Town of Dighton

Community Resilience Building Workshop

Summary of Findings

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FUSS & O'NEILL

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Overview

Extreme weather and natural and climate-related hazards are an increasing concern for the communities of Massachusetts, and there is a clear need to involve municipalities, corporations, organizations, and the Commonwealth in increasing resilience at all levels. Recent storm events affecting the region have highlighted many of the vulnerabilities that towns and cities face. Hurricane Irene and Superstorm Sandy brought intense flooding to many municipalities and threatened (or destroyed) infrastructure across the state. Extreme temperatures at both ends of the spectrum have pushed the limits of communities' preparedness to protect both infrastructure and people. In coastal communities, the impacts of sea level rise are felt daily and further exacerbate the impacts of other extreme events. Current climate modeling indicates that all of these hazards are expected to increase in frequency and scale over the coming decades. The Municipal Vulnerability Preparedness (MVP) program provides support and a prescribed process for cities and towns in Massachusetts to plan proactively for resiliency and implement key climate change adaptation actions.

In 2019, the Town of Dighton was awarded a $22,000 grant to fund the MVP Planning process and simultaneously complete Hazard Mitigation Planning for the Town. The Town partnered with Fuss & O'Neill, a state certified MVP Provider, to complete a comprehensive, baseline climate change and natural hazard vulnerability assessment and develop a list of priority actions for the Town. This process involved the development of an MVP Core Team, which met on October 2, 2019 to determine initial concerns and worked to identify stakeholders within the municipality and set goals for the process. Those stakeholders were then invited to participate in a Community Resilience Building (CRB) workshop on December 4, 2019, engaging in a day-long, tried and tested process developed by The Nature Conservancy. The CRB methodology is an "anywhere at any scale" format that draws on stakeholders' wealth of information and experience to foster dialogue about the strengths and vulnerabilities within the Town. Workshop participants interacted at both large and small group levels, using an iterative process to gather input, synthesize ideas across groups, and ultimately develop a set of priority resilience and adaptation actions.

The CRB workshop's central objectives were to:

- Define top local natural and climate-related hazards of concern;
- Identify existing and future strengths and vulnerabilities;
- Develop prioritized actions for Dighton;
- Identify immediate opportunities to collaboratively advance actions to increase resilience.

Top Hazards and Vulnerable Areas

During the Community Resilience Building workshop, participants were asked to identify the top four natural hazards of concern for the Town of Dighton. Discussion of the top hazards built on earlier conversations that took place at the MVP Core Team Meeting. Flooding was identified as a top hazard. Extreme weather events, including Nor'easters, hurricanes, and other severe storms, were a second hazard. Rising temperatures and resulting drought were identified as a third hazard. Sea level rise was seen as a fourth major hazard. These four hazards have already had demonstrated impacts on the Town, and as climate change progresses, these hazards are expected to have ever greater consequences for infrastructure and environment, as well as for various societal elements. Specific areas of concern are identified below.

Top Hazards

- Flooding
- Extreme weather events
- Rising temperatures and drought
- Sea level rise

Areas of Concern

While many impacts are expected to be felt Town-wide, certain elements, locations, or community groups present particular concerns.

Neighborhoods/Communities

Dighton Rock Park, Lower Main Street and Cobb's Lane, Pleasant Street, Lincoln Avenue, Hunter's Hill, Lincoln Village Senior Housing, senior populations across town

Facilities

Department of Public Works, Fire Station, Lane Field, Town Boat Ramp, Somerset Water wellheads, Bristol County Agricultural High School (Bristol Aggie), Tricentennial Park

Ecosystems

Taunton River, Broad Cove, Muddy Cove and Muddy Cove Brook watershed, Segreganset River watershed, Three Mile River Watershed

Bridges and Roads

In coastal flood zone areas and river/stream crossings on MA Route 138, Pleasant Street, Briggs Street, Warner Boulevard and Lincoln Avenue

Dams

Three Mile River at Spring Street, Briggs Street, Muddy Cove Brook Pond

Infrastructure

Dighton Power, Dighton Electric Light District power lines, Dighton Water District infrastructure, Somerset Water Department infrastructure, Dighton Sewer Department infrastructure, private septic systems, private wells

Current Concerns and Challenges Presented by Hazards

Major storm events have been a recurring threat to Dighton throughout its history, from hurricanes bringing wind, intense precipitation, and localized flooding, to winter storms delivering ice and snow. Notable historic events include impacts from the 1938 Hurricane, in which an oil barge was reportedly tossed into the marshes and a summer cottage in South Dighton was hurled one hundred yards (Taunton Daily Gazette, 2011). More recently, the Town has been experiencing an increasing regularity of storms, with the so-called 100 year storm now happening several times a year. Although these flooding and heavy precipitation events have impacts Town-wide, they are known to cause recurring issues at specific locations in Dighton. Rock Park, located in the flood zone of the Taunton River, is especially prone to flooding that leads to issues with septic systems.

More intense storms, delivering higher volumes of precipitation in a single event, are expected to put significant pressure on dams, culverts, and other drainage infrastructure that were designed to handle smaller storms with more consistent distributions of precipitation. This problem manifests at points across the Town and is acute where the local drainage systems concentrate and discharge, especially near areas such as Lincoln Avenue and at locations along Pleasant Street.

The Town is also noticing a shift in the type and timing of storms. Many storm events now encompass a mixture of rain, ice, and snow, making it more difficult to maintain safe, accessible roadways. Early season storms of wet, heavy snow when leaves were still on the trees have caused extensive damage to electrical infrastructure, leading to extended power outages.

Extreme temperatures are also leading the Town to plan for the use of cooling shelters. The Dighton Council on Aging's adult day care facility, Prime Time, has the capacity to serve as a designated heating and cooling shelter. Municipal leaders are eager to get the word out and increase transportation options to shelters so that more people, especially vulnerable populations like the elderly, are able to access these vital resources more often.

Specific Categories of Concerns and Challenges

Infrastructural

Culverts and Bridges

Culverts and bridges are a concern Town-wide, particularly as many of Dighton's developed areas are in such close proximity to the Taunton River and several brooks and wetlands. Existing culverts and bridges were designed to accommodate historic patterns of precipitation and runoff, but are rapidly becoming inadequate as a result of climate change. While design standards have changed, the Town's infrastructure largely predates such changes, and thus has not kept up with new standards. As precipitation events become more intense and less predictable, undersized culverts are expected to pose a greater threat of failure and flooding.

Although culverts and bridges are a concern Town-wide, participants focused on several in particular. Lincoln Avenue at the western tributary to Three Mile River has been the site of flooding from an undersized culvert. The Main Street crossing of Muddy Cove Brook (a.k.a. Richmond Brook) requires repair and resizing. The culverts in the area of Briggs Street at Segreganset River (with associated bridge failure) require reworking. The Town is also concerned about the culverts on the upper Segreganset River, specifically at Wheeler Street, Maple Street and Horton Street and three crossings within the Sunken Brook system at Tremont Street.

Roads

Roads in Dighton are vulnerable to flooding from both riverine and tidal flooding, as well as potential storm surges. In general, shifting weather patterns due to climate change are increasing the difficulty of maintaining those roadways. Potholes and sinkholes are becoming more problematic due to new patterns of freezing and thawing that occur repeatedly throughout the winter season. Roadway impacts due to hazard events, may, in turn, compromise the Town's ability to provide emergency services. Roads vulnerable to flooding were identified in multiple locations across the Town, including at several locations along Route 138 adjacent to Taunton River (at Broad Cove, at Muddy Cove, at the Segreganset River and at the Dighton/Taunton line). A several hundred foot long section of Lincoln Avenue is supported above the Three Mile River by a seawall structure and is subject to flooding up to the entrance to Lincoln Village (elderly housing)

Public Water Supply

The Dighton Water District supplies the Town's public water supply to approximately 1,800 service connections. Dighton Water operates several well fields and heads and has one two-million gallon tank and another 585,000 gallon tank. Another one hundred households in the south area of Dighton are connected to the Somerset Water District. The remainder of Dighton properties (approximately 1,300 households) obtain water through private wells. Two storage tanks are supplied for the Somerset Water District, which also has wells in Dighton to supply its public water system. There are tie-ins between the water districts in the region, allowing them to support each other in emergency situations. Typically, critical water system infrastructure, equipment, and water mains may be susceptible to hazards, especially flooding and extreme temperatures. Upgrades to the drinking water infrastructure are necessary and ongoing, Dighton Water is planning overhauls and upgrades to its Cedar I and Cedar III well fields and replacement of water mains on Main Street and Cedar Street. Future plans call for acquisition of land for development of new wells, or acquisition of existing wells that can increase system supply. Workshop participants expressed concerns about low water pressure and long term water availability during the warmest times of the year.

Public Wastewater Infrastructure

Six hundred (600) of Dighton's 3,200 households (approximately 19%) are tied into the Town's sewer system which is, in turn, connected to the Taunton municipal wastewater system. The majority of these properties are located within a service area in the North Dighton area.

Septic Systems

Approximately 2,800 households (approximately 81%) in Dighton are on Individual Septic Disposal Systems (ISDS). Septic systems in Dighton are a concern due to increasing flooding and the potential for high groundwater to lead to septic failures and discharges of sanitary waste to the environment, posing a threat to both human health and the environment. Workshop participants expressed concern over septic systems in areas such as Dighton Rock Park and Lower Main Street that are particularly prone to flooding.

Electrical and Communications Infrastructure

Communications and electrical power lines can be knocked out by snow and ice, in addition to wind events, causing extensive impacts to the Town. Extreme heat also stresses the electrical system, as increasing use of air conditioning leads to a risk of brown outs and outages, particularly if heat impacts are region-wide. Dighton's electric system is operated by National Grid, Dighton Electric Light and Taunton Municipal Lighting Plant. Workshop participants expressed concerns that

extended heat waves could have impacts on the system, as it could lead to extended power outages. Regionally, National Grid has also increased its removal of trees within its outer right-of-way, in response to extended power outages in recent years from downed trees.

Public Buildings and Facilities

The Dighton Fire Department Headquarters and Station #1 on Main Street is within a FEMA designated 100-year flood zone and potentially subject to storm surge. It is also within the inundation zone of the Muddy Cove Pond Dam. The Dighton Department of Public Works facilities on County Street is not within that flood zone, but is surrounded by land that is subject to potential flooding. The Dighton Police Department headquarters is also surrounded by the 100-year flood zone. These facilities will be critical during emergency events, and closure of roads due to flooding events was raised as a concern. It was also noted that the Town does not have its own fuel supply for public safety and public works vehicles; instead Town vehicles are driven to nearby commercial vendors and this may be problematic during emergency events when electrical power to run commercial pumps is out. Finally, extreme temperatures are impacting the ability to effectively heat or cool some municipal buildings. Cooling within Dighton's schools was the particular focus with a desire to keep buildings comfortable and safe for students and staff; schools are equipped with air-conditioning. Cooling and heating of other municipal buildings was not raised as an issue at the workshop.

Dams

Dams in Dighton were not generally identified as a priority for resiliency improvements. Under the State Dam Rating System (which focuses on downstream risk) the Muddy Cove Brook Dam is the only structure to receive a High Hazard rating. The Three Mile River Dam at Spring Street and the Poppasquash Pond Dam are rated as a Significant Hazard and the Briggs Pond Dam is a Low Hazard. All other (generally smaller) dams in Dighton are unrated by the State.

Backup Power Supply

A need for back-up power supply was discussed for several sites and facilities; some municipal buildings do not have generators or may require additional capacity for certain events. Quasi-municipal facilities including Lincoln Village, the senior housing complex administered by the Dighton Housing Authority, does not have generators for all buildings.

Water Quality

Workshop participants were concerned about the impact of climate change on drinking water, specifically for residents reliant on private wells. Some wells may run dry from decreasing aquifer levels while other wells near the Taunton River may be impacted by sea level rise and infiltration by more saline water from the tidal system.

Trees and Forests

Dighton is a community with an abundance of wooded areas. Forests provide critical ecosystem services that help buffer the effects of climate change, from storing and sequestering carbon, to increasing groundwater recharge, to modulating local temperature. Street trees are likewise critical for infiltration of rainwater and provision of shade. However, trees and forests are also threatened by climate change. Wind and storms cause blowdowns, drought can contribute to die-off, new invasive pests (e.g., Emerald Ash Borer and Hemlock Wooly Algid) are eliminating certain tree species, and others are in decline due to shifting temperature and precipitation regimes that favor more southerly species. The Town's emergency services also recognize that hazard events can convert trees from assets to threats. This may become increasingly problematic as these trees threaten electrical infrastructure during extreme weather events. Tree removal on private property can be a considerable burden on residents, and may be cost-prohibitive. Lastly, most of the open space and conservation areas in Town are forested. The Dighton Conservation Commission has forest management as part of its mandate and has been undertaking ad hoc forest management, although the Town has no overall forest management plan in place.

Invasive Species

Invasive plants and animals are a source of concern in Dighton, as they are throughout the Commonwealth. Forest and upland ecosystems are threatened by a variety of invasive plants, including plants such as oriental bittersweet, multiflora rose, two types of swallowwort, and several non-native honeysuckles. Riparian and aquatic habitats are severely threatened by common reed, Japanese knotweed, invasive water chestnut, hydrilla, purple loosestrife, Eurasian milfoil, and zebra mussels. In addition to their habitat impacts, the latter can potentially cause flooding by clogging drain pipes. Critical invasive insect pests already in the area include the Gypsy Moth, Hemlock Wooly Algid, and Emerald Ash Borer, all of which have the potential to do serious damage (both environmental and economic) to Massachusetts' forests and trees. These and other species already pose a significant challenge and have serious consequences for ecosystem health and resilience, and these impacts are likely to increase in response to climate change. Warming temperatures will also

bring new invasives to the area, and these will have an easier time gaining a foothold if the Town's natural ecosystems are simultaneously weakened due to changes in climatic conditions.

Local Agriculture

Unpredictable climate and weather conditions are taking a toll on agriculture locally and across the region. Dighton has a long and proud tradition of being an agricultural community. Climate change impacts such as increased temperature, longer droughts, wetter spring weather and changes to rainfall patterns all have potential to threaten agriculture in the town. Workshop participants noted concern in particular for private farms as well as Bristol Aggie. Climate change is expected to result in a longer growing season for New England, which can be beneficial for some crops but may lead to issues with others, for instance, by allowing additional time for blight or other crop diseases to develop. Early melt of snow pack, drought, excessive rain, and changing temperatures may all affect agriculture and livestock at varying scales.

Flood Mapping

Dighton's flood mapping was last revalidated by the Federal Emergency Management Agency (FEMA) in 2015, but does not reflect modeling that accounts for all forecast climate change. These are the official maps for calculating insurance risk factors for the National Flood Insurance Program. The Massachusetts Office of Coastal Zone Management (CZM) has established its StormSmart Coasts Program which provides mapping with other models showing potential climate change impacts from sea level rise.

Vulnerable Neighborhoods

Certain neighborhoods within Dighton are especially prone to flooding and have been experiencing problematic events for decades, including localized areas along the Taunton River and its major local tributaries. The Town is concerned about neighborhoods including Dighton Rock Park neighborhood that is adjacent to the Taunton River and is subject to tidal and storm surge flooding. The area has a high density of older housing, unpaved roads and can be difficult for emergency vehicles to access during storm events. In the past there have been issues with residents ignoring evacuation recommendations during high hazard events and later calling for emergency services personnel to rescue them. A second area of concern is the neighborhood around lower Main Street, Cobbs Lane and Water Street which is low-lying, making it vulnerable to tidal and storm surge. Also along the Taunton River, the area of Muddy Cove Lane and Pleasant Street faces increased flooding probability. Inland there are also areas and neighborhoods along the Segreganset River that are vulnerable to riverine flooding such as Rebecca Road and Susan Road. Along the Three Mile River, the neighborhood along Lincoln Avenue, Spring Street, Railroad Avenue and surrounding streets are in a floodplain area with undersized culverts that frequently backup resulting in localized flooding that makes evacuation difficult. Under the right conditions the area can also be subject to storm surge flooding.

Vulnerable Populations

Certain populations, such as seniors, are known to be at higher risk during hazard events and may require support beyond emergency notifications. According to the 2010 census, 8.4% of Dighton's residents (or 593 individuals) are over the age of 70. Workshop participants expressed concerns about some vulnerable citizens' ability to obtain food and medical supplies during hazard events, and to access heating and cooling centers on their own due to lack of transportation. Dighton's Council on Aging operates the Prime Time Adult Supportive Day Program at its Somerset Avenue facility which provides services for vulnerable populations during the day, including serving as warming and cooling centers during extreme temperatures. The Council on Aging offers resources from the Red Cross "Disaster Preparedness for Seniors by Seniors" program that encourages go-bags and preparedness for emergency situations. In addition, residents of group homes will need to be evacuated in a coordinated manner during emergencies.

Communications Systems

The Town does not currently operate an alert system to send mass messages. The Town's Emergency Preparedness Committee is exploring options for systems that can be used to reach

registered users during emergency situations, including flooding, road closures, power outages, and other situations relevant to the community. Most available systems are opt-in, and residents can choose to receive alerts by text, email, or phone (landline or cellphone). Police and Fire stations have generators and serve as communication hubs during emergencies.

Shelters

The Dighton Middle School is the designated shelter for Town residents in case of emergencies. There was discussion by workshop participants about the limited capacity at the Middle School facility in case of large scale events and a recommendation to increase sheltering capacity, particularly in other areas of the community.

Schools

Dighton's schools and student population are affected by a variety of hazard types. As days above 90 degrees increase, heat stroke is a concern for the student population in general, even though schools are air conditioned. Heat related health conditions are particularly a concern for special needs students and student athletes, but extreme heat conditions also make for a poor learning environment in general. There can also be concern about the increasing utility costs of running the schools during extreme temperatures, and the need to replace AC units due to stress from continued use, raising maintenance costs.

Pests and Disease Control

Climate change is affecting pests and disease vectors both through changing precipitation conditions and changing temperature conditions. Warmer, wetter conditions lead to increased mosquito populations, while the absence of sufficient periods of cold means that pest populations that would historically have been killed off or reduced are able to survive the winter and emerge in greater numbers the following season. Further, as the Massachusetts climate begins to look more like the climate of the mid-Atlantic and southern states, we are seeing new types of diseases show up in existing pests (e.g. mosquitoes carrying West Nile Virus, Eastern Equine Encephalitis, or Zika and ticks carrying Rocky Mountain Spotted Fever). 2018 marked the Commonwealth's highest ever incidence of West Nile Virus diagnosis, and 2019 marked the highest number of EEE cases in recent history in Massachusetts. During the summer of 2019 the Town did confirm the presence of EEE virus in mosquitos in Dighton and the public was urged to curtail outdoor activities. Workshop participants also noted the increase in reports of Lyme disease and the overall prevalence of ticks in recent years. These changes present a major public and animal health challenge in terms of education, prevention, and treatment. Dighton is currently part of a mosquito control district and participates in spraying programs.

Provisions, Medicine, and Fuel

Maintaining access to essential supplies like groceries, medicines, and fuel (for vehicles, heating, and generators), as well as critical medical care and drug treatment during emergencies, was a concern for workshop participants. It was acknowledged that power outages or road closures which affect access to these services could have extensive impacts on residents throughout the Town. Dighton does not have its own large grocery store or pharmacy; residents must travel to surrounding communities to fill their needs. There are several gas stations located along Route 138. Workshop participants did not raise the issue about provisions or medicine during the workshop.

Stress on Emergency Services

Dighton's Fire, Police, and Public Works departments bear much of the burden of responding to the increased human threats that result from climate-induced hazards. An ever larger percentage of the departments' time and resources are being devoted to handling things like traffic accidents and injuries that result from ice or other dangerous conditions and activities to protect property and maintain traffic flows during storm events, and Public Works is relied upon to clear roads and maintain access throughout the Town. Dighton is part of several mutual aid agreements for Police, Fire and EMS, including a local agreement with Berkley, Taunton, Rehoboth and Somerset. However, many climate hazards are expected to have regional effects, in which case resources from neighboring communities may not be available.

Parks and Open Space

Open space provides ecosystem services that help buffer the effects of climate change, from sequestering and storing carbon, to increasing groundwater recharge, to modulating local temperature. Open space is also critical in floodplains for providing a buffer and increased flood storage, near public water supplies to maintain high water quality and promote recharge, and to maintain overall habitat connectivity that will be vital to allowing ecosystems and individual species to adapt to a changing climate. There are several recreation and open spaces within Dighton that were identified as having the potential to be negatively impacted by flooding and sea level rise. Lane Field in the Lower Main Street neighborhood is often flooded and the marsh is migrating into the outfield. Tricentennial Park and Frank G. Costa Memorial Park are adjacent to the Taunton River and seeing more frequent high-tide and storm surge flooding. Bristol County Agricultural High School provides vital open space for the Town and region, but workshop participants noted that their fields along the Taunton River are being affected by erosion, more frequent estuarine flooding and resulting crop loss. The Town is aware of a need to preserve open space, particularly agricultural lands, which may become available to the Town through Chapter 61 as the Town's farming families

age into retirement and look to sell their land. Protecting the undeveloped flood plains along Broad Cove, Muddy Cove Brook and the Taunton River will be critical nature-based strategy for managing flood waters.

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Current Strengths and Assets

While the Town recognized a number of vulnerabilities, workshop participants identified key strengths as well. Dighton has a number of systems in place to facilitate emergency communications and information transfer. The Town has also established memorandums of understanding and mutual aid agreements that will support resiliency during hazards.

- Dighton is a very **connected community** with strong community spirit and a tradition of coordination
- **Lincoln Village** as central location for elderly population and it is located with **Dighton Council on Aging** facilities.
- Broad Cove and other **saltmarsh wetlands** act as buffer from Taunton River flooding.
- Public buildings are prepared to act as **emergency shelters** with air-conditioning for cooling centers
- Dighton has a well-established and rigorous **Stormwater Management Program**.
- The **Old Somerset Road bridge** at the crossing of Three Mile River was constructed in 2009.
- The Town has an active program to **monitor, repair and replace its bridges and road-stream crossings/culverts**.
- **Dighton Power**'s large facility is located within the community for locally generated power. Local solar fields also provide sustainable local power.
- The **Dighton Water District** operates its own wells and distribution system to provide locally-sourced water.
- The **Aquaria water desalination plant** provides water to Massachusetts communities.

- The **Bristol County Agricultural High School** farmland provides open space and flood storage space and buffers.

- Dighton has an existing **Town Facebook page** that serves as an information hub for residents.

- Dighton's new **Police Station** was completed in early 2019 and provides a modern headquarters for emergencies and regular operations and has a backup generator.

- There are several **areas of conserved and protected land** in Dighton owned by a range of organizations including the Town of Dighton, State agencies or other entities.

- Dighton Electric Light District engages in **proactive tree trimming and removal** to protect power lines.

- The Town has an **Emergency Preparedness Committee** that has an active web page on the Town web site providing many resources in case of emergencies resulting from climate change impacts. The Town offers resources through its **senior storm preparedness program**.

- The **Taunton River Watershed Alliance** has proactively planned for climate change impacts to the watershed and is actively assisting communities in preparing for change.

- The DPW conducts proactive **maintenance and cleaning of catch basins** each year.

- The Town has designated and can operate **emergency shelters** at the Dighton Middle School and can operate the Council of Aging Facility Prime Time as a short-term **heating and cooling center**.

- The Town is part of a regional **mosquito control district**.

- The Town has mechanisms in place for **wetland protection**.

- The Town has **multiple access routes to medical centers** during emergencies.

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Top Recommendations to Improve Resilience in Dighton

Participants at the CRB workshop identified a number of recommendations to address vulnerabilities and increase resiliency in three main topic areas: infrastructure, environment, and society. The impacts of extreme precipitation and flooding, specifically for developments in the flood plain, were a primary concern that emerged in both the small and large group discussions, encompassing a wide variety of infrastructural concerns. Providing sufficient protections and planning for vulnerable populations, such as seniors and students, in the Town was a second major theme.

Highest Priority

- **Update the field inventory of culverts and bridges** to rank and prioritize projects for increased flooding resiliency and storm-hardening, followed by design and implementation of priority re-sizing or replacement projects. Road stream crossings town wide should be monitored and then repaired or replaced as necessary to adapt to increasing stream flooding. Green infrastructure, Low-Impact Design, and other nature-based solutions will be integrated with hard-infrastructure improvements to establish approaches that will be robust in the face of natural hazards and climate-change scenarios.

- **Reconstruct the Briggs Street culvert and bridge** to reopen the road and reduce area flooding.

- **Replace the Center Street Bridge** in coordination with Mass DOT through TIP funding. Consider replacing waterline at the same location at the same time for efficiency.

- **Conduct dam assessments, identify privately-owned dams, and study feasibility of dam removals** where other aging, public or privately-owned dams may pose a threat of failure and flooding, or where removal may have significant positive impacts on stream habitat and aquatic organism passage or for increasing flood storage and flood control possibilities. Identify owners of private dams throughout Town. Study risk/cost/benefit for dams town wide and formulate maintenance and action plan.

- **Evaluate options for the privately owned Muddy Cove Brook Dam**, including repair, improvement, or removal.

- **Study the Segreganset River hydrological system** to understand potential ongoing/future stream migration and to guide future improvements and adaptations in road/stream crossings, buffer regulations, land conservation actions and other adaptation methods.

- **Undertake comprehensive infrastructure repairs at Lincoln Avenue** along the Three Mile River to increase resilience in the face of increased flooding including repair/replacement of the seawall, raising the road level, and replacing the culvert and improving stormwater management systems.

- **Conduct feasibility studies for the redesign or relocation of municipal buildings located** within the flood plain, such as the Fire Department Headquarters and Department of Public Works.

- **Develop evacuation plans and routes** for different categories of storm events and flooding that will affect different routing. Install appropriate signage and undertake large-scale education of population. Determine parameters for mandatory evacuation.

- **Conduct strategic planning to support regional agriculture** in the face of climate change. All of the identified hazards (flooding, ice and snow, drought and extreme precipitation, and extreme weather events) have the potential to significantly impact agricultural production, with corresponding threats to livelihoods and food availability. Planning should address hazard resiliency and approaches to support local agricultural adaptation in the face of climate change impacts by providing outreach, information and connect growers with local buyers to shorten supply chains.

- **Increase tree health and address tree mortality** through collaboration with state and national organizations to understand the forecast of changes to the specific woodland systems in Dighton and to plan for actions that will minimize negative impacts to infrastructure and environment.

- **Formulate a comprehensive area plan for neighborhoods and infrastructure located along Route 138 and the shoreline of the Taunton River** for low-lying communities such as Dighton Rock Park and the lower Main Street neighborhood to forecast specific impacts from sea level rise and storm surge flooding. Prepare a list of possible actions and cost/benefit, including bylaw changes for building construction parameters and

potential long-term future buyouts. Consider both protections for buildings in place, and eventual redevelopment strategies that may include retreat from the floodplain. Educate residents on ecosystem services provided by the floodplain. Evaluate Town regulations and strengthen restrictions on new development in the floodplain, as necessary.

- **Create an inventory of all existing sites with environmental pollution for flooding risk and potential contaminants.** Formulate an action plan to address impacts from increased flooding events at the sites where sea level rise and storm surges have the potential for negative impacts. Remediation is anticipated to be necessary at some of these sites; explore funding options for required cleanup. Integrate results into hazard planning.

- **Assess the viability of the hurricane barrier along the Taunton River** for its potential for use in flood mitigation.

- **Increase resilience and preparedness at Lincoln Village housing** through an updated evacuation plan and obtaining/installing generators.

- **Expand public water supply through land acquisition for new wells, a new storage tank and expanded supply system** to serve areas where well contamination is causing failure of private wells, or there is poor water service for fire suppression.

- **Develop a comprehensive strategy to increase emergency shelter capacity** that evaluates strengths and vulnerabilities of existing shelters and recommends tangible steps for improvements. Include a plan for communication to residents about shelter locations, amenities, and availability. Train additional personnel to open the Town's shelters and enact a Community Sheltering Plan. Ensure that all shelters are carbon monoxide compliant.

- **Develop transportation planning for vulnerable populations during hazard events** to ensure that vulnerable groups, notably seniors, will be able to get to shelters, obtain food and medications, or receive emergency services. Focus should be on identifying vulnerable populations and providing aid during all types of climate-induced risks, such as extreme temperatures, increasingly intense storms which may make travel difficult, or flooding and storm events that may leave residents unprepared, stranded, or cut off from supplies. Transportation should not depend on emergency services personnel.

- **Assess cost-effective green infrastructure opportunities for stormwater management** to develop a list of specific priority projects where reduction of stormwater runoff could mitigate flooding risk without the need to conduct expensive culvert replacement and resizing projects. Assess feasibility and cost, rank priority projects in terms of climate resilience potential, and develop concept designs for key projects. Review Town regulations and update as necessary to support green infrastructure and low-impact development approaches. Identify potential funding sources.

- **Continue education and outreach to residents living in flood-prone areas** to ensure that all individuals and families residing in these areas are aware of the potential risks, as well as mechanisms, such as flood insurance, to reduce their risk exposure. Ensure that outreach targets renters as well as property owners.

- **Develop educational resources, building/code recommendations, and support programs for residents interested in storm-hardening and increasing flood resiliency** of their homes. Focus on economically vulnerable populations. Consider utilizing the Town's television station, Channel 9, to disseminate information. Pursue funding opportunities to make resiliency improvements feasible for low-income residents.

- **Conduct robust education and outreach to build awareness of Town resources** and make Town residents aware of the many planning efforts, sources of emergency information, mutual aid agreements, shelters, evacuation routes, etc. which are focused on making the Town more resilient to climate change impacts. Ensure that all residents have transportation options and know how to access these resources when they are needed.

- **Evaluate opportunities to provide improvements at critical facilities, especially emergency backup power**, including feasibility of green power and battery storage. Town-wide, there are a number of buildings and facilities (including pump stations, schools, senior housing properties, etc.) in need of backup power systems to protect public buildings and infrastructure from freezing and improve services for residents who may lose power during emergencies or hazard events.

- **Increase public awareness programs related to vector-borne diseases,** such as EEE, West Nile, and Lyme Disease, to educate residents on the risks and warning signs of these diseases. This should include programs targeted at residents to increase awareness of

new diseases and encourage early testing. Develop local funding and resources to make it easier for residents to have ticks tested when a biting tick is found.

- **Develop a comprehensive tree and forests management program** to identify, remove, and replace problem trees, preserve intact forests and street tree cover, provide guidance and resources for gradually moving toward more climate-resilient trees and forest communities (e.g. species that will tolerate warmer temperatures), and develop guidelines to manage conversion of forest land (e.g. solar guidelines).

- **Seek to establish resilient natural infrastructure** to meet the effects of climate change, particularly through the ongoing preservation, maintenance and planting of trees, and, through forest stewardship.

- **Engage the community in exploration of stormwater management approaches for the Three Mile River watershed**, focusing on upstream green infrastructure and stormwater reduction. Identify approaches to stormwater management consider the Town's future land use plans and coordinate with the City of Taunton.

- **Address flooding on Route 138 near Muddy Cove Brook, Broad Cove Bachelor Brook**, **the Segreganset River and at the Dighton/Taunton line.** Consider options for bridge and culvert repair or replacement. Green infrastructure, Low-Impact Design, and other nature-based solutions should be explored to establish approaches that will be robust in the face of natural hazards and climate-change scenarios.

- **Develop a resiliency audit program,** modeled off of existing energy audit programs to assess individual properties for potential impacts of changing temperature and precipitation patterns that will result from climate change and how this will impact storm readiness and overall resiliency of homes. The program should offer recommendations for resiliency improvements and link property owners with necessary resources for implementation. Consider working with utility providers and insurance companies to develop incentives for resiliency improvements.

Moderate Priority

- **Protect and enhance coastal marsh habitat through adaptation/migration projects** in partnership with Save the Bay and Bristol County mosquito control. Consider additional land acquisition or land conservation through easements. Maintain drainage cleaning to reduce mosquito populations in collaboration with Somerset.

- **Prepare a plan with emergency plans and best management practices to support agricultural irrigation in case of extreme drought** with Agricultural Commission, Building Commission, Conservation Commission and Stormwater Commission

- **Study entire Segreganset River watershed area to develop mitigation plans for threat of increased flooding events** on surrounding areas and Water District wells.

- **Plan for access to gasoline supply during emergencies** in order to keep Town, County and State vehicles supplied; collaborate with Town, County and State departments.

- **Complete study of sewer line expansion** on Route 138 south to Hart Street in order to allow potential removal of private septic systems in flood areas.

- **Complete zoning bylaw revisions for solar farm developments** and plan for responses to panel damage from hail and potential powerline damage from storms.

- **Raise access road and construct new dock at Town Boat ramp off Pleasant Street.**

- **Pursue opportunities to fund open space acquisition** that will mitigate the effects of increased storm events. Focus on areas that will create flood resiliency through increasing storage capacity in floodplains and/or infiltration capacity in uplands, including the Stony Brook area. Priority should also be given to larger parcels that can provide connectivity between existing conserved parcels to maintain habitat corridors.

- **Develop an Alternate Emergency Staffing Plan** to ensure that essential roles are covered during an emergency, and reduce dependency on volunteers. Provide training so that Town employees in non-essential roles could be redirected to provide support during emergencies.

Lower Priority

- **Study the potential impact of sea level rise and increased extreme weather events on Dighton Power facility and Aquaria water desalination facility.**

- **Study and address erosion taking place at the Segreganset River west of Route 44 and coordinate with Massachusetts DOT on upcoming project.**

- **Collaborate with Town and State agencies to address erosion and more frequent flooding at the Bristol County Agricultural High School.**

- **Review existing plans to understand impact of extreme weather and temperature rise on the existing propane storage area on Cedar Street.**

- **Plan for the long-term adaptation of Lane Field into a saltmarsh and removal of man-made infrastructure.**

CRB Workshop Participants

All workshop invitees are listed below; attendees are indicated with an asterisk.

Name	Position, Organization
Mallory Aronstein*	Town Administrator, Town of Dighton
Nancy Goulart*	Board of Selectmen and Chairwoman, Stormwater Committee/Town of Dighton
Tom Ferry*	Highway Superintendent, Department of Public Works, Town of Dighton
William Frenette*	Chairman, Conservation Commission, Town of Dighton
Jim Digits*	Member, Conservation Commission, Town of Dighton
Todd Pilling*	Health Agent/Inspector and Member of Stormwater Committee, Town of Dighton
Robert Woods	Member, Planning Board, Town of Dighton
Christopher Maguy*	Chief, Fire Department, Town of Dighton
Robert MacDonald*	Chief, Police Department, Town of Dighton
Jeff Cloonan*	Superintendent, Dighton Water District
Anthony Azar	Superintendent, Dighton/Rehoboth Regional School District
Bill Napolitano	Environmental Program Director, Southeastern Regional Planning and Economic Development District
Michael Joyce*	Plant Manager, Dighton Power Plant
Paul Kitchen	School Business Administrator, Dighton-Rehoboth Regional Schools
Stacy Ferry*	Animal Control Officer, Town of Dighton
Ken Pacheco*	Chairman, Board of Selectmen, Town of Dighton
Alice Souza	Executive Director, Dighton Council on Aging
Pat Olsen	Member, Dighton Historical Commission
Robbie DeSouza	Director, Dighton Housing Authority
Courtney Rocha*	Regional Coordinator, Massachusetts Municipal Vulnerability Program (MVP)
Tim Rhines*	Chairman, Dighton Community Preservation Commission
Tom Ransley*	Owner, Shaws Boat Yard
Wenley Furguson*	Restoration Coordinator, Save the Bay
Richard Brown	Town Administrator, Town of Somerset
Charles Mello	Conservation Agent/Secretary, Conservation Commission, Town of Dighton

Kerrie Easterday	Office Manager, Planning Board, Town of Dighton
Diane Curtis	Office Manager, Sewer Department, Town of Dighton
Karin Brady*	Executive Assistant to Selectmen, Town of Dighton
Ronald Marino	Harbor Master, Town of Dighton
Brett Zografos	Board of Selectmen, Town of Dighton
Adele Sands	Superintendent, Bristol County Agricultural High School
Ken Araujo	Owner, Arujo Farms
Eamonn Mullaly	Environmental Police, Massachusetts Department of Conservation and Recreation
Mary Jo Perry	Engineer, Massachusetts Department of Transportation
Richard Treacy	North Dighton Fire District
Kenneth Goulart	General Manager, Taunton Municipal Lighting Plant
Cathal O'Brien	Water Supervisor, Taunton Water Department
Fred Cornaglia	Commissioner, Taunton Public Works
Maxine Mane	Representative, Manheim Auto
Heidi Taylor	President, Morton Hospital
Mary Cooke	Shawomet Yacht Club
Rusty Haskell	Intertribal Council
Nancy Durfee	Town Planner, Town of Somerset
Helen Dennen	Town Administrator, Town of Rehoboth
John McAuliffe	Town Administrator, Town of Swansea
Alan Coutinho	Town Administrator, Town of Berkley
Myrna Santos	Town Historian, Town of Dighton

CRB Workshop Core Team

Name	Organization	Role
Mallory Aronstein	Town Administrator, Town of Dighton	Project Coordinator
Nancy Goulart	Board of Selectmen and Chairwoman, Stormwater Committee/Town of Dighton	Core Team Member
Tom Ferry	Highway Superintendent, Department of Public Works, Town of Dighton	Core Team Member
William Frenette	Chairman, Conservation Commission, Town of Dighton	Core Team Member
Jim Digits	Member, Conservation Commission, Town of Dighton	Core Team Member
Todd Pilling	Health Agent and Member of Stormwater Committee, Town of Dighton	Core Team Member
Robert Woods	Member, Planning Board, Town of Dighton	Core Team Member
Christopher Maguy	Chief, Fire Department, Town of Dighton	Core Team Member
Robert MacDonald	Chief, Police Department, Town of Dighton	Core Team Member
Jeff Cloonan	Superintendent, Dighton Water District	Core Team Member
Anthony Azar	Superintendent, Dighton/Rehoboth Regional School District	Core Team Member
Bill Napolitano	Environmental Program Director, Southeastern Regional Planning and Economic Development District	Core Team Member
Jamie Caplan	Jamie Caplan Associates	Hazard Mitigation
William Guenther	Fuss & O'Neill	MVP Lead Facilitator
Arnold Robinson	Fuss & O'Neill	MVP Facilitator/Scribe
Stefan Bengtson	Fuss & O'Neill	MVP Facilitator/Scribe

Acknowledgements

Many thanks to the MVP Core Team members, CRB workshop participants, and to Mallory Aronstein who acted as the local Project Coordinator. Thanks to the Town of Dighton for providing a meeting space for the Core Team Meeting and CRB Workshop at the historic Old Town Hall.

Funding for the CRB Workshop was provided through a Massachusetts MVP grant.

Citation

Fuss & O'Neill (2019). Community Resilience Building Workshop Summary of Findings. Town of Dighton, Fuss & O'Neill, Inc. Providence, Rhode Island.

Appendix A

Final Risk Matrices

Community Resilience Building Risk Matrix

www.CommunityResilienceBuilding.org

Dighton, Massachusetts

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

H-**M**-**L** priority for action over the **S**hort or **L**ong term (and **O**ngoing)
V = Vulnerability S = Strength

Features	Location	Ownership	V or S	Extreme Weather Events	Flooding	Seal Level Rise	Temperature Rise/Drought	Priority H - M - L	Time Short Long Ongoing
Infrastructural									
Road-Stream Crossings/Culverts and Bridges	Town-Wide, Various, Private	State, Town	V	Update the field inventory of bridges and culverts to rank and proritize projects for increased flooding resiliency and storm-hardening, including design of priority re-sizing or replacement projects. Green infrastructure, Low-Impact Design, and other nature-based solutions should be integrated with hard-infrastructure improvements.	Monitor, repair and replace bridges and culverts as forecast conditions require. Assess feasibility of elevation/replacement of Center Street (with associated water line) and Pleasant Street bridge			H/L	S
Coastal Flood Areas Infrastructure / Roadways - State/Local	Taunton River		V	Create area adapotation plan for low-lying areas along Taunton River with Route 138, local roads, infrastructure and private properties				H	O/L
Undersized Culverts - Segragansett River at Lincoln Ave and Briggs Street	Town-Wide	Town	V	Continue maintenance / replacement; study Segragansett River Culverts / Systems / Lincoln Avenue culvert priority / Egress				H	O
Lincoln Avenue - flood prone area	At Three Mile River	Public, Private	V	Raise Lincoln Ave; Repair or replace seawall at new elevation, replace and expand culvert, improve overall stormwater management in area				H	S
Evacuation Routes	Various	State/Town	V	Develop evactuation plans that reflect changing climate impacts on available routes. Install new signage and education public.				H	S
Municipal Facilities in Flood Hazard Zone (Fire Station, DPW, Landfill)	138/Main		V	Relocate DPW facility. assess inability of Hurricane Barrier; Landfill w/ DED				H	S
Gasoline Supply and Access	Route 138	Private	V	Emergency Plans with Fire Dept and DEP. Use alternate gas stations on Rte 138/Rte 44 or Somerset				H	S
Aquaria Water Desalination Facility	Private	Private	S			Study impacts of sea level rise on facility/operations	Igher demand with decline in groundwater supply	L	L
Dighton Power Facility	Somerset Road	Private	V/S	Study impact on operations/resiliency		Study impacts of sea level rise on facility/operations	Higher demand impacts available power	L	L
Roads	Town-Wide, Route 138, Pleasant Street, Lincoln Avenue	Town	V/S	Forecast impacts of seal level rise and increased riverine flooding from storm events on roadways and seek funding for resilience/adaptation.				N/A	O
Public Water Supply System (lack of supply in some areas)	Town-Wide	Town/Private	V	Study Segregansett River to understand future impact on wells,			Land Acquisition, well acquisition and/or development, new storage tank, expanded distribution system	N/A	N/A
Wastewater Infrastructure	Town-Wide	Town	V	Perform a risk assessment of the wastewater infrastructure and establish priority actions for reducing flooding impacts, including consideration of nature-based solutions or Green Infrastructure approaches.				H	O
			V	Coordinate with Taunton to understand future resiliency of the wastewater treatment plant and emergency back-up plans for the plant and pump stations.				M	S
Septic Systems	Town-Wide, Cove Island	Private	V	Educate owners of private septic systems about the importance of having systems pumped out and keeping them in good working condition in order to prevent risks to public health and the environment from systems that become overwhelmed during periods of heavy precipitation.				L	L
Dams	Town-Wide	Town, Private	V	Update dam assessments, identify privately-owned dams, and study feasibility and cost/benefit of dam removals where other aging, public or privately-owned dams may pose a threat of failure and flooding, or where removal may have significant positive impacts on stream habitat and aquatic organism passage or for increasing flood storage and flood control possibilities. Identify owners of private dams throughout Town.				H	L
			V	Evaluate options for Muddy Cove Brook Dam, including repair, improvement, or removal				H	S
Emergency Shelters	Various	Town	V	Assess existing public shlters and pursue facilities upgrades that would increase resiliency, including actions to make facilities more resilient to storms, power outages, high-heat events, water supply problems, flooding, etc.				M	L
			V					M	S
Solar Developments	Town-Wide	Private	V/S	Research to understand potential damge from weather events.			Revise zoning bylaw re: solar farms	H	L
Uncapped Landfill	SE Corner @ Railroad		V		Limited assessment complete; assess for increased flooding frequency			M	L
Boat Ramp	Boat Ramp Rd.	Town	V/S	Raise access road and install new dock to adapt and maintain function				M	O

Community Resilience Building Risk Matrix

www.CommunityResilienceBuilding.org

Dighton, Massachusetts

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

H-**M**-**L** priority for action over the **S**hort or **L**ong term (and **O**ngoing)
V = Vulnerability S = Strength

Features	Location	Ownership	V or S	Extreme Weather Events	Flooding	Seal Level Rise	Temperature Rise/Drought	Priority H - M - L	Time Short Long Ongoing
Societal									
Lower Main Street - Residents	Lower Main Street Neighborhood	Public & Private	S	Evacuation Plan in Place	Impact Plan - Long-Term Study		Relocate Residents / Buy Properties	M/H	L/O
Agricultural Irrigation	Various Locations	Public & Private	V	Determine needs - Emergency Plans - Drought/Flooding Have Agricultural Commission develop work plan / best mgmt practices. Involve Bldg. Comm, ConCom,Stormwater Com.				M/H	S
Broad Cove Taunton River	Broad Cove	Mostly Public	V/S	Continue working w/ Save the Bay, BC Mosquito Control, Marsh Restoration / Propogantion Plan / Additional Land Acquisitions. Work w/ Somerset on Regional Propogation Plan. Marsh Migraation. Maintain drainage cleaning to reduce mosquito opoulation.				M/H	S/O
Air-conditioning in Schools	Various Locations	Public	V/S				Assess needs and develop plan for increased AC in school buildings for use by students and staff during school year and as cooling shelter in summer	M	L
Lincoln Village	300 Lincoln Ave.	Public	V/S	Update evacuation Plan. Install power generators				H	S
Neighborhoods in Taunton River Flood Zone	Various Locations	Public & Private	V	Perform a long-term study of future flooding events and sea level rise and assess options to adapt and remain resilient. Consider bylaw change to limit building location/configuration. Consider long-term need for buyouts of repetitive-loss properties.				M/H	L/O
Evacuation in Flood Hazard Areas	Various locations	Public & Private	V	Educate residents and owners about dangers in low-lying communities during flood/storm events. Consider mandatory evacuation protocols.				H	S/O
Hunters Hill Community - Elderly Housing Group Homes	Schools / Municipal Campus	Private	V	Education / Evacuation Coordination				M	L
Emergency Shelters Capability and Capacity	Schools / Municipal Campus	Public	V/S	Increase capacity of shelters, verify ability to maintain heat and power. Increase Education about availability and use of shelters. Verify capacity of generator at Town Hall, Fire Stations, Police Station, DPW				H	S
Vector-Borne Diseases / Septic System	Town-Wide	Public & Private	V	Saltmarsh Adaptation Projects w/ Bristol County; Mosquitos control (strong partner)				L	O
Community Spirit / Coordination	Town-wide	Public & Private	S	Create "Dighton 101" as information for new and existing residents. Build capacity for automated calls to all residents in case of emergency. Continue Climate Ready Dighton				M	S/O

Community Resilience Building Risk Matrix

www.CommunityResilienceBuilding.org

Dighton, Massachusetts

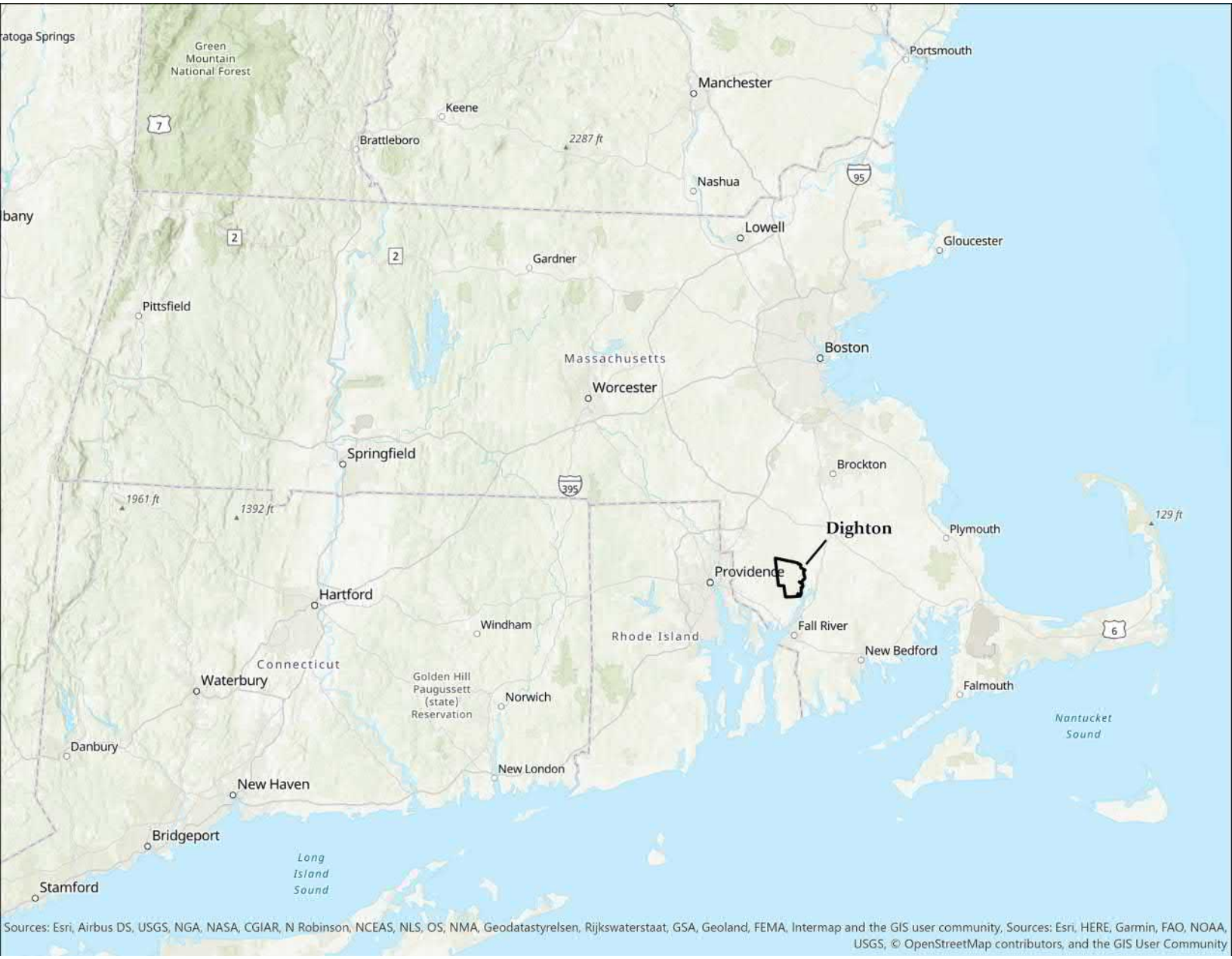
Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

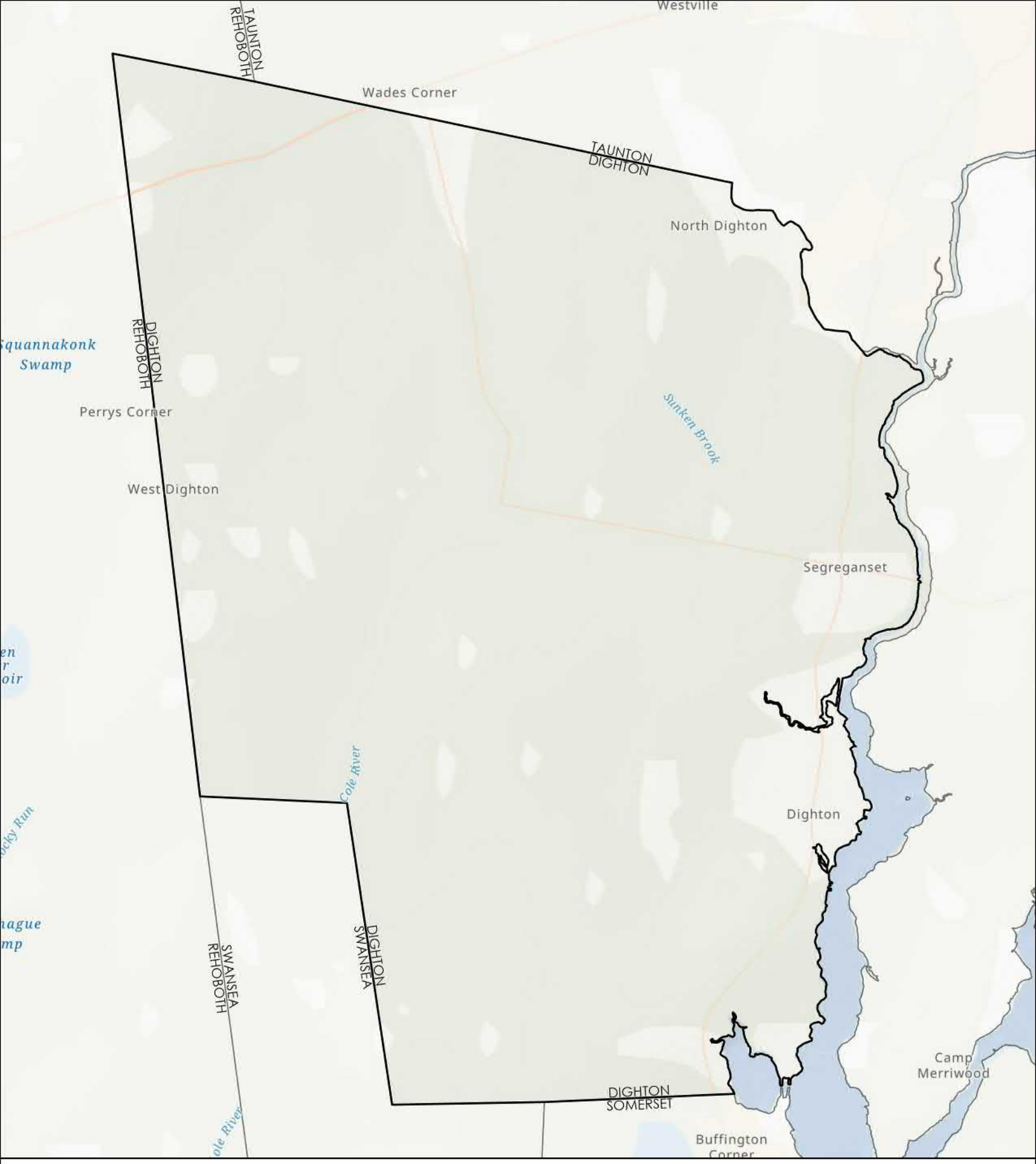
H-**M**-**L** priority for action over the **S**hort or **L**ong term (and **O**ngoing)
V = Vulnerability S = Strength

Features	Location	Ownership	V or S	Extreme Weather Events	Flooding	Seal Level Rise	Temperature Rise/Drought	Priority H - M - L	Time Short Long Ongoing
Environmental									
Segregansett River - Erosion West of 44	Near Rivercourse	Public	V	Coordinate with MA DOT on upcoming project to address erosion near State roads and infrastructure.				L	S
Briston Aggie School - Farm Land	Center St.	Public	V/S	Partner with BCAHS to conserve open space, slow erosion, mitigate flooding and crop loss and adapt to new growing seasons on public and private agricultural properties across the town.				L	O
Private Septic Systems in Flood Areas	Various Locations	Private	V	Currently studying sewer line expansion - Rte 138 South to Hart St.				M	O
Private Wells	Various Locations	Private	V		Expand public water system and capacity to connect to residences and businesses when private wells fail			M	L
Deer Population	Town-Wide	Public & Private	V	Conservation Management, hunting seasons and public education				H	O
Ticks & Mosquitos	Town-Wide	Public & Private	V	Mosquitos: Targeting aerial spraying. Begin spraying earlier. Ticks: Education.	Clean drainage areas and educate public about actions to mitigate populations			H	O
Environmental Pollution Sites	Various Locations	Public & Private	V	Inventory of Sites , hazards, integration w/ Hazard Planning. Monitoring existing sites, forecast changes from increased flooding and sea level rise, plan action for sites with risk				M	O
Old Town Dump	Hart Street	Public	V	Monitoring existing sites				M	O
Lane Field Flooding	Main Street	Public	V		Plan for long-term change of this public open space - flooding will be more frequent and marsh will seek to migrate			L	S/O
Coastal Habitat and Salt Marshes	Taunton River, Broad Cove	Public & Private	S/V	Prioritized Land Protection (e.g. NRCS - Wetland easement); Integrate with overall local and regional planning				M	O
Changes to Riverine Environments	Segregansett and Three Mile Rivers	Public & Private	V	Study Segregansett Migration - Hydrologic Study - Land Protection actions				H	S
Coldwater Streams	Segregansett River	Public & Private	V	Prioritized Land Protection (e.g. NRCS - Wetland easement); Integrate with overall local and regional planning				M	O
Agriculture Viability	Town-Wide	Public & Private	V	Support Agricultural Adaptation through outreach, information and support by allied organizations and agencies				H	S
Tree Health Mortality	Town-Wide	Public & Private	V	Continue and expand forest management planning and build programs to adapt forest diversity to maintain community character				H	S

Appendix B

CRB Workshop Base Map





Town of Dighton, MA
Hazard Mitigation Plan

Basemap

N

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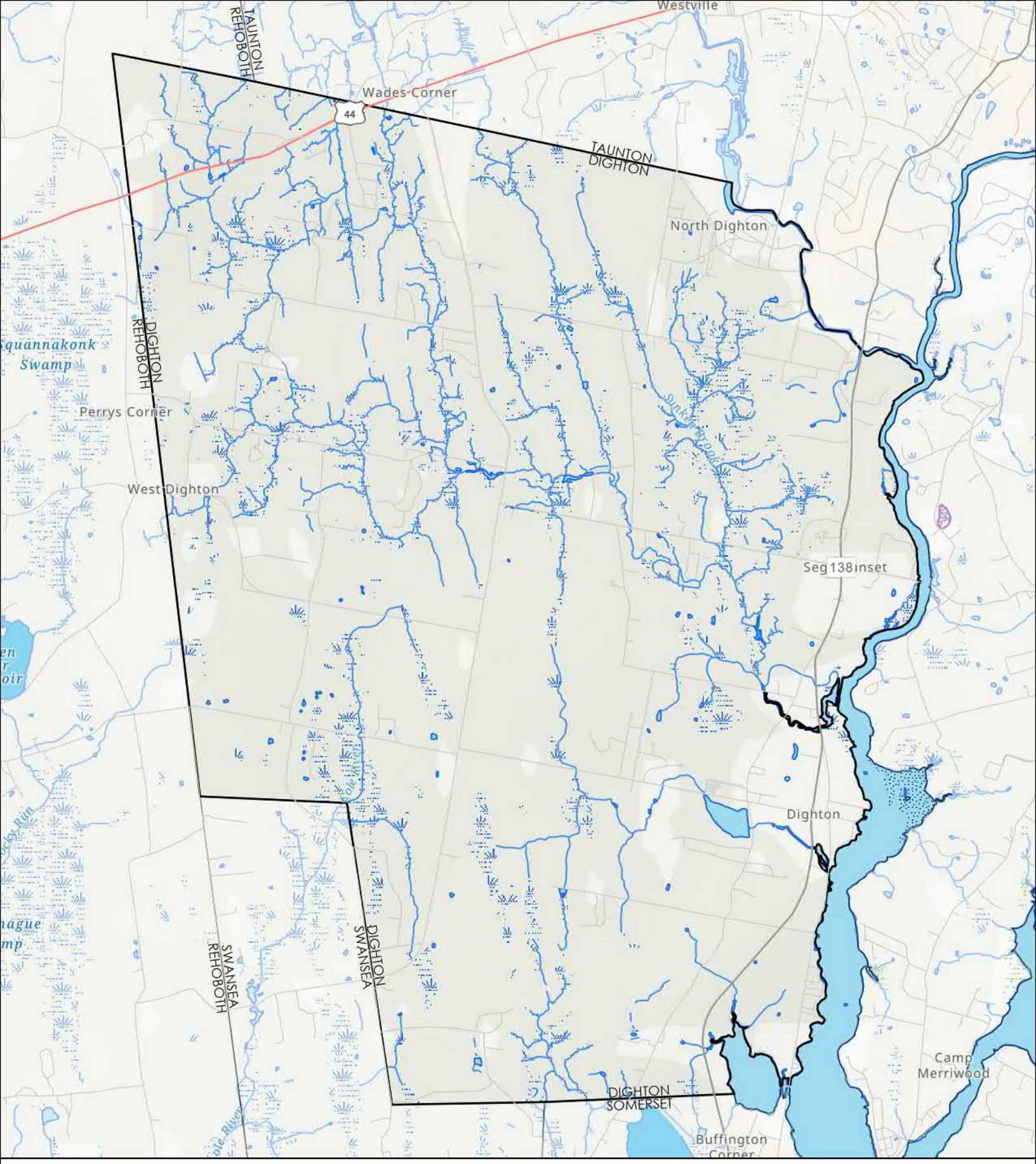
Miles

Data sources:
MassGIS - Administrative, Hydrography, and Transportation Data

FUSS & O'NEILL



Town of Dighton, MA
Hazard Mitigation Plan

Water Bodies

- Perennial or Intermittent Stream
- Shoreline
- Ditch/Canal
- Pond, Lake, Ocean
- Reservoir
- Wetland
- Salt Wetland
- Cranberry Bog
- Tidal Flat

N

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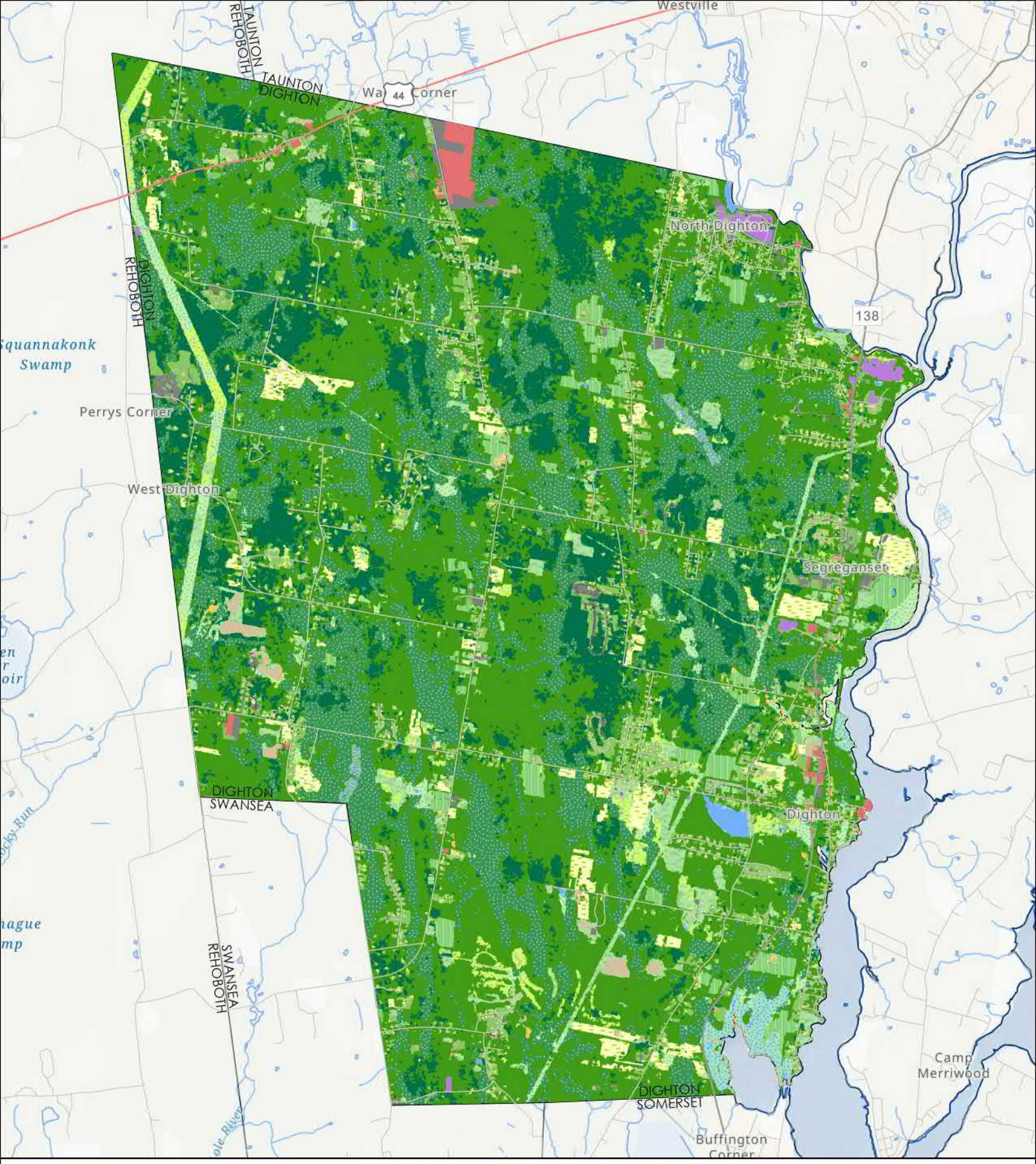
Miles

Data sources:
MassGIS - Administrative, Hydrography, and Transportation Data

FUSS & O'NEILL



Town of Dighton, MA
Hazard Mitigation Plan

Land Use

FUSS & O'NEILL

- Residential - Single Family
- Residential - Multi-Family
- Residential - Other
- Commercial
- Industrial
- Mixed Use - Primarily Residential
- Mixed Use - Primarily Commercial
- Mixed Use - Other
- Other Impervious
- Right-of-way
- Cultivated
- Pasture/Hay
- Developed Open Space
- Deciduous Forest
- Evergreen Forest
- Grassland
- Scrub/Shrub
- Bare Land
- Forested Wetland
- Non-forested Wetland
- Saltwater Wetland
- Water
- Unconsolidated Shore
- Aquatic Bed

N

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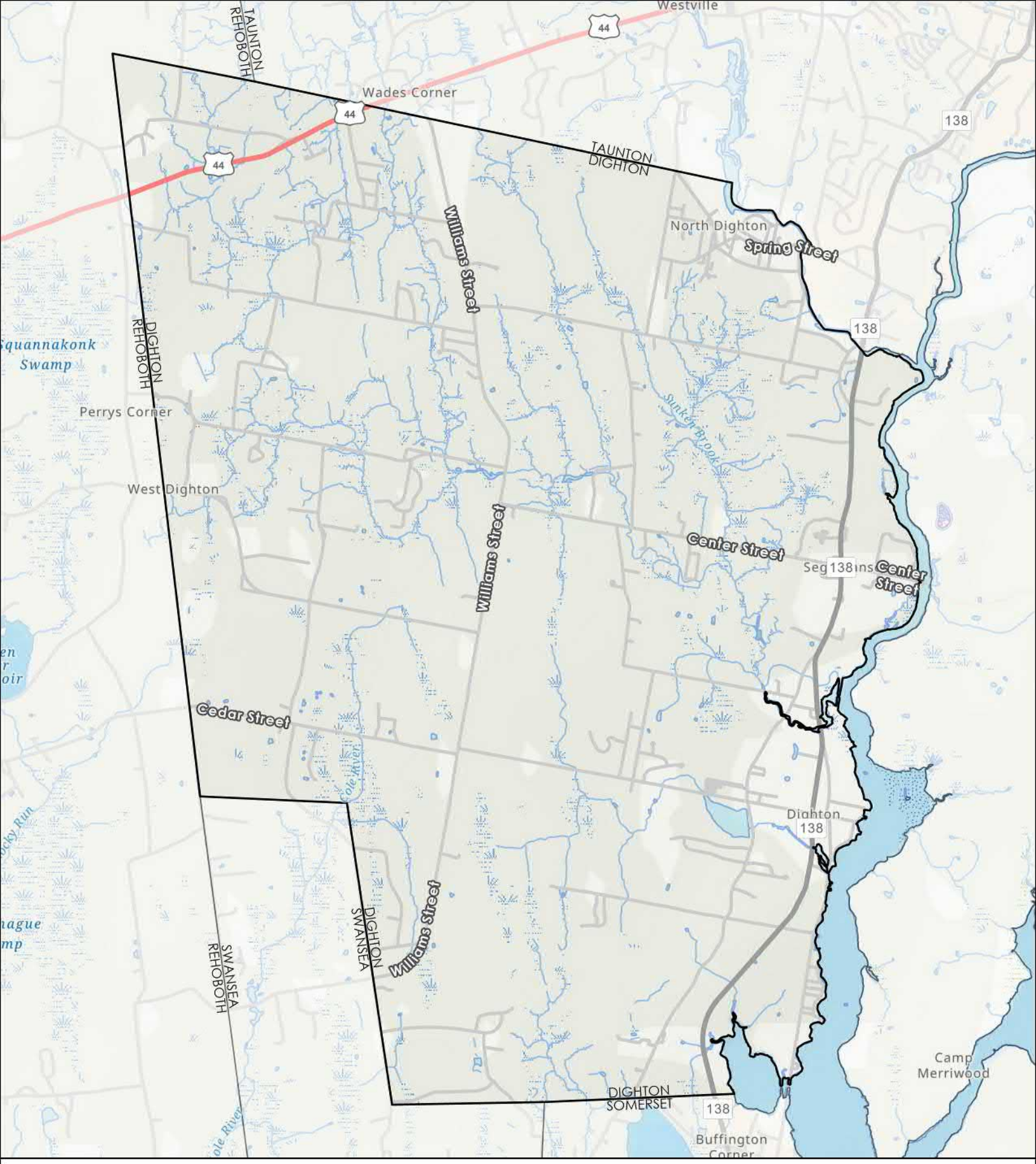
Miles

Data sources:
MassGIS - Land Use (2016), Administrative, Hydrography, and Transportation Data



Town of Dighton, MA
Hazard Mitigation Plan

Major Roads

FUSS & O'NEILL

- U.S. Route
- State Route
- Non-Numbered Road
- Perennial or Intermittent Stream
- Shoreline
- Ditch/Canal
- Pond, Lake, Ocean
- Reservoir
- Wetland
- Salt Wetland
- Cranberry Bog
- Tidal Flat

N

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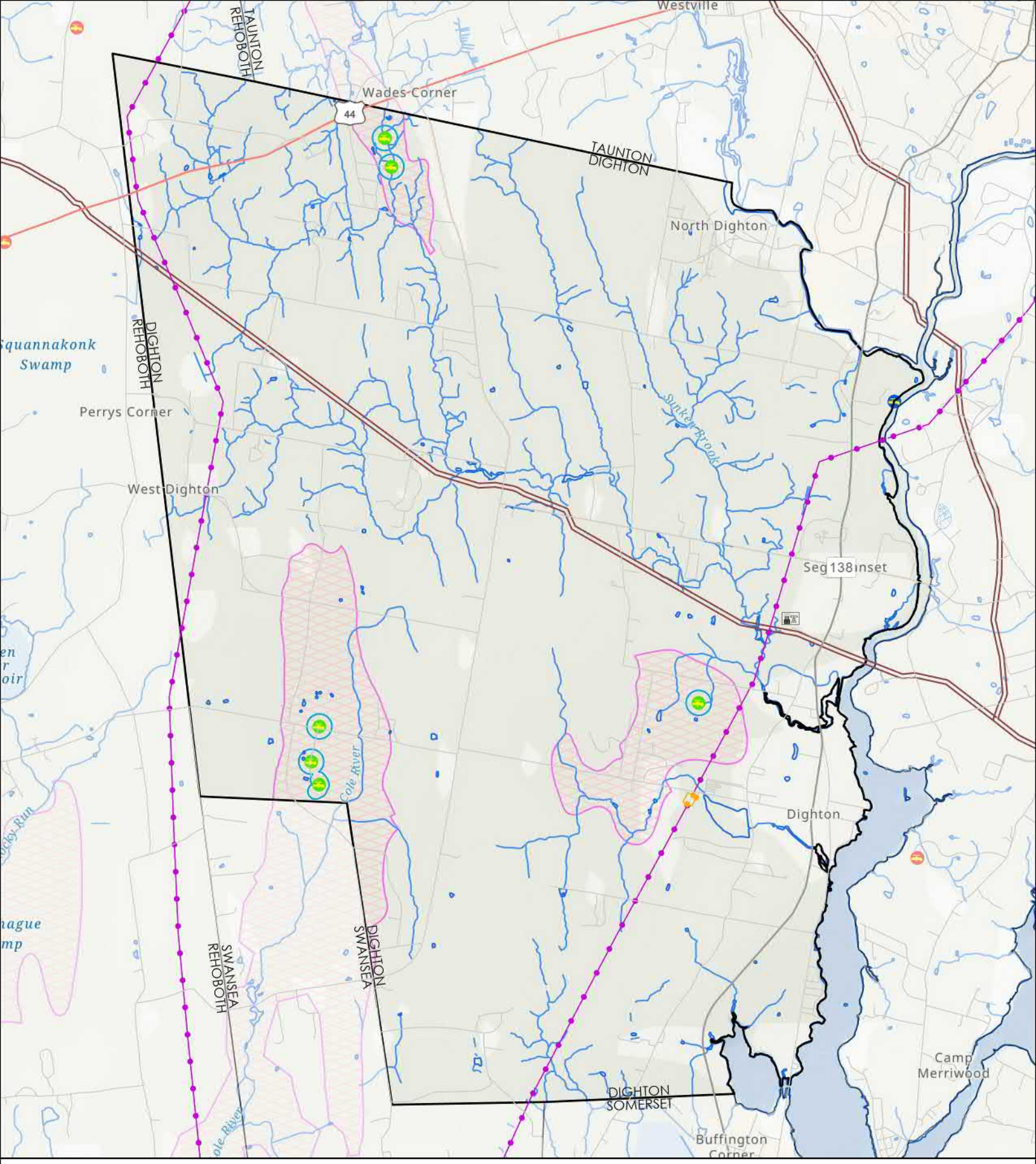
Miles

Data sources:
MassGIS - Infrastructure, Hydrology, and Environmental and Administrative Data



Town of Dighton, MA
Hazard Mitigation Plan

Utilities

- Community Groundwater Source
- Surface Water Intake
- Non-Community Groundwater Source
- Dighton Power
- Pipeline
- Powerline
- Substation
- Wellhead Protection Zone I
- Wellhead Protection Zone II

N

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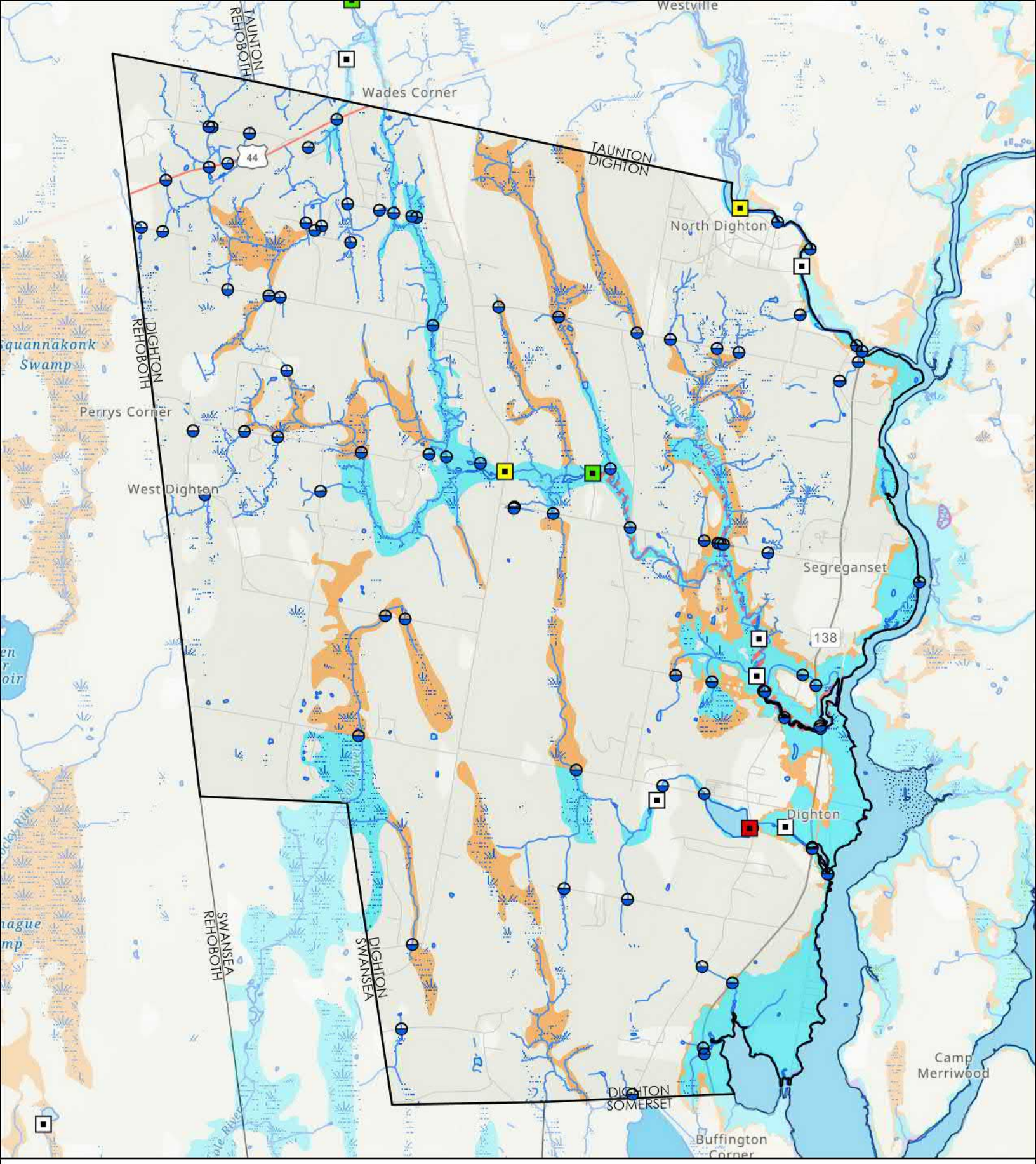
Miles

Data sources:
MassGIS - Administrative, Hydrography, Transportation, and Utilities Data

FUSS & O'NEILL



Town of Dighton, MA
Hazard Mitigation Plan

Dams, Bridges, and Culverts

FUSS & O'NEILL

Road/Stream Crossings

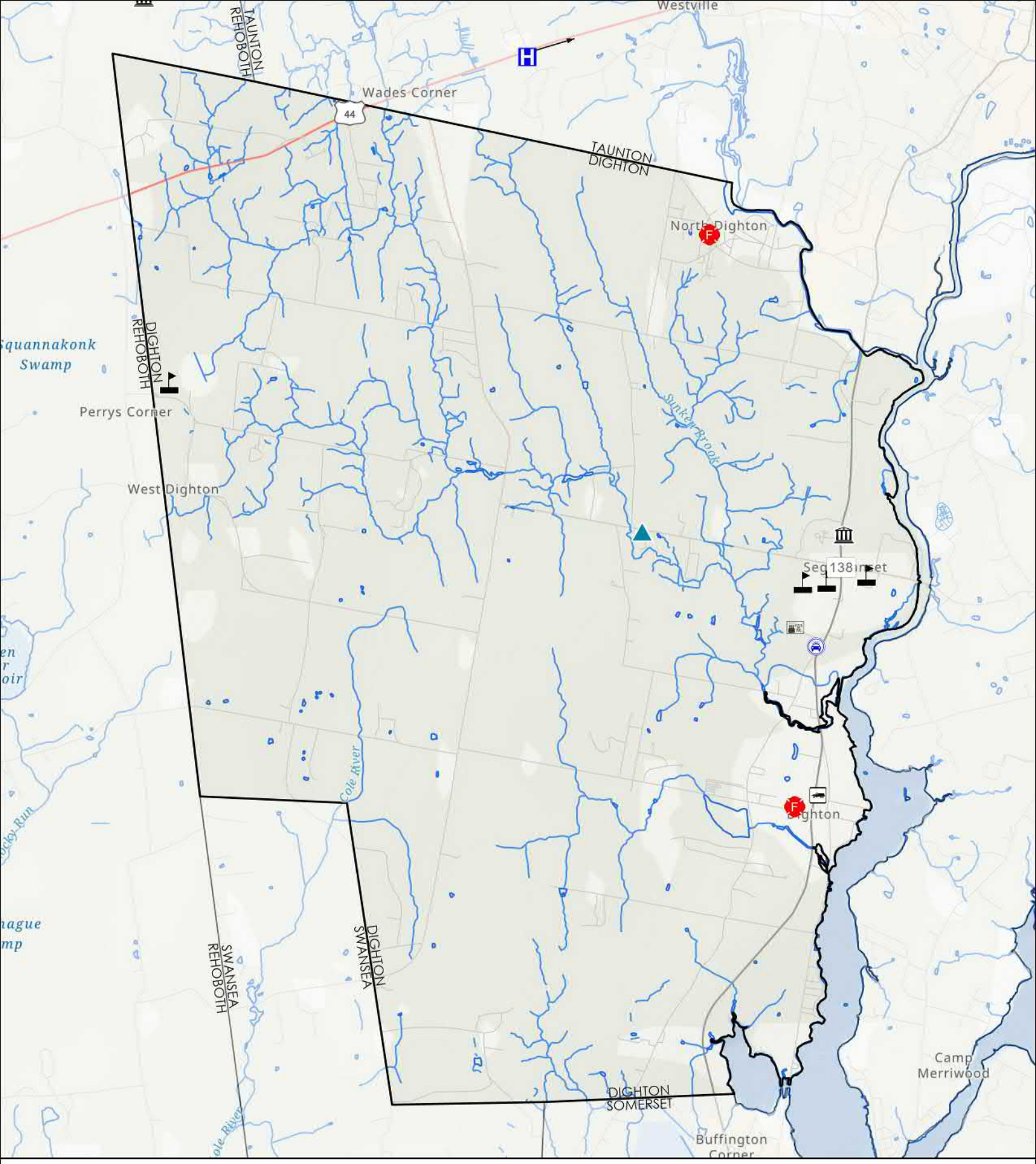
Dam Hazard Class
- High Hazard
- Significant Hazard
- Low Hazard
- N/A

FEMA National Flood Hazard Layer
- 1% Annual Chance of Flooding
- Regulatory Floodway
- VE: High Risk Coastal Area
- 0.2% Annual Chance of Flooding

N

0 0.25 0.5 0.75
Miles

Data sources:
MassGIS - Administrative, Hydrography, and Transportation Data



Town of Dighton, MA
Hazard Mitigation Plan

Town Facilities

- Town Hall
- Police Station
- Fire Station
- School
- Long Term Care Residences
- Public Works Garage
- Dighton Power

N

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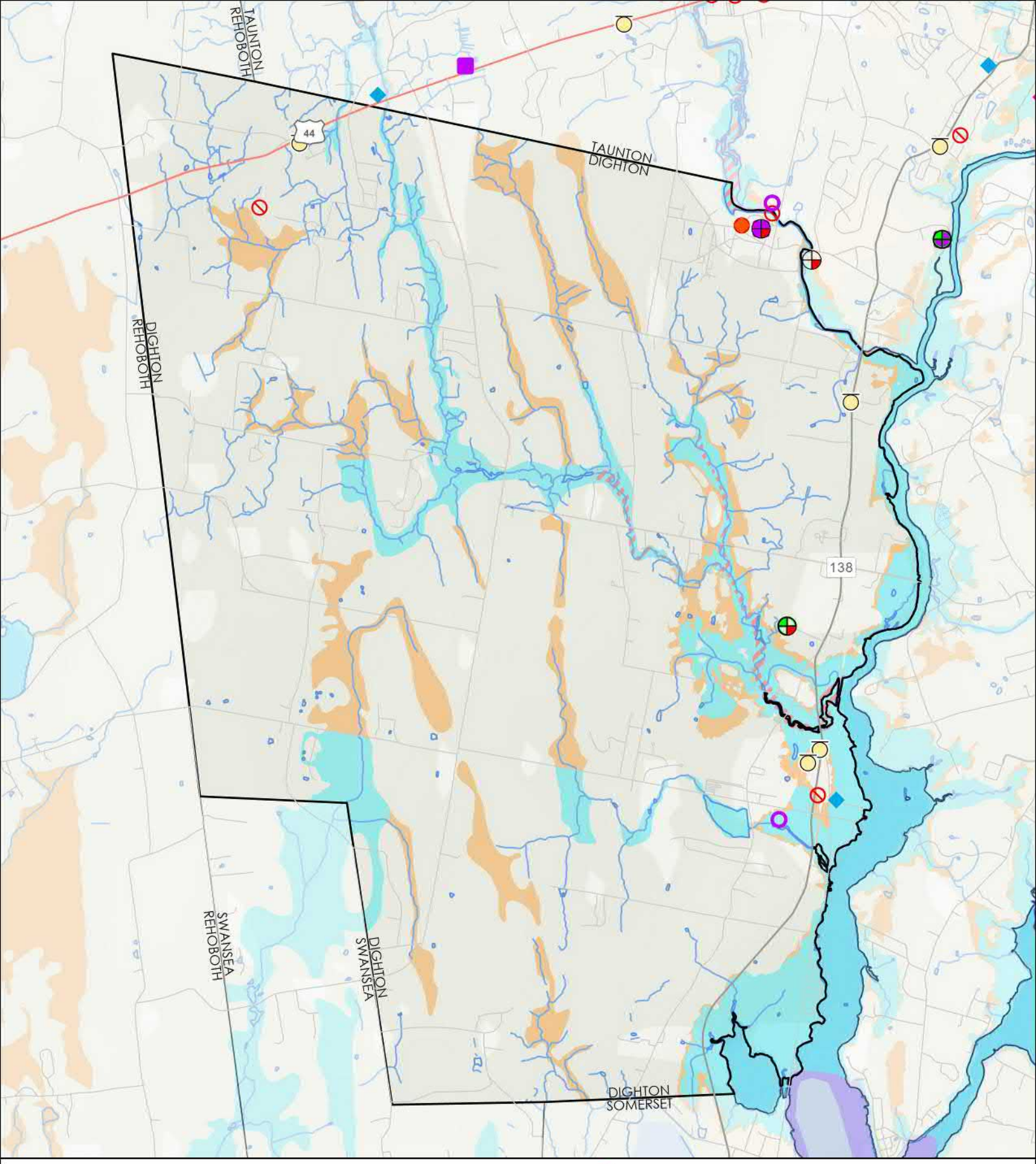
Miles

Data sources:
MassGIS - Infrastructure, Hydrology, Environmental, and Administrative Data

FUSS & O'NEILL



Town of Dighton, MA
Hazard Mitigation Plan

Regulated Facilities

FUSS & O'NEILL

DEP BWP Major Facilities
- Air Permit
- Large Quantity Toxic User

Large Quantity Generators (LQG)
- MA-regulated Hazard. Waste
- MA and EPA/RCRA-regulated Hazard. Waste

- Activity and Use Limitation Sites
- Underground Storage Tanks

Oil and/or Hazardous Material Sites
Chapter 21E Tier Classification
- TIER I
- TIER II
- TIER1D

N

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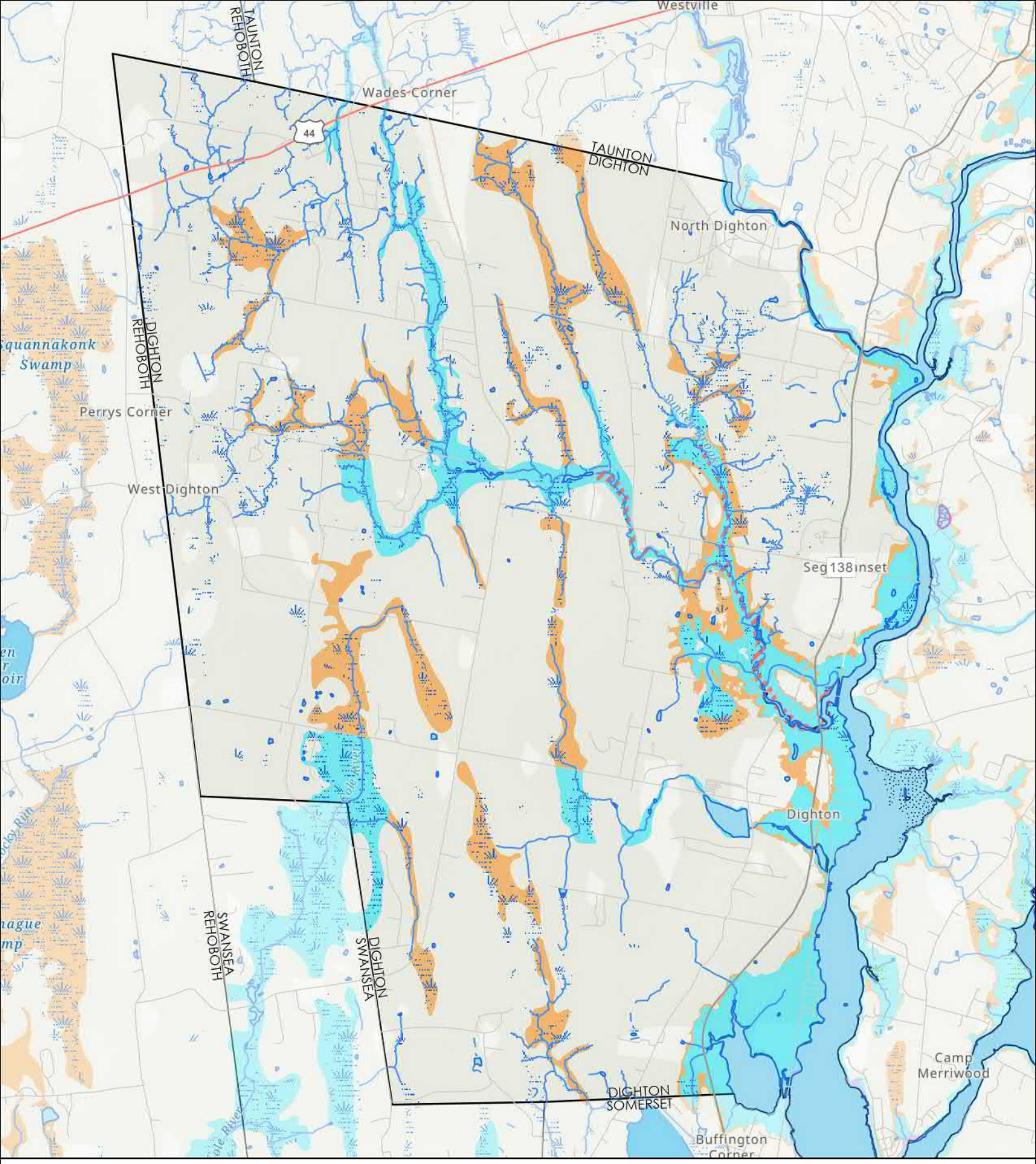
Miles

Data sources:
MassGIS - Regulated Facilities (2016), Administrative, Hydrography, and Transportation Data



Town of Dighton, MA
Hazard Mitigation Plan

FEMA Flood Zones

FUSS & O'NEILL

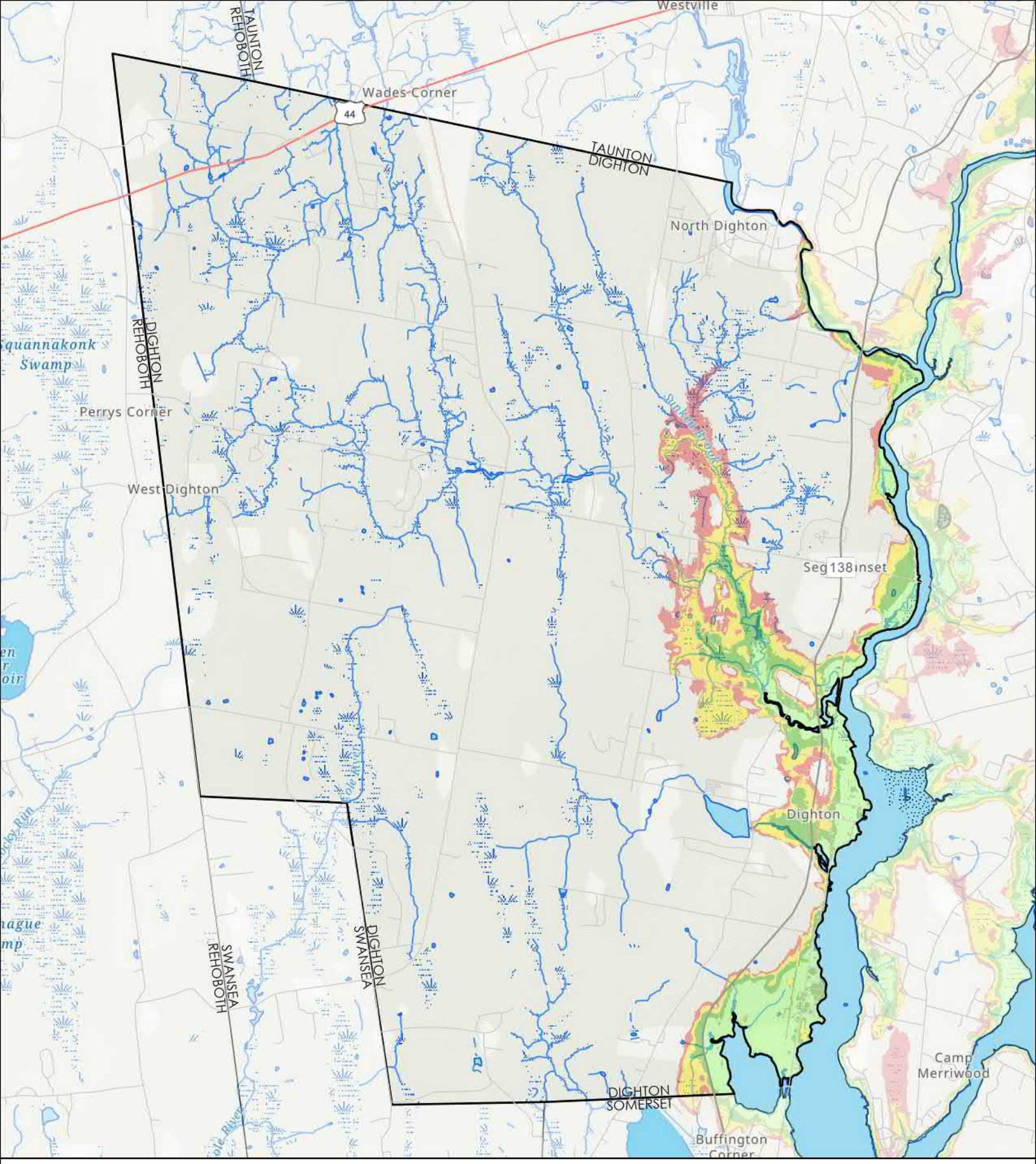
FEMA National Flood Hazard Layer
- 1% Annual Chance of Flooding
- Regulatory Floodway
- VE: High Risk Coastal Area
- 0.2% Annual Chance of Flooding

- Pond, Lake, Ocean
- Reservoir
- Wetland
- Salt Wetland
- Cranberry Bog
- Tidal Flat

N

0 0.25 0.5 0.75
Miles

Data sources:
MassGIS - Administrative, Hydrography, and Transportation Data



Town of Dighton, MA
Hazard Mitigation Plan

Storm Surge Inundation

Worst-case Hurricane Surge Inundation Zones

Hurricane Category

- Category 1
- Category 2
- Category 3
- Category 4

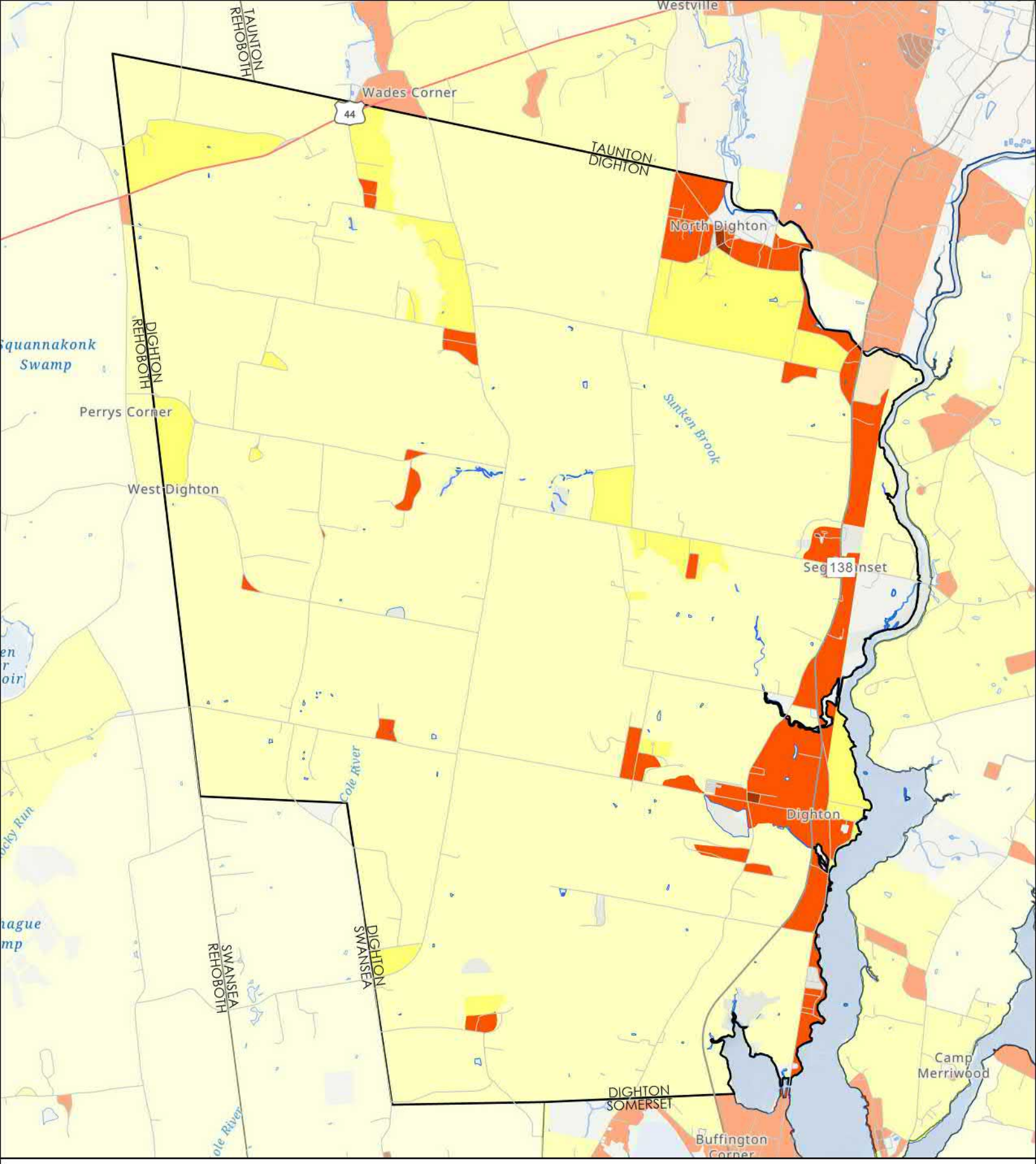
N

0 0.25 0.5 0.75

Miles

Data sources:
USACE/NOAA - Hurricane Surge Inundation Zones
MassGIS - Administrative, Hydrography, and Transportation Data

FUSS & O'NEILL



Town of Dighton, MA
Hazard Mitigation Plan

Wildland Urban Interface

Interface Class

- High Density Interface
- Medium Density Interface
- Low Density Interface
- High Density Intermix
- Medium Density Intermix
- Low Density Intermix

N

0 0.25 0.5 0.75

Miles

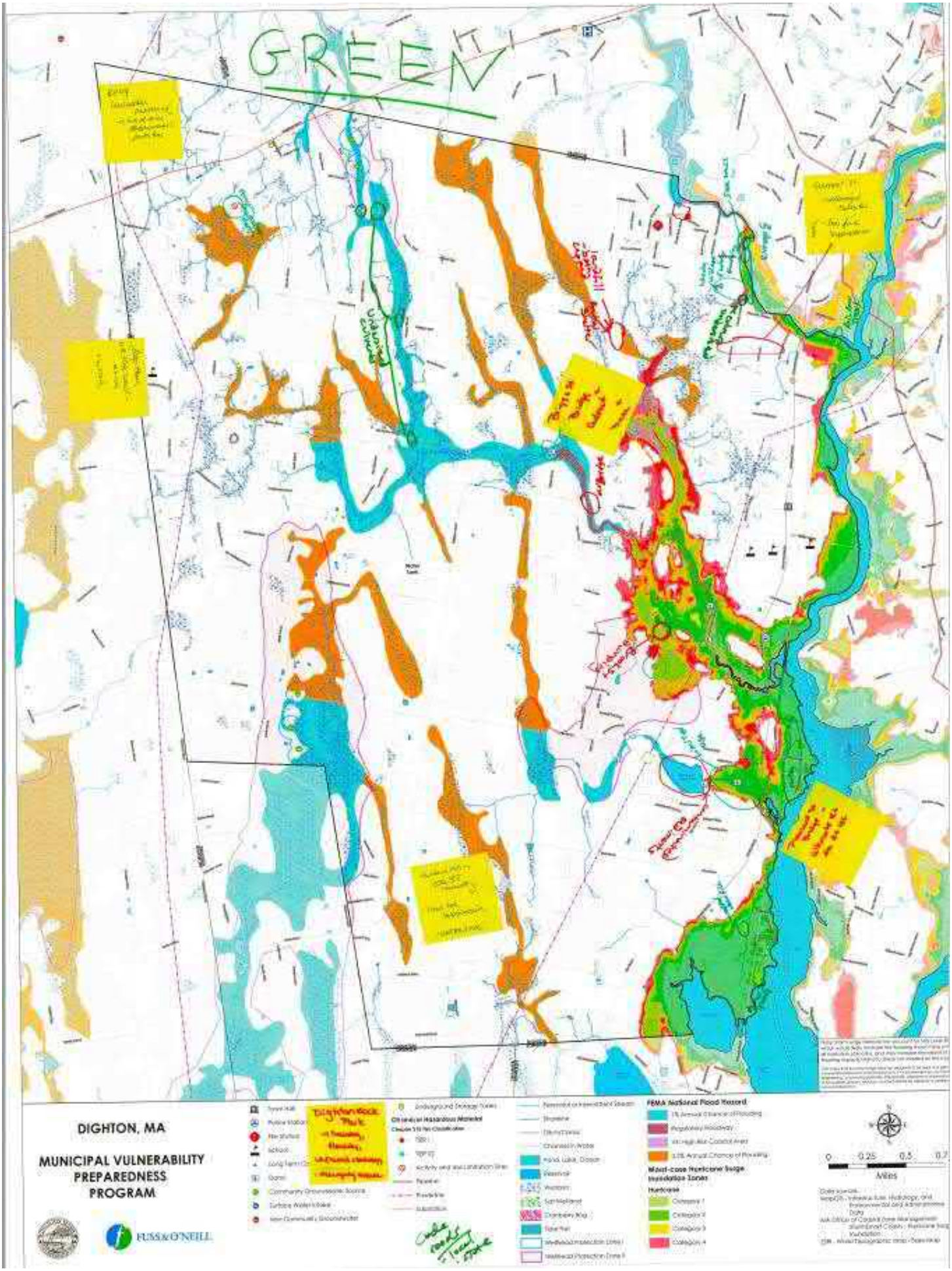
Data sources:
Silvis Lab - Wildland Urban Interface
MassGIS - Administrative, Hydrography, and Transportation Data

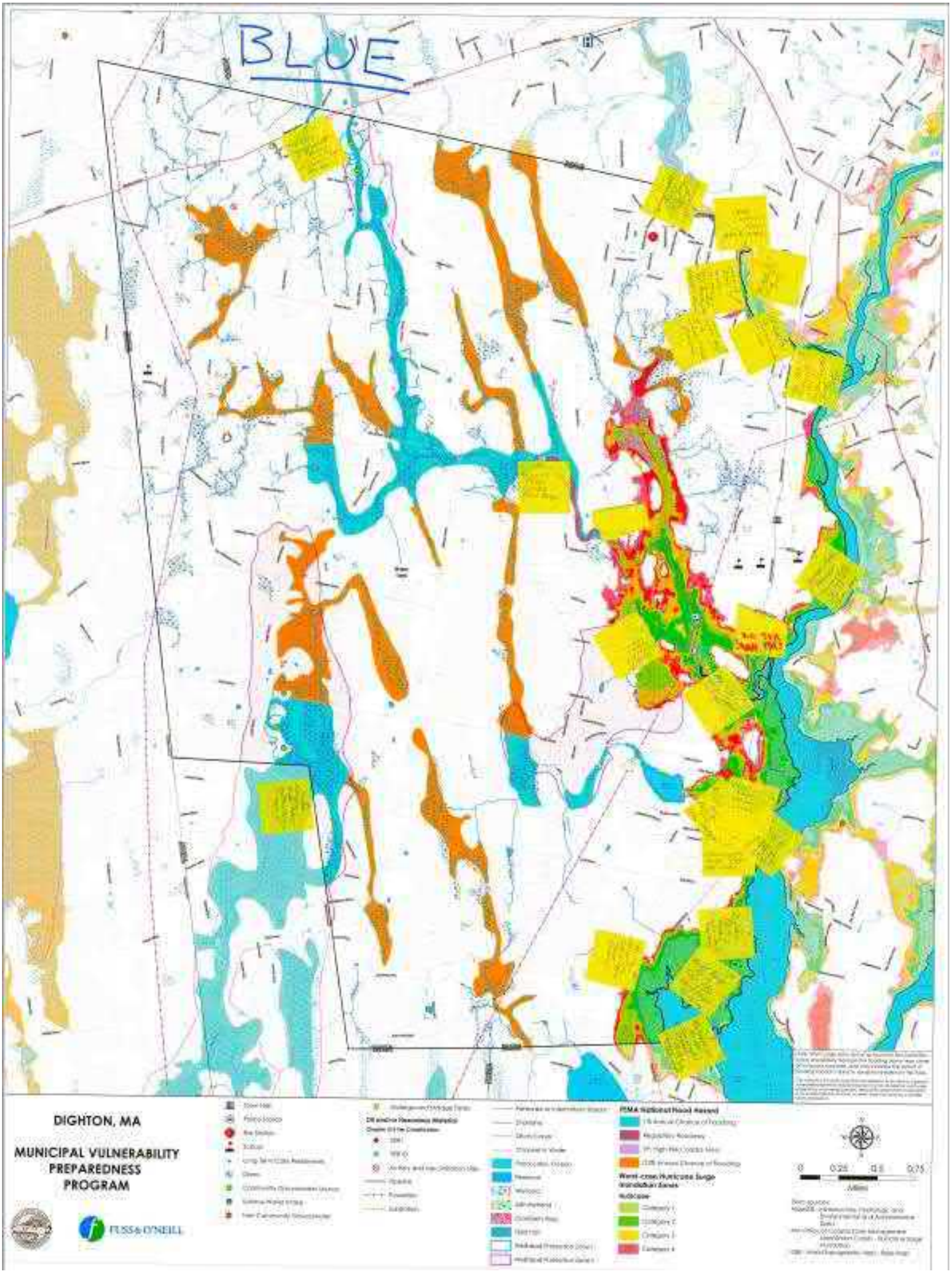
FUSS & O'NEILL

Appendix C

CRB Workshop Outputs:

Group Participatory Mapping Exercise & Risk Matrices


GREEN
DIGHTON, MA
MUNICIPAL VULNERABILITY PREPAREDNESS PROGRAM
FUSS & O'NEILL
FEMA National Flood Hazard
Most-case Hurricane Surge Inundation Zones
Hurricane
Miles


BLUE
DIGHTON, MA
MUNICIPAL VULNERABILITY PREPAREDNESS PROGRAM
FUSS & O'NEILL
0 0.25 0.5 0.75
Miles

Community Resilience Building Risk Matrix — GREEN TEAM — www.CommunityResilienceBuilding.com

Dighton, MA - 12/4/19

H-M-L priority for action over the **S**hort or **L**ong term (and **O**ngoing)
V = Vulnerability **S** = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

	Features	Location	Ownership	V or S	Extreme Weather	Flooding	↑ Temperature Rising	Sea Level Rise	Priority H-M-L	Time Short Long Ongoing
	Infrastructural (Stormwater Management Program, Boat Ramp →)			S						
A	Municipal Bldgs in Flood Hazard - Fire Station / DPW Facility / Landfill / Main	138/		V	More DPW → Assess viability of Landfill w/ DEP	Hurricane Barrier		More DPW Landfill DEP	H	S
B	Coastal Flood areas / infrastructure roadways – State/local	Taunton river		V		Area Plan for 138/local roads / infra/private properties →			H	O/L
C	Undersized culverts Segreganset / Lincoln Ave / Briggs	Town wide		V	Continue maintenance / replacement; Study Segreganset River culverts / systems; Lincoln culvert priority / restricted egress				H	O
D	Dams	Town wide		V/S	Study Risk/cost/benefit for dams / maintenance				M	O
E	Center Street Bridge / watermain (Briggs)				Replace Center St Bridge				H	S
F	Lack of Water Supply (certain locations)	3 corners / townwide		V			Land acquisition Wells / New Tank		H	O
G	Uncapped landfill / Seawall on Lincoln	SE corner @ railroad		V		- Limited area that completed; - Repair/replace seawall - raise road		Landfill; Lincoln Ave Seawall	M; H	L; S
	Societal (groups / attitude)									
H	Evacuation in Flood Hazard Area / Dighton Rock Park	Water St. Rock Park	Water Street Main St.	V	Mandatory Evacuation Education - Bylaw change - limit bldg			Potential Buyout what is cost/benefit →	H	S/O
I	Hunters Hill community / Elderly housing group homes	Schools / Municipal Campus		V	Education Evacuation coord				M	L
J	Emergency Shelters capability (power, heat) & response	↓		V/S	Increase education - Command Generator @ Town Hall Center →				H	S
K	Increase in vector borne disease / heat stroke	Septic System Town wide		V	Saltmarsh adaptation project w/ Brist. Cnty. Mosquito Control (strong partner)				L	O
L	Rise in crime in high heat events	Town wide		V	None					
M	Lincoln Avenue - Elderly Housing flood prone area / culvert			V		Raise Lincoln Ave; Raise seawall - Replace culvert		Stormwater management	H	S
N	Comm spirit / coordination			S	Dighton 101 - New people outreach - robo calls; Climate ready Dighton				M	S/O
	Environmental									
O	Lane Field - flooded	Main St		V				Planning for long term change - public OS	L	S/O
P	Environmental Pollution Sites PFAS - Septic	Brook St. Main/Elm		V		- Inventory of sites/hazards - Integration w/ Hazard Plans		Septic management	H	S
Q	Loss of coastal habitat	Taunton River Park		S/V	NRCS wetland easements		Prioritized integrate w/	Land protection Plan, Loss	M	O
R	Changes to riverine environment - Segreganset / various / 3 mile			V	Study Segreganset migration - hydrologic study - Land protection				H	S
S	Coldwater streams	Segreganset		V			Culverts Buffers 100'	larger?	M	O
T	Impact to farming viability	Town wide		V	Support agricultural adaptation - art food / into / bugs				H	S
V	Tree health / Mortality								H	S

Community Resilience Building Risk Matrix — **BLUE TEAM** — www.CommunityResilienceBuilding.com

Dighton, MA - 12/4/19

H-M-L priority for action over the **S**hort or **L**ong term (and **O**ngoing)
V = Vulnerability **S** = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	Extreme Weather	Flooding	↑ Temperatures	Sea Level Rise	Priority H-M-L	Time Short Long Ongoing
Infrastructural									
BRIDGES	TOWN WIDE	STATE - TOWN	V S		MONITORING REPAIR + REPLACE		PLEASANT ST	H L	S
ROAD STREAM CROSSINGS AQUARIA - WATER DIGHTON POWER	VARIOUS PRIVATE PRIVATE	TOWN PRIVATE PRIVATE	V S S	POSSIBLE ON MAINT	" "	POSSIBLE ONGOING MAINT	AQUARIA IMPACT STUDY MONITORING	M L L	O L L
EVAC ROUTES - BOAT RAMP —	VARIOUS BOAT RAMP RD TOWN	TOWN TOWN	V V S	DEVELOP EVACUATION PLANS + SIGNAGE + EDUCATION; RAISE ROAD, NEW DOCK			DEVELOP EVAC PLAN; LAND TAKING	H M	S O
SOMERSET WATER DEPT BROOK ST WELLS	BROOK ST.	PUBLIC	V S	Study entire Segreganset River area – Taunton River to at least Dighton Power / Tn. of Somerset Wells to develop			mitigation plans (Joint study with Town of Somerset (water dept))	M	S
SOLAR DEVELOPMENTS	VARIOUS LOCATIONS	PRIVATE	V S	Zoning Bylaw Revisions re Solar Farms Panel damage - hail Power line damage - storms				M/H	L/O
PROPANE STORAGE AREA CEDAR	CEDAR ST.	PRIVATE	V	REVIEW EXISTING PLAN		REVIEW EXISTING PLAN		L	O
Societal									
LINCOLN VILLAGE	300 LINCOLN AVE	PUBLIC	V S	EVAC PLAN - POWER LOSS GENERATORS	N/A	EVAC PLAN - POWER LOSS	N/A	H	S
LOWER MAIN STREET - RESIDENTS	VARIOUS LOCATIONS	PUBLIC + PRIVATE	V	EVAC PLAN - IN PLACE	IMPACT PLAN - LONG TERM STUDY		RELOCATE RESIDENTS BUY PROPERTIES	M/H	L/O
DIGHTON ROCK PARK	VARIOUS	PRIVATE	V	EVAC PLAN - IN PLACE	" " " "		" " " " " "	M/H	L/O
BROAD COVE – TAUNTON RIVER	VARIOUS	MOSTLY PUBLIC	V S	Continue wkg w/Save the Bay, BC Mosq. Control, Marsh Restoration/Propagation Plan /	Add'l Land Acquisitions	Wk w/Somerset - Regional; Maintain drainage cleaning	Propagation Plan MARSH MIGRATION to reduce mosquito pop.	M/H	S/O
? OF A.C. IN SCHOOL'S	VARIOUS	PUBLIC	V S	Assess needs - Develop plan		Assess needs - Develop plan		M	L
AGRICULTURAL IRRIGATION	VARIOUS	PUBLIC + PRIVATE	V	Determine needs – emergency plans - drought/flooding — have Agricultural Commission develop workplan/best mgmt practices	Involve Bldg Com.	Con.Com. Stormwater Com.		M/H	S
Environmental									
SEG RIVER - EROSION WEST OF 44	NEAR SEG RIVER	PUBLIC	V	MA DOT upcoming project →				L	S
BRISTOL AGGIE SCHOOL FARM LAND	CENTER ST	PUBLIC	V S	Open space	Erosion	Affect growing season	Flooding - crop loss	L	
PRIVATE SEPTIC SYSTEMS IN FLOOD AREAS	VARIOUS	PRIVATE	V		Currently studying sewer line expansion Rte 138 south to Hart St				
PRIVATE WELLS	VARIOUS	PRIVATE	V		Well contamination - expand public water		Well contamination - expand public water		
DEER POPULATION	EVERYWHERE	Public + Priv	V	Conservation mgmt Hunting; public education					
TICKS + MOSQUITO'S ?	"	"	V	Mosquitoes: Targeting aerial spraying Begin spraying earlier Ticks: Education	Clean drainage areas Education				
MAIN HART ELM 21 ES ZENECA HAZ WASTE	VARIOUS	PUBLIC + PRIVATE	V	Monitoring existing sites →					
OLD TOWN DUMP - HART STREET GAS - VALVE - 138 -	RTE 138	PRIVATE	V	✓ Emergency Plans with Fire dept + DEP Use alternate [illegible] stations on Rt. 138/Rt. 44/or Somerset					
SALT MARSH				See Broad Cove (above)					

Appendix D

CRB Workshop Presentation Materials

FUSS & O'NEILL

Boston Firefighters, January 4, 2018 (Reuters)

Taunton River

Municipal Vulnerability Preparedness Program & Hazard Mitigation Plan
Climate Resilience Building Workshop
Town of Dighton

December 4, 2019

MVP Workshop Agenda

Welcome – Town of Dighton

Introductions – All participants

Massachusetts MVP Program
- Community Resilience Building (CRB)
- Hazard Mitigation Planning (HMP) Process

Climate Change, Natural Hazards and Dighton

CRB Workshop
- Four Top Hazards Facing Dighton
- Small Group work (using Risk Matrix)
- Large Group work (report out and prioritize)

Outline Steps to Completion

FUSS & O'NEILL

Fuss & O'Neill Overview

Fuss & O'Neill is a leading MVP consultant in assisting Massachusetts communities secure grant assistance, achieve designation as a Massachusetts Municipal Vulnerability Preparedness (MVP) community, and execute their MVP priority projects.

The MVP team is experienced in local government, environmental services, civil site engineering, stormwater management, and emergency management.

Fuss & O'Neill assisted new MVP communities secure more than $3.15 million in MVP Action Grants in the program's first and second funding rounds.

MVP Project Team

Arnold Robinson is Regional Director of Planning has been practicing in the fields of community planning, historic preservation and urban design for than 30 years. His practice focuses on effectively engaging residents, officials and diverse stakeholders in the planning and review process. serves as a liaison between the municipality and the project team.

Bill is an Environmental Scientist in Fuss & O'Neill's Water and Natural Resource Planning Department. His principal areas of expertise include watershed and stormwater management, water quality monitoring and evaluation, Illicit Connection Detection and Elimination (IDDE) surveys, structural and non-structural stormwater BMP selection, and Harmful Algal Blooms (HABs).

Stefan Bengston is an Environmental Scientist in Fuss & O'Neill's Water and Natural Resource Planning Department. His principal areas of expertise include watershed management, water quality monitoring, GIS analysis, and statistical modeling. He has also led field crews in wetland monitoring and ecological research.

Jamie Caplan Consulting LLC

History of success in MA

- Commonwealth of MA (State Plan)
- Town of Becket (MVP/HMP)
- Town of Blandford (HMP)
- Town of Fairhaven (MVP/HMP)
- Town of Lexington (MVP/HMP)
- Town of Ludlow (HMP)
- Town of North Reading (HMP)
- City of Pittsfield (MVP/HMP)
- Town of South Hadley (HMP)
- UMASS Amherst (HMP)

Nationwide experience

- Territory of American Samoa
- County of Maui
- American Indian Tribes
- South Central Region of Connecticut

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Dighton's MVP and HMP Project

Grant Supports Climate Change Vulnerability Assessments, Resiliency Planning and Local Hazard Mitigation Planning

MVP Comprehensive Approach

- Infrastructure
- Society
- Environment

HMP Comprehensive Approach

- Assessment
- Participation
- Prioritization

MVP Designation Leads to Enhanced Standing in Future Funding Opportunities

MVP Action Grant NEW

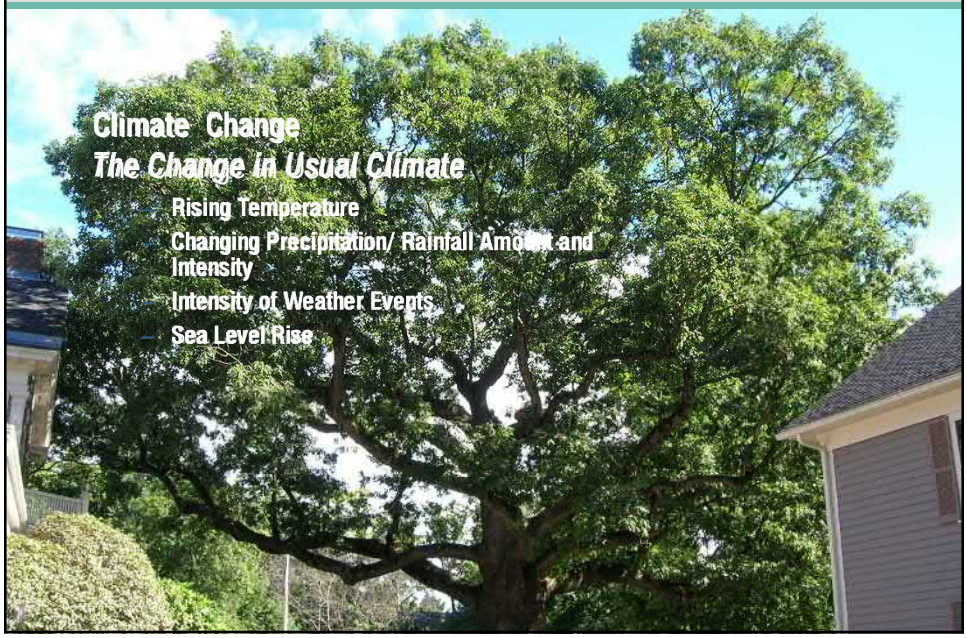
- Grant supports priority actions identified at Community Resilience Building Workshop
- $10,000 - $400,000 available
- Local match of 25% - can be in-kind
- Next funding round anticipated

Only those communities which have completed the CRB workshop are eligible to apply

Overview of Municipal Vulnerability Preparedness (MVP) Planning

- Community Resilience Building
  - Identify impacts using available data including new climate projections developed by the Commonwealth
  - Hold CRB workshop to engage stakeholders
    - Identify community strengths and vulnerabilities from community input input
    - Identify possible responses
    - Prioritize actions - conclude workshop
  - Prepare and review report and priorities
  - Move forward into action:
    - Identify and monitor funding opportunities for recommendations;
    - Incorporate plan into other local planning efforts

Terminology



Town of Dighton – Taunton Basin

Rising Temperature

Taunton Basin	Observed Baseline 1971-2000	Projected Change in 2030s	Projected Change in 2050s	Projected Change in 2070s	Projected Change in 2090s
Average Annual Temperature (°F)	49.85	2.03 to 3.77	2.68 to 5.94	3.12 to 8.62	3.43 to 10.49
Annual Days with Maximum Temperature over 90°F (Days)	7.43	5.38 to 14.58	7.20 to 29.31	9.27 to 49.91	11.88 to 65.46
Annual Days with Minimum Temperature below 32°F (Days)	129.76	-13.27 to -27.89	-18.99 to -43.59	-23.07 to -57.04	-24.79 to -67.94

Climate Change Impacts - Temperature

- Economic
  - Winter Recreation
  - Snow and Ice
- Agricultural
  - Longer Growing Season
- Health
  - Increased Pests
  - Heat Stroke
- Infrastructure
  - Road Buckling
  - More Potholes
  - Power Outages
- Environment
  - Change in Habitat

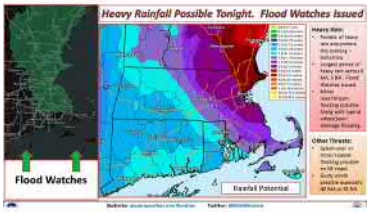
Town of Dighton – Taunton Basin

Changing Precipitation

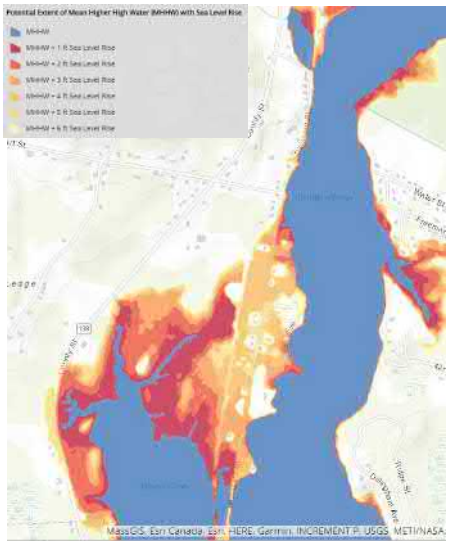
Taunton Basin	Observed Baseline 1971-2000	Projected Change in 2030s	Projected Change in 2050s	Projected Change in 2070s	Projected Change in 2090s
Total Annual Precipitation (Inches)	47.48	-0.05 to 4.11	0.33 to 5.35	0.90 to 6.61	0.38 to 7.34
Annual Consecutive Dry Days (Days)	17.33	-0.23 to 1.29	-0.07 to 2.25	-0.90 to 2.80	-0.34 to 3.65

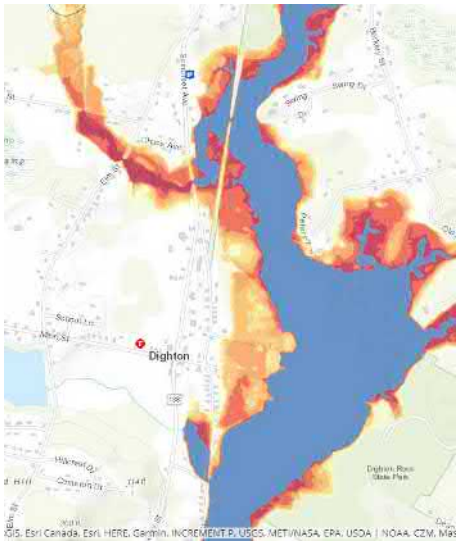
Climate Change Impacts - Precipitation

- Economic
  - Dangerous Floods
  - Lost work time
- Agricultural
  - Excessively Wet Spring
  - Drought
- Health
  - Flood/High Water-related Deaths
  - Emergency Response Delays
- Infrastructure
  - Road Washout
  - Environment
  - Sewer System Overflows
  - Compromised Bridges
- Changes in Habitat



MA CZM Forecast Sea Level Rise





Mitigation Plan Development

Southeastern Regional Planning & Economic Development District, Mitigation Plan 2004

State Hazard Mitigation and Climate Adaptation Plan 2018

Municipal Vulnerability Preparedness Program

Town of Dighton Hazard Mitigation Plan 2020

Mitigation Saves Lives

National Benefit-Cost Ratio (BCR) Per Peril *BCR numbers in this study have been rounded	Beyond Code Requirements	Federally Funded
Overall Hazard Benefit-Cost Ratio	$4:1	$6:1
Riverine Flood	$5:1	$7:1
Hurricane Surge	$7:1	Too few grants
Wind	$5:1	$5:1
Earthquake	$4:1	$3:1
Wildland-Urban Interface Fire	$4:1	$3:1

Mitigation Defined

- Any sustained actions taken to reduce or eliminate long term risk to people and property from hazards and their effects.

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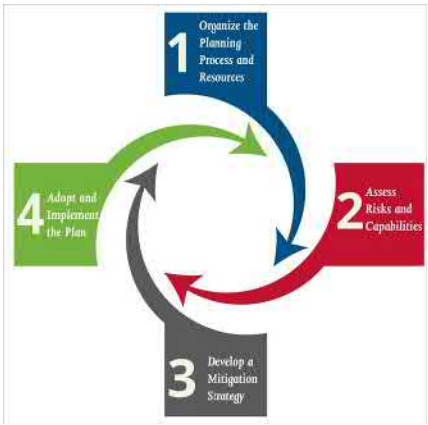
Hazard Mitigation Plan



- Core Team Meetings
- CRB Workshop
- Stakeholder Interviews
- Public Meetings
- Survey
- Draft Plan Review

https://www.surveymonkey.com/r/dightonmitigation

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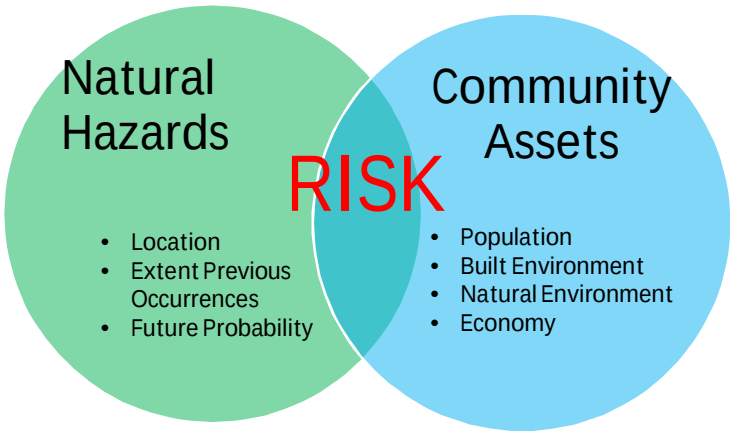
Dighton's Risk?



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Natural Hazards Impacting Dighton

Primary Climate Change Interactions	Natural Hazards
Changes in Precipitation	• Flooding • Drought
Sea Level Rise	• Tidal Inundation
Rising Temperatures	• Average/Extreme Temperatures • Wildfires • Invasive Species
Extreme Weather	• Hurricanes/Tropical Storms • Severe Winter Storm/Nor'easter • Tornadoes • Severe Weather (strong winds/extreme precipitation)
Non-Climate Influenced Hazards	• Earthquake
Technological & Human Caused Hazards	• Dam Failure

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Critical Facilities

- Fire Stations
- Police Station
- DPW Facility
- Town Hall
- Schools
- Infrastructure
  - Dams

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Risk and Impact

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Mitigation Actions

- Local Plans and Regulations
- Structure and Infrastructure
- Natural System Protection
- Education and Awareness Programs

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Mitigation Examples

- Critical facility protection
- Generators
- Culverts
- Tree mitigation
- Stormwater management
- Access roads in conservation areas
- Property acquisition
- Structure elevation
- Retrofitting buildings
- Soil stabilization
- Education
- Land use planning

Nature-based solutions and low-impact development prioritized!

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Community Resilience Building Workshop

Top Four Hazards (Recommended):

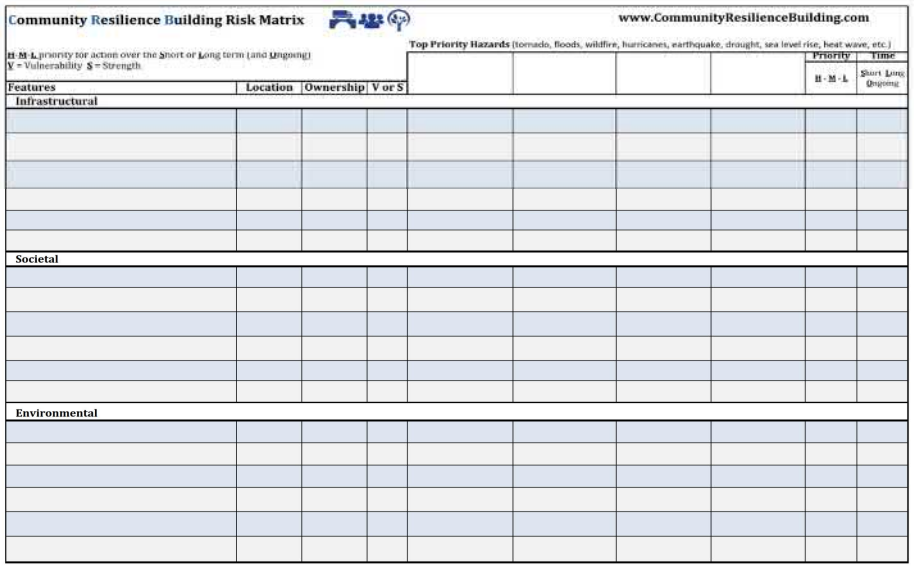
- Extreme Weather Events
- Coastal/Riverine Flooding
- Increased Temperatures
- Sea Level Rise

Community Resilience Building Workshop

Small Table Work (Yellow, blue, green):

- Risk Matrix
- Maps

Risk Matrix



Community Resilience Building Risk Matrix www.CommunityResilienceBuilding.com

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S					Priority H-M-L	Time Short Long Ongoing
Infrastructural									
Societal									
Environmental									

Community Resilience Building Workshop

Lunch - Small Group Report Outs:

- Risk Matrix
- Annotated Maps
- Top Four (4) Priority Responses

Community Resilience Building Workshop

Large Group Work:

- Group Priority Responses by Theme
- Identify Top Priorities
- Reflection on the Day

MVP Program Next Steps

- CRB Workshop Summary of Findings
- Draft to Town for Review
- Submission to State MVP Program
- Move Forward with Implementation
  - Projects
  - Grant funding
  - Plan integration

HMP Plan Adoption And Implementation

Write and Review Plan

Plan Adoption and Implementation

FEMA Approval every 5 years

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Next Steps

Stakeholder Engagement Meetings

Preparedness Survey

Public Meetings/Listening Sessions

Review Draft Plan

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Community Resilience Building Workshop

Thank you!

Regional Projects Addendum to the

Somerset-Swansea-Dighton

MVP Plans

October
2020

Resilient Taunton Watershed Network

SOMERSET-SWANSEA-DIGHTON MVP PLAN/REGIONAL ADDENDUM SUPPLEMENTAL SCOPE

Task 1. Convene and conduct a Regional MVP Workshop

On October 15 and 21, 2020, a regional MVP meeting/workshop was convened by the local Core Team (Somerset), with the Provider, and partnering towns (Swansea and Dighton) to review the recommendations in their individual plans that involve regional assets and afford opportunity for cooperative, inter-municipal approaches to addressing environmental, infrastructural, and societal vulnerabilities, as well as to look at new opportunities resulting from this regional meeting. The meeting was socially distanced, and hosted by the Town of Dighton in the large meeting room of the Old Dighton Town Hall.

It was mutually agreed upon that the local Core Team Leaders (Nancy Durfee, Somerset; Nancy Goulart, Dighton; Colleen Brown, Swansea) would solicit input from their respective Core Teams, and bring that information to the regional meetings. All information was recorded on the standard MVP/CRB matrices, and all potential projects were located on a draft regional map.

Task 2. Set of MVP Regional Maps and GIS files for the Towns of Somerset, Swansea, and Dighton

A final set of hazard/vulnerability/potential regional project maps will be developed, from the activities undertaken in Task 1, and reviewed with the participating town representatives and their Core Teams. An approved final map is included in the addendum, and along with the narrative, will become part of the MVP Plans for each of the participating towns. GIS files will be made available to the Towns for integration into their other community plans.

Task 3. Assess and summarize vulnerabilities/projects matrices and prepare a regional addendum for the participating community MVP Plans

As stated above, the approved list of identified regional vulnerabilities/potential projects identified in Task 1 will appear in a final list of recommendations for the regional addendum.

Task 4. Aid the towns in submitting the Somerset/Swansea/Dighton regional addendum to EEA.

The approved final addendum maps and regional plan will be completed and the plan will be submitted to EEA MVP Regional Coordinator for final review.

SOMERSET/SWANSEA/DIGHTON REGIONAL VULNERABILITY CONCERNS

INFRASTRUCTURE (Red Dots on the Regional Map)

1. Feasibility study for the Somerset Reservoir Dam and associated infrastructure, **and 3.,** the culverts on North Street and Elm Street in Somerset, in relation to regional flood impact **(HIGH PRIORITY) ***

2. Acquire the Warren Reservoir in Swansea in order to enhance regional water supply assets

4. Feasibility study of the Muddy Cove Pond dam and land off of Elm St., at Sally Richmond Brook, as part of a regional flood, recreational, and water assets strategy

5 – 13. Assess the following bridges and culverts for flood hazard remediation with sea level rise and tidal surge:

5. Route 103 bridge over the Lees River
6. Culvert on Route 6 at the near the Venus de Milo
7. Pleasant Street at Muddy Cove **(HIGH PRIORITY) ***
8. Interstate Route 195 bridge near Ocean Blvd. and Halsey Rd.
9. Briggs Street Bridge
10. Center Bridge at Middle Street
11. Baker Rd. culvert on the Coles River **(HIGH PRIORITY) ***
12. Locust St. culvert
13. Route 138, Elm Street, Whetstone Hill/and around the reservoir **(HIGH PRIORITY) ***

ENVIRONMENTAL (Green Dots on the Regional Map)

1. Increase the land holdings around, and saltmarsh protection and remediation in, Broad Cove*****

2. Conduct a Phase 2 study on the landfill off of Hart St.

3. Increase the holdings off of Sharp's Lot Rd., north of Marvel St., and in Dighton, in order to protect the headwaters of the Coles River*****

4. Increase holdings off of Cedar St. to protect the Dighton water supply*****

5. Increase holdings in Dighton and Somerset in the Elm St. area of the Labor-in-Vain Brook watershed*****

(COLLECTIVELY, ACTIONS 1, 3, 4, and 5 are HIGH PRIORITY)

6. Feasibility study of the Muddy Cove Pond dam and land off of Elm Street, at Sally Richmond Brook, as part of a regional flood storage, recreational opportunity, and water assets strategy

7. Assess our shared watershed and sub-watershed resilience capacity*****

8. Assess the role of our green infrastructure and open space in terms of long-range resiliency planning*****

9. Protect land and flood storage capacity in the headwaters of the Segregansett River (this would also involve Taunton) *****

(COLLECTIVELY, ACTIONS 7, 8, and 9 are HIGH PRIORITY)

SOCIETAL (Blue Dots on the Regional Map)

1. Encourage more inter-municipal communication prior to and during emergencies (create a regional plan/team, if necessary, and involve Fall River for water issues)

2. Create Debris Management Plans (individual and regional) **(HIGH PRIORITY) ***

3. Assessment of our emergency response needs for equipment and generators/mutual aid

4. Assessment of our ability to handle and dispose of hazardous materials in times of emergency/social vulnerability; associated planning and training needs

5. Create a flow chart for regional emergency response for Town Hall use (aggregate as appropriate) **(HIGH PRIORITY) ***

6. Regional educational materials on flooding, stormwater, and MS4 issues; develop a story map similar to the EPA-Mattapoisett model **(HIGH PRIORITY) ***

7. Highlight evacuation routes as part of our educational package

8. Assess regional sheltering capacity (short and long-term)

Somerset,Dighton,Swansea Regional MVP Map

Legend

FEMA National Flood Hazard Layer
Flood Zone Designations

- A: 1% Annual Chance of Flooding, no BFE
- AE: 1% Annual Chance of Flooding, with BFE
- AE: Regulatory Floodway
- AH: 1% Annual Chance of 1-3ft Ponding, with BFE
- AO: 1% Annual Chance of 1-3ft Sheet Flow Flooding, with Depth
- VE: High Risk Coastal Area
- D: Possible But Undetermined Hazard
- X: 0.2% Annual Chance of Flooding
- X: Reduced Flood Risk due to Levee
- Area Not Included
- Area with no DFIRM - Paper FIRMs in Effect

- Green Infrastructure Network (unprotected)
- Green Infrastructure Network (protected)
- Open Water

- ENVIRONMENTAL
- INFRASTRUCTURAL
- SOsocietal

- Fire Stations
- Local Police
- State Police
- Libraries
- Town Halls
- Seasonal Farmers Market
- Assisted Living Residence
- Nursing Home

Schools

- Public
- Private
- Collaborative Program
- Special Education

ATTLEBORO FIRE DEPARTMENT
Twin Village Station
REHOBOTH FIRE DEPARTMENT
Station 2
TAUNTON FIRE DEPARTMENT
Oakland Station
Rehoboth Town Hall
DIGHTON FIRE DEPARTMENT
Station 2
REHOBOTH FIRE DEPARTMENT
Headquarters
Rehoboth
Dighton Care and Rehabilitation Center LLC
Dighton Town Hall
SEEKONK POLICE
Warren Upper Reservior
Muddy Cove Pond
REHOBOTH FIRE DEPARTMENT
Station 3
Broad Cove
Somerset Reservoir
Warren Reservior
Cole River Pond
Country Gardens Health & Rehabilitation Center
Taunton River
Sarah Brayton Nursing Care Center
SWANSEA FIRE DEPARTMENT
Fire Dept. 4
Milford Pond
Somerset Town Hall
SWANSEA FIRE DEPARTMENT
Station 1
SWANSEA POLICE DEPT
SOMERSET POLICE DEPT
SOMERSET FIRE DEPARTMENT
Headquarters
Lee River
Catholic Memorial Home
Somerset Ridge Center
Highlander Nursing and Rehabilitation
SWANSEA FIRE DEPARTMENT
Station 3
Clifton Assisted Living Community
Clifton Rehabilitation Nursing Center
Adams House
Highland Manor Care and Rehabilitation Center LLC
FALL RIVER FIRE DEPARTMENT
Stanley Street Station
Kimwell Nursing and Rehabilitation
Fall River Jewish Home, Inc.
Fall River / Ruggles Park
Crawford Skilled Nursing and Rehabilitation Center
Fall River City Hall
Fall River / Kennedy Park
Landmark at Fall River
Fall River/Downtown
FALL RIVER CITY POLICE DEPT

7 8 9 POLICY ITEMS REFER TO TEXT

1 2 3 4 5 6 7 8 POLICY ITEMS REFER TO TEXT

1 mile