



SECTION 6. MITIGATION STRATEGIES

This section presents mitigation strategies for the Township of Brick to reduce potential exposure and losses identified as concerns in the risk assessment portion of this plan (Section 5). The Planning Committee reviewed the risk assessment to identify and develop these mitigation actions, which are presented herein.

This section includes:

1. Background and Past Mitigation Accomplishments
2. General Mitigation Planning Approach
3. City Mitigation Goals and Objectives (CRS Step 6)
4. City Capability Assessment
5. Identification, Analysis, and Implementation of Potential Mitigation Actions (CRS Step 7)
6. Proposed Hazard Mitigation Actions (CRS Step 8)

Hazard mitigation reduces the potential impacts of, and costs associated with, emergency and disaster-related events. Mitigation actions address a range of impacts, including impacts on the population, property, the economy, and the environment.

Mitigation actions can include activities such as: revisions to land-use planning, training and education, and structural and nonstructural safety measures.

6.1 BACKGROUND AND PAST MITIGATION ACCOMPLISHMENTS

This section is a discussion regarding past mitigation activities and an overview of past efforts, which is provided as a foundation for understanding the mitigation goals, objectives, and activities outlined in this Floodplain Management Plan (FMP). The Township, through previous and ongoing activities, has demonstrated that it is proactive in protecting its physical assets and residents against losses from flooding.

The Township has worked to improve flood mitigation and foster resilience efforts throughout the community and plans to continue these efforts through additional infrastructure upgrades and enhancements, updated mitigation planning, and assistance to impacted property owners. Examples of previous and ongoing actions, projects, and capabilities include the following:

- **County Hazard Mitigation Plan (HMP):** The Township participates in the development of and has adopted the Ocean County HMP, which includes goals, objectives, policies, and actions focused on reducing the extent, frequency, and impacts of hazards including flooding.
- **Flood Insurance:** The Township participates in the National Flood Insurance Program (NFIP) and has adopted flood damage prevention regulations.
- **Community Rating System (CRS):** The Township participates in the NFIP administered CRS Program to improve floodplain management and reduce flood insurance premiums for policy holders in recognition of community activities that exceed the minimum NFIP requirements.
- **Regulatory Tools:** The Township utilizes a number of local ordinances to regulate the use, design, and site planning of development projects, including: Stormwater Management Ordinance, Floodplain Management Ordinance, Natural Hazard Ordinance, Environmental Assessment Ordinance, Riparian Buffer Ordinance, Dune Preservation Ordinance, Threatened and endangered species ordinance, Tree Protection Ordinance: regulates tree save areas during site plan review, Development permit/Site Plan Review, Zoning Ordinance, Subdivision Ordinance, and Building Code.
- **CAFRA:** The Township of Brick is also federally regulated by the Coastal Areas Facility Review Act (CAFRA). The CAFRA Zone is New Jersey's coastal zone in which NJDEP has the authority to approve the location, design, and construction of major facilities with the intention of protecting coastal resources.



- Flood Warning System: The Township currently utilizes a County-wide flood warning system consisting of a network of precipitation gages, tide gages along the coastline, and stream gages that all constantly monitor and potential flood conditions. This information is fed into a USGS forecasting program, which assesses the flood threat based on the amount of flow recorded by the devices.
- Sustainable Land Use planning: Given the current limitations on available development sites and growing vacancies in strip malls, the Township has committed to more sustainable land use practices. Future growth and development will be focused on infill and mixed-use redevelopment of existing areas to utilize existing infrastructure, prevent environmental degradation and increase quality of life.
- Open Space Preservation: Open space preservation efforts have been underway for many years in the Township and have successfully preserved approximately 3,000 acres. The Township uses an open space tax to provide funding for new acquisitions of open space.
- Beach Replenishment: The U.S. Army Corps of Engineers (USACE), has implemented resilient (i.e., greater than pre-Superstorm Sandy levels) beach replenishment measures, including construction of 22' high and 150 feet wide dunes and extension of the beach by about 200 feet. The dunes protect a buried steel revetment wall that is designed to serve as the “last defense” in severe coastal erosion events. The dunes have also been planted with vegetation for stabilization and future dune growth.
- Beach and Dune Protection Program: Areas on the barrier island along the ocean are defined and regulated under the New Jersey Coastal Management Plan.
- Social Media: The Township provides storm and hazard updates via social media and Nixle.
- Emergency Checks for Seniors: The Township has reached out and performed emergency checks and evacuation procedures for senior communities. The community is proactively increasing its understanding of the locations of seniors and vulnerable populations to improve emergency response and public safety.
- Technical Assistance: The Engineering Department provides assistance to residents in achieving compliance with regulations.
- Watershed Planning: Brick Township has had an active role in the development of the Metedeconk Watershed Plan in conjunction with BTMUA, the upstream towns, Monmouth and Ocean counties, etc., which focuses primarily on stormwater management projects and public education. In addition, the Township supports the Barnegat Bay Partnership regional planning efforts.

These past and ongoing activities have contributed to the Township’s understanding of its preparedness and future mitigation activity needs, costs, and benefits. These efforts provide a foundation for the Planning Committee to use in developing this FMP.

6.2 GENERAL MITIGATION PLANNING APPROACH

The general mitigation planning approach used to develop this plan is based on five steps, which were used to support mitigation planning. These steps are listed below and presented in more detail in the following sections.

- Assess the hazard
- Assess the problem
- Set goals
- Review possible activities
- Draft an action plan

6.3 FLOOD MITIGATION GOALS AND OBJECTIVES

This section documents the Township’s efforts in identifying the flood mitigation goals and objectives to reduce or avoid long-term vulnerabilities to the flood hazard. From the goals and objectives identified, recommended



mitigation initiatives were selected and prioritized. These planning components all directly support one another. Mitigation initiatives were prioritized based on meeting multiple objectives.

6.3.1 Mission Statement

The mission of the Township of Brick Floodplain Management Plan is to promote a safe, protected, and well-informed community with a comprehensive set of tools and the necessary capacity to identify and address vulnerabilities to flood related hazards. The Township of Brick will strive to protect and improve the health, safety, and quality of life of community members and remain a safe, resilient, and prosperous place to live.

6.3.2 Goals and Objectives

The Planning Committee developed mitigation goals based on the risk assessment results, discussions, research, and input from among the committee, existing authorities, policies, programs, resources, stakeholders, and the public. For the purpose of this plan, goals are defined as follows:

Goals are general guidelines that explain what is to be achieved. They are usually broad, long-term, policy-type statements and represent global visions. Goals help define the benefits the FMP is trying to achieve. The success of the FMP, once implemented, should be measured by the degree to which its goals have been met (that is, by the actual benefits in terms of hazard mitigation).

The Township of Brick FMP goals are compatible with the needs and goals expressed in other available community planning documents, including:

- The 2016 Brick Township Floodplain Management Plan
- 2007 Township of Brick Master Plan and 2018 Reexamination Report
- 2019 New Jersey State Hazard Mitigation Plan
- 2018 Ocean County Hazard Mitigation Plan

Table 6-1 presents the goals of the FMP.

Table 6-1. Township of Brick 2021 Floodplain Management Plan Goals

Goal Number	Goals
1	Reduce impacts from flooding to protect life and property and strengthen critical facilities and infrastructure to withstand severe flooding events.
2	Protect and preserve environmental resources and maintain their natural ability to increase flood protection and community resilience.
3	Ensure that local government operations are not significantly disrupted by flood hazard events.
4	Provide a methodical approach to flood hazard planning and identify and create decision-making tools for flood policy that considers sea level rise and climate change.
5	Promote and maintain compliance with flood risk reduction programs and requirements.
6	Increase public awareness and foster collaboration to create a flood-hazard-resilient community.
7	Monitor, evaluate, and map the evolving flood hazard area.

Objectives are short-term aims, which when combined form a strategy or course of action to meet a goal. Unlike goals, objectives are specific and measurable. The objectives were developed by the Planning Committee



through its knowledge of the Township, review of past efforts, findings of the risk assessment, qualitative evaluations, and identification of mitigation options. The objectives are used to (1) measure the success of the FMP once implemented, and (2) to help prioritize identified mitigation actions. Objectives were designed to support numerous goals.

Table 6-2 presents the objectives of the FMP and the goals that they support. Objectives are organized according to the category of actions that they support:

- Prevention
- Property Protection
- Public Education and Awareness
- Natural Resources Protection
- Emergency Services
- Structural Projects

Table 6-2. Township of Brick 2021 Floodplain Management Plan Objectives

Obj. #	Objective Statement	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6	Goal 7
Prevention								
1	Develop a long-term strategy for mitigating potential flooding of properties, facilities, and infrastructure that are at risk for damage from future sea level rise including identification of critical facilities in the floodplain and determine potential options for relocation.	x			x		x	x
2	Improve capital improvement planning to ensure that future projects are constructed with storm- and flood- resilient features.	x		x	x	x	x	
3	Utilize the best available scientific data and resources including FEMA's updated flood mapping and local zoning and regulatory controls to guide growth and development to appropriate areas and rebuild using best practices.	x	x		x		x	x
4	Strive to maintain and improve the Township's Community Rating System (CRS) class rating and realize greater resilience and lower insurance costs.	x			x		x	
5	Update local ordinances to reflect and address flood hazards in the community including drainage system maintenance, boats, docks and marinas protection, green infrastructure, low impact design, water pollution prevention among others.	x	x		x		x	x
6	Promote sustainable development patterns to improve property protection, public safety, natural resource conservation and open space preservation.	x	x		x		x	
7	Maintain or expand planning and regulatory capabilities to support effective floodplain management and increased public safety.	x	x		x			x
8	Identify additional resources to support the implementation of mitigation and recovery projects.	x			x	x	x	
Property Protection								
9	Address any remaining damage and unmet needs from Superstorm Sandy and subsequent flooding and severe weather events, restore the tax base, and increase preparedness and protection for homes and businesses against future hazards.			x			x	



Obj. #	Objective Statement	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6	Goal 7
10	Improve structural and non-structural infrastructure, regulatory controls, and impervious surfaces to adequately manage stormwater and reduce the negative impacts on natural resources, infrastructure, and property.	x	x					
11	Reduce the adverse impact on critical facilities and infrastructure from flood hazard events within the community.	x		x				
12	Identify and support various options to increase property protection including elevation, acquisition, wet and dry floodproofing, structural protection, and infrastructure improvements.	x				x	x	
13	Identify and support various options to increase infrastructure protection including road elevation, drainage improvements, flood gates, structural protection measures, and improved maintenance strategies.	x					x	
14	Identify and/or provide assistance to second homeowners who are typically disqualified from most types of financial aid to rebuild or elevate the structures.	x					x	
Public Education and Awareness								
15	Expand outreach and education to support public awareness of flood hazards and vulnerabilities.						x	
16	Develop a Program for Public Information to centralize and manage floodplain management outreach and education initiatives.						x	
17	Coordinate Office of Emergency Management, Police Department, Bureau of Fire Safety, and Administration hazard and warning notifications and use of media.						x	
18	Collaborate with public agencies, academia, non-profit organizations, churches, community groups and municipal government for the creation, dissemination and promotion of education and outreach materials.						x	
Natural Resource Protection								
19	Reinforce and protect dune systems, coastal wetlands, and other natural coastal protective measures.	x	x					
20	Restore, maintain, and enhance natural areas with flood protection benefits including riparian areas, wetlands, dune systems among others.	x	x					
21	Provide natural floodplain function to allow for adequate groundwater infiltration and recharge to replenish aquifer systems and protect water quality and quantity.	x	x		x			
Emergency Services								
22	Provide for enhanced community facilities including an Emergency Operations Center to support emergency preparedness and response and improve local sheltering facilities and planning to improve public safety during and after a flood.	x		x			x	
23	Improve evacuation routes and evacuation plans, particularly for low-lying areas to prepare for future storm surge and flooding.	x		x	x		x	
24	Develop enhanced resources and techniques for greater public education and warning including reverse 911, equipment purchases, training, and education materials among others.						x	



Obj. #	Objective Statement	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6	Goal 7
25	Maintain reliable power sources for all critical community facilities to prevent disruption in essential services.	x		x				
Structural Projects								
26	Address stormwater infrastructure deficiencies including submerged outfall pipes, reactionary maintenance, clogging, areas with non-existing or outdated stormwater infrastructure, impervious surfaces, and water pollution. Improve stormwater collection areas and systems to allow for proper stormwater drainage and prevent submerged outflow pipes.	x			x			
27	Implement a series of green improvements to reduce stormwater quantity and improve stormwater quality including green roofs, bio swales, planter boxes, vegetated filter strips, permeable paving, and rain gardens.	x	x		x			

6.4 CAPABILITY ASSESSMENT

According to FEMA 386-3, a capability assessment is an inventory of a community’s missions, programs, and policies and an analysis of its capacity to carry them out. This assessment is an integral part of the planning process. The assessment process enables identification, review, and analysis of current local and state programs, policies, regulations, funding, and practices that could either facilitate or hinder mitigation.

During the planning process, the Township identified and assessed its capabilities in the areas of planning and regulatory, administrative and technical, and fiscal. By completing this assessment, the Planning Committee learned how or whether they would be able to implement certain mitigation actions by determining the following:

- Limitations that could exist on undertaking actions;
- The range of local and state administrative, programmatic, regulatory, financial, and technical resources available to assist in implementing their mitigation actions;
- Actions deemed infeasible, as they are currently outside the scope of capabilities;
- Types of mitigation actions that could be technically, legally (regulatory), administratively, politically, or fiscally challenging or infeasible; and
- Opportunities to enhance local capabilities to support long-term mitigation and risk reduction.

6.4.1 Planning and Regulatory Capability

Planning and regulatory capabilities are based on the implementation of ordinances, policies, local laws and state statutes, and plans and programs that relate to guiding and managing growth and development. The Township of Brick has various federal, state, county, and local policies, programs, and plans available to promote and support mitigation and reduce future damages.

6.4.2 Federal Floodplain Management Programs

Hazard Mitigation Assistance

Federal mitigation grant funding (Stafford Act 404 and 406) is available to all communities with a current hazard mitigation plan (such as the Ocean County Hazard Mitigation Plan); however, most of these grants require a “local share” in the range of 10-25 percent of the total grant amount. FEMA’s Hazard Mitigation Assistance (HMA) grant programs provide funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages. Currently, FEMA administers the following HMA grant



programs: 1) Flood Mitigation Assistance (FMA); 2) Hazard Mitigation Grant Program; and 3) Building Resilient Infrastructure and Communities (BRIC).

Participation in FEMA 404 Hazard Mitigation Grant Program (HMGP) may cover mitigation activities including raising, removing, relocating or replacing structures within flood hazard areas.

National Flood Insurance Program (NFIP)

Established in 1968, the NFIP provides federally-backed flood insurance to residents of communities that enact and enforce regulations that more carefully regulate development within floodplain areas. For individual property owners to be eligible to buy the federally-backed flood insurance, their property must be located within a community that participates in NFIP. In New Jersey, the NFIP is administered at the state-level by the New Jersey Department of Environmental Protection (NJDEP). The NFIP Coordinator works closely with NJOEM on all NFIP issues since eligibility for pre- and post-disaster programs relies on participation in the program.

The three components of the program are: flood insurance, floodplain management, and flood hazard mapping. The NFIP makes federally-backed flood insurance available to homeowners, renters, and business owners in the participating communities. Community participation in the NFIP is voluntary. Gaining municipality participation in the NFIP and encouraging property owners to purchase flood insurance significantly reduces disaster costs. Together these programs systematically reduce flood exposure to people and their property. The NFIP Coordinator works closely with FEMA to educate and inform communities of their responsibilities to maintain compliance. For a community to be eligible in NFIP, it must adopt and enforce a floodplain management ordinance to regulate proposed development in floodplains and officially designate a local floodplain coordinator/administrator. The intent of the program is to ensure that new construction does not exacerbate existing flood hazards and is designed to better withstand flooding.

The Township of Brick participates in the NFIP. The community also has Flood Insurance Rate Maps (FIRMs) that show FEMA Special Flood Hazard Areas (SFHA), flood zones, and base flood elevations. Preliminary FIRMs also show the Limit of Moderate Wave Action (LimWA). Mitigation activities related to this program are included in this section and data from FEMA Region II regarding NFIP Insurance Reports was used in the risk assessment for the flood hazard included in Section 5. The Township's floodplain manager has also been involved in the planning process, reviewed the plan documents, and provided direct input to the FMP.

Cumulative Substantial Improvements/Damages: The NFIP allows improvements valued at up to 50 percent of the building's pre-improvement market value to be permitted without meeting the current (as of the date of development) flood damage prevention ordinance requirements. Over the years, a community could issue a succession of permits for different repairs or improvement to the same structures. This can greatly increase the overall flood damage potential for structures within a community. The community might wish to deem *substantial improvement* cumulatively so that once a threshold of improvement within a certain length of time is reached, the structure is considered to be substantially improved and must meet flood protection requirements.

NFIP Community Rating System (CRS)

The NFIP's CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance.

CRS is a voluntary program designed to reward participating jurisdictions for their efforts to create more disaster-resistant communities using the principles of sustainable development and management. The Township of Brick



has developed this plan as a means of enhancing their standing in the CRS program, in addition to strengthening their local flood control programs. By participating in CRS, the Township works to leverage greater flood protection while receiving flood insurance discounts.

As of July 2021, the Township of Brick has a Class 6 rating in the CRS, resulting in a 20 percent reduction in premiums for eligible policy holders.

FEMA Risk MAP Program

Risk MAP, defined as Risk Mapping, Assessment, and Planning, is a FEMA program that provides communities with flood information and tools to enhance their mitigation plans and take action to protect their citizens. It builds on flood hazard data and maps produced during the Flood Map Modernization (Map Mod) program. Through more precise flood mapping products, risk assessment tools, and planning and outreach support, Risk MAP strengthens local ability to make informed decisions about reducing risk. It combines quality engineering with state-of-the-art flood hazard data to assist communities in planning and preventing risk using the most current information.

Risk MAP collaborates with state, tribal, and local governments and delivers quality data that increases public awareness and leads to action that reduces risk to property and life. Risk MAP focuses on products and services beyond the traditional FIRMs and works with officials to help put flood risk data and assessment tools to use. Risk MAP also helps effectively communicate risk to citizens and enable communities to enhance their mitigation plans and actions (FEMA 2020).

Full and complete information on the program can be found on the FEMA website: <https://www.fema.gov/flood-maps/tools-resources/risk-map>

FEMA Region II Coastal Analysis and Mapping

Under its Risk MAP Program, FEMA is providing quality flood hazard information to help communities plan for and reduce the risk from flooding. After Superstorm Sandy in order to help in rebuilding and recovery efforts, FEMA released Advisory Base Flood Elevation (ABFE) maps for the region, which were based on the partially completed flood study for certain communities. The ABFEs were updated into Preliminary Flood Insurance Rate Maps (PFIRMs). In 2015, prior to adoption, New York City filed a technical appeal based on technical and scientific errors in FEMA's modeling. The appeal was found to have merit and the FIRM adoption was paused until re-mapping could be done. FIRMs are currently being developed and are expected to be released and adopted in the next few years. Additional information on FEMA Region II's coastal analysis and mapping can be found at: <https://sites.google.com/site/region2coastal/>.

U.S. Geological Survey Tidal Gauge Monitoring

The U.S. Geological Survey (USGS) maintains a network of gauges across New York and New Jersey that continuously measure tidal levels. Funding for these gauges comes from both federal and state monies. These data sets are transmitted to the USGS and made available over the Internet. As project needs and funding levels change, gauges may be added or deactivated, and deactivated gauges may be reactivated. Additional information can be found at: <http://waterdata.usgs.gov/nj/nwis/nwis>

These gauges and the data they collect are occasionally used by outside groups to develop flood models, such as the Stevens Flood Advisory System which utilizes coastal USGS tidal gauges in the northeast. Additional information can be found at: <http://hudson.dl.stevens-tech.edu/SFAS/>



U.S. Army Corps of Engineers

Congress allocated \$5.35 billion to the USACE, including \$20 million to undertake the North Atlantic Coast Comprehensive Study. The purpose of the study is to address the flood risks of vulnerable coastal populations in the areas affected by Sandy, including New Jersey. After completion of the North Atlantic Comprehensive Study, the USACE began back bay studies throughout the region including the New Jersey Back Bays Coastal Storm Risk Management Study. An interim report was released in March 2019. In the fall of 2019, the study was put on hold due to lack of federal funding. In the spring of 2021, the USACE resumed study activities. Additional information can be found at: <https://www.nap.usace.army.mil/Missions/Civil-Works/New-Jersey-Back-Bays-Study/>

The Township coordinates with USACE on coastal studies and projects.

U.S. Army Corps of Engineers Dam Safety Program

The USACE is responsible for safety inspections of some federal and non-federal dams in the United States that meet the size and storage limitations specified in the National Dam Safety Act. USACE has inventoried dams and has surveyed each state and federal agency's capabilities, practices, and regulations regarding design, construction, operation, and maintenance of the dams. USACE has also developed guidelines for inspection and evaluation of dam safety.

Public Assistance

The objective of the FEMA Public Assistance (PA) Grant Program is to provide assistance to state, tribal, and local governments, and certain types of private nonprofit organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President.

Through the PA Program, FEMA provides supplemental federal disaster grant assistance for debris removal, emergency protective measures, and the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain private nonprofit organizations. The PA Program also encourages protection of these damaged facilities from future events by providing assistance for hazard mitigation measures during the recovery process.

The federal share of assistance is not less than 75 percent of the eligible cost for emergency measures and permanent restoration. The grantee (State of New Jersey) determines how the non-federal share (up to 25 percent) is split with the sub grantees (eligible applicants).

6.4.3 State Floodplain Management Programs

Floodplain Management Policy

The New Jersey State Law Flood Hazard Area Control Act (NJSA 58:16A-52) and its regulations attempts to minimize damage to life and property from flooding caused by development within fluvial and tidal flood hazard areas, to preserve the quality of surface waters, and to protect the wildlife and vegetation that exist within and depend upon such areas for sustenance and habitat. While it does not require local adoption, as it is enforced by the NJDEP, the floodplain ordinances of each municipality need to be reviewed to be in compliance with this new regulation.

Land Use Planning Policy

The State of New Jersey Municipal Land Use Law (L.1975, c. 291, s. 1, effective August 1, 1976) is the legislative foundation for the land use process, including decisions by Planning Boards and Zoning Boards of



Adjustment, in the State of New Jersey. It defines the powers and responsibilities of boards and is essential to their functions and decisions. It also provides the required components of a municipal master plan.

Every municipal agency shall adopt and may amend reasonable rules and regulations, not inconsistent with this act or with any applicable ordinance, for the administration of its functions, powers, and duties. These plans help jurisdictions review their land use plans and policies with public participation. The Municipal Land Use Law requires that each municipality prepare a comprehensive plan and update that plan every 10 years.

NJ Coastal Management Program-Getting to Resilience

Originally developed by the State of New Jersey's Coastal Management Program, the Getting to Resilience process was later adapted by the Coastal Training Program of the Jacques Cousteau National Estuarine Research Reserve (JC NERR), converted into a digital format, and placed on an interactive website. Further improving the questionnaire, the JC NERR added linkages to evaluation questions including the National Flood Insurance Program's (NFIP) Community Rating System (CRS), Hazard Mitigation Planning, and Sustainable Jersey. While this website is publicly available, through the facilitated Getting to Resilience process, JC NERR Coastal Community Resilience Specialists met with representatives of the Township of Brick to provide community-specific recommendations, guided discussions with municipal representatives, a vulnerability analysis, and municipal plan reviews (Brick Township "Getting to Resilience" Report, June 2014).

New Jersey DCA-Post Sandy Grant Funding

The purpose of the Post Sandy Planning Assistance Grant Program (the "Program") is to support long range planning for community redevelopment in the municipalities and counties sustaining damage from Superstorm Sandy. Due to the damage caused by the storm, many New Jersey municipalities and counties face a myriad of recovery challenges. Among them is the need for planning support to develop community recovery plans that strategically address the issues that now confront them. In furtherance of its mission to provide local government officials with the tools needed to efficiently manage municipal operations, the Department of Community Affairs (DCA) has created a local planning assistance program that will supplement the ongoing efforts of storm-impacted local and county governments to rebuild and revitalize. The Township obtained funding under this program to develop a suite of resiliency plans including a Floodplain Management Plan, Hazard Mitigation Plan, Repetitive Loss Area Analysis, Flood Warning and Response Plan, Neighborhood Specific Plans, Ordinance Preparation, Capital Improvement Plan, and Master Plan update.

New Jersey Association for Floodplain Management

In 2006, the Floodplain Management Committee became a chapter of the Association of State Floodplain Managers, under the name New Jersey Association for Floodplain Management (NJAFM). The purpose of the organization is described in the organization's constitution, and includes a range of floodplain management-related issues, including promoting public awareness of proper floodplain management, encouraging the exchange of ideas about floodplain management, informing concerned individuals about pending floodplain and coastal management legislation, and studying and supporting floodplain management legislation, among other missions. NJAFM is an active supporter of flood mitigation in the state. One example of this support is the NJAFM annual conference. The annual conference provides an opportunity for professionals in engineering, hydrology, geology, planning, code enforcement, floodplain management, and emergency management to participate in plenary sessions and concurrent sessions on a broad range of relevant topics. The conference also includes a number of training opportunities and networking events.

The Township attends the conference annually and has presented on floodplain issues in the past.



New Jersey Coastal Management Program

NJDEP is involved in a variety of hazard mitigation initiatives as part of the Coastal Zone Management (CZM) Program and as part of the Department's interaction with FEMA related to the National Flood Insurance Program (NFIP). The Coastal Area Facilities Review Act (New Jersey Statutes Annotated [N.J.S.A.] 13:19), the Waterfront Development Law (N.J.S.A. 12:5-3), and the Wetlands Act of 1970 (N.J.S.A. 13:9A) provide rules and regulations governing development in vulnerable coastal areas of New Jersey. Department staff routinely provides information to and work directly with municipal officials and property owners in the hazard identification, vulnerability analysis, and mitigation planning. Through the NJDEP regulatory programs, hazard mitigation activities are often required as a condition of a permit approval.

Improved hazard-resistant construction techniques and hazard sensitive building standards are resulting in more storm-resistant coastal development.

Coastal hazard vulnerability, particularly along the intensely developed oceanfront areas of New Jersey, is often influenced by the management practices on the adjacent beaches, dune systems, and shorelines. Protection, management, and enhancement of these important features, is a critical component of the New Jersey Coastal Management Program. With more than 50 municipalities, numerous beach associations and hundreds of private property owners controlling beach and dune areas, management practices and the resultant degree of vulnerability vary greatly.

New Jersey's Coastal Management Program has responded to these hazards in several ways. New Jersey has adopted a number of enforceable policies that deal directly with development in hazardous areas. These standards are codified in the CZM rules. These standards are designed to facilitate sound management of beaches, dunes, and shorelines throughout the coast to establish and support a consistent line of protection in the form of well-maintained and protected beaches and dunes. The standards are also intended to reduce development in the most vulnerable areas and reduce potential damage from coastal hazards for future development, and ensuring development does not adversely affect either the adjacent shorelines or structures or ecosystem. For more information on these standards go to: <https://www.nj.gov/dep/enforcement/clue.html>.

In oceanfront and bay front areas, NJDEP rules prevent additions to, or tearing down and rebuilding homes that result in placing the home closer to an eroding shoreline, or in additional encroachment on dunes that is not mitigated. Mitigation can include enhancing the dune as a shore protection feature. These enforceable policies also govern residential development in V-zones, as well as regulate beach and dune disturbance. Further, these CZM rules contain standards for beach and dune management and implementation of best management practices. These standards also maximize the benefits of the federal/state beach nourishment program by restoring the natural and beneficial functions of the beach and dune systems.

Among the enforceable policies in riverine and bay front areas are regulations that encourage the use of bioengineering as a preferred alternative to hard shoreline protection structures, particularly along the lower energy shorelines of the back-bays and rivers. By reflecting wave and current energy, bulkheads have frequently caused scour and erosion of sensitive environmental resources. NJDEP has also successfully promoted construction of sloped riprap revetments as an alternative to bulkheads. Sloped revetments have less impact on marine and estuarine resources because they tend to dissipate wave and current energy and thus reduce erosive and scour effects.

The NJDEP Coastal Management Office is the conduit for federal CZM grants that may be used for hazard mitigation activities such as historical shoreline change mapping projects, educational programs and coastal area planning initiatives. Under NOAA's 309 Grant Program, the Coastal Management Office has provided and will continue to provide pertinent information for local and state hazard mitigation plans. These efforts include



disseminating coastal hazards information through the Coastal Management Program website; working with municipalities to provide the public with information regarding the limitations of beach nourishment; and collecting data, such as beach and dune mapping and beach profile mapping to determine the degrees of vulnerability of coastal communities. Pursuant to 15 CFR 930, federal activities affecting the coastal zone are required to be consistent with approved state coastal management programs.

More information on the NJDEP Coastal Regulation Program can be found at their web site at: www.state.nj.us/dep/cmp/. (NJ DEP 2021a)

Coastal Permitting

There are two linked rules which govern the review of all coastal project proposals: the Coastal Permit Program Rules and the CZM rules. As of July 6, 2015, the Coastal Permit Program rules and Coastal Zone Management rules were consolidated into one chapter, N.J.A.C. 7:7. The consolidation of all the coastal rules in a single chapter is part of the Department's effort to transform the operations of the Division of Land Use Regulation. A With this and anticipated rulemaking, the Department intends to align the rules governing the permitting processes of the coastal, freshwater and flood hazard permitting programs, to the extent the respective enabling statutes allow. A Additionally, to further prioritize and refocus its permitting efforts on the activities posing the most risk to the coastal environment, two new Permits-by-rule, two General Permits-by-certification (electronic permits), a new General Permit and modifications to several existing General Permits were developed. In addition, other rule changes were made in an effort to further encourage appropriate redevelopment of more resilient coastal communities (NJ DEP 2021b).

The State regulates projects based upon at least one of the two characteristics:

1. The proposed activity is a regulated activity; and/or
2. The project occurs within or adjacent to a regulated coastal area (NJDEP 2013)

To be certain if a specific project is considered regulated or occurs in a regulated coastal area, one must apply for a Jurisdictional Determination (JD). A JD is the Division of Land Use Regulation's formal determination whether a state-issued permit would be required for the specific project and site. A JD does not guarantee the proposed activity would be approved (NJDEP 2013).

Department of Community Affairs –Sandy Recovery Division

The Sandy Recovery Division manages the majority of the federal funds being used to assist the State in recovering from Superstorm Sandy. These funds come from the Community Development Block Grant (CDBG) Disaster Recovery programs of the U.S. Department of Housing and Urban Development. The Sandy Recovery Division is committed to efficiently and effectively addressing the long-term needs of New Jersey's Sandy-impacted residents and communities through programs designed to help homeowners, tenants, landlords, developers and local governments. For additional information visit: <http://www.state.nj.us/dca/divisions/sandyrecovery/index.html>

Open Space Acquisition Programs

New Jersey is the most densely populated state in the country and has been a leader in attempts to preserve open space since 1962 when the first of many Green Acres bonds were issued. That first bond issue authorized the sale of \$60 million in bonds with which to acquire lands for recreation and conservation purposes. Since that time, the State has repeatedly pursued additional bonds for acquisition of lands in the floodways of the Delaware River, Passaic River, and the Raritan River, and their respective tributaries, for recreation and conservation



purposes. Though a sustainable source of funding for this program has not been secured, preserving open space near riverine and coastal systems remains a State priority.

Green Acres

Green Acres was created to meet New Jersey’s growing recreation and conservation needs. This program has helped preserve over 1.2 million acres of land in New Jersey.

Coastal Blue Acres

The goal of the Blue Acres Program, which has historically served as part of DEP’s Green Acres Program that purchases flood-prone properties, is to dramatically reduce the risk of future catastrophic flood damage and to help families to move out of harm’s way. The Superstorm Sandy Blue Acres program launched in May 2013 and is recognized by the Federal Emergency Management Agency (FEMA) as a “National Best Practice.”

Blue Acres dates back to 1995, but activity expanded sharply after Hurricane Sandy in 2012. As of September 2019, the program has purchased approximately 1,000 properties (about 700 since Sandy) and plans to acquire hundreds more using a mix of state and federal funding. Blue Acres buyouts take 6 to 12 months from start to closing, depending on the homeowner’s situation and needs; after closing, it will take another 6 to 12 months to complete demolition. This timeline is substantially faster than most FEMA-funded buyouts—but it has required extensive work to reach this point.

Statewide Building and Construction Codes

Building codes mandate best practices and technology, much of which is designed to reduce or prevent damage from occurring when structures are under stress.

The State of New Jersey signed the Uniform Construction Code (UCC) Act into law in 1975. The Commissioner of the New Jersey Department of Community Affairs (NJDCA) is authorized to implement and enforce rules pertaining to construction codes and provides for the management and implementation of those rules throughout the State. The development of the UCC (N.J.A.C. 5:23) in 1977, included the UCC Act and all rules issued under the Act relating to the administration and enforcement of construction regulations. The UCC includes four technical subcodes for construction: building, electrical, fire protection, and plumbing. The UCC also contains technical subcodes for fuel gas installations, mechanical installations, one and two family dwellings, accessible construction, the rehabilitation of existing buildings, the construction of manufactured homes, asbestos hazard abatement, radon hazard abatement, and playground safety.

The UCC adopts up-to-date building codes as its Building Subcode and One- and Two-Family Subcode. These Subcodes contain requirements that address construction in both A and V flood zones. Also, all new construction is required to comply with the UCC for flood zone construction.

The UCC includes town building codes that address different hazards that affect New Jersey. The State has adopted the 2018 International Building Code (IBC), 2018 National Standard Plumbing Code, 2017 National Electrical Code, 2018 International Energy Conservation Code, 2018 International Mechanical Code, and 2018 international Residential Code with state amendments. These address the construction of new buildings and their relationship to weather-related and geological hazards. More information on the NJDCA Building Code Programs can be found at their website: www.state.nj.us/dca.



6.4.4 County and Local Floodplain Management Programs

Ocean County Long Term Community Recovery Plan

In response to the devastation and severe impacts of Superstorm Sandy, Ocean County developed a countywide long term recovery plan, released in 2014. This plan was sponsored by Together New Jersey through the Sustainable Communities Regional Planning Grant (a program by the U.S. Department of Housing and Urban Development). Although specifically focused on helping the County and its jurisdictions recover from Superstorm Sandy, the document provides recovery strategies that can be applied to other severe storm and flooding events as well.

In addition to reviewing the County's impacts from Superstorm Sandy and initial recovery actions, the document also contains a recovery needs assessment, recovery strategy, and implementation plan. The plan's ultimate goal is to build a year-round community that is environmentally, economically, socially, and culturally stronger. Specific steps to achieve this include, but are not limited to, elevating and acquiring flood-prone homes, developing a risk-preparedness campaign, improving the County evacuation plan and shelter management plan, developing Countywide tools to support CRS participation, and strengthening the marinas for better and safer boat storage (Ocean County 2014).

Ocean County Multi-Jurisdictional All-Hazards Mitigation Plan

Brick Township participated in the development of the 2014 County Hazard Mitigation Plan (HMP). This version is the first approved HMP, and examines the hazards most likely to impact the County and its jurisdictions, identifies County capabilities for response and mitigation, and prioritizes mitigation actions to help reduce County vulnerability to hazards.

The County identified and profiled 15 natural and human-caused hazards, including flooding, coastal erosion, and climate change. Flood events were ranked as the most severe hazard in the County, while climate change ranked at seventh and coastal erosion ranked as eighth. In the Comparative Jurisdictional Risk Factor section, Brick Township noted that it had a higher overall vulnerability to those three hazards than compared to other municipalities in the County. In regards to flood-related mitigation actions, the County and Township identified a variety of goals focused on structural/infrastructure upgrades, education and outreach, natural resources protection, and local plans and regulation that can serve as a starting point for flood mitigation goals for this flood mitigation plan (Ocean County HMP 2014).

Ocean County Flood Insurance Study

The Federal Emergency Management Agency (FEMA) provided a revised Flood Insurance Study (FIS) for Ocean County in 2014, as an update to the 2006 FIS. The 2014 FIS is currently still preliminary and has not yet been finalized. The FIS provides a significant resource to both the County and Township in identifying areas of greater flood risk. In addition to flood profiles and update Flood Insurance Rate Maps (FIRMs), the FIS summarizes principal flood problems in the community, existing flood protection measures, and relevant engineering analyses on primary waterways. The engineering analyses include both hydrologic and hydraulic information, as well as coastal analyses and transect data (FEMA FIS 2014).

Strategies for Flood Risk Reduction for Vulnerable Coastal Populations around Barnegat Bay

Barnegat Bay is one of the more significant watersheds in the Township and in Ocean County. The Bay area itself is also a major ecological resource for the community and home to many private residences. During Superstorm Sandy, many of these residences were negatively impacted due to the low-lying areas around the Bay. When the storm identified the increased vulnerability of these residences, a report was developed to aid the



State of New Jersey in identifying actions to reduce the risk for property owners and residents near Barnegat Bay.

The risk-reduction strategies were designed to be novel, feasible, affordable, and environmentally friendly. Most of the relevant projects that would benefit the Township were either structural or preventative in nature. Suggested actions included, but are not limited to:

- Increasing the height of bulkheads along Barnegat Bay with or without movable panels
- New types of water pumps driven by green energies are conceptually designed to protect against power outages during storm events
- New metal sheet bulkheads with or without movable panels and incorporate check valves inside the bulkheads
- Construct new concrete flood walls with or without movable flood panels and incorporate check valves inside the walls
- Construct flood gates and pump stations

Similar to other Township and County plans, these projects provide a good base for potential flood control projects to be included in this flood mitigation plan (Rutgers 2014).

Ocean County CRS User Group

In September 2015 the Ocean County Planning Department in collaboration with the Ocean County Sheriff's OEM held its first Community Rating System Users Group. The OC CRS Users Group meets quarterly to discuss pertinent issues to the NFIP, CRS, and resiliency planning. In order to help Ocean County municipalities participate in the CRS, Ocean County adopted a CRS Assistance Program. Through this program municipalities can leverage County resources to improve their class rating (Ocean County 2021).

Brick Township Master Plan

The Brick Township Master Plan, approved in 2007, is an update to the Township's 1997 Master Plan. It provides the policy framework for how and where the Township will grow and develop over the coming years. The Township Master Plan focuses on economic growth, development, and redevelopment in anticipation of population growth in the Township and the broader region. The Master Plan includes the following major elements:

- 1 Land Use Element
- 2 Population Growth Element
- 3 Utilities Element
- 4 Recycling Element
- 5 Stormwater Management Element
- 6 Conservation and Open Spaces Element
- 7 Recreation Element
- 8 Historic Element
- 9 Community and Forestry Element
- 10 Circulation and Transportation Element
- 11 Housing Element (Brick Township Master Plan 2007).

The Township completed a Reexamination Report in 2018. The report included the problems and objectives relating to land development in the Township at the time of adoption. This included the concepts of Superstorm



Sandy recovery, zoning variances, and affordable housing. New regulatory measures and planning efforts were identified. The Report also introduced or updated the following elements:

- 1 Stormwater Management Plan Element
- 2 Conservation and Open Space Element
- 3 Environment Element
- 4 Transportation Element
- 5 Development Element
- 6 Resilience Element
- 7 Land Use Element (Brick Township 2018)

Master Plan elements that are particularly applicable to the implementation of the floodplain management plan are the Stormwater Management Plan Element, the Conservation and Open Space Element, the Environment Element, the Transportation Element, the Development Element, the Resilience Element, and the Land Use Element.

Township of Brick Planning Board

The Township Planning Board is responsible for preparing, amending and adopting the municipal master plan. The master plan is the blueprint for the development for the township and consists of land use, recreation, housing, utility, recycling, traffic and conservation elements. The Planning Board reviews and reports to the Township Council on any municipal zoning ordinances or revisions/amendments to existing ordinances before its adoption. The Planning Board also reviews applications for subdivisions and reviews site plans.

Floodplain Management Policy

The New Jersey State Law Flood Hazard Area Control Act (NJSA 58:16A-52) and subsequent regulations attempt to minimize damage to life and property from flooding caused by development within fluvial and tidal flood hazard areas, to preserve the quality of surface waters, and to protect the wildlife and vegetation that exist within and depend upon such areas for sustenance and habitat. While it does not require local adoption, as it is enforced by the NJDEP, the floodplain ordinances of each municipality need to be reviewed to be in compliance with this new regulation.

The Brick Township Council adopted the Flood Damage Prevention Ordinance on February 19, 2013, through Ordinance Number 3-13. The Township has amended and will continue to amend the Ordinance, as needs and updates are identified. The Flood Damage Prevention Ordinance meets State and Federal compliance requirements for the National Flood Insurance Program. The ordinance also contains some regulations exceeding federal minimums, most notably the requirement of one foot of freeboard. Brick Township designed the Flood Damage Prevention Ordinance with the following goals in mind:

- Protect human life and health
- Minimize the expenditure of public money for costly flood control projects
- Minimize the need for rescue and relief efforts associated with flooding
- Minimize prolonged business interruptions
- Minimize damage to public facilities and utilities
- Help maintain a stable tax base by providing for second use and development areas of special flood hazard so as to minimize future flood blight areas
- Ensure that potential buyers are notified that property is in an area of special flood hazard
- Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions



This ordinance also contains provisions for coastal flooding and properties in the V-zone in an effort to address not only riverine flooding but all flooding which may affect the community (Brick Township, 2013).

Stormwater Management Policy

The Township of Brick Stormwater Management Plan is an element of the master plan, adopted May 2007. The plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating stormwater design and performance standards for new major developments, defined as projects that disturb one or more acres of land. These standards are intended to minimize the adverse impacts of stormwater runoff on water quality and water quantity and the loss of groundwater recharge that provides baseflow in receiving water. The Township is updating the Stormwater Management Plan Element and anticipates completion in 2022.

Building Codes Policy

Uniform Construction Code (Uniform Construction Code Act of 1975 [UCC]) requires all jurisdictions to have current land use master plans, zoning, and other land development ordinances. The UCC adopts up-to-date building codes as its Building Subcode and One- and Two-Family Subcode. These subcodes contain requirements that address construction in both A and V flood zones.

Building codes mandate best practices and technology, much of which is designed to reduce or prevent damage from occurring when structures are under stress. New Jersey State Law requires that all municipalities adopt ordinances that follow the UCC. In January 2013, the state established by emergency rule the best available data from FEMA's latest flood maps, plus one foot of freeboard, as the general rebuilding standard to adapt to changing flood hazard risks and corresponding federal flood insurance rates.

Zoning Ordinance

The Township of Brick monitors zoning and land use regulations through Chapter 245 (Land Use) of the Township Code. This chapter was designed to promote safe and sustainable development of land in Brick, per the Township's overall goals of promoting public health, safety, morals, and general welfare. Specifically, the ordinance also considers the impact of various hazards, including floods, fire, and other natural/manmade disasters, in land use development.

Article XXXVIIA of this chapter focuses specifically on the development of land in a designated special flood hazard area, per the current FIRMs and in agreement with the Township flood damage prevention ordinance. This section of the code was last updated by the Township in March 2013. A draft revision of the ordinance is under review by the Township Council Land Use Committee and is anticipated to be adopted in 2022.

Subdivision Ordinance

Subdivision regulations vary per local jurisdictions in New Jersey. In the Township of Brick, they are considered under Part 3 of the zoning ordinance (Chapter 245), as described above. Subdivision regulations can also be used to strengthen the Township's overall flood management program by supporting zoning and other flood legislation.

In the case of Brick Township, the Township requires all subdivision design standards to consider the potential for flooding and that land subject to flooding or otherwise deemed uninhabitable cannot be utilized for residential purposes.

Capital Improvement Plans

Capital improvement plans outline capital spending and investments necessary for public improvements. The Township of Brick is updating its capital improvement plan to include mitigation and green infrastructure



projects. This intentional integration of planning is being implemented to facilitate and increase the resiliency of the community as well as to support future grant funding of mitigation projects. The plan will be used to fund mitigation projects and demonstrate integration into daily operations.

Emergency Management Plan

According to State Police Directive 101, each county and municipality shall prepare, adopt, and maintain an emergency operations plan that meets the requirements of the State Emergency Operations Plan guidelines and checklist. The plan describes the hazards faced by the jurisdiction as well as the jurisdictions capabilities, needs, demands, and emergency management structure.

Brick Township Strategic Recovery Planning Report

Brick Township developed a Strategic Recovery Planning Report (SRPR) to serve as the blueprint for its recovery from the impacts of Superstorm Sandy and to reduce community vulnerability to future storms. The SRPR has three primary purposes, including:

- Evaluate the impacts on affected community features in Brick and address conditions created or exacerbated by the storm
- Articulate the planning goals, strategies, and priority projects and actions that are most urgently needed to improve public safety, increase resistance to damage from future storms, and stimulate economic recovery
- Provide detailed descriptions of each proposed action and project, a statement of need demonstrating how each action or project relates to the impacts of Superstorm Sandy, why the action or project is important to the economic and environmental health of the community, and the major tasks associated with each action or project

In addition to providing a substantial starting point for the Township’s flood mitigation plan projects and actions, the SRPR also provides recent data about the impacts of an unusually severe storm event on the Township and how Superstorm Sandy has affected the Township’s overall response and mitigation capabilities. This plan also highlights the Township’s dedication to implementing a stronger and more comprehensive flood control and mitigation program. Highlighted projects proposed in the report include but are not limited to promoting shore protection techniques and open space preservation, protecting and restoring stream and river banks, concentrating development in areas not vulnerable to sea level rise, and promoting public awareness of hazard mitigation (SRPR 2014).

Brick Township Sustainable Jersey Community Certification Report

Sustainable Jersey is a state certification program designed to help municipalities implement long-term “green” initiatives to ultimately increase quality of life, the quality of the local environment, and save costs on non-sustainable energy sources. The Certification Report is issued when the community joins the program and contains a summary of the Township’s overall sustainability-focused efforts and projects.

As part of this initiative and to enhance their ability to join the program, Brick Township highlighted several key projects, such as drafting the SRPR; the Sustainable Brick Township Committee, which is made up of representatives of local government, residents, business owners, board of education, utility authority, environmental commission, planners and engineers who want to develop strategies for sustainable green initiatives; the completion of an energy audit of municipal facilities; the installation of sustainable projects, like a solar system, rain garden, and turbine; and the adoption of environmental protection measures. Many of the ordinances adopted have secondary benefits of strengthening the Township’s flood management program as well. The ordinances include an Environmental Assessment Ordinance, Riparian Buffer Ordinance, Dune



Preservation Ordinance, Threatened and Endangered Species Ordinance, and Tree Protection Ordinance (Brick Township Sustainable Jersey Certification Report).

Township of Brick Department of Public Works

The Brick Township Department of Public Works is responsible for snow removal, street maintenance, grounds maintenance, signs, storm drain maintenance and more.

Township of Brick Building Department

The primary responsibility of the Building Department, also known as the Division of Inspections, is to protect the health, safety, and welfare of New Jersey's citizens. To accomplish this, the Construction Official and Subcode Officials review construction permit applications to ensure that building plans and specifications conform to the New Jersey Uniform Construction Code (NJUCC). Inspectors perform field inspections for construction projects to ensure that the construction is in accordance with the NJUCC.

The Division of Inspections issues permits to construct, enlarge, alter, renovate, remove or repair a structure.

Township of Brick Code Enforcement Department

The Code Enforcement Department is responsible for enforcing property maintenance ordinances which protect public health and safety of residential and non-residential structures. The Code Enforcement Office is within the Department of Administration, under the Division of Inspections. The Construction Code Official is the main Code Enforcement Official in the Township.

Code Enforcement Officers are in the community on a daily basis ensuring all properties are maintained in accordance with the law. Code Enforcement Officers can and do issue violation notices and summonses in the event that the requested remediation actions are not pursued by property owners. When necessary, Code Enforcement Officers attend court hearings with property owners that fail to comply. The Code Enforcement Officers work in collaboration with the Zoning Office, Construction Official and the Property Maintenance Board.

Township of Brick Division of Engineering

The Division of Engineering is responsible for the design and development of the township's infrastructure. Engineering is responsible for inspecting and overseeing infrastructure projects, both private and public, within the borders of the community. The Division of Engineering is also responsible for the regulation of the Flood Prevention Control Ordinance through review of elevation certificates for all development in the regulated floodplain. The Township Engineer serves as the Floodplain Administrator and is responsible for the administration of the Township's NFIP floodplain administration and associated services.

Other areas that Engineering oversees are:

- Roadway improvements
- Sinkholes
- Waterfront development including bulkheads, docks and boat lifts
- Traffic design

The Division of Engineering and the Division of Land Use & Planning regularly partner to work on flood related projects and initiatives. Examples of this include a recent flood study of 13 low lying areas in the Township. Brick Township retained ACT Engineers, Inc. to develop flood mitigation concepts for these areas. ACT



reviewed and enhanced the high definition aerial topographic mapping and collected flooding information from residents to support flood mitigation strategies the Township may undertake. As a result of this study, the Engineer oversaw a joint project with the Township of Toms River to raise the roadway elevation in the Normandy Beach neighborhood through NJDOT municipal aid grants.

The Division of Engineering and the Division of Land Use & Planning continue to explore opportunities to expand the Township's flood data to support future mitigation projects and identify and pursue funding sources for implementation.

Township of Brick Finance Department

The Division of Finance is overseen by the Chief Financial Officer and is responsible for the maintenance of custody of all township funds. The Division oversees all investments and is responsible for the safekeeping of all bonds and notes owned by the township and the receipt and delivery of township bonds and notes for transfer, registration or exchange.

Township of Brick Division of Land Use & Planning

The Division of Land Use & Planning is responsible for guiding development in the Township of Brick to be consistent with the New Jersey Municipal Land Use Law, Master Plan, Zoning Map and Section 245 Land Use Code of the Municipal Code. The Division has a staff of six full-time employees. It is organizationally located within the Department of Administration. The Zoning Office, Planning Board and Zoning Board of Adjustment are under the Division purview.

The Division staff is charged with periodic reviews of the Master Plan, planning studies and reports, review of subdivisions and site plans, drafting and review of ordinances, affordable housing compliance, geographical information (GIS) mapping, tax map maintenance, grant writing and management and works closely with other departments regarding development in the community. The division also manages Affordable Housing, Community Development Block Grant Program and the FEMA National Flood Insurance Community Rating System Program (CRS).

Township of Brick Police Department/Office of Emergency Management

Through the use of their website, Nixle, and Facebook, the Township of Brick Police Department hopes to keep the community better informed while continuing to deliver the quality service the community has come to expect. Within the Police Department, the Township of Brick's Office of Emergency Management (OEM) is responsible for planning for and responding to disasters. During an emergency event, OEM staffs and manages the Emergency Operations Center.

Township of Brick Community Emergency Response Team

The Brick Community Emergency Response Team (CERT) Program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community.



6.4.5 Fiscal Capabilities

While it is important to recognize the mitigation strategies for the Township of Brick to help achieve the mitigation goals and objectives of the FMP, it is also important to provide sources for funding to implement these strategies. Fiscal capabilities are the resources that a jurisdiction has access to or is eligible to use to fund mitigation actions. The table below provides a list of programs, descriptions, and links for those jurisdictions seeking funding sources. This table is not intended to be a comprehensive list, but rather a tool to help begin identifying potential sources of funding.

Table 6-3. Fiscal Capabilities

Capability		
Federal		
Hazard Mitigation Grant Program	Description:	<p>The HMGP is a post-disaster mitigation program. It is made available to states by FEMA after each Federal disaster declaration. The HMGP can provide up to 75 percent funding for hazard mitigation measures. The HMGP can be used to fund cost-effective projects that will protect public or private property in an area covered by a federal disaster declaration or that will reduce the likely damage from future disasters. Examples of projects include acquisition and demolition of structures in hazard prone areas, flood-proofing or elevation to reduce future damage, minor structural improvements and development of state or local standards. Projects must fit into an overall mitigation strategy for the area identified as part of a local planning effort. All applicants must have a FEMA-approved Hazard Mitigation Plan (this plan).</p> <p>Applicants who are eligible for the HMGP are state and local governments, certain nonprofit organizations or institutions that perform essential government services, and Indian tribes and authorized tribal organizations. Individuals or homeowners cannot apply directly for the HMGP; a local government must apply on their behalf. Applications are submitted to NJ OEM and placed in rank order for available funding and submitted to FEMA for final approval. Eligible projects not selected for funding are placed in an inactive status and may be considered as additional HMGP funding becomes available.</p> <p>For additional information regarding HMGP, please refer to: https://www.fema.gov/hazard-mitigation-grant-program</p>
	Responsible Agency:	FEMA
Flood Mitigation Assistance Program	Description:	<p>The FMA program combines the previous Repetitive Flood Claims and Severe Repetitive Loss Grants into one grant program. The FMA provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP. The FMA is funded annually; no federal disaster declaration is required. Only NFIP insured homes and businesses are eligible for mitigation in this program. Funding for FMA is very limited and, as with the HMGP, individuals cannot apply directly for the program. Applications must come from local governments or other eligible organizations. The federal cost share for an FMA project is at least 75 percent. For the non-federal share, at most 25 percent of the total eligible costs must be provided by a non-federal source; of this 25 percent, no more than half can be provided as in-kind contributions from third parties. At minimum, a FEMA-approved local flood mitigation plan is required before a project can be approved. The FMA funds are distributed from FEMA to the state. NJOEM serves as the grantee and program administrator for the FMA program.</p> <p>The FMA program is detailed on the FEMA website: https://www.fema.gov/flood-mitigation-assistance-grant-program.</p>
	Responsible Agency:	FEMA
Building Resilient	Description:	Building Resilient Infrastructure and Communities (BRIC) will support states, local communities, tribes and territories as they undertake hazard mitigation projects,



Table 6-3. Fiscal Capabilities

Capability	
Infrastructure and Communities Program	<p>reducing the risks they face from disasters and natural hazards. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program.</p> <p>The BRIC program guiding principles are supporting communities through capability- and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency.</p> <p>For additional information regarding the BRIC program, please refer to: https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities</p>
	<p>Responsible Agency: FEMA</p>
Extraordinary Circumstances	<p>Description:</p> <p>For BRIC and FMA project subawards, the (FEMA) Region may apply extraordinary circumstances when justification is provided and with concurrence from FEMA Headquarters (Risk Reduction and Risk Analysis Divisions) prior to granting an exception. If this exception is granted, a local mitigation plan must be approved by FEMA within 12 months of the award of the project subaward to that community.</p> <p>For HMGP, BRIC, and FMA, extraordinary circumstances exist when a determination is made by the Applicant and FEMA that the proposed project is consistent with the priorities and strategies identified in the State (Standard or Enhanced) Mitigation Plan and that the jurisdiction meets at least one of the criteria below. If the jurisdiction does not meet at least one of these criteria, the Region must coordinate with FEMA Headquarters (Risk Reduction and Risk Analysis Divisions) for HMGP; however, for BRIC and FMA the Region must coordinate and seek concurrence prior to granting an exception:</p> <ul style="list-style-type: none"> • The jurisdiction meets the small, impoverished community criteria (see Part VIII, B.2). • The jurisdiction has been determined to have had insufficient capacity due to lack of available funding, staffing, or other necessary expertise to satisfy the mitigation planning requirement prior to the current disaster or application deadline. • The jurisdiction has been determined to have been at low risk from hazards because of low frequency of occurrence or minimal damage from previous occurrences as a result of sparse development. • The jurisdiction experienced significant disruption from a declared disaster or another event that impacts its ability to complete the mitigation planning process prior to award or final approval of a project award. • The jurisdiction does not have a mitigation plan for reasons beyond the control of the State, federally-recognized tribe, or local community, such as Disaster Relief Fund restrictions that delay FEMA from granting a subaward prior to the expiration of the local or Tribal Mitigation Plan. <p>For HMGP, BRIC, and FMA, the Applicant must provide written justification that identifies the specific criteria or circumstance listed above, explains why there is no longer an impediment to satisfying the mitigation planning requirement, and identifies the specific actions or circumstances that eliminated the deficiency.</p> <p>When an HMGP project funding is awarded under extraordinary circumstances, the Recipient shall acknowledge in writing to the Regional Administrator that a plan will be completed within 12 months of the subaward. The Recipient must provide a work plan for completing the local or Tribal Mitigation Plan, including milestones and a timetable, to ensure that the jurisdiction will complete the plan in the required time. This requirement shall be incorporated into the award (both the planning and project subaward agreements, if a planning subaward is also awarded).</p>
	<p>Responsible Agency: FEMA</p>



Table 6-3. Fiscal Capabilities

Capability	
Individual Assistance	Description: Individual Assistance (IA) provides help for homeowners, renters, businesses, and some non-profit entities after disasters occur. This program is largely funded by the U.S. Small Business Administration. For homeowners and renters, those who suffered uninsured or underinsured losses could be eligible for a Home Disaster Loan to repair or replace damaged real estate or personal property. Renters are eligible for loans to cover personal property losses. Individuals are allowed to borrow up to \$200,000 to repair or replace real estate, \$40,000 to cover losses to personal property, and an additional 20 percent for mitigation. For businesses, loans could be made to repair or replace disaster damages to property owned by the business, including real estate, machinery and equipment, inventory, and supplies. Businesses of any size are eligible. Non-profit organizations, such as charities, churches, and private universities are eligible. An Economic Injury Disaster Loan provides necessary working capital until normal operations resume after a physical disaster but are restricted by law to small businesses only. IA is detailed on the FEMA website: https://www.fema.gov/individual-disaster-assistance .
	Responsible Agency: FEMA
Public Assistance	Description: Public Assistance (PA) provides cost reimbursement aid to local governments (state, county, local, municipal authorities, and school districts) and certain non-profit agencies that were involved in disaster response and recovery programs or that suffered loss or damage to facilities or property used to deliver government-like services. This program is largely funded by FEMA with both local and state matching contributions required. PA is detailed on the FEMA website: https://www.fema.gov/public-assistance-local-state-tribal-and-non-profit .
	Responsible Agency: FEMA
Department of Homeland Security Grant Program	Description: The Homeland Security Grant Program (HSGP) plays an important role in the implementation of the National Preparedness System by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal of a secure and resilient nation. In FY 2019, the total amount of funds available under HSGP was \$1.095 billion. HSGP is comprised of three interconnected grant programs including the State Homeland Security Program, Urban Areas Security Initiative (UASI), and the Operation Stonegarden. Together, these grant programs fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration. Additional information regarding HSGP is available on the website: https://www.fema.gov/homeland-security-grant-program .
	Responsible Agency: FEMA
High Hazard Potential Dams Grant Program	Description: The Rehabilitation of High Hazard Potential Dams Grant Program provides technical, planning, design, and construction assistance in the form of grants to non-Federal governmental organizations or nonprofit organizations for rehabilitation of eligible high hazard potential dams. Information regarding this program is available on the website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=316238 .
	Responsible Agency: FEMA
Small Business Administration Loan	Description: The Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or



Table 6-3. Fiscal Capabilities

Capability	
	<p>destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.</p> <p>Homeowners could apply for up to \$200,000 to replace or repair their primary residence. Renters and homeowners could borrow up to \$40,000 to replace or repair personal property-such as clothing, furniture, cars, and appliances that were damaged or destroyed in a disaster. Physical disaster loans of up to \$2 million are available to qualified businesses or most private nonprofit organizations.</p> <p>Additional information regarding SBA loans is available on the SBA website: https://www.sba.gov/managing-business/running-business/emergency-preparedness/disaster-assistance.</p>
	<p>Responsible Agency: SBA</p>
Community Development Block Grant Program	<p>Description: CDBG are federal funds intended to provide low and moderate-income households with viable communities, including decent housing, a suitable living environment, and expanded economic opportunities. Eligible activities include community facilities and improvements, roads and infrastructure, housing rehabilitation and preservation, development activities, public services, economic development, and planning and administration. Public improvements could include flood and drainage improvements. In limited instances and during the times of “urgent need” (e.g., post disaster) as defined by the CDBG National Objectives, CDBG funding could be used to acquire a property located in a floodplain that was severely damaged by a recent flood, demolish a structure severely damaged by an earthquake, or repair a public facility severely damaged by a hazard event.</p> <p>Additional information regarding CDBG is available on the website: https://www.hudexchange.info/programs/cdbg-entitlement/.</p>
	<p>Responsible Agency: HUD</p>
Federal Highway Administration-Emergency Relief	<p>Description: The Federal Highway Administration (FHWA) Emergency Relief is a grant program through the U.S. Department of Transportation (DOT) that can be used for repair or reconstruction of federal-aid highways and roads on federal lands that have suffered serious damage as a result of a disaster. New Jersey Department of Transportation serves as the liaison between local municipalities and FHWA.</p> <p>Additional information regarding the FHWA Emergency Relief Program is available on the website: https://www.fhwa.dot.gov/programadmin/erelief.cfm.</p>
	<p>Responsible Agency: U.S. DOT</p>
Federal Transit Administration - Emergency Relief	<p>Description: The Federal Transit Authority (FTA) Emergency Relief is a grant program that funds capital projects to protect, repair, reconstruct, or replace equipment and facilities of public transportation systems. Administered by the Federal Transit Authority at the U.S. DOT and directly allocated to Metropolitan Transit Authority (MTA) and Port Authority, this transportation-specific fund was created as an alternative to FEMA PA. Currently, a total of \$5.2 billion has been allocated to New Jersey-related entities.</p> <p>Additional information regarding the FTA Emergency Relief Program is available on the website: https://www.transit.dot.gov/funding/grant-programs/emergency-relief-program/emergency-relief-program.</p>
	<p>Responsible Agency: U.S. DOT</p>
Disaster Housing Program	<p>Description: Emergency assistance for housing, including minor repair of home to establish livable conditions, mortgage and rental assistance available through the U.S. Department of Housing and Urban Development (HUD).</p> <p>Information on this program is available on the website: https://www.hud.gov/program_offices/public_indian_housing/publications/dhap.</p>



Table 6-3. Fiscal Capabilities

Capability		
	Responsible Agency:	HUD
HOME Investment Partnerships Program	Description:	Grants to local and state government and consortia for permanent and transitional housing, (including financial support for property acquisition and rehabilitation for low income persons). Information on this program is available on the website: https://www.hud.gov/program_offices/comm_planning/affordablehousing/programs/home/ .
	Responsible Agency:	HUD
HUD Disaster Recovery Assistance	Description:	Grants to fund gaps in available recovery assistance after disasters (including mitigation). Information on this program is available on the website: https://www.hud.gov/info/disasterresources .
	Responsible Agency:	HUD
Section 108 Loan Guarantee	Description:	Enables states and local governments participating in the CDBG program to obtain federally guaranteed loans for disaster-distressed areas. Information on this program is available on the website: https://www.hudexchange.info/programs/section-108/ .
	Responsible Agency:	HUD
Smart Growth Implementation Assistance program	Description:	The Smart Growth Implementation Assistance (SGIA) program through the U.S. Environmental Protection Agency (EPA) focuses on complex or cutting-edge issues, such as stormwater management, code revision, transit-oriented development, affordable housing, infill development, corridor planning, green building, and climate change. Applicants can submit proposals under 4 categories: community resilience to disasters, job creation, the role of manufactured homes in sustainable neighborhood design, or medical and social service facilities siting. Information on this program is available on the website: https://www.epa.gov/smartgrowth .
	Responsible Agency:	EPA
Partners for Fish and Wildlife	Description:	Financial and technical assistance to private landowners interested in pursuing restoration projects affecting wetlands and riparian habitats. Information on this program is available on the website: https://www.fws.gov/partners/ .
	Responsible Agency:	U.S. Fish and Wildlife Service
Transportation Investment Generating Economic Recovery (TIGER)	Description:	Investing in critical road, rail, transit and port projects across the nation. Information on this program is available on the website: https://www.transportation.gov/tags/tiger-grants .
	Responsible Agency:	U.S. DOT
Community Facilities Direct Loan & Grant Program	Description:	This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings.



Table 6-3. Fiscal Capabilities

Capability	
	<p>Information on this program is available on the website: https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program.</p> <p>Responsible Agency: USDA</p>
Emergency Loan Program	<p>Description: USDA’s Farm Service Agency provides emergency loans to help producers recover from production and physical losses due to drought, flooding, other natural disasters or quarantine.</p> <p>Information on this program is available on the website: https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/emergency-farm-loans/index.</p>
	<p>Responsible Agency: USDA</p>
Emergency Watershed Protection program	<p>Description: The Emergency Watershed Protection (EWP) Program allows communities to quickly address serious and long-lasting damages to infrastructure and to the land. The program’s timelines for assistance ensures the Natural Resources Conservation Service (NRCS) must act quickly to help local communities cope with adverse impacts resulting from natural disasters. All projects must demonstrate that they reduce threats to life and property; be economically, environmentally and socially sound and must be designed to acceptable engineering standards. The EWP Program also allows NRCS to establish non-traditional partnerships with sponsors to complete projects.</p> <p>The EWP - Recovery Program is a recovery effort program aimed at relieving imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences. Public and private landowners are eligible for assistance but must be represented by a project sponsor that must be a legal subdivision of the state, such as a city, county, township, or conservation district, and Native American Tribes or Tribal governments. NRCS will pay up to 75 percent of the construction cost of emergency measures. The remaining 25 percent must come from local sources and can be in the form of cash or in-kind services.</p> <p>Privately owned lands or lands owned by local and state governments might be eligible for participation in EWP- Floodplain Easement (EWP-FPE). To be eligible, lands must meet one of the following criteria:</p> <ul style="list-style-type: none"> • Lands that have been damaged by flooding at least once within the previous calendar year or have been subject to flood damage at least twice within the previous 10 years. • Other lands within the floodplain are eligible, provided the lands would contribute to the restoration of the flood storage and flow, provide for control of erosion, or that would improve the practical management of the floodplain easement. • Lands that would be inundated or adversely impacted as a result of a dam breach. <p>EWP-FPE easements are restored to the extent practicable to the natural environment and can include both structural and nonstructural practices to restore the flood storage and flow, erosion control, and improve the practical management of the easement. Structures, including buildings, within the floodplain easement must be demolished and removed or relocated outside the 100-year floodplain or dam breach inundation area.</p> <p>Information on this program is available on the website: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/.</p>
	<p>Responsible Agency: USDA</p>



Table 6-3. Fiscal Capabilities

Capability		
Financial Assistance	Description:	Financial assistance to help plan and implement conservation practices that address natural resource concerns or opportunities to help save energy, improve soil, water, plant, air, animal and related resources on agricultural lands and non-industrial private forest land. Information on this program is available on the website: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/ .
	Responsible Agency:	NRCS
Emergency Management Performance Grants (EMPG) Program	Description:	Assist local, tribal, territorial, and state governments in enhancing and sustaining all-hazards emergency management capabilities. Information on this program is available on the website: https://www.fema.gov/emergency-management-performance-grant-program .
	Responsible Agency:	U.S. DHS
Land & Water Conservation Fund	Description:	Matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities (as well as funding for shared federal land acquisition and conservation strategies). Information on this program is available on the website: https://www.nps.gov/subjects/lwcf/index.htm .
	Responsible Agency:	National Park Service
State		
New Jersey Clean Energy Program	Description:	New Jersey's Clean Energy Program (NJCEP) promotes increased energy efficiency and the use of clean, renewable sources of energy including solar, wind, geothermal, and sustainable biomass. The results for New Jersey are a stronger economy, less pollution, lower costs, and reduced demand for electricity. NJCEP offers financial incentives, programs, and services for residential, commercial, and municipal customers. Refer to https://www.njcleanenergy.com/main/about-njcep/about-njcep for additional details on NJCEP. The program also offers a Community Energy Plan Grant for government entities (e.g. municipality, county, Green Team or environmental commission, or other Sustainable Jersey organization within a community or county). The grant will provide funding for an entity to create a Community Energy Master Plan to align local communities with the State Energy Master Plan
	Responsible Agency:	New Jersey Board of Public Utilities
Grant and Loan Programs	Description:	NJDEP offers a wide variety of funding opportunities for local governments and other types of organizations to fund numerous environmentally based projects. This includes funding for: air quality, energy, and sustainability; compliance and enforcement; engineering and construction; land use management; local government assistance; natural and historic resources; site remediation and waste management programs; and water resource management. Information on each of the programs can be found on the NJDEP website: https://www.nj.gov/dep/grantandloanprograms/ .
	Responsible Agency:	NJDEP
Green Acres Program	Description:	Green Acres was created to meet New Jersey's growing recreation and conservation needs. This program has helped preserve over 1.2 million acres of land in New Jersey.
	Responsible Agency:	NJDEP
Blue Acres Program	Description:	The goal of the Blue Acres Program, which has historically served as part of DEP's Green Acres Program that purchases flood-prone properties, is to dramatically reduce the risk of future catastrophic flood damage and to help families to move out of



Table 6-3. Fiscal Capabilities

Capability	
	<p>harm’s way. The Superstorm Sandy Blue Acres program launched in May 2013 and is recognized by the Federal Emergency Management Agency (FEMA) as a “National Best Practice.”</p> <p>Blue Acres dates back to 1995, but activity expanded sharply after Hurricane Sandy in 2012. As of September 2019, the program has purchased approximately 1,000 properties (about 700 since Sandy) and plans to acquire hundreds more using a mix of state and federal funding. Blue Acres buyouts take 6 to 12 months from start to closing, depending on the homeowner’s situation and needs; after closing, it will take another 6 to 12 months to complete demolition. This timeline is substantially faster than most FEMA-funded buyouts—but it has required extensive work to reach this point.</p>
	<p>Responsible Agency: NJDEP</p>
New Jersey Water Bank	<p>Description: The New Jersey Water Bank (NJWB) is a partnership between the NJDEP and the NJEIT to provide low cost financing for the design, construction, and implementation of projects that help protect and improve water quality and help ensure safe and adequate drinking water.</p> <p>The NJWB finances projects by utilizing two funding sources. The Trust issues revenue bonds which are used in combination with zero percent interest funds to provide very low interest loans for water infrastructure improvements. The NJDEP administers a combination of Federal State Revolving Fund capitalization grants, as well as the State’s matching funds, loan repayments, State appropriations and interest earned on such funds.</p>
	<p>Responsible Agency: NJDEP and New Jersey Environmental Infrastructure Trust</p>
New Jersey Redevelopment Authority	<p>Description: The New Jersey Redevelopment Authority (NJRA) is an independent state financing authority committed exclusively to the redevelopment of New Jersey’s urban areas. NJRA offers several financing resources including site acquisition funding, predevelopment assistance, several development assistance resources, and technical assistance.</p>
	<p>Responsible Agency: New Jersey Redevelopment Authority</p>
New Jersey Department of Community Affairs	<p>Description: The New Jersey Department of Community Affairs (NJDCA) is a state agency created to provide administrative guidance, financial support, and technical assistance to local governments, community development organizations, businesses, and individuals to improve the quality of life in New Jersey. NJDCA offers a wide range of programs, funding, and services that respond to issues of public concern including fire and building safety, housing production, community planning and development, and local government management and finance. Among other funding sources, NJDCA administers CDBG funding and is typically the CDBG-Disaster Relief funding recipient for the State of New Jersey.</p>
	<p>Responsible Agency: New Jersey Department of Community Affairs</p>
New Jersey Board of Public Utilities	<p>Description: The New Jersey Board of Public Utilities (BPU) works with private utility companies to provide analysis of natural hazard information affecting the provision of electric power, telecommunications, public water, sewage collection and treatment, and other regulated public utilities. The data are used during response and recovery efforts in the event of emergency or disaster and is also used to analyze impact of mitigation plans and projects. BPU also provides technical assistance for the Energy Resiliency Program</p>
	<p>Responsible Agency: BPU</p>
Environmental Infrastructure	<p>Description: Qualified borrowers receive loans in two equal parts: Approximately one half to three quarters comes from a 0-interest State Revolving Fund maintained by the NJDEP. The other portion comes from proceeds of highly rated tax-exempt revenue bonds sold by</p>



Table 6-3. Fiscal Capabilities

Capability		
Financing Program		the Trust. Combining these two funds results in a loan that is 50 to 75 percent lower than traditional loan rates.
	Responsible Agency:	NJDEP
New Jersey Small Cities Communities Development Block Grants	Description:	The New Jersey Small Cities Communities Development Block Grants provide funds for economic development, housing rehabilitation, community revitalization, and public facilities designated to benefit people with low and moderate incomes, or to address recent local needs for which no other source of funding is available to non-entitlement counties and municipalities. Information on the program is available on the website: https://www.nj.gov/dca/divisions/dhcr/offices/neighborhood.html .
	Responsible Agency:	NJDCA
New Jersey Conservation Foundation	Description:	The New Jersey Conservation Foundation (NJCF) is a private, not-for-profit organization. Through acquisition and stewardship, NJCF protects strategic lands, promotes strong land use policies, and forges partnerships to achieve conservation goals. Grants to help fund preservation activities. Information on the program is available on the website: https://www.njconservation.org/what-we-do/ .
	Responsible Agency:	NJCF
The New Jersey Infrastructure Bank	Description:	Two programs provide and administer low interest rate loans to qualified municipalities, counties, regional authorities, and water purveyors in New Jersey. Approximately \$350 million is awarded annually. 1. NJEIT for the purpose of financing water quality infrastructure projects that enhance ground and surface water resources, ensure the safety of drinking water supplies, protect the public health and make possible responsible and sustainable economic development. 2. The New Jersey Transportation Infrastructure Bank (NJTIB) is an independent State Financing Authority responsible for providing and administering low interest rate loans to qualified municipalities, counties, and regional authorities in New Jersey for the purpose of financing transportation quality infrastructure projects. Information on the program is available on the website: https://www.njib.gov/ .
	Responsible Agency:	NJDEP
New Jersey Department of Transportation (NJDOT)	Description:	Funding of the Program is typically federal through the Federal Highway Administration or State through the Transportation Trust Fund. Information on the program is available on the website: https://www.state.nj.us/transportation/business/localaid/funding.shtm .
	Responsible Agency:	NJDOT
County and Local		
Ocean County Natural Lands Trust Program	Description:	The Ocean County Natural Lands Trust Program was established to acquire and maintain environmentally sensitive lands, natural areas or open spaces that would generally remain in their natural state and for the preservation of farmland. The objective of the program, is to establish of a system of protected lands which, in combination with the Farmland Preservation Program, enhance the quality of life in Ocean County by: <ul style="list-style-type: none"> • Helping to maintain the County’s rural characteristics; • Protecting critical environmental resources and water supply; • Maintaining and enhancing active agriculture; • Buffering areas that are not compatible with development.



Table 6-3. Fiscal Capabilities

Capability	
	<p>In 1997, the residents of Ocean County, overwhelmingly voted to establish the Ocean County Natural Lands Trust Program. The approval of a 1.2 cent dedicated tax provides the Board of Commissioners with the funds to acquire lands in Ocean County for conservation and farmland preservation. On February 18, 1998, the Ocean County Board of Commissioners established a nine member Natural Lands Trust Fund Advisory Committee to advise on the preparation of the required open space plan and the nomination of properties to be acquired through the Natural Lands Trust Fund. The committee’s purpose is to review nominations for the Trust Fund and to forward recommendations to the Board of Commissioners for consideration.</p> <p>The program generates over \$10 million per year for natural lands acquisitions and farmland preservation. Several important parcels have been preserved and acquired through partnerships with non-profits, municipalities and the US Fish and Wildlife Service.</p>
	<p>Responsible Agency: Ocean County Department of Planning</p>
Township of Brick	<p>Description: The Township of Brick funds flood mitigation projects through the existing local budget, local appropriations (including referendums and bonding), and a variety of federal and state loan and grant programs.</p>
	<p>Responsible Agency: Township of Brick</p>

6.5 MITIGATION STRATEGY DEVELOPMENT

This subsection discusses the identification, prioritization, analysis, and implementation plan of mitigation actions for the Township of Brick Floodplain Management Plan.

6.5.1 Mitigation Alternatives

The planning team developed a catalog of flood hazard mitigation alternatives through a facilitated process with the Planning Committee. A session held on August 5, 2021 to review possible actions was the basis for the alternatives considered as well as the mitigation initiatives selected for implementation. The catalog represents the comprehensive range of alternatives considered for complying with Step 7 of the CRS 10-step process. The Planning Committee reviewed this catalog in conjunction with the findings of public outreach efforts, the risk assessment results, and the Ocean County HMP. The catalog was enhanced based on this review and then used by the Planning Committee to select hazard mitigation initiatives.

Catalogs of flood hazard mitigation alternatives were developed that present a broad range of alternatives to be considered for use in the planning area (CRS Step 7). The catalog is listed in Table 6-4 through Table 6-6. The catalogs present alternatives that are categorized in two ways:

- By what the alternative would do:
 - Manipulate a hazard
 - Reduce exposure to a hazard
 - Reduce vulnerability to a hazard
 - Build local capacity to respond to or be prepared for a hazard
- By whom would have responsibility for implementation:
 - Individuals (Personal Scale)
 - Businesses (Corporate Scale)
 - Township of Brick (Government Scale)



Flood hazard mitigation initiatives recommended in this plan were selected from among the alternatives presented in the catalogs. The catalogs provide a baseline of mitigation alternatives that are backed by a planning process, are consistent with the goals and objectives, and are within the capabilities of the Township of Brick to implement. However, not all the alternatives meet all the selection criteria.

Table 6-4. Mitigation Catalog: Personal Scale

Manipulate the Hazard	Reduce Exposure to the Hazard	Reduce Vulnerability to the Hazard	Build Local Capacity to Respond to or Be Prepared for the Hazard
Personal Scale			
Clear storm drains and culverts	Locate or relocate homes outside of the flood hazard area	Retrofit/floodproof structures	Buy flood insurance
Install local stormwater capture systems	Elevate utilities and/or other mechanicals above the regulatory flood elevation	Elevate items/electric within homes above the regulatory flood elevation	Develop household mitigation plans, such as retrofit savings, communication capability with outside sources, and 72-hour self-sufficiency during and after an event
Use low-impact development techniques	Use low-impact development technique	Construct new homes above the regulatory flood elevation	Understand the location of evacuation routes in the community
	Assess projects to determine if they may inadvertently increase flood risk	Store hazardous materials above BFE or outside of floodprone areas	Educate self on flood risk from related hazards such as coastal storms, sea level rise, and severe rain events
		Secure backup power	Participate in Community Emergency Response Team (CERT) training
			Have plan in place for sheltering if evacuation is needed

Table 6-5. Mitigation Catalog: Corporate Scale

Manipulate the Hazard	Reduce Exposure to the Hazard	Reduce Vulnerability to the Hazard	Build Local Capacity to Respond to or Be Prepared for the Hazard
Corporate Scale			
Clear stormwater drains and culverts	Relocate critical facilities or functions outside of flood area	Build redundancy for critical functions or retrofit critical buildings	Support and implement hazard disclosure for the sale/re-sale of property in identified flood areas
Install local stormwater capture systems	Institute low-impact development techniques on property	Provide flood-proofing measures when new critical infrastructure must be located in floodplains	Solicit cost-sharing through partnerships with private-sector stakeholders on projects with multiple benefits
Use low-impact development techniques	Assess projects to determine if they may inadvertently increase flood risk		Increase capability by having cash reserves for reconstruction
	Use porous pavement, vegetative buffers, and islands in large parking areas		Buy flood insurance
	Raise utilities or other mechanical devices above regulatory flood elevation		



Table 6-6. Mitigation Catalog: Government Scale

Manipulate the Hazard	Reduce Exposure to the Hazard	Reduce Vulnerability to the Hazard	Build Local Capacity to Respond to or Be Prepared for the Hazard
Government Scale			
Clear stormwater drains and culverts	Promote open space uses in identified high-hazard areas via techniques such as: planned unit developments, easements, setbacks, greenways, and sensitive area tracks	Increase floodplain standards within municipal ordinances, and include provisions for enforcing best practice standards within floodplains and using FEMA flood maps	Develop and implement a program for public information to inform improvements to the outreach strategy
Enhance stormwater management regulations and master planning	Install additional backflow prevention devices on outfalls	Increase size of undersized bridges and culverts	Provide outreach to residents to inform them on how to notify Public Works of backflow device clogs
Increase natural floodplain function through expansion or remediation of wetlands	Locate or relocate critical facilities outside of flood hazard area	Implement higher regulatory standards such as higher freeboard and lower substantial damage threshold	Educate residents on how backflow prevention devices work and how to help keep storm drains free of trash and debris
	Acquire or relocate identified repetitive loss properties	Identify critical infrastructure such as those on single-entry roads and prioritize for replacement or resizing	Automate the flood warning system using the Stevens flood modeling system
	Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff	Provide redundancy for critical functions and infrastructure	Provide better communication systems and back-up communication systems to inform public of hazards and to communicate during the hazard event
	Institute low-impact development techniques on property	Review stormwater management regulations and master planning	Develop an adaptive management plan to address long-term impacts of sea-level rise
	Enforce more stringent parking standards to ensure vehicles are not being parked in floodprone areas or acquired properties	Adopt "no-adverse impact" floodplain management policies that strive to not increase the flood risk on downstream communities	Consider the probable impacts of climate change on the risk associated with the flood hazard
	Continue to preserve undeveloped and vulnerable shoreline	Recognize sea level rise and erosion areas as a hazard overlay for planning	Work with insurance agencies and real estate agents to provide workshops on tools and resources to get more information on flood hazard zones and FIRMs
	Restore existing flood control and riparian corridors	Develop design standards for development inside sea level rise area	Enact tools to help manage development in hazard areas (stronger controls, tax incentives, information)
	Utilize alternative funding sources for property buyouts that do not have the same restrictions as FEMA buyout programs	Incentivize improved flood risk management	Incorporate retrofitting/replacement of critical system elements in capital improvement plan
	Elevate low lying roadways		Maintain existing data and gather new data needed to define risks and vulnerability
			Enforce NFIP requirements
			Create an elevation inventory of structures in the floodplain



Manipulate the Hazard	Reduce Exposure to the Hazard	Reduce Vulnerability to the Hazard	Build Local Capacity to Respond to or Be Prepared for the Hazard
Government Scale			
			Charge a hazard mitigation fee on all new permits to create a hazard mitigation funding source for grant cost share requirements
			Integrate floodplain management policies into other planning mechanisms within the community
			Be proactive in buyouts for contiguous open space
			Establish incentives to promote flood hazard mitigation of private property (e.g. permit fee waivers)
			Join National Weather Service (NWS) "Storm Ready" Program
			Disseminate evacuation procedures
			Ensure public safety personnel and ambulance drivers know safe evacuation routes
			Capture/survey high-water marks during flood events
			Produce municipal post-disaster manuals to provide efficient recovery procedures and reimbursement of funds
			Floodproof/harden critical infrastructure
			Provide mitigation outreach campaign for businesses
			Promote available mitigation-related training in the area
			Where applicable, have municipal officials attend FEMA flood training and provide incentive for officials to get training
			Work on engaging the public with progress on flood mitigation projects to demonstrate progress
			Conduct proactive planning for buyouts to ensure more comprehensive buyout programs
			Establish a Stormwater Utility to deal with urban drainage/flooding issues

6.5.2 Previously Completed Mitigation Initiatives

To better understand successful floodplain management efforts in the Township and review progress of the 2016 FMP, the Planning Committee reviewed the initiatives identified in the 2016 FMP that have been completed. The Committee also reviewed the initiatives from the 2016 FMP that were discontinued. This information was used to inform the development of the 2021 FMP's initiatives. Table 6-7 lists the initiatives from the 2016 FMP that have been completed. Table 6-8 lists the initiatives that were discontinued.



Table 6-7. Completed Flood Mitigation Initiatives from the 2016 FMP

Initiative Number	Initiative	Lead Agency	Year Completed	Comments
BK-001	Generators at the high schools were determined to not be a priority for the municipality. A scope change was approved to install generators at the municipal building to power the police department for essential services and the department of public works.	BT OEM	2021	The purchase and installation of a generator for the municipal building is still being discussed and planned. A generator is being installed at the Department of Public Works, as that site is the command center for all weather-related events. The site has a fully staffed Call Center and the necessary technology infrastructure for essential communications. The purchase and installation of a generator at this site was the Township's primary goal.
BK-003	Develop an alternate fuel supply for the emergency generators at the William Miller Water Treatment Plant	BT MUA	2019	BTMUA staff assessed the issue and determined that it was preferable to continue with diesel fuel based on specifications of generators. Three generators were installed (with one for redundancy) and storage for fuel for 72 hours was included in project design in 2/2017.
BK-004	Upgrade sewer system generators	BT MUA	2021	Natural gas generators were installed for the Laurel Brook, Green Briar II and Burnt Tavern Manor WWPS with funding secured through the New Jersey Infrastructure Bank.
BK-008	Enhance emergency evacuation route signage, especially in Cherry Quay. However, all routes will be reviewed.	BT OEM	2019	Evacuation route signage has been installed and routes have been reviewed.
BK-009	Elevate evacuation routes, including South Drive in Princeton Midstreams, Snake Road, and the Shore Acres Neighborhood. The elevation would be for approximately 400 feet of South Drive and would eliminate a local low point that causes the repeated flooding of residential structures. This elevation would also provide overland flow relief and allow the road to drain via gravity.	BT Engineering	2018	Roadway construction complete.
BK-016	Elevate the requirement from dry wells in tidal flood areas	BT Engineering	2017	As a result of a policy change, the Township is no longer requiring a dry well system in high water table, tidally influenced areas. No additional action needed.
BK-018	Acquire a drainage easement of over 300 square feet of private property abutting Broad Avenue and South Harbor Lagoon to develop a low-lying runoff collection point, reconstruct the drainage system, and provide a tide check valve on the outfall pipe. This would allow the Broad Avenue pavement surface to be elevated to prevent flooding without causing flooding to adjacent properties.	BT Engineering	2017	This initiative was completed in Fall of 2016. An easement was not required as the Township already owns 15 feet of property.



Initiative Number	Initiative	Lead Agency	Year Completed	Comments
BK-020	Upgrade and improve infrastructure and capacity to allow for uninterrupted service during hazard events: i. Flood proof the raw water pump station (RWPS) located on the Metedeconk River; ii. Flood proof the wastewater stations located on Drum Point Road and Riverside Drive; iii. Install emergency generators at three major water booster pump stations; iv. Enhance local communications; v. Convert pump stations to submersible pumps.	BT MUA	2021	Construction has been completed for submersible wastewater pump stations for Laurel Brook, Burnt Tavern Manor, Cape Breton, Sea View Village, Lanes Mill, Sloping Hill, Riviera Drive and Pine Meadow, with funding secured through the New Jersey Infrastructure Bank (NJIB). Sump pump installation for the electrical manhole adjacent to the raw water pump station (RWPS) is complete. For the Riverside Drive and Drum Point Road wastewater stations, installation of floodproofing equipment was completed in October 2019. FEMA Hazard Mitigation Grant obtained for Laurel Brook.
BK-022	Elevate Snake Road to prevent overtopping of roadway during regular lunar tidal events. Surface elevation needs to be increased by approximately 4,000 feet of the access road. This road is the sole vehicular access point for the Seawood Harbor residential	BT Engineering	2019	The center line of Snake Road has been elevated 4 inches. Nuisance flooding has been controlled.
BK-043	Create website for pre-storm information dissemination, including shelter locations	BT Planning	2017	This information is provided on the Township website.
BK-046	Acquire critical warehouse infrastructure components	BT OEM	2021	The Township purchased and installed a canopy to protect critical equipment that has been exposed to the elements at DPW in 2019. Canopy design will be able to hold solar panels in the future if so desired. This resulted in the initiative being considered as complete in 2019. In 2021, work also took place on a storage building at the Drum Point Sports Complex for the parks department and a storage facility behind the municipal building.
BK-047	Develop field-deployed electronic mapping system	BT GIS/Planning	2018	The Township is using field deployed tracking methods. The workflow software is tied to GIS mapping. Updates to mapping are ongoing.
BK-048	Obtain additional high wheeled vehicles for rescue operations.	BT OEM	2017	The Township has obtained one mine-resistant ambush protected (MRAP) vehicles and four high-wheeled military box trucks, for a total of five vehicles. Vehicles were obtained as of August 2016.
BK-049	Upgrade and automate the EOC to ensure state-of-the-art audio/visual equipment, sufficient space and security, and stand-alone ability. Capital funds have been allocated for the design of facilities re-development.	BT OEM	2021	This has been completed and will be the backup EOC once new EOC built to rear of Police HQ.
BK-050	Develop reverse 911 system to assist in communication for all hazards	BT OEM	2017	The Nixle notification system has been deployed in the Township as of August 2016.



Initiative Number	Initiative	Lead Agency	Year Completed	Comments
BK-052	Mitigate Barrier Island Police Substation and Pioneer Fire Station to protect from flood related hazards	BT Police	2020	A generator was purchased and it is elevated to at least one foot above the base flood elevation. Architecture plans are in progress. Township staff will research grants that may be used to supplement local funding for construction/equipment for the new station. The generator was installed and is operational at the Barrier Island Sub Station as of 2020.
BK-053	Create system to document FEMA reimbursable expenses.	BT Planning	2020	An Access database has been developed and there is a dedicated staff person (Planning Board Secretary) assigned to the task of working on FEMA reimbursements for every declared storm event. This resulted in the action being considered complete in 2018.
BK-056	Obtain electric grid maps to assist in recovery after disruption of power	BT OEM	2017	OEM has all current paper and GIS mapping.
BK-074	Continue to implement a “no-adverse impact” floodplain management policy.	BT Code Enforcement	2018	Township stormwater regulations support this policy.
BK-080	Integrate climate change considerations into planning guidelines and standards.	BT Planning	2018	Initial guidelines were developed as part of Neighborhood Plans.
BK-083	Develop low-impact development guidelines for new development and redevelopment.	BT Code Enforcement	2021	BTMUA worked with a consultant to develop guidelines for low impact development /green infrastructure through a model ordinance. Low impact development (LID) is a common theme throughout the watershed plan and numerous LID strategies are included in Appendix C of the ordinance. BTMUA also relied on the NJDEP’s Stormwater BMP Manual for LID strategies. In addition, BTMUA supported development of a recently-released New Jersey Developers’ Green Infrastructure Guide with NJ Future and NJBA, (http://www.njfuture.org/wpcontent/uploads/2017/03/NJ-Developers-Green-Infrastructure-Guide_FINAL_web.pdf).
BK-089	Adopt additional appropriate land use development criteria, such as planned unit developments, density transfers clustering	BT Planning	2020	The Township has established a Beach Cottage Community overlay zone on the barrier island area which asks for increased density through duplexes and single family residential. The overly zone was adopted in December 2018. Each portion of the overlay zone has received site plan approval as of May of 2020.
BK-103	Support the USACE beach repair, restoration, and replenishment project	BT Engineering	2018	The beach replenishment project was completed in the summer of 2018.
BK-107	Construct beach revetment	NJ DEP	2018	Wall has been constructed and completely covered by USACE beachfill.
BK-108	Support easements for the ACOE beach replenishment project on the Barrier Island	BT Engineering	2017	Completed in 2017: The Township has provided support through exhibits and condemnation paperwork and will continue to support through litigation, if needed. This initiative is considered completed as of December 2016. All easements have been obtained and settlement agreements have been filed and closed out for the acquisition of easements for access and maintenance of the wall, dune and beach.
BK-110	Complete soil stabilization project at Bay Harbor Beach.	BT Engineering	2017	Completed in 2017. Bay Harbor Beach stabilization project was completed Spring 2016. The project was an overwhelming success. The Township will duplicate the project at Cedar Bridge Manor Park and Mallard Point Park. Windward Beach project was included on original wording of initiative but is not related to flood or erosion control and was removed.



Initiative Number	Initiative	Lead Agency	Year Completed	Comments
BK-111	Restore a fire break on North Riverside Drive. The current fire break and soil stabilization systems are inadequate to prevent future disaster of the shoreline and to protect the adjacent Vanada Woods neighborhood from potential wildfire. The project would include demolition of the Macintosh House, boathouse, and partial removal of the bulkhead so that the shoreline can be stabilized. Ideally, the entire parcel will be returned to a more natural state.	BT Engineering	2015	Completed in 2015. The Township will continue to maintain the fire break.
BK-112	Maintain Mallard Park to avoid coastal geotech erosion and mitigate flood related hazards.	BT DPW	2021	This project was funded through a capital program.
BK-118	Promote open space or flood-compatible land uses in identified high hazard areas via techniques such as: planned unit development, easements, setbacks, greenways, sensitive area tracts, community education, natural resource inventory; comprehensive planning; zoning provisions; floodplain protection ordinance; and the environmental review process.	BT Planning	2018	The Township is updating the NJDEP Recreation and Open Space Inventory to incorporate more than 400 acres located in the Special Flood Hazard Area that are owned by the Township. These parcels will now be protected from any development into perpetuity.
BK-129	and prepare disaster response information packets to distribute post-disaster regarding retro-fit information and funding.	BT Planning	2019	The Township has an electronic version of disaster response information packets ready for printing in the event of a disaster.
BK-141	Adopt an Impervious Surface Limit Ordinance for Residential Properties.	BT Planning	2021	BT Planning drafted an ordinance to establish impervious surface coverage limits for residential properties. Limits have already been adopted for commercial properties within the Township. BT Administration later adopted the ordinance.

Table 6-8. Discontinued Mitigation Initiatives

Initiative Number	Initiative	Lead Agency	Year Discontinued	Comments
BK-002	Priority focus on permanent generator installation is for the Municipal Complex, Department	BT Engineering	2017	This initiative is redundant with other initiatives. Installation of generator at Municipal Complex is addressed in BK-001 and Department of Public Works will be added to the list of



Initiative Number	Initiative	Lead Agency	Year Discontinued	Comments
	of Public Work and the Police Sub-Station/ Pioneer Hose Fire Company Barrier Island Forward Command Post			locations needing generators. The Police Sub-Station/ Pioneer Hose Fire Company Barrier Island Forward Command Post has had a generator installed as addressed in BK-052.
BK-005	Upgrade generators at five of the transition centers, including: Brick Township High School, Ocean County Vocational-Technical School, Emma Havens Young School, and Veterans Memorial Middle School	BT Board of Education	2019	Generators no longer planned for transition centers.
BK-007	Develop a FEMA 361 Shelter for New Police Department Station	BT OEM	2021	A study found this action to not be feasible.
BK-010	Improve drainage at six locations, including the installation of a floodgate at Brick Beach 3.	BT Engineering	2020	USACE study has been cancelled. Floodgates at BB3 is not practical as a municipal project. Also, the other 5 areas are not specifically identified.
BK-012	Increase conveyance through storm sewer and channels by dredging, culvert sizing, debris removal, de-snagging, and sewer flushing	BT DPW	2018	Many of these activities are being conducted as part of the maintenance care discussed in BK-011 and are, therefore, redundant. In addition, the issues associated with flooding and the conveyance system in the Township are a result of tidal flooding, not a result of inadequately sized culverts.
BK-013	Clean all critical storm drains and keep drainage facilities free from debris	BT DPW	2018	This action is duplicative with Action BK-011. We combined the action and will continue cleaning storm drains and reporting progress in Action BK-011.
BK-014	Improve/repair failing septic systems.	BT Code Enforcement	2018	Approximately 98 percent of the Township is on the public sewer system. The Township does not have jurisdiction over any septic tanks as they are regulated by the NJ State Department of Health.
BK-024	Harden existing infrastructure	BT Engineering	2018	Specific improvements have been made as addressed in other initiatives, such as improvements to the police sub-station, road elevations, and pump stations. Specific hardening should be addressed as individual projects.
BK-028	Support funding for acquisition or elevation of three Severe Repetitive Loss properties. Assistance will be provided to homeowners who are seeking grant or insurance funding to become compliant.	BT Planning	2020	Recommend to discontinue this action as it is repetitive of action BK-027.
BK-029	Support funding for acquisition or elevation of 20 Repetitive Loss properties. Township will continue to assist residents who are applying	BT Planning	2019	Recommend to discontinue this action as it is repetitive of action BK-027.



Initiative Number	Initiative	Lead Agency	Year Discontinued	Comments
	for grant or insurance funding to elevate their structures to be compliant.			
BK-032	Increase the height of the bulkheads along Barnegat Bay (with or without movable panels) as appropriate	BT Engineering	2018	Currently, the State limits bulkheads to 18 inches. Moveable panels may not be technically feasible. The Township has passed an ordinance requiring minimum height of bulkheads (new and replaced) to be at elevation 4.0 NAVD 88
BK-033	Construct new metal sheet bulkheads (with or without movable panels) and incorporate check valves inside the bulkheads as appropriate	BT Engineering	2017	This initiative is redundant with BK-017.
BK-034	Construct new concrete flood walls and flood gates (with or without movable flood panels) and incorporate check valves inside the walls as appropriate	BT Engineering	2017	This initiative is not a Township priority and is not likely to be feasible given topographic conditions, amount of private property impacted, and logistical feasibility.
BK-035	Construct new levee/dike including culvert or pipe with flap gate/check valve as appropriate	BT Engineering	2017	This initiative is not a Township priority and is not likely to be feasible given topographic conditions, amount of private property impacted, and logistical feasibility.
BK-036	Construct sluice gates or in-water barriers for dredged lagoons as appropriate	BT Engineering	2017	This initiative is beyond the capabilities of the Township and is more appropriately considered as an Army Corps of Engineers project. Removed pending an Army Corps of Engineers study or recommendations.
BK-038	Add stormwater collection areas and bypass force mains for elevated areas to improve stormwater drainage and prevent issues related to submerged outflow pipes as appropriate	BT Engineering	2017	This initiative is redundant with BK-067.
BK-044	Acquire computers for senior communities so that residents have access to information on disaster mitigation, preparedness, response and recovery	BT Administrator	2018	The need for this initiative is unclear and there is a lack of funding to support implementation.
BK-066	Construct additional facilities to collect and provide temporary storage of stormwater runoff to promote infiltration through highly permeable soils.	Brick MUA	2019	This action was combined with BK-065



Initiative Number	Initiative	Lead Agency	Year Discontinued	Comments
BK-072	Prohibit the construction of occupied structures seaward of the mean high water line or on piers or platforms except for essential structures for “functionally dependent uses” such as marinas or boatyards	BT Engineering	2017	Occupied structures are prohibited per state regulations. Intent of this initiative is unclear.
BK-075	Implement as-built regulatory requirements	BT Code Enforcement	2018	Changes to requirements are made at the state level. The Township has to follow state standards.
BK-078	Join CRS program to complete proactive floodplain management and assist residents with flood insurance costs	BT Code Enforcement	2017	Completed in 2017. The Township applied and was accepted to CRS, obtaining a Class 6 rating on May 1, 2017. The Township has been recertified every year since.
BK-084	Develop a Fertilizer Application Ordinance to control reduce the amount of damaging non-point source pollution during storm events	BT Code Enforcement	2017	Resolution 475-14, supporting the fertilizer restrictions established by state law, was adopted. Therefore, no further action is required by the Township.
BK-088	Enact tools to help manage development in hazard areas.	BT Planning	2019	The Township will create new actions for specific tools as necessary.
BK-091	Develop and adopt a continuity of operations plan (COOP)	BT OEM	2019	A continuity of operations plan (COOP) has been adopted.
BK-094	Integrate hazard mitigation into the Master Plan	BT Planning	2017	The Township adopted a hazard mitigation element to the master plan in March of 2016.
BK-101	Identify agricultural BMPs to control runoff from crops and livestock.	BT MUA	2019	Due to lack of agricultural practices and lack of non-protected open space that would be able to be converted to agriculture, this initiative was discontinued.
BK-109	Implement erosion control projects for Dock Road Beach, such as constructing a minor geotextile system to be installed upstream and downstream of the beach and/or establishing scour protection and velocity control at an existing drainage pipe outfall to Metedeconk River.	BT Engineering	2017	This initiative was determined to not be viable.
BK-113	Redesign pond in Cherry Quay to provide increased flood retention	BT Engineering	2017	This initiative is redundant with BK-019.



Initiative Number	Initiative	Lead Agency	Year Discontinued	Comments
BK-119	Provide dredging, levee and bulkhead construction, revetments or channelization where appropriate	BT Engineering	2017	This initiative is redundant with BK-106.
BK-121	Restore upland and riparian forests to capture rainfall, protect soil from erosion, maximize infiltration, and sequester nutrients.	BT Planning	2017	The Township does not have upland riparian forests.
BK-122	Construct stormwater wetlands to maximize removal of pollutants from stormwater runoff. Not Applicable.	BT Planning	2017	This initiative is not needed as there are natural stormwater wetlands.
BK-123	Require upon site plan approvals, installation of bio retention system in lawns, median strips, parking lot islands, unused lot areas, certain easements, or other areas that would benefit from stormwater mitigation.	BT Planning	2017	This initiative is complementary with previously identified initiatives assigned to MUA.
BK-126	Restore fluvial systems and streams to approach pre-development conditions where a sinuous channel is reconnected to an expansive floodplain, ideally integrated with riparian wetlands. Not an achievable goal.	BT Planning	2017	This initiative is not applicable as most stream systems are already preserved. Those that are not are developed.



6.5.3 Township Mitigation Strategy Development

Throughout the course of the planning process, Township mitigation actions have been identified. These were identified through the following:

- Review of the initiatives identified in the 2016 FMP.
- Review of the results and findings of the risk assessment;
- Review of available regional and local plans, reports and studies;
- Direct input from Township departments and other county and regional agencies, including:
 - Township of Brick Department of Land Use
 - Township of Brick Division of Engineering
 - Township of Brick Administration
 - Township of Brick Department of Public Works
 - Township of Brick Police Department/Office of Emergency Management
 - Township of Brick Town Council
 - Township of Brick Environmental Commission
 - Brick Township Municipal Utilities Authority
 - Jacques Cousteau National Estuarine Research Reserve
 - Barnegat Bay Partnership
- Input received through the public and stakeholder outreach process.

The Planning Committee determined that some initiatives from the flood hazard mitigation catalog could be implemented to provide flood mitigation benefits. Table 6-10 lists the recommended initiatives, the lead agency for each, and the proposed timeline. The parameters for the timeline are as follows:

- Short-term – to be completed in one to five years
- Long-Term – to be completed in greater than five years
- Ongoing – currently being funded and implemented under existing programs

6.5.4 Benefit/Cost Review

The action plan is prioritized according to a benefit/cost analysis of the proposed projects and their associated costs (CRS Step 8). The benefits of proposed projects were weighed against estimated costs as part of the project prioritization process. The benefit/cost analysis was not of the detailed variety required by FEMA for project grant eligibility under the HMGP and BRIC grant program. A less formal approach was used because some projects may not be implemented for up to 10 years, and associated costs and benefits could change dramatically in that time. Therefore, a review of the apparent benefits versus the apparent cost of each project was performed. Parameters were established for assigning subjective ratings (high, medium, and low) to the costs and benefits of these projects.

Costs are the total cost for the action or project, and may include administrative costs, construction costs (including engineering, design and permitting), and maintenance costs.

Benefits are the savings from losses avoided attributed to the implementation of the project, and may include life-safety, structure and infrastructure damages, loss of service or function, and economic and environmental damage and losses.

When available, the Township was asked to identify the actual or estimated dollar value for project costs and associated benefits. Having defined costs and benefits allows a direct comparison of benefits versus costs, and a



quantitative evaluation of project cost-effectiveness. Often, however, numerical costs and/or benefits have not been identified or may be impossible to quantitatively assess.

For the purposes of this planning process, the Township was tasked with evaluating project cost-effectiveness with both costs and benefits assigned to “High,” “Medium,” and “Low” ratings. Where quantitative estimates of costs and benefits were available, ratings/ranges were defined as:

- Low < \$10,000
- Medium \$10,000 to \$100,000
- High > \$100,000

Where quantitative estimates of costs and/or benefits were not available, qualitative ratings using the following definitions were used:

Table 6-9. Qualitative Cost and Benefit Ratings

Costs	
High	Existing funding levels are not adequate to cover the costs of the proposed project, and implementation would require an increase in revenue through an alternative source (e.g., bonds, grants, and fee increases).
Medium	The project could be implemented with existing funding but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
Low	The project could be funded under the existing budget. The project is part of or can be part of an existing, ongoing program.
Benefits	
High	Project will have an immediate impact on the reduction of risk exposure to life and property.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
Low	Long-term benefits of the project are difficult to quantify in the short-term.

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-beneficial and are prioritized accordingly.

For some of the Township of Brick initiatives identified, the Planning Committee may seek financial assistance under FEMA’s HMGP or HMA programs. These programs require detailed benefit/cost analysis as part of the application process. These analyses will be performed when funding applications are prepared, using the FEMA benefit/cost analysis model process. The Planning Committee is committed to implementing mitigation strategies with benefits that exceed costs. For projects not seeking financial assistance from grant programs that require this sort of analysis, the Planning Committee reserves the right to define “benefits” according to parameters that meet its needs and the goals and objectives of this FMP.

6.5.5 Prioritization

Table 6-12 lists the priority of each initiative as assigned by the planning team, using the same parameters used in selecting the initiatives. A qualitative benefit-cost review was performed for each of these initiatives. The priorities are defined as follows:

High Priority—A project that meets multiple objectives, has benefits that exceed cost, has funding secured or is an ongoing project and meets eligibility requirements for a grant program. High priority projects can be completed in the short-term (1 to 5 years). The key factors for high priority projects are that they have funding secured and can be completed in the short-term.



Medium Priority—A project that meets goals and objectives, that has benefits that exceed costs, and for which funding has not been secured but that is grant eligible. Project can be completed in the short-term once funding is secured. Medium priority projects will become high priority projects once funding is secured. The key factors for medium priority projects are that they are eligible for funding, but do not yet have funding secured, and they can be completed within the short-term.

Low Priority—A project that will mitigate the risk of a hazard, that has benefits that do not exceed the costs or are difficult to quantify, for which funding has not been secured, that is not eligible for FEMA grant funding, and for which the timeline for completion is long-term (1 to 10 years). Low priority projects may be eligible for grant funding from other programs. Low priority projects are “blue-sky” projects. How they will be financed may not be entirely known at this time, and they can be completed over a long-term.

6.5.6 Analysis of Mitigation Initiatives

Each recommended initiative was classified based on the hazard it addresses and the type of mitigation it involves. Mitigation types used for this categorization are as follows:

Prevention—Government, administrative, or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.

Property Protection—Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.

Public Education and Awareness—Actions to inform citizens and elected officials about flood hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.

Natural Resource Protection—Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Emergency Services—Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.

Structural Projects—Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.

Table 6-10, Table 6-11, and Table 6-12 present the results of this analysis and prioritization.

6.5.7 Proposed and Ongoing Flood Mitigation Initiatives

Table 6-10 lists the FMP’s proposed flood mitigation initiatives. These include carryover initiatives not completed since establishment in the original FMP and those initiatives that have been newly identified by the Planning Committee. In addition to the Proposed Flood Mitigation Initiatives in Table 6-10, the Planning Committee identified the following Ongoing Flood Mitigation Initiatives. These initiatives are completed annually. While these initiatives have become part of the Township’s capabilities, their importance warrants the regular reporting of their successful completion during each reporting period to ensure the current level of floodplain management is maintained.



Table 6-10. Proposed Flood Mitigation Initiatives

Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMP-1 (Former Initiative BK-071)	Mandate Removal of Floatable Property Prior to Storm Events	BT Code Enforcement will work to supplement the Flood Prevention Ordinance or add regulations to the Township Code requiring removal or securing of boats, floating docks, gangways, etc. from water bodies within a specified period from the issuance of an order from Emergency Management personnel. A draft ordinance addressing these issues has been developed but has not been implemented. It is being proposed to the Land Use Committee of the Township Council for consideration.	BT Code Enforcement	Township budget	Short Term	1	ES	High
BFMP-2 (Former Initiative BK-076)	Use Re-sale Certification of Occupancy to Regulate safe Re-Building Practices	BT Code Enforcement will establish a system to use re-sale certification of occupancy to catch up with substantially damaged structures and regulate safe re-building practices It is the intent of the staff to continue to request re-sale CO's to the Township Council for their approval.	BT Code Enforcement	Township budget	Long Term	5, 6	PR	Medium
BFMP-3 (Former Initiative BK-081)	Develop Design Standards to Address the Visual Impact of Property Mitigation	BT Code Enforcement will develop design standards to address the visual impact that property mitigation measures, such as elevated bulkheads, elevating buildings have on the Township. Some standards have been developed for plantings and lattice for elevated homes. A complete set of standards will need to be developed. This work is expected to coincide with updates to the Township's Neighborhood Plans.	BT Code Enforcement	Township budget	Short Term	1, 4, 5	ES	Medium
BFMP-4	Training and Implementation of View Works Application for Drainage Maintenance	BT DPW will train DPW and Parks staff on how to use the View Works application for drainage maintenance. The application will allow for recording of drainage system maintenance to support CRS reporting and increase efficiency.	BT DPW, Support from Parks Department	Township budget	Short Term	1, 2	PR	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMP-5 (Former Initiative BK-006)	Elevate Municipal Facility Electrical Equipment above the Base Flood Elevation	BT Engineering will elevate electrical equipment, controls, instrumentation and emergency generators in all municipal facilities above the base flood elevation to continue critical community services during utility interruptions and storm events. This includes elevation of the final generator at Traders Cove.	BT Engineering	HMGP, BRIC, USDA Community Facilities Grant Program, Township budget	Short Term	1, 3	SP	Medium
BFMP-6 (Former Initiative BK-017)	Tide Valve and Check Valve Installation	BT Engineering will lead the installation of tide valves and check valves to prevent backflow of the stormwater system in coastal areas. The Township has contract for purchase of check-valves and has been installing as manpower permits.	BT Engineering	HMGP, BRIC, Township budget	Short Term	1	SP	High
BFMP-7 (Former Initiative BK-019)	Perform Feasibility Study for the Installation of an Outlet Structure on Cherry Quay by Cross Trees Road	BT Engineering will perform a study to determine the feasibility of the installation of an outlet structure on Cherry Quay by Cross Trees Road. Such a structure should be constructed to maintain a consistent water surface elevation range. Overflow could be conveyed through the existing drainage system in residential streets and outfall into the Barnegat Bay through an existing drainage outfall. A path of overflow for overland flood relief could be provided for when the pond elevation reaches a flood stage that cannot be conveyed hydraulically through the existing drainage system. The Engineer met with a company about a check valve for a pipe at the site and discussions have been held about the feasibility of the project.	BT Engineering	BRIC, Township budget	Short Term	1, 7	SP	Medium
BFMP-8 (Former Initiative BK-021)	Elevate Floodprone Roads	BT Engineering will identify and roads, particularly those adjacent to waterways. The Township has set aside funding for the design of Shore Drive and Vanard Drive.	BT Engineering	HMGP, BRIC, Township budget	Short Term	1	PP	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMP-9 (Former Initiative BK-023)	Consider Raised Roads with Side Protection	BT Engineering will consider raised roads with side protection, which can dually function as levees, near Barnegat Bay. The Township is considering this action on roads such as Channel Drive. Implementation is dependent on additional funding/grants.	BT Engineering	HMGP, BRIC, Township budget	Short Term	1	PP	Low
BFMP-10	Long-Term Infrastructure Plan for Sea Level Rise and Climate Change.	BT Engineering will start an outline for a long-term infrastructure plan for sea level rise and climate change. The plan could focus on infrastructure improvements such as raising roadways, the removal of stormwater pipes and outfalls that are submerged and cause backflow flooding issues, the increased use of natural systems for flooding, etc.	BT Engineering	Township budget, BRIC	Long Term	1, 4	PR, PP, SP	Medium
BFMP-11 (Former Initiative BK-039)	Construct Stormwater Gravel Wetlands	BT Engineering will consider the construction of stormwater gravel wetlands, which rely on a dense root mat, crushed stone, and an anaerobic and microbe-rich subsurface when replacing or constructing new stormwater basins.	BT Engineering	HMGP, BRIC, EWP, Township budget	Long Term	2	PI, NR	High
BFMP-12	Create Wetlands in the Upland Areas to Capture Stormwater	BT Engineering consider the concept of creating wetlands out of open space in upland areas to capture stormwater upstream of residential development to reduce flood risks.	BT Engineering	HMGP, BRIC, FWS, EWP, Township budget	Long Term	2	NR	Medium
BFMP-13	Coordinate with USACE Back Bay Study	The Township will coordinate with the USACE as it completes the Back Bay Study and consider partnering on implementation of measures developed by the study that result in cost-effective protections for the Township.	BT Engineering, USACE	USACE	Long Term	1, 6	SP	Medium
BFMP-14	Update Flood Damage Prevention Ordinance	BT Engineering will oversee the update of the Flood Damage Prevention Ordinance to meet updated CRS and NJ DEP model language.	BT Engineering	Township budget	Short Term	1, 5	PR	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMP-15	Natural and Beneficial Floodplain Function Integration	The BT Environmental Commission will provide recommendations to integrate natural and beneficial floodplain function to appropriate Township plans including the Natural Resource Inventory and Open Space & Recreation Plan.	BT Environmental Commission	Township budget	Short Term	2, 6	PI, NR	Medium
BFMP-16	Incorporate Flood Resistant Design in Baywood Sewer Main	BT MUA will complete a sewer main replacement in the Township's Baywood section. The replacement will incorporate flood resistant design to prevent flood damage and I&I.	BT MUA	BT MUA, BRIC	Short Term	1	PP	Medium
BFMP-17 (Initiative BK-060)	Provide Input on Potential Stormwater Management Ordinance Best Management Practices	BT MUA will supply BT Planning with a draft stormwater ordinance for the Township to consider which provides additional emphasis on Green Infrastructure stormwater management techniques, such as bio-swales, rain gardens, offline regional treatment, and vegetative rooftop covers.	BT MUA, BT Planning	BT MUA, Township budget	Shorty Term	1, 4, 5	SP, NR	Medium
BFMP-18 (Former Initiative BK-065)	Identify and Restore Impaired Stormwater Management Facilities	BT MUA will identify and restore impaired stormwater management facilities to improve infiltration and reduce runoff throughout the watershed. Many project sites are listed in the Metedeconk Watershed Plan and additional sites are continuously being identified through field evaluations. These projects will reduce runoff and improve water quality. Completed projects within the Township include: <ul style="list-style-type: none"> • BTMUA campus stormwater improvements (Brick Twp) • Brick Plaza stormwater BMP demonstration projects (Brick Twp) New stormwater improvement projects are expected in neighboring Howell and Lakewood Townships.	BT MUA	HMGP, BRIC, BT MUA	Short Term	1, 2	PP	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMP-19 (Former Initiative BK-131)	Increase Sea Level Rise Resiliency for Water Supply Operations	BT MUA will work to evaluate and build resiliency for the long-term implications of sea-level rise for water supply operations. BTMUA has completed a water supply master plan with a planning horizon of 20 years. As part of the planning effort, projections of sea-level rise and expected impacts on the water supply were evaluated through statistical modeling. These constraints, along with other water supply stressors such as demand patterns and climate change, have been translated into a series of recommendations and actions that will result in greater resilience. Two high-priority projects were initiated during 2020. The first project is the expansion of the normal operating range of the Brick Reservoir, for which grant funding has been received from FEMA PDM. The second project is an evaluation of the Metedeconk River surface water intake's vulnerability to sea-level rise and potential relocation alternatives.	BT MUA	HMGP, BRIC, PDM, Township budget	Long Term	1, 3, 4	NR, PP	High
BFMP-20	Complete Communications Shed Installation	BT OEM will oversee completion of the installation of a communication shed to increase communications capacity during emergency events.	BT OEM	EMPG, Township budget	Short Term	1, 3	ES	Medium
BFMP-21 (Former Initiative BK-027)	Retrofit Structures Located in Hazard-Prone Areas	BT Planning continues work to reduce the number of repetitive and severe repetitive properties within the Township. BT Planning will lead efforts to retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation and inform candidates/public as appropriate.	BT Planning	HMGP, BRIC, FMA, Cost-share by Property Owner	Long Term	1	PP	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
		Phase 2: Where retrofitting is determined to be a viable option, work with the property owner to implement that action based on available funding from FEMA and local match availability.						
BFMP-22 (Former Initiative BK-134)	Post-Disaster Recovery Plan	BT Planning will pursue funding for a post-disaster recovery plan to outline alternatives for prudent recovery from flood events. Emphasis will be to guide redevelopment of impacted areas to reduce future vulnerabilities.	BT Planning	BRIC, Township budget	Short Term	1, 4	ES	High
BFMP-23	Post-Disaster Policies and Ordinances	BT Planning will consider the development of post-disaster policies and ordinances to guide safer redevelopment after major disaster events.	BT Planning	Township budget	Short Term	1, 4, 5	NR	Low
BFMP-24	Incorporate Resilience Concepts Identified in the Township's Resiliency Policy	BT Planning will incorporate resilience concepts identified in the Township's resiliency policy which is currently under development. The Township of Brick has voluntarily entered into the Plan Endorsement Process with the State of New Jersey to renew the CAFRA Coastal Brick Town Center designation and is developing the Resiliency Policy as part of this process.	BT Planning	Township budget	Short Term	1, 3, 6	PP	High
BFMP-25 (Former Initiative BK-114)	Restore Bayside Shorelines and Islands to Provide for Increased Flood Protection	BT Planning will explore the possibility of reinforcing degraded shorelines and islands with dredge material, thin layer deposition, living shorelines, and other appropriate methods.	BT Planning, support from NJ DEP, USFWS	HMGP, BRIC, Township budget	Short Term	2	ES, PR	High
BFMP-26	Develop a Program for Public Information	The Township will develop a Program for Public Information (PPI) to develop, oversee, and improve on the Township's flood related outreach. The PPI will be made up of a committee similar to the Floodplain Management Planning Committee and explore new outreach methods and populations that are not reached by current methods.	BT Planning	Township budget	Short Term	6	PI	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMP-27	Consider a Hazard Disclosure Policy	Although disclosure is a state requirement, surveying has revealed that many homebuyers are not alerted to flood risk when they purchase their home. BT Planning will explore different options to increase the disclosure of hazards during real estate transactions.	BT Planning	Township budget	Short Term	6	PI	Medium
BFMP-28	Develop Hazard Disclosure Outreach for Realtors	BT Planning will develop and carry out outreach to realtors on the state's hazard disclosure policy and where the necessary information that is required to be transmitted to prospective buyers can be found.	BT Planning	Township budget	Short Term	5, 6	PI	High
BFMP-29	Develop Elevation Certificate Outreach for Surveyors	BT Planning will develop and carry out outreach to surveyors on the proper way to complete and submit elevation certificates.	BT Planning	Township budget	Short Term	5, 6	PI	High
BFMP-30	Consider Use of Citizen Reporting Applications to Record Flooding Events	BT Planning will consider crowdsourced data gathering of flooding events through applications like the MyCoast application advocated by NJ DEP and the JCNERR.	BT Planning	Township budget	Short Term	6, 7	PI	High

Notes:

HMGP-Hazard Mitigation Grant Program

BRIC-Building Resilient Infrastructure and Communities grant program

FMA-Flood Mitigation Assistance Program

Timeframe

Short 1-5 years

Long 5 years or greater

Ongoing Ongoing or annual project

Priority

High A project that meets multiple plan objectives, benefits exceed cost, has funding secured under existing programs or authorizations, or is grant eligible, and can be completed in 1 to 5 years (i.e., short-term project) once project is funded.

Medium A project that meets at least one plan objective, benefits exceeds costs, funding has not been secured and would require a special funding authorization under existing programs, grant eligibility is questionable, and can be completed in 1 to 5 years once project is funded.

Low Any project that will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, project is not grant eligible, and timeline for completion is considered long-term (5 to 10 years).

Project Category





Prevention - PR
 Property Protection - PP
 Natural Resource Protection - NRP
 Emergency Services - ES
 Structural Projects - SP
 Public Information/Outreach - PI

Table 6-11. Ongoing Flood Mitigation Capabilities

Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMPO-1 (Former Initiative BK-055)	Utilize Post-Disaster Assistance	The Township Administration will engage with NJOEM, FEMA, and other applicable agencies to remain aware of post disaster assistance.	BT Administrator	Township budget	Ongoing	1, 6	PI	High
BFMPO-2 (Former Initiative BK-030)	Support and Promote the Retrofit of Buildings to Meet Hurricane-Force Wind Needs	Code Enforcement will support the retrofit of buildings to withstand hurricane-force wind through enforcing the uniform construction code as per Bulletin # 13-1A.	BT Code Enforcement	Township budget	Ongoing	1	PI	High
BFMPO-3 (Former Initiative BK-069)	Enforce Minimum National Flood Insurance Program Requirements	As part of the Township’s floodplain administration, Code Enforcement will enforce minimum National Flood Insurance Program requirements and proactively support floodplain management property protection and outreach requirements	BT Code Enforcement	Township budget	Ongoing	5, 6	PR, PI	High
BFMPO-4 (Former Initiative BK-070, Former Initiative BK-073)	Adopt Appropriate Enhanced Regulatory Standards	Code Enforcement will present the Administration with appropriate enhanced regulatory standards for consideration and adoption, as recommended by outside agencies and supported by best available science, such as increased freeboard standards, cumulative substantial improvement or damage, lower substantial damage threshold, compensatory storage, and non-conversion deed restrictions. Enhanced standards will account for	BT Code Enforcement, BT Administration and BT Planning support	Township budget	Ongoing	1, 5	PR	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
		potential impacts from climate change and sea level rise.						
BFMPO-5 (Former Initiative BK-077)	Utilize FEMA FIRMs to Assist Property Owners in Rebuilding	BT Code Enforcement will utilize the most recent FEMA FIRMs to assist property owners in rebuilding to or above regulatory standards. Future Preliminary FIRMs will be considered where appropriate.	BT Code Enforcement	Township budget	Ongoing	1, 5	PR	High
BFMPO-6 (Former Initiative BK-079)	Implement Site Review Ordinances/Requirements	BT Code Enforcement will continue to support the plot plan review process and carry out inspection procedures.	BT Code Enforcement	Township budget	Ongoing	1, 5	PR	High
BFMPO-7 (Former Initiative BK-082, Former Initiative BK-085)	Ensure Building, Renovations, Retrofits, Reconstructions, and New Construction Meet the Standards of the Uniform Construction Code	BT Code Enforcement will continue to enforce building codes to require building renovations, retrofits, reconstruction, and new construction so that all buildings meet the Uniform Construction Code. This will include post-disaster events through the emergency inspection program.	BT Code Enforcement	Township budget	Ongoing	1, 5	PR	High
BFMPO-8 (Former Initiative BK-087)	Encourage and Support Compliance with the NJ Fertilizer Law	BT Code Enforcement, with support from NJ DEP, will encourage and support compliance with the fertilizer restrictions established by state law.	BT Code Enforcement, NJ DEP support	Township budget	Ongoing	2, 5	NR	High
BFMPO-9 (Former Initiative BK-011)	Maintain and Clear Debris from Drainage Systems	BT DPW will work to maintain current drainage systems at appropriate care levels to keep storm drains clear from debris to prevent flooding. The DPW will use the Township jet/vac to maintain the approximately 8,600 storm drains in the Township as part of DPW's a day-to-day activities.	BT DPW	Township budget	Ongoing	1	PR	High
BFMPO-10 (Former Initiative BK-026)	Improve Street Sweeping to Reduce Entry of Pollutants and Sediment into the Stormwater System	The BT DPW will regularly seek to improve street sweeping (currently employed through a vacuum based sweeper that allows for year-round street sweeping) methods and the frequency of sweeping in order to reduce pollutants and sediment entrained in runoff from impervious streets and parking lots.	BT DPW	Township budget	Ongoing	2	PR	Low



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMPO-11 (Former Initiative BK-062)	Supplement the Stormwater Management Plan to Include Drainage System Maintenance	BT DPW will supplement the Stormwater Management Plan to include details on drainage system maintenance and keeping channels and storage basins clear of debris for sufficient flood carrying and storage capacity.	BT DPW	Township budget	Ongoing	5	PR	High
BFMPO-12 (Former Initiative BK-128)	Conduct Tree Vegetation Maintenance.	Tree and vegetation maintenance takes place at municipal facilities. BT DPW will continue tree vegetation maintenance for hazardous tree removal by the Parks crew in order to reduce falling trees and debris from causing blockages and snags in the natural and man-made drainage system.	BT DPW	Township budget	Ongoing	2	NR	High
BFMPO-13 (Former Initiative BK-086)	Promote Construction Practices to Maintain Soil Health and Reduce Compaction.	BT Engineering will continue to take a proactive approach to the NJ Soils Health Legislation by working with the Ocean County Soil Conservation District to promote construction practices to maintain soil health and reduce compaction. The Township will continue to follow regulatory guidelines and ensure that all buildings that require a soil permit, receive it.	BT Engineering, Ocean County Soil Conservation District support	Township budget	Ongoing	2, 6	NR	High
BFMPO-14 (Former Initiative BK-040)	Provide Technical Information and Guidance to Homeowners Interested in Flood Mitigation Techniques	BT Engineering will continue to publicize and offer technical information and guidance to homeowners interested in personal flood mitigation options.	BT Engineering	Township budget	Ongoing	1, 6	PI	Medium
BFMPO-15 (Former Initiative BK-054)	Capture/Survey High Watermarks after Flood Events	BT Engineering, with support from BT DPW, will continue to capture high water marks after flood events.	BT Engineering, BT DPW support	Township budget	Ongoing	7	ES	High
BFMPO-16 (Former Initiative)	Support NJ DOT Stormwater Improvements on State Highways	BT Engineering will offer information and coordinate with the NJ Department of Transportation on state highway stormwater management issues for	BT Engineering	NJ DOT	Ongoing	6	SP	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BK-063, Former Initiative BK-025)		Routes 9, 35, 37, 70, 72, 88 and 166. The Township will encourage the replacement of older and unsafe bridges and culverts.						
BFMPO-17 (Former Initiative BK-067)	Investigate New Technologies for Structural Flood Protection	BT Engineering will regularly explore the benefits of emerging structural flood protection techniques and technologies such as bypass force main, tide barriers, stormwater pump systems, surge barriers, and mobile flood barriers to protect Township infrastructure and provide information to homeowners.	BT Engineering	HMGP, BRIC, FMA, Township budget	Ongoing	1, 4	SP	High
BFMPO-18 (Former Initiative BK-098)	Develop the Building and Elevation Inventory of Structures in the Floodplain	BT Engineering will continue the collection of elevation certificates and use ForeRunner software to integrate finished floor elevations into a database.	BT Engineering	Township budget	Ongoing	7	PI	High
BFMPO-19 (Former Initiative BK-099)	Continue to Improve the Township's Mapping Capabilities	BT Engineering will work to improve the Township's mapping capabilities (currently through CAD and Land Desktop and "read only" access to MUA infrastructure information) to support field crews and other initiatives.	BT Engineering	Township budget	Ongoing	7	PI	High
BFMPO-20 (Former Initiative BK-106)	Repair Bulkheads and Install Revetments to Protect from Coastal Erosion	BT Engineering will oversee bulkhead construction and reconstructions as necessary.	BT Engineering	Township budget	Ongoing	1	SP	Medium
BFMPO-21 (Former Initiative BK-116)	Manage Sediment and Debris Removal in Retention/Detention Basins and Constructed Wetland Areas.	BT Engineering will manage inspections of basins and constructed wetland areas. Where maintenance is required (sediment and debris removal needed), BT Engineering will instruct BT DPW of necessary actions to carry out.	BT Engineering, BT DPW support	Township budget	Ongoing	2	NR	High
BFMPO-22	Maintain and Improve Dunes, Natural Beaches, and Bay Habitats	BT Engineering will lead coordination with environmental non-profit organizations to schedule and diversify plantings and	BT Engineering, NJ SeaGrant	NJ DEP, Township budget, NJ	Ongoing	2	NR	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
(Former Initiative BK-105)		maintenance of critical natural floodplain habitats.	and Barnegat Bay Partnership support	SeaGrant, Barnegat Bay Partnership				
BFMPO-23 (Former Initiative BK-104)	Provide Beach Replenishment as Necessary	BT Engineering will lead coordination with the USACE and NJ DEP to support future beach fill needs.	BT Engineering, Support from USACE and NJ DEP	USACE, NJ DEP, Township budget	Ongoing	2	NR	High
BFMPO-24 (Former Initiative BK-015)	Promote I&I Protection of Sewer Systems	BT MUA will continue to monitor sewer mains using Closed Circuit Television Inspection. Sewer replacement/rehabilitation contracts are administered accordingly. This work will continue to occur with regularity given the Township's high water table. The MUA has also purchased an additional truck to assist in I&I protection efforts.	BT MUA	Township budget	Ongoing	1	PR	Medium
BFMPO-25 (Former Initiative BK-059)	Maintain Continuous Monitoring Network for Tide and Salinity	BTMUA will continue to maintain tide/salinity monitoring stations in the vicinity of Forge Pond. All data are archived in a database to support risk and vulnerability evaluations. The monitoring network currently consists of four stations and will be expanded as data gaps are identified. New stations are being evaluated for possible installation near Route 70 and/or upstream of BTMUA's drinking water intake.	BT MUA	BT MUA	Ongoing	7	PI	High
BFMPO-26 (Former Initiative BK-061)	Assess and Evaluate BMPs for Stormwater Management	BT MUA will continually assess and evaluate stormwater BMPs as part of the model ordinance development. Advances in Stormwater BMP/Green Infrastructure designs are being monitored and opportunities to incorporate these advances locally are continually being explored (e.g., constructed stormwater wetland, blue roof, etc.).	BT MUA	Township budget	Ongoing	4	PI	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMPO-27 (Former Initiative BK-068, Initiative BK-136))	Provide Outreach on Stormwater BMPs and Watershed Conservation	BT MUA will continue to provide outreach on Stormwater BMPs for property owners. These include “build your own” rain barrel workshops. Extensive public education and outreach activities include exhibits, presentations and educational materials targeting a variety of age groups and interests, with particular focus on water conservation, and nonpoint source pollution/stormwater management awareness. Outreach efforts will be supported by BT Planning.	BT MU, support from BT Planning	Township budget	Ongoing	6	PI	High
BFMPO-28 (Former Initiative BK-117)	Participate in Regional Watershed Management	BT MUA will continue to facilitate regional watershed management planning. Brick Township is actively working with BT MUA and the other watershed stakeholders on the Metedeconk Watershed Management Plan. There is discussion about the development of additional watershed plans in the Barnegat Bay region for which Brick Township may be a stakeholder.	BT MUA	Township budget	Ongoing	6	NR	High
BFMPO-29 (Former Initiative BK-132)	Evaluate Development and Construction Impacts on Natural Floodplain Function and Water Quality	BT MUA will evaluate development and construction in the watershed to ensure no impacts on natural floodplain function or water quality. BTMUA evaluates proposed development projects and activities regulated by NJDEP’s Division of Land Use Regulation within the Metedeconk River floodplain or areas adjacent to the riparian zone. Comments and concerns will be submitted to the local planning/zoning board of adjustment and/or regulatory agency, as necessary.	BT MUA	Township budget	Ongoing	4, 5	NR	High
BFMPO-30 (Former Initiative BK-064)	Coordinate Funding to Maximize the Effectiveness of Stormwater Protection and Rehabilitation Efforts	BT MUA will continue to search for additional funding opportunities to support stormwater protection and rehabilitation efforts.	BT MUA, support by BT Engineering	HMGP, BRIC, Township budget	Ongoing	2, 6	SP	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMPO-31 (Former Initiative BK-051)	Support Continuous Operations of Emergency Support Services for the Barrier Island	BT OEM will continue to maintain the Barrier Island as a permanent district, so police officers are assigned to the area 24/7.	BT OEM	Township budget	Ongoing	3	ES	High
BFMPO-32 (Former Initiative BK-057)	Support Precipitation Monitoring and Flood Threat Recognition Networks	BT OEM will oversee the Township's participation in NWS efforts for precipitation monitoring and will explore opportunities to join additional programs/networks.	BT OEM	Township budget, NWS	Ongoing	6, 7	PI	Medium
BFMPO-33 (Former Initiative BK-058)	Critical Facilities/Infrastructure Early Flood Notification	BT OEM will continue to maintain and update the list of facilities and their contacts that require early flood notification.	BT OEM	Township budget	Ongoing	3, 6	ES	Medium
BFMPO-34 (Former Initiative BK-092)	Maintain the All-Hazards Emergency Operations Plan (EOP)	BT OEM will continue to maintain the EOP and incorporate information from the Floodplain Management Plan and Ocean County Hazard Mitigation Plan as appropriate.	BT OEM	Township budget	Ongoing	3	ES	High
BFMPO-35 (Former Initiative BK-093)	Develop and Implement Shelter Management Plans	BT OEM will continue shelter planning through coordination with the state.	BT OEM	Township budget	Ongoing	3	ES	High
BFMPO-36 (Former Initiative BK-100)	Conduct Local Emergency Planning Committee (LEPC) Meetings	BT OEM will ensure the LEPC meets quarterly and conducts two drills per year. Drills will include how to prevent hazardous materials accidents during flooding events.	BT OEM	Township budget	Ongoing	1, 3	ES	High
BFMPO-37 (Former Initiative BK-135)	Increase Communication and Coordination with Utility Providers.	BT OEM will work to maintain open communication and data sharing with utility providers to increase emergency response and mitigation of vulnerabilities to flooding.	BT OEM	Township budget	Ongoing	3, 6	ES	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMPO-38 (Former Initiative BK-137)	Annually Exercise the Township Flood Warning and Response Plan	The Township will exercise the CRS Activity 610 Flood Warning and Response Plan annually during years where there is no flood event which triggers the plan to be used.	BT OEM	Township budget	Ongoing	1, 3, 6	ES	High
BFMPO-39 (Former Initiative BK-031)	Site New Critical Facilities Outside of the Floodplain	BT Planning will work to ensure that new critical facilities are located outside of the floodplain. In the event that critical facilities must be located within the floodplain, BT Planning will work to ensure they are flood proofed, where possible.	BT Planning	Township budget	Ongoing	1, 5	PR, PP, ES	High
BFMPO-40 (Former Initiative BK-041)	Provide Grant Program Information to Residents	BT Planning will provide information on residential, business, and natural resource grant programs to residents through mailings, hosting information on the website, hosting flood information sessions, etc.	BT Planning	Township budget	Ongoing	1, 6	PI	High
BFMPO-41 (Former Initiative BK-090)	Implement Nonstructural Flood Control Measures	Recent planning and zoning board approvals have been imposing nonstructural flood control measures. The Township will continue progress through the development review process.	BT Planning	Township budget	Ongoing	2	PR	High
BFMPO-42 (Former Initiative BK-095)	Integrate Floodplain Management Policies into Township Plans and Procedures	BT Planning will continue the revision of ordinances, updating planning documents, etc. to integrate floodplain management.	BT Planning	Township budget	Ongoing	4, 6	PR	High
BFMPO-43 (Former Initiative BK-096)	Support Retrofitting/Replacement of Critical Stormwater System Elements through Capital Improvement Planning	BT Planning will support retrofitting and improved replacements of critical system elements (roadways, storm drains, stormwater, etc.) through capital improvement planning.	BT Planning	Township budget	Ongoing	1, 3	PP, SP	High
BFMPO-44	Strategize Responsible Land Protection Methods to Maintain/Restore Natural Floodplain Functions	BT Planning will explore opportunities and strategize implementation of responsible land protection methods and funding sources	BT Planning	Township budget	Ongoing	2	NR	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
(Former Initiative BK-115)		to maintain/restore natural floodplain functions.						
BFMPO-45 (Former Initiative BK-120)	Maintain Vegetated Riparian Buffer Zones	BT Planning will maintain vegetated riparian buffer zones and prioritize implementation by using parcels identified as protection priority from the Trust for Public Land.	BT Planning	Township budget, Trust for Public Land	Ongoing	2	NR	High
BFMPO-46 (Former Initiative BK-124)	Retrofit Existing Stormwater Basins to Extend Detention or Bioretention Areas	BT Planning will recommend retrofits as redevelopment occurs. As site plan applications come in to the Planning and Zoning Boards, the Township will work to require rain garden technology and bioretention areas of existing and new site plan developments.	BT Planning	Township budget	Ongoing	1, 2	SP	Medium
BFMPO-47 (Former Initiative BK-125)	Convert Unnecessary Impervious Surfaces to Permeable Surfaces	BT Planning will oversee the removal of un-utilized or under-utilized impervious surfaces, such as extra parking, with native or maintained vegetation. Where possible, the Township will redirect runoff to these new pervious surfaces. As a general policy during site plan and subdivision review, the Township will continue to require curb cuts, pervious pavement, etc.	BT Planning	Township budget	Ongoing	2	NR	Low
BFMPO-48 (Former Initiative BK-127)	Support the use and installation of green energies and sustainable technologies, where appropriate and affordable. Green improvements can include: i.) Green roofs ii.) Bioswales iii.) Planter boxes iv.) Vegetated filter strips v.) Permeable/pervious paving vi.) Rain gardens vii.) Overall increased vegetation viii.) Rain barrels or cisterns ix.) Soil amendment x.)	Through the development review process, the Township encourages the use of sustainable development.	BT Planning	Township budget	Ongoing	2	NR	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
	Bulkhead/vertical walls xi.) Vegetated filter strip							
BFMPO-49 (Former Initiative BK-133)	Pursue Funding to Conduct Hydrological Studies of Stormwater System Problem Areas.	Stormwater systems are required for site plan review and subdivision applications. As site plans and subdivisions are submitted to the boards for review, hydrologic studies are required. BT Planning will pursue funding to conduct hydrological studies of stormwater problem areas identified by BT DPW, BT MUA, and BT Engineering.	BT Planning, support from BT DPW, BT MUA, and BT Engineering	Township budget	Ongoing	1, 6	SP	High
BFMPO-50 (Former Initiative BK-097)	Work with the Barnegat Bay Partnership to Target Research and Assessment Efforts.	BT Planning will lead the Township's continued cooperation with the Barnegat Bay Partnership to target research and assessment efforts throughout the Barnegat Bay watershed..	BT Planning, Barnegat Bay Partnership	Township budget	Ongoing	6, 7	PI	High
BFMPO-51 (Former Initiative BK-037)	Record Flood Event Emergency Responses to Support Future Planning	BT Police will continue to use the established a Flood Unit which began recording flooding event details in the winter of 2020. Flood event details and emergency response that was required will be recorded to support future planning.	BT Police	Township budget	Ongoing	7	PI	High
BFMPO-52 (Former Initiative BK-045—	Outreach for Schools on Family Disaster Planning	BT Police will continue outreach programs in schools to include children in outreach and to improve families' disaster response capabilities. Outreach programs include a coloring book and information packet.	BT Police	Township budget	Ongoing	6	PI	High
BFMPO-53 (Former Initiative BK-042)	Emergency Alert System Use for Effective Storm Information Dissemination	BT Police will continue to use Nixle or a similar service for pre-storm information dissemination, including shelter locations, evacuation routes.	BT Police, BT Planning	Township budget	Ongoing	1, 6	PI	High
BFMPO-54 (Former Initiative BK-139)	Conduct Stream Cleanings to Prevent Jams	The Environmental Commission will conduct stream cleanings to remove garbage and debris that may contribute to jams that could cause flood events. Efforts will also include anti-littering campaigns to prevent garbage from entering streams.	Environmental Commission	Township budget	Ongoing	1	NR	High



Initiative Number	Initiative	Initiative Description	Lead Dept.	Possible Funding Sources or Resources	Timeline	Goals Met	Project Category	Priority (High, Med., Low)
BFMPO-55 (Former Initiative BK-140)	Anti-Littering and Dumping Outreach	The Environmental Commission will conduct outreach to residents that live near streams, culverts, etc. where debris and dumping of yard waste is problematic. Outreach will outline how littering and dumping contribute to flooding and how residents can monitor for potential clogs of the stormwater system or jams in streams and report them to the Township for them to be addressed.	Environmental Commission	Township budget	Ongoing	6	PI	High

Notes:

HMPG-Hazard Mitigation Grant Program

BRIC-Building Resilient Infrastructure and Communities grant program

FMA-Flood Mitigation Assistance Program

Timeframe

Short 1-5 years

Long 5 years or greater

Ongoing Ongoing or annual project

Priority

High A project that meets multiple plan objectives, benefits exceed cost, has funding secured under existing programs or authorizations, or is grant eligible, and can be completed in 1 to 5 years (i.e., short-term project) once project is funded.

Medium A project that meets at least one plan objective, benefits exceeds costs, funding has not been secured and would require a special funding authorization under existing programs, grant eligibility is questionable, and can be completed in 1 to 5 years once project is funded.

Low Any project that will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, project is not grant eligible, and timeline for completion is considered long-term (5 to 10 years).

Project Category

Prevention - PR

Property Protection - PP

Natural Resource Protection - NRP

Emergency Services - ES

Structural Projects - SP

Public Information/Outreach - PI





Table 6-12. Prioritization of Mitigation Initiatives

Initiative Number	# of Goals Met	Benefits	Costs	Do Benefits Equal or Exceed Costs? (Y or N)	Is Project Grant Eligible? (Yes or No)	Can Project Be Funded Under Existing Programs/Budgets? (Yes or No)	Priority (High, Med., Low)
BFMP-1	1	High	Low	Yes	No	Yes	High
BFMP-2	2	High	Medium	Yes	No	Yes	Medium
BFMP-3	3	Low	Low	Yes	No	Yes	Medium
BFMP-4	2	Medium	Low	Yes	No	Yes	High
BFMP-5	2	Medium	High	Yes	Yes	Yes	Medium
BFMP-6	1	Medium	Medium	Yes	Yes	Yes	High
BFMP-7	2	High	High	Yes	Yes	Yes	Medium
BFMP-8	1	High	Medium	Yes	Yes	Yes	High
BFMP-9	1	High	Medium	Yes	Yes	Yes	Low
BFMP-10	2	High	Medium	Yes	Yes	Yes	Medium
BFMP-11	1	High	High	Yes	Yes	Yes	High
BFMP-12	1	High	High	Yes	Yes	Yes	Medium
BFMP-13	2	High	Low	Yes	Yes	No	Medium
BFMP-14	2	Low	Low	Yes	No	Yes	High
BFMP-15	2	Low	Low	Yes	No	Yes	Medium
BFMP-16	1	High	High	Yes	Yes	Yes	Medium
BFMP-17	3	Medium	Low	Yes	Yes	Yes	Medium
BFMP-18	2	High	High	Yes	Yes	Yes	High
BFMP-19	3	High	High	Yes	Yes	Yes	High
BFMP-20	2	High	High	Yes	No	Yes	Medium
BFMP-21	1	High	Medium	Yes	Yes	No	High
BFMP-22	2	Medium	Medium	Yes	Yes	Yes	High
BFMP-23	3	Low	Low	Yes	No	Yes	Low
BFMP-24	3	Low	Low	Yes	No	Yes	High
BFMP-25	1	High	High	Yes	Yes	Yes	High
BFMP-26	1	Medium	Medium	Yes	No	Yes	High
BFMP-27	1	Low	Low	Yes	No	Yes	Medium
BFMP-28	2	Medium	Low	Yes	No	Yes	High
BFMP-29	2	Medium	Low	Yes	No	Yes	High
BFMP-30	2	Medium	Low	Yes	No	Yes	High
BFMPO-1	2	Medium	Low	Yes	No	Yes	High
BFMPO-2	1	High	High	Yes	No	Yes	High
BFMPO-3	2	High	Medium	Yes	No	Yes	High
BFMPO-4	2	Medium	Low	Yes	No	Yes	High
BFMPO-5	2	High	Low	Yes	No	Yes	High
BFMPO-6	2	Medium	Low	Yes	No	Yes	High
BFMPO-7	2	High	Medium	Yes	No	Yes	High
BFMPO-8	2	Low	Low	Yes	No	Yes	High
BFMPO-9	1	Low	Low	Yes	No	Yes	High
BFMPO-10	1	Medium	Low	Yes	No	Yes	Low
BFMPO-11	1	Medium	Medium	Yes	No	Yes	High
BFMPO-12	1	High	High	Yes	No	Yes	High
BFMPO-13	2	Medium	Low	Yes	No	Yes	High
BFMPO-14	2	Low	Medium	No	No	Yes	Medium
BFMPO-15	1	Low	Low	Yes	No	Yes	High
BFMPO-16	1	High	High	Yes	Yes	Yes	High



Initiative Number	# of Goals Met	Benefits	Costs	Do Benefits Equal or Exceed Costs? (Y or N)	Is Project Grant Eligible? (Yes or No)	Can Project Be Funded Under Existing Programs/Budgets? (Yes or No)	Priority (High, Med., Low)
BFMPO-17	2	Medium	Low	Yes	Yes	Yes	High
BFMPO-18	1	Medium	Medium	Yes	No	Yes	High
BFMPO-19	1	High	High	Yes	No	Yes	High
BFMPO-20	1	High	High	Yes	No	Yes	Medium
BFMPO-21	1	High	High	Yes	No	Yes	High
BFMPO-22	1	High	Low	Yes	Yes	Yes	High
BFMPO-23	1	High	High	Yes	Yes	Yes	High
BFMPO-24	1	Low	High	No	No	Yes	Medium
BFMPO-25	1	High	Medium	Yes	No	Yes	High
BFMPO-26	1	Medium	Low	Yes	No	Yes	High
BFMPO-27	1	Medium	Low	Yes	No	Yes	High
BFMPO-28	1	Medium	Low	Yes	No	Yes	High
BFMPO-29	2	Medium	Medium	Yes	No	Yes	High
BFMPO-30	2	Medium	Low	Yes	Yes	Yes	High
BFMPO-31	1	High	High	Yes	No	Yes	High
BFMPO-32	2	Medium	Medium	Yes	Yes	Yes	Medium
BFMPO-33	2	Low	High	No	No	Yes	Medium
BFMPO-34	1	High	Medium	Yes	No	Yes	High
BFMPO-35	1	High	Medium	Yes	No	Yes	High
BFMPO-36	2	Medium	Low	Yes	No	Yes	High
BFMPO-37	2	Medium	Low	Yes	No	Yes	High
BFMPO-38	3	Medium	Low	Yes	No	Yes	High
BFMPO-39	2	High	High	Yes	No	Yes	High
BFMPO-40	2	Low	Low	Yes	No	Yes	High
BFMPO-41	1	High	Low	Yes	No	Yes	High
BFMPO-42	2	Medium	Low	Yes	No	Yes	High
BFMPO-43	2	High	High	Yes	No	Yes	High
BFMPO-44	1	Medium	Medium	Yes	No	Yes	High
BFMPO-45	1	Medium	Low	Yes	Yes	Yes	High
BFMPO-46	2	High	High	Yes	No	Yes	Medium
BFMPO-47	1	Medium	Medium	Yes	No	Yes	Low
BFMPO-48	1	Medium	Low	Yes	No	Yes	High
BFMPO-49	2	High	High	Yes	No	Yes	High
BFMPO-50	2	High	Low	Yes	No	Yes	High
BFMPO-51	1	Medium	Low	Yes	No	Yes	High
BFMPO-52	1	Low	Medium	Yes	No	Yes	High
BFMPO-53	2	Medium	Medium	Yes	No	Yes	High
BFMPO-54	1	High	Low	Yes	No	Yes	High
BFMPO-55	1	High	Low	Yes	No	Yes	High

Notes:

***Yes" indicates the strategy is likely to fall within the objectives of the Township budget or grant program. Does not indicate a project will automatically be funded.*

Benefits

High Project will have an immediate impact on the reduction of risk exposure to life and property.

Medium Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.

Low Long-term benefits of the project are difficult to quantify in the short-term.

Cost





- High* Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.
- Medium* Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
- Low* Possible to fund under existing budget. Project is part of or can be part of an existing ongoing program.

Timeframe

- Short* 1-5 years
- Long* 5 years or greater
- Ongoing* Ongoing or annual project

Priority

- High* A project that meets multiple plan objectives, benefits exceed cost, has funding secured under existing programs or authorizations, or is grant eligible, and can be completed in 1 to 5 years (i.e., short-term project) once project is funded.
- Medium* A project that meets at least one plan objective, benefits exceeds costs, funding has not been secured and would require a special funding authorization under existing programs, grant eligibility is questionable, and can be completed in 1 to 5 years once project is funded.
- Low* Any project that will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, project is not grant eligible, and timeline for completion is considered long-term (5 to 10 years).

DRAFT