</td>
<td></td>
</tr>
<tr>
<td>People Needing Shelter</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Buildings at Least Moderately Damaged</td>
<td>2,475</td>
<td></td>
</tr>
<tr>
<td>Buildings Completely Damaged</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>Total Estimated Economic Losses</td>
<td>$319,740,000</td>
<td></td>
</tr>
<tr>
<td>Total Residential Building Losses</td>
<td>$226,970,000</td>
<td></td>
</tr>
<tr>
<td>Total Commercial, Industrial &amp; Other Building &amp; Content Losses</td>
<td>$54,870,000</td>
<td></td>
</tr>
<tr>
<td>Total Business Interruption Losses</td>
<td>$37,900,000</td>
<td></td>
</tr>
<tr>
<td>Total Debris Generated</td>
<td>70,116,tons</td>
<td></td>
</tr>
<tr>
<td>Truckloads (at 25 tons/truck) of building debris</td>
<td>1,357</td>
<td></td>
</tr>
</tbody>
</table>

According to information from the Connecticut Department of Emergency Management and Homeland Security, the three federally declared natural disasters of 2011 resulted in total expenses to the municipality and other local agencies of over $5.9 million. These expenses include debris and snow removal, emergency protective measures and repairs to damaged infrastructure and buildings but do not include damages experienced by private citizens and businesses.

<table>
<thead>
<tr>
<th>2011 Disasters Damage Amounts Eligible for 75% Reimbursement Under FEMA Public Assistance Program</th>
<th>100% of Amount Eligible for 75% Reimbursement</th>
<th>Total Damages Eligible for Public Assistance Due to 2011 Disasters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant: Town &amp; Other Agencies (Fire Districts, Schools, Private Non-Profit Agencies)</td>
<td>DR-1958-CT 2011 Snow</td>
<td>DR-4023-CT Irene August 2011</td>
</tr>
<tr>
<td>Town of Manchester</td>
<td>$195,625.42</td>
<td>$98,051.65</td>
</tr>
<tr>
<td>Manchester Other</td>
<td>$16,605.57</td>
<td>$120,205.26</td>
</tr>
<tr>
<td>Manchester Total</td>
<td>$212,230.99</td>
<td>$98,051.65</td>
</tr>
</tbody>
</table>
**GOAL: MINIMIZE LOSS TO CRITICAL INFRASTRUCTURE DUE TO FLOODING, WINTER STORMS, HURRICANES AND HIGH WINDS**

**Objective 1:**
To reinforce, renovate and upgrade existing critical town facilities.

**Strategic Actions:**

1.1 Implement needed improvements to build a new Emergency Operations Center, when funding is available, at the Department of Public Works facility to withstand hurricanes and other disasters.
   - Lead: Facilities Management
   - Priority: High
   - Status: Completed

1.2 Implement needed upgrades to electrical system at the Senior Center, which is the primary emergency shelter to allow year-round use.
   - Lead: Facilities Management, Human Services
   - Priority: High
   - Status: Completed

1.3 Install operating generators at all primary and tertiary shelters and designated alternate care sites.
   - Lead: Facilities Management
   - Priority: Medium
   - Status: Completed

**Objective 2:**
To upgrade existing transportation infrastructure in order to allow for continuity of operations.

**Strategic Actions:**

2.1 Upgrade identified flood prone roadways to reduce potential for access being blocked due to flooding.
   - Lead: Public Works, Engineering
   - Priority: High
   - Status: Capital improvement program regularly includes funding for road and drainage upgrades that are used to address drainage issues and flood prone roadways. It is anticipated work will continue to be scheduled annually.
   - Potential Funding Source: Capital Improvement funds and local bonding
   - Timeframe: 2014-2019

2.2 Maintain list of on-call consultant engineers who can provide necessary assistance for structural and other specialized engineering assistance in response to impacts from natural disasters.
Objective 3:
To upgrade existing communication system in order to facilitate efficient emergency response in a natural disaster.

Strategic Actions:

3.1 Upgrade Emergency Operations Center communications system, including any necessary building upgrades.
Lead: Police, Fire, Facilities Management
Priority: High
Status: Completed

GOAL: REDUCE THE LIKELIHOOD OF FLOODING DAMAGES THROUGH MONITORING AND INCREASED PUBLIC AWARENESS

Objective 1:
Coordinate with the Town of Vernon to monitor dams and potential flooding along Hockanum River.

Strategic Actions:

1.1 Continue communications with Vernon emergency management personnel.
Lead: Emergency Management
Priority: High
Status: This is an established practice.
Potential Funding Source: General funds
Timeframe: 2014-2019
Objective 2:
Raise awareness of flooding risks among property owners.

Strategic Actions:

2.1 Determine real estate disclosure practices in high risk areas.
   Lead: Planning
   Priority: High
   Status: This is an established practice.
   Potential Funding Source: General funds
   Timeframe: 2014-2019

2.2 Implement an educational system for property owners, including appropriate materials and means for information dissemination. (Include information on importance of properly maintaining private trees).
   Lead: Planning
   Priority: Medium
   Status: This is an established practice.
   Potential Funding Source: General funds
   Timeframe: 2014-2019

Objective 3:
Raise awareness of public health concerns from flooding of private wells and/or on-site septic systems.

Strategic Actions:

3.1 Continue to update identified private properties including businesses, food service establishments, daycares and group homes served by private wells and/or on-site septic systems located within known flood risks.
   Lead: Health, Environmental Health Services, GIS staff
   Priority: High
   Status: This is an established practice; regular monitoring will continue
   Potential Funding Source: General funds
   Timeframe: 2014-2019

3.2 Implement an educational program for private owners including materials and recommendations for appropriate remediation of private utilities that have been subjected to flooding, for health protection and promotion.
   Lead: Health, Environmental Health Services
   Priority: Medium
   Status: This is an established practice; regular updates to be program are made
   Potential Funding Source: General funds
   Timeframe: 2014-2019: it is anticipated outreach will be made on a yearly basis.
Map 40: Manchester Population Density, Dams and Flood Zones
Map 41: Manchester Flood Plains, Repetitive Loss Areas, Dams and Important Facilities