9.2 TOWNSHIP OF BELLEVILLE

This section presents the jurisdictional annex for the Township of Belleville. The annex includes a general overview of the Township; an assessment of the Township's risk, vulnerability, and mitigation capabilities; and a prioritized action plan to implement prior to a disaster to reduce future losses and achieve greater resilience to natural hazards.

9.2.1 Hazard Mitigation Planning Team

The following individuals are the Township of Belleville's identified HMP update primary and alternate points of contact and NFIP Floodplain Administrator.

Table 9.2-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name / Title: Martin Lutz, Deputy Fire Chief / OEM Coordinator Address: Fire Department Headquarters - 275 Franklin Avenue, Belleville, NJ 07109 Phone Number: 973-202-1355 / 973-450-3368 Email: mlutz@bellevillefiredept.org	Name / Title: Nick Breiner, Deputy Coordinator / Police Dept. Address: Public Safety Building - 152 Washington Avenue, Belleville, NJ 07109 Phone Number: 973-930-6024 / 973-450-3333 Email: nbreiner@bellevillenj.org
NFIP Floodplain Administrator	
Name / Title: Frank Delorenzo, Construction Code Official Address: 152 Washington Avenue, Belleville, NJ 07109 Phone Number: 973-450-3410 Email: fdelorenzo@bellevillenj.net	

9.2.2 Jurisdiction Profile

The Township of Belleville is located along the Passaic River in northeastern Essex County. Bordered by Nutley Township to the north, the Passaic River and Bergen County (the Borough of North Arlington and Town of Kearny) to the east, the City of Newark to the south, and Bloomfield Township to the west.

The Township was formed as a township in 1839, with a population of only 500. It became a city in 1874 and again became a township in 1876. Belleville became a town in 1910 but reverted to township in 1981 to gain a larger share of federal revenue sharing funds.

According to the U.S. Census, the 2010 population for the Township of Belleville was 35,926. The estimated 2017 population was 36,383, a 1.3 percent increase from the 2010 Census. Data from the 2017 U.S. Census American Community Survey indicate that 5.9 percent of the population is 5 years of age or younger and 12.6 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.2.3 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.2-2 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. Figure **9.2-1** at the end of this annex illustrates the geographically-delineated hazard areas and the location of potential new development, where available.

Table 9.2-2. Recent and Expected Future Development

Type of Development	2014	2015	2016	2017	2018
Number of Building Permits for New Construction Issued Since the Previous HMP					
Single Family	0	2	0	1	1
Multi-Family	2	8	3	3	5
Other (commercial, mixed-use, etc.)	0	1	0	1	3
Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development and Mitigation if located in Hazard Zone**
Recent Major Development and Infrastructure from 2015 to Present					
Storage Center	commercial	1	11 Franklin	n/a	building
Hospital/Clara	Addition pediatrics and ER	1	1 Franklin Ave	n/a	building
Empire Medical	doc offices		69 Academy	n/a	building
520 Belleville	apts/retail	215	520 Belleville	n/a	building
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Sound Development	mixed use/comm	56 units & retail	548-568 Franklin Avenue	n/a	currently demo of site
Terry Lofts	multi fam	115	91 Terry Street	n/a	Approved by PB
630-666 Washington	mixed use/comm	215 units & retail	9101/9	n/a	approved by PB
Bridge Development	warehouse	1	675 Main St	n/a	Before PB 11/14/19
Phase II Senior Building	residential	24 units	608 Mill Street	n/a	permit in review
Wawa	store & gas station	1 store & gas pumps	11 Franklin Ave	n/a	Permits ready for pick up
Silver Lake Village	res. & retail	~200	81-179 Belmont	n/a	approved by PB

** Only location-specific hazard zones or vulnerabilities identified.*

PB = Planning Board

9.2.4 Capability Assessment

The Township of Belleville performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Information on National Flood Insurance Program (NFIP) compliance.
- Classification under various community mitigation programs.
- The community's adaptive capacity for the impacts of climate change.

Areas that mitigation is currently integrated are summarized in this section. The Township of Belleville identified specific integration activities that will be incorporated into municipal procedures in the updated mitigation strategy. Refer to Appendix X for the results of the planning/policy document review and the answers to integration survey questions.

Planning, Legal and Regulatory Capability

The table below summarizes the legal and regulatory tools that are available to the Township of Belleville and where hazard mitigation has been integrated.

Table 9.2-3. Planning, Legal and Regulatory Capability

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Codes, Ordinances, & Requirements					
Building Code	Yes	Local	Yes	Yes	-
Comment: *State mandated on local level under NJAC 5:23-3.14. International Building Code – New Jersey Edition, 2018, NJAC 5:24-3.14 Adopted 9/3/2019. Chapter 12 (9/14/10) of the Township code. The Department of Planning and Development enforces the Building Code. In Chapter 12, Section 11 of the code, it states that certificates identifying flood hazard areas be provided upon request for various properties in the Township. The Engineering Department is responsible for providing the certificates.*					
Zoning Code	Yes	Local	Yes	Yes	-
Comment: *Per State of NJ Municipal Land Use Law (MLUL) L. 1975, s. 2, eff Aug 1, 1976, 40-55D-62: 49. Power to zone, requires all jurisdictions to have current zoning and other land development ordinances after the planning board has adopted the land use element and master plan. Chapter 23 (6/12/07) of the Township code. The Board of Adjustment Governing Body enforces the Zoning Code. In Section 8.12 of the code, it states that exterior basement windows and doors must be at least 12 inches above the adjacent ground level to prevent flood water, melting snow, etc. from entering the basement. The Township prohibits multi-family residences, townhouses, and garden apartments within 100-year floodplains (Section 18.6).*					
Subdivisions	Yes	Local	Yes	No	No
Comment: *Chapter 18 (4/27/76) of the Township code. Planning Board and Governing Body enforces the Subdivision Code. State mandated - P.L.1975, c.291 (C.40:55D-47): 40:55D-37. Grant of power; referral of proposed ordinance; county planning board approval . Dictated by the Municipal Land Use Law. NJ Statute 40:27-6.2 The board of freeholders of any county having a county planning board shall provide for the review of all subdivisions of land within the county by said county planning board and for the approval of those subdivisions affecting county road or drainage facilities as set forth and limited hereinafter in this section.*					
Stormwater Management	Yes	Local	Yes	Yes	-
Comment: *Title 7 of the NJ Administrative Code (N.J.A.C. 7:8); Chapter 30, 5/8/2007 of the Township code; Planning Board enforces. The Township has identified minimum design and performance standards to control erosion, encourage and control infiltration and groundwater recharge, and control stormwater runoff quantity impacts of major development*					
Post-Disaster Recovery	No	-	-	-	-
Comment:					
Real Estate Disclosure	Yes	State – Division of Consumer Affairs	Yes	Yes	-
Comment: *N.J.A.C. 13:45A-29.1; Before signing a contract of sale, all purchasers must receive a New Jersey Public Offering Statement (POS) approved by the New Jersey Real Estate Commission. The POS provides information such as proximity to hospitals, schools, fire and police, as well as any hazards, risks or nuisances in or around the subdivision.*					
Growth Management	Yes	Local	Yes	Yes/No	Yes/No
Comment: *State mandated at local level; Chapter 18 Etseq, 4/27/1976 of the Township code; enforced by Planning Board and Governing Body*					

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Shoreline Development	No	-	Yes	-	-
Comment: *NJ Coastal Area Facility Review Act (N.J.S.A. 13:19) or CAFRA regulates almost all development along the coast for activities including construction, relocation, and enlargement of buildings or structures, and excavation, grading, shore protection structures, and site preparation. This law is implemented through NJ's Coastal Zone Management Rules N.J.A.C. 7:7E-1 et seq.*					
Site Plan Review	Yes	Local	Yes/No	Yes	-
Comment: *Chapter 20, 4/27/1976, Updated 4/10/1991; enforced by the Planning Board. Site plans must be designed in accordance to the standards set forth in Section 1.6 of the code. This includes drainage of surface runoff in and from the development so that flooding and erosion of the property and surrounding properties is prevented.*					
Environmental Protection	Yes	Local	Yes	No	No
Comment: *The rules that are utilized by the NJDEP and other environmental agencies are codified at Title 7 of the NJ Municipal Administrative Code. Chapter 15 (Air Pollution) which prohibits excessive emission of smoke, cinders, soot, fly ash, gases, fumes, vapors, odors, dust, and other contaminants. The code also establishes standards governing the installation, maintenance, and operation of equipment and appurtenances relating to combustion which is a source of potential source of air pollution. The Township Health Officer enforces this code.* *Chapter 34 (Trees) – the purpose of this code is for the preservation, protection and planting of trees aids in the stabilization of soil by the prevention of erosion and sedimentation; reduces stormwater runoff and the potential damage it may create; aids in the removal of pollutants from the air and assists in the generation of oxygen; provides a buffer and screen against noise and pollution; provides protection against severe weather; aids in the control of drainage and restoration of denuded soil subsequent to construction or grading; provides a haven for birds and other wildlife and otherwise enhances the environment; protects and increases property values; conserves and enhances the Township's physical and aesthetic appearance; and generally protects the public health and safety, as well as the general welfare.*					
Flood Damage Prevention	Yes	Local	Yes	Yes	-
Comment*: Chapter 22, 9/11/1979, Updated 5/22/2007; enforced by the Township Engineer. The code requires a development permit if construction will be in the floodplain. All new construction and substantial improvements must be constructed with materials and utility equipment resistant to flood damage and must be constructed using methods and practices that minimize flood damage.*					
Wellhead Protection	No	-	-	-	-
Comment:					
Emergency Management	No	-	-	-	-
Comment:					
Climate Change	No	-	-	-	-
Comment:					
Disaster Recovery Ordinance	No	-	-	-	-
Comment:					
Disaster Reconstruction Ordinance	No	-	-	-	-
Comment:					
Other	No	-	-	-	-
Comment:					
Planning Documents					
Comprehensive / Master Plan	Yes	Local	Yes	Yes	-
Comment: *adopted 12/14/1995; updated 1/8/2009; updated and adopted by the Planning Board on January 10, 2019. During the next update of the master plan, the Township will review the current HMP to see where it can be integrated as appropriate.*					
Capital Improvement Plan	Yes	Local	Allowed	Yes	-

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Comment: *Per NJSA 40:55D-29 the governing body is authorized to direct the planning board to prepare a CIP with at least a six year planning horizon.*					
Disaster Debris Management Plan	Yes	Local	No	Yes	-
Comment: *DPW is mobilized to address disaster debris, then Township OEM files for FEMA re-imbursements*					
Floodplain or Watershed Plan	Local		No	Yes	-
Comment*: The Township has a Floodplain Administrator and utilizes FEMA mapping to manage the floodplain*					
Stormwater Management Plan	Yes	Local and State	Yes	Yes	-
Comment: *Per NJDEP Storm Water Management Rule (N.J.A.C. 7:8, et seq.). The Municipal Stormwater Regulation Program was developed in response to the U. S. Environmental Protection Agency's (USEPA) Phase II rules published in December 1999. The Department issued final stormwater rules on February 2, 2004 and four (4) NJPDES general permits authorizing stormwater discharges from Tier A and Tier B municipalities, as well as public complexes, and highway agencies that discharge stormwater from municipal separate storm sewers (MS4s).*					
Stormwater Pollution Prevention Plan	Yes	Local and State	Yes	Yes	Yes
Comment: *Chapter 29 – provides requirements to: control littering in the Township; prohibit the spilling, dumping, or disposal of materials (other than stormwater) to the municipal separate storm sewer system; establish a yard waste collection and disposal program; requirements for proper handling of yard waste; requirements for the proposal disposal of pet solid waste; prohibit the feeding of unconfined wildlife in any public park or township property; and prohibit illicit connections to the municipal separate storm sewer systems. The Police Department and other municipal officials enforce this chapter of the municipal code.*					
Urban Water Management Plan	No		No	No	-
Comment:					
Habitat Conservation Plan	No		No	No	-
Comment:					
Economic Development Plan	Yes	Local	No	Yes	-
Comment*: The Township has a Redevelopment Committee which has approved or is in the process of approving several redevelopment projects which will economically benefit the Township and spur further development.*					
Shoreline Management Plan	No		No	No	-
Comment:					
Community Wildfire Protection Plan	No		No	No	-
Comment:					
Community Forest Management Plan	No		No	No	
Comment:					
Transportation Plan	No		No	No	-
Comment:					
Agriculture Plan	No		No	No	-
Comment:					
Climate Action Plan	No		No	No	-
Comment:					
Tourism Plan	No		No	No	-

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Comment:					
Business Development Plan	No		No	No	-
Comment:					
Other	No		No	No	-
Comment:					
Response/Recovery Planning					
Comprehensive Emergency Management Plan (CEMP) / Emergency Operations Plan (EOP)	Yes	Local	Yes	No	No
Comment: *Per the NJ Civilian Defense and Disaster Control Act (App.A:9_43.2) Counties and municipalities must have written Emergency Operations Plans to be reviewed every 2 years. The Township's EOP was updated on February 26, 2013.*					
Threat & Hazard Identification & Risk Assessment (THIRA)	No				
Comment:					
Post-Disaster Recovery Plan	Yes	Local	No	No	No
Comment: *EOP - 2/26/2013*					
Continuity of Operations Plan	Yes	Local	Yes	No	No
Comment: *Part of the Township's EOP*					
Public Health Plan	Yes	Local	Yes	No	No
Comment: *The Township has a full time Health Department that follows all NJ Department of Health guidelines.*					
Other	No		No	No	No
Comment:					

Table 9.2-4. Development and Permitting Capability

Criterion	Response
Does your jurisdiction issue development permits?	Yes
- If no, who does? If yes, which department?	Construction Code
Does your jurisdiction have the ability to track permits by hazard area?	Yes – the Township utilizes the flood maps to do this
Does your jurisdiction have a buildable lands inventory? -If yes, please describe briefly. -If no, please quantitatively describe the level of buildout in the jurisdiction.	Yes; however, the Township is fully developed and a majority of the development going on is re-development of existing properties

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Township of Belleville.

Table 9.2-5. Administrative and Technical Capabilities

Staff/Personnel Resource	Available?	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Belleville Township Planning Board
Mitigation Planning Committee	No	
Environmental Board / Commission	No	
Open Space Board / Committee	No	
Economic Development Commission / Committee	No	
Warning Systems / Services (reverse 911, outdoor warning signals)	Yes	Reverse 911 (Nixle), social media (Facebook and Twitter), municipal website
Maintenance program to reduce risk	Yes	Tree trimming, reducing flood risk (clearing debris), etc.
Mutual aid agreements	Yes	all surrounding communities, Essex County and UASI; the Township continues to create, enhance, and maintain mutual aid agreements for continuity of operations
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Engineering Department
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering Department
Planners or engineers with an understanding of natural hazards	Yes	Engineering Department
Staff with training in benefit/cost analysis	No	
Staff with training in green infrastructure	Yes	Engineering Department
Staff with education/knowledge/training in low impact development	Yes	Engineering Department
Surveyors	Yes	Engineering Department
Stormwater engineer	Yes	Engineering Department
Personnel skilled or trained in GIS applications	Yes	Engineering Department
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Fire Department
Grant writers	Yes	Township Manager's office
Resilience Officer	No	
Watershed planner	No	
Environmental specialist	Yes	Engineering Department
Other	No	

FISCAL CAPABILITY

The table below summarizes financial resources available to the Township of Belleville.

Table 9.2-6. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes – Engineering Department
Capital Improvements Project Funding	Yes – Engineering Department
Authority to Levy Taxes for Specific Purposes	Yes – Tax Assessor
User Fees for Water, Sewer, Gas or Electric Service	Yes – Engineering Department
Incur Debt through General Obligation Bonds	Yes – Mayor/Council
Incur Debt through Special Tax Bonds	Yes – Mayor/Council
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	Yes – Engineering Department
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes- Building Department & Redevelopment Committee
Clean Water Act 319 Grants (Nonpoint Source Pollution)	No
Other	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Township of Belleville.

Table 9.2-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes - police department has one but only speak on behalf of police matters; fire department does as well but only on fire matters; Township Manager for township-related information
Do you have personnel skilled or trained in website development?	Contracted consultant
Do you have hazard mitigation information available on your website? ▪ If yes, briefly describe.	Yes – the Township provides information on flooding in the municipality including voluntary evacuation notices to areas floodprone, information on what to do if weather forecasts predict flooding, and how to prepare for an upcoming storm
Do you use social media for hazard mitigation education and outreach? ▪ If yes, briefly describe.	Yes – Facebook and Twitter – the Township provides notices, news, events, and emergency information on their social media accounts.
Do you have any citizen boards or commissions that address issues related to hazard mitigation? ▪ If yes, briefly describe.	No
Do you have any other programs already in place that could be used to communicate hazard-related information? ▪ If yes, briefly describe.	Yes – Township newsletter and tax bills can be used to include hazard-related information
Do you have any established warning systems for hazard events? ▪ If yes, briefly describe.	Yes - Reverse 911 (Nixle), social media (Facebook and Twitter), municipal website

Community Classifications

The table below summarizes the classifications for community programs available to the Township of Belleville.

Table 9.2-8. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (Fire ISO Protection Class)	Yes	4; starting the process	2012

Program	Participating?	Classification	Date Classified
		(August 2019) to get a better classification	
Storm Ready Certification	No	-	-
Firewise Community Classification	No	-	-

ADAPTIVE CAPACITY

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current ability to adjust to, protect from, or withstand a hazard event. This term is often discussed in reference to climate change; however, adaptive capacity also includes an understanding of local capacity for adapting to current and future risks and changing conditions. The table below summarizes the adaptive capacity for each hazard and the jurisdiction's rating.

- Does the municipality have access to resources to determine the possible impacts of climate change upon the municipality? No
- Is the administrative supportive of integrating climate change in policies or actions? Yes
- Is climate change already being integrated into current policies/plans or actions (projects/monitoring) within the municipality? No

Table 9.2-9. Adaptive Capacity of Climate Change

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low
Coastal Erosion and Sea Level Rise	Medium
Coastal Storm (Hurricane, Tropical Storm, Nor'Easter)	Medium
Drought	Medium
Earthquake	Low
Extreme Temperature	High
Flood	High
Geological hazards (landslide, subsidence, sinkholes)	Low
Severe Weather	High
Severe Winter Weather	High
Wildfire	Medium
Civil Disorder	Medium
Cyber Attack	Medium
Disease Outbreak (West Nile Virus, Eastern Equine Encephalitis, St. Louis Encephalitis, La Crosse Encephalitis, Lyme Disease, Influenza, Ebola Virus)	Medium
Economic Collapse (new)	Low
Hazardous Substances	High
Utility Interruption	High
Terrorism	Medium
Transportation Failure (vehicular accidents, aviation accidents, railway failures and accidents, roadway and bridge failures)	Medium

Notes:

High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement;

Low = Capacity does not exist or could use substantial improvement; Unsure = Not enough information is known to assign a rating.

National Flood Insurance Program

This section provides specific information on the management and regulation of the regulatory floodplain.

Table 9.2-10. National Flood Insurance Program Compliance

Criterion	Response
What local department is responsible for floodplain management?	Construction Code and Engineering
Who is your floodplain administrator? (name, department/position)	Construction Code Official
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	Insert appropriate information
Does your floodplain management program meet or exceed minimum requirements? ▪ If exceeds, in what ways?	Meets the minimum requirement
When was the most recent Community Assistance Visit or Community Assistance Contact?	The most recent CAC was conducted on 6/11/2018.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? ▪ If so, state what they are.	No
Are any RiskMAP projects currently underway in your jurisdiction? ▪ If so, state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? ▪ If no, state why.	Yes - the most recent maps are accurate
Does your floodplain management staff need any assistance or training to support its floodplain management program?	Yes - training and assistance is always welcome
▪ If so, what type of assistance/training is needed?	Any type of flood-related training
Does your jurisdiction participate in the Community Rating System (CRS)? ▪ If yes, is your jurisdiction interested in improving its CRS Classification? ▪ If no, is your jurisdiction interested in joining the CRS program?	No
How many flood insurance policies are in force in your jurisdiction?* • What is the insurance in force? • What is the premium in force?	374 $48,955,000 $273,504
How many total loss claims have been filed in your jurisdiction?* • How many claims are still open or were closed without payment? • What were the total payments for losses?	182 22 closed without payment (as of 9/30/18) $6,932,839
Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation?	No – property owners have not approached the Township with regards to mitigating their properties

**According to FEMA statistics as of July 31, 2019*

Additional Areas of Existing Integration

- The Township maintains the sanitary sewer system by clearing snags and debris.
- The municipal website provides information on road closures, news and events, and other official notices.
- Areas along Rutgers Avenue and Belleville Avenue have steep slopes. The Township requires retaining walls be installed as development occurs.
- Fire Protection Upgrades - The Township is constantly upgrading water mains, hydrants, and valves. However, the Township would like to complete an asset management plan to get an understanding of what upgrades work, what does not work, and what needs to be upgraded.

9.2.5 Hazard Event History Specific to the Jurisdiction

Essex County has a history of hazard events, as detailed in Section 4 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles in Section 4.3 (Hazard Profiles) and includes a chronology of events that affected Essex County and its jurisdictions. The Township of Belleville's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Essex County; refer to Appendix E (Risk Assessment Supplement). Table 9.2-11 provides details regarding municipal-specific loss and damages the Township experienced during hazard events from 2014 to 2019. Information provided in the table below is based on reference material or local sources.

Table 9.2-11. Hazard Event History

Date(s) of Event	Event Type (disaster declaration if applicable)	Essex County Designated?	Summary of Event	Summary of Local Damages and Losses
January 22-23, 2016	Winter Storm FEMA-DR-4264	Yes	Low pressure moving across the deep South on Thursday January 21st and Friday January 22nd intensified and moved off the Mid Atlantic coast on Saturday January 23rd, bringing heavy snow and strong winds to northeast New Jersey, and blizzard conditions to the urban corridor and some nearby areas. Governor Chris Christie declared a state of emergency for New Jersey on Friday January 22nd. New Jersey Transit stopped running trains, buses and light rail at 2 AM Saturday January 23rd. Bridges and tunnels from New York City into New Jersey were shut down by mid-afternoon Saturday. At Newark Airport, the storm total snowfall was 24.5 inches, where winds gusted to 39 mph. Newark Airport ASOS observations showed blizzard conditions, with visibility less than one quarter mile in heavy snow and frequent wind gusts over 35 mph through the day and into the early evening on Saturday January 23rd.	$100,300
July 14, 2016	Thunderstorm / Wind	N/A	An approaching trough of low pressure triggered a line of strong to severe storms that moved across Northeast New Jersey. A tree fell down on a house along Mohawk Drive about 1 mile northeast of Livingston. $5K in property damages were reported. A large tree snapped and landed on a car on Maple Street just east of West Orange. $7.5K in property damages were reported. A large tree snapped and fell on a fence between West Orange and Glen Ridge. $2K in property damages were reported. A tree fell on a car along Branch Brook Drive just west of Belleville. $6K in property damages were reported.	$18,800

Date(s) of Event	Event Type (disaster declaration if applicable)	Essex County Designated?	Summary of Event	Summary of Local Damages and Losses
July 3, 2018	Thunderstorm / Wind	N/A	A pre-frontal trough ahead of an approaching cold front triggered strong to severe thunderstorms across the region. A tree on car with people trapped inside at the intersection of Main Street and Rutgers Street in Belleville. $5K in property damages were reported. A tree fell down on a car at the intersection of Orange Street and 4th Street in Roseville. $5K in property damages were reported.	$20,000

:

9.2.6 Jurisdiction-Specific Vulnerabilities and Hazard Ranking

The hazard profiles in Section 4 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Table 9.2-12 summarizes the Township of Belleville's risk assessment results and data used to determine the hazard ranking.

A gradient of certainty was developed to summarize the confidence level regarding the input used to populate the hazard ranking. A certainty factor of high, medium or low was selected and assigned to each hazard to provide a level of transparency and create increased understanding of the data used to support the resulting ranking. The following scale was used to assign a certainty factor to each hazard:

- High—Defined scenario/event to evaluate; probability calculated; evidenced-based/quantitative assessment to estimate potential impacts through hazard modeling.
- Moderate—Defined scenario/event or only a hazard area to evaluate; estimated probability; combination of quantitative (exposure analysis, no hazard modeling) and qualitative data to estimate potential impacts.
- Low—Scenario or hazard area is undefined; there is a degree of uncertainty regarding event probability; majority of potential impacts are qualitative.

Table 9.2-12. Summary of Risk Assessment Results

Hazard of Concern	Hazard/ Scenario(s) Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
Coastal Erosion and Sea Level Rise	Coastal Erosion Hazard Area (CEHA): Sea Level Rise: NOAA +1ft and +3ft rise	CEHA:	0	CEHA:	0	CEHA:	$0	High
		SLR +1ft:	0	SLR +1ft:	0	SLR +1ft:	$0	
		SLR +3ft:	0	SLR +3ft:	0	SLR +3ft:	$0	
Coastal Storm	100- and 500- MRP Hurricane Wind Category 1 through Category 4 SLOSH	Category 1:	92	Category 1:	19	100-year Wind Loss:	$3,381,110	High
		Category 2:	951	Category 2:	197			
		Category 3:	2,229	Category 3:	462	500-year Wind Loss:	$16,934,187	
		Category 4:	2,595	Category 4:	533			
Drought	Drought event	Majority of the County is serviced by water suppliers with surface water sources.		Droughts are not expected to cause direct damage to buildings.		Losses would be limited, due to lack of major agricultural industry.		Low
Earthquake	100, 500-, 2,500-Year Mean Return Period Event	NEHRP D&E:	2,368	NEHRP D&E:	504	100-year Loss:	$0	High
		Liquefaction Class 4:	179	Liquefaction Class 4:	37	500-year Loss:	$4,616,521	
						2,500-year Loss:	$71,094,612	
Extreme Temperature	Extreme temperature event (heat or cold)	Over 65 Population:	4,600	Physical impacts due to extreme temperatures would be limited.		Loss of business function is possible due to unexpected repairs (i.e. pipes bursting) or Utility interruptions.		Low
		Population Below Poverty Level:	3,515					
Flood	100- and 500-Year Mean Return Period Event	100-year	716	100-year	152	100-year Loss:	$269,142,437	High
		500-year	1,606	500-year	545			
Geological	High Landslide Susceptibility Areas	Class A:	0	Class A:	0	Class A:	0	Moderate
		Class B:	5	Class B:	1	Class B:	$359,884	
Severe Weather	Severe Weather Event	Entire population exposed; The degree of impact to the population depends on the scale of the incident.		Entire building stock is exposed; The degree of impact depends on the scale of the incident.		Economic losses could be similar to those of the coastal storm (wind and surge) and flooding hazards.		Low

Hazard of Concern	Hazard/ Scenario(s) Evaluated	Population	Buildings	Economy (Loss)	Certainty Factor
Severe Winter Weather	Severe Winter Weather Event	Entire population exposed; The degree of impact to the population depends on the scale of the incident.	Entire building stock is exposed; The degree of impact depends on the scale of the incident.	The cost of snow and ice removal and repair of roads can impact local operating budgets.	Low
Wildfire	Wildfire Fuel Hazard areas (High, Very High, Extreme)	Wildfire: 0	Wildfire: 0	Wildfire: $0	Moderate
Civil Disorder	Civil disorder event	Population in the immediate vicinity will be impacted.	Buildings in the immediate vicinity will be most impacted.	Economic assets in the immediate vicinity will be most impacted.	Low
Cyber Attack	Cyber-attack event	The degree of impact to the population depends on the scale of the incident.	Damages due to a cyber attack may be limited.	The degree of damages depends on the scale of the incident. Loss of utilities/communication would have widespread economic impacts.	Low
Disease Outbreak	An outbreak of one of the diseases evaluated	Entire population exposed; The degree of impact to the population depends on the scale of the incident	Disease outbreak would not have a direct impact on buildings.	Impacts to food supply and water supply; Costs of activities and programs implemented to address outbreaks and prevent spread.	Low
Economic Collapse	Recessions, Depressions, Interruption of normal economic conditions	The degree of impact to the population depends on the scale of the incident.	Damages due to economic collapse may be limited; property owners that cannot afford to maintain the structure may become abandoned/rundown.	The degree of damages depends on the scale of the incident. Massive impacts due to loss of jobs, businesses, and tax revenue are possible.	Low
Hazardous Substances	Release of a hazardous substance whether fixed site or in-transit	Population impacted will depend on the type of material and scale of the incident. May include population within small radii of site.	The degree of damages to a building depends on the scale of the incident.	The degree of damages depends on the scale of the incident.	Low
Utility Interruption	Disruption of power caused by accident, sabotage, natural hazards, or equipment failure.	The degree of impact to the population depends on the scale of the incident.	The degree of damages to buildings depends on the scale of the incident; Physical impacts to structures may occur if utilities are keeping critical functions online (i.e. sump pumps).	The degree of damages depends on the scale of the incident.	Low

Hazard of Concern	Hazard/ Scenario(s) Evaluated	Population	Buildings	Economy (Loss)	Certainty Factor
Terrorism	Terrorist Attack in the County	The degree of impact to the population depends on the scale of the incident; Population in the immediate vicinity will be impacted.	The degree of damages to buildings depends on the scale of the incident; Buildings in the immediate vicinity will be most impacted.	The degree of damages depends on the scale of the incident.	Low
Transportation Failure	One accident on any of the following: Roadway/vehicular, Aviation, Rail	The degree of impact to the population depends on the scale of the incident; Population in the immediate vicinity will be impacted.	The degree of damages to asset depends on the scale of the incident; Assets in the immediate vicinity will be most impacted.	The degree of damages depends on the scale of the incident; Assets in the immediate vicinity will be most impacted.	Low

Repetitive Flood Losses

The following summarizes the repetitive and severe repetitive flood losses in the Township of Belleville.

- Number of repetitive loss (RL) properties: 32
- Number of severe repetitive loss (SRL) properties: 6
- Number of RL/SRL properties that have been mitigated : 0

Note: RL and SRL as of 03/31/2019

Critical Facilities and Lifelines

The table below identifies critical facilities and lifelines located in the 1-percent and 0.2-percent annual chance floodplains and presents a mitigation action, if appropriate.

Table 9.2-13. Potential Flood Losses to Critical Facilities and Lifelines

Name	Type	Exposure		Status of Mitigation
		1% Event	0.2% Event	
Food Basics*	Commercial	X	X	Proposed mitigation action 2020-BELLEVILLE-001
Sahay Getty Station*	Transportation	X	X	Proposed mitigation action 2020-BELLEVILLE-002

**Identified lifeline*

Additional Identified Vulnerabilities

The jurisdiction has identified the following additional vulnerabilities within their community:

- The Fairway Avenue area and the Valley section of the Township are vulnerable to flooding during periods of heavy rain. This leads to flooding of roadways, homes, and businesses. A mitigation action has been identified to address this vulnerability and included in Table 9.2-16 as 2020-BELLEVILLE-003.
- Third River flows through the Township and floods the sanitary sewer system. The Township maintains the system by clearing snags and debris, but it has not alleviated the problem. A mitigation action has been identified to address this vulnerability and included in Table 9.2-16 as 2020-BELLEVILLE-005.

Hazard Area Extent and Location

Hazard area extent and location maps were generated for the Township of Belleville that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Township of Belleville has significant exposure. A map of the Township of Belleville hazard area extent and location is provided at the end of this annex. This map also displays the location of the regulatory floodplain, as well as identified critical facilities, lifelines, and RL/SRL properties within the municipality.

Hazard Ranking

This section includes the community-specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 4 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard; its potential impacts on people, property, and the economy; and community capability (adaptive capacity) and changing future climate

conditions. This input supports the mitigation action development to target those hazards with the highest level of concern.

As discussed in Section 4.4 (Hazard Ranking), each plan participant may have differing degrees of hazard risk exposure and vulnerability compared to Essex County as a whole. Therefore, each jurisdiction ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Township of Belleville. During the review of the calculated hazard ranking, the Township adjusted the calculated rankings to incorporate the perceived adaptive capacity of the community with respect to the relevant hazard and any other changes needed. The Township of Belleville has reviewed the Essex County hazard ranking table, as well as its individual results, to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard ranking, the Township indicated the following:

- Adjusted the calculated risk ranking for: Coastal Erosion and Sea Level Rise, Flood, Hazardous Substances, and Utility Interruption

Table 9.2-14. Township of Belleville Hazard Ranking

Coastal Erosion and Sea Level Rise	Coastal Storm	Drought	Earthquake	Extreme Temperature	Flood
Medium	Medium	Medium	Low	Medium	Medium

Geological Hazards	Severe Weather	Winter Storm	Wildfire	Civil Disorder	Cyber Attack
Low	High	High	Low	Low	Low

Disease Outbreak	Economic Collapse	Hazardous Substances	Utility Interruption	Terrorism	Transportation Failure
Low	Medium	Medium	Medium	Low	Low

9.2.7 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and provides action prioritization.

Past Mitigation Initiative Status

The following table summarizes the jurisdiction's progress on their mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and can also be found under 'Capability Assessment' presented previously in this annex.

Table 9.2-15. Status of Previous HMP Mitigation Actions

2015 Action Number	Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
				Check if Yes	Enter 2020 HMP Action #
Belleville-1	Belleville Township Fairway Avenue flood mitigation.	Engineering Department	No Progress - keep in the plan because every time there are heavy rains, it floods, the river and the golf course water flow to this area and flood homes; there is also a pump station that gets inundated and unable to function properly	X	2020-BELLEVILLE-003
Belleville-2	Belleville Township shelter generators.	Office of Emergency Management	Complete		
Belleville-3	Belleville Township fire headquarters generator.	Office of Emergency Management	Complete		
Belleville-4	Belleville Township Town Hall and Public Works generator.	Office of Emergency Management	Complete		
Belleville-5	Emergency services and emergency shelter generator	Engineering Department	Complete		
Belleville-6	Main Street flooding, entire length, Newark to Nutley borders	Engineering Department	In Progress - receive funding for this and meeting the NJEDA to do this; FEMA HMGP and EDA funds to complete project	X	2020-BELLEVILLE-004
Belleville-7	Flood Study of Third River to address problems with sanitary sewers during flood events. Funding has been applied for and pending award.	County, Belleville, Nutley, Bloomfield Engineering and OEM	Some work has been done; ongoing capability to clear snags, etc. but a full study has not been conducted	X	2020-BELLEVILLE-005
Belleville-9	Steep Slopes at Rutgers Ave. and Belleville Ave. – Private property owners are adding retaining walls as required for development.	Township of Belleville	Ongoing Capability		
Belleville-10	Fire Protection Upgrades – Water Main Upgrades; Hydrant and Valve Replacement.	Township of Belleville	Ongoing Capability - constantly upgrading when possible; would like to do an asset management plan to get an idea of what works, what doesn't, and what needs to be upgraded		
Belleville-11	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect structures from future damage, with repetitive loss and severe repetitive loss properties as a priority when applicable.	Township of Belleville NFIP FPA	Main Street and Fairway area are the only two areas that flood; once they complete the Main Street flood mitigation project -	X	2020-BELLVILLE-006, 2020-

2015 Action Number	Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update? Check if Yes	Include in the 2020 HMP Update? Enter 2020 HMP Action #
			full moon, high tides are the events that cause the most damage		BELLEVILLE-005
Belleville-12	Utilize the HMP to include hazard mitigation in the next Master Plan update.	Township of Belleville	Ongoing Capability		
Belleville-13	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance. This program may include: • Providing general natural hazard risk, preparedness and mitigation, and related NFIP information in regular newsletter and mailings. • Including natural hazard risk and risk reduction information through social media channels and email blast systems. • Posting of flyers and other readily available NFIP informational materials at Town/Village hall or distributing at regular civic meetings. • Preparation, distribution and analysis of public surveys. • Developing/maintaining a natural hazard risk management webpage on the municipal website where information and mapping can be posted. • Enhance public outreach to residents in NFIP floodplain areas to inform of annual grant opportunities, etc. which may include periodic articles and handouts in the annual newsletter.	Supervisor's Office	Ongoing Capability		
Belleville-14	Continue the existing tree maintenance program	Engineering and DPW; Working with contractors and utilities as needed	Ongoing Capability - tree maintenance done as needed; during road program, the township will remove trees that are ripping up curbing, sidewalk, etc. and plant new trees		
Belleville-15	Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	Township of Belleville	Ongoing Capability		

In addition to the above progress, the Township of Belleville did not identify any additional mitigation projects/activities that were completed but not identified in the 2015 HMP mitigation strategy.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Township of Belleville participated in a risk assessment workshop on September 19, 2019 in which detailed information was provided about assets exposed and vulnerable to the identified hazards of concern. The Township of Belleville participated in a mitigation action workshop on October 24, 2019 and was provided a Mitigation Toolbox that included a mitigation catalog developed specifically for Essex County and its hazards of concerns; challenges and opportunities identified during the capability and risk assessments; public input and the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 *Selecting Appropriate Mitigation Measures for Floodprone Structures* (March 2007) and FEMA *Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards* (January 2013). Section 6 (Mitigation Strategy) and Appendix H (Mitigation Strategy Supplement) provide a more complete description of the Mitigation Toolbox and its resources.

Table 9.2-16 summarizes the comprehensive-range of specific mitigation initiatives the Township of Belleville would like to pursue in the future to reduce the effects of hazards. Some of these initiatives might be previous actions carried forward for this HMP update. Initiatives are dependent upon available funding (grants and local match availability) and can be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four (4) FEMA mitigation action categories and the six (6) CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6 (Mitigation Strategy), 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing actions as *High*, *Medium*, or *Low*. Table 9.2-17 provides a summary of the prioritization of all proposed mitigation initiatives for this HMP update.

Table 9.2-18 presents a summary analysis of the identified mitigation action types identified across hazards of concern.

Table 9.2-16. Proposed Hazard Mitigation Initiatives

Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-BELLEVILLE-001	Critical facility – Food Basics	**Problem:** Food Basics, located at 414 Main Street in Belleville, is identified as a lifeline and located in the 1% and 0.2% annual chance flood area. This facility is at-risk to flood damages.	**Solution:** While the Township does not own this facility, it is identified as essential during a hazard event. The Township will notify the property owner/operator that their facility is located in the floodplain and provide mitigation options to protect the structure from future flood events and damages.	Existing	Flood	1, 2, 3, 6	Belleville Emergency Management	Municipal Budget	Increase knowledge of facility owners; provides outreach	<$5,000	Within 1 year	Medium	EAP	PI
2020-BELLEVILLE-002	Critical facility – Sahay Getty Station	**Problem:** Sahay Getty Station, located at 437 Main Street in Belleville, is identified as a lifeline and located in the 1% and 0.2% annual chance flood area. This facility is at-risk to flood damages.	**Solution:** While the Township does not own this facility, it is identified as essential during a hazard event. The Township will notify the property owner/operator that their facility is located in the floodplain and provide mitigation options to protect the structure from future flood events and damages.	Existing	Flood	1, 2, 3, 6	Belleville Emergency Management	Municipal Budget	Increase knowledge of facility owners; provides outreach	<$5,000	Within 1 year	Medium	EAP	PI
2020-BELLEVILLE-003 (previous action Belleville-1)	Fairway Avenue Study and Implementation	**Problem**: Areas along Fairway Avenue are prone to flooding during heavy rain events. The river and golf course water flow to this area and flood homes. There is also a pump station that		New	Flood, Severe Weather, Coastal Storm	1, 2, 6	Belleville Emergency Management, Floodplain Administrator	FEMA PDM for study; FEMA FMA for implementation	Identifies the cause of flooding and identities potential	$6.5M	3 to 5 years	High	SIP	PP

Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
		becomes inundated and cannot function properly.							solutions to alleviate flood damage					
			Solution: This will be a phased approach: Conduct a study of the area to determine why this area continues to flood. Educate residents that their property is identified as RL or SRL and provide them mitigation options Investigate pump station to determine if needs to be repaired for replaced.											
2020-BELLEVILLE-004 (previous action Belleville-6 and 11)	Main Street flooding, entire length, Newark to Nutley borders	**Problem:** The entire length of Main Street in the Township is prone to flooding. The Township has received funds from NJEDA; however, additional funding is needed to complete.	**Solution:** Installation of check valves on the Route 21 drainage outfalls.	Existing	Flood, Severe Weather, Coastal Storm	1, 2, 6	Engineering Department	FEMA HMGP and NJEDA	Identifies the cause of flooding and provides projects that can alleviate the flooding	$300,0000	Within 5 years	High	SIP	PP
2020-BELLEVILLE-005 (previous action Belleville-7 and 11)	Flood Study of Third River	**Problem:** Third River flows through the Township and floods the sanitary sewer system. While the Township maintains the system by clearing snags and debris, it has not alleviated the problem.	**Solution:** Conduct a study of Third River to determine the cause of flooding and identify actions to reduce or alleviate flooding associated with Third River in the Township.	Existing	Flood, Severe Weather, Coastal Storm	1, 2, 6	Engineering Department	FEMA PDM, Municipal Budget	Identifies the cause of flooding and provides projects that can alleviate the flooding	$100,000	Within 5 years	High	NSP, EAP	PP, NR
2020-BELLEVILLE-006	RL/SRL Properties in the Valley Section of Belleville Township	**Problem**: Frequent flooding events have resulted in damages in the Valley Section of the Township. This includes Little Street, Main Street, Roosevelt		Existing	Flood, Severe Weather	1, 2, 3	Emergency Management, Floodplain Administrator	Municipal budget for outreach, FEMA HMGP and FMA for mitigation	Eliminates flood damage to homes and residents,	<$5,000 for outreach; $5 million	Three years	High	SIP, EAP	PP, PI

Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
		Ave., Mill Street, Cortlandt St., and Davidson Ave. This area is residential and these properties have been repetitively flooded as documented by paid NFIP claims. If not mitigated, these structures will continue to be damaged by flood events.	**Solution:** Conduct outreach to 24 floodprone property owners, including RL/SRL properties, and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property owner information and develop a FEMA grant application and BCA to obtain funding to implement mitigation of residential homes in the Valley section of the Township.						creates open space	for mitigation				

Notes:

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
PDM	*Pre-Disaster Mitigation Grant Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses and preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and preserve or restore the functions of natural systems. Actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.*

Table 9.2-17. Summary of Prioritization of Actions

Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-BELLEVILLE-001	Critical facility – Food Basics	1	1	1	1	1	0	1	0	0	1	0	1	0	0	8	Medium
2020-BELLEVILLE-002	Critical facility – Sahay Getty Station	1	1	1	1	1	0	1	0	0	1	0	1	0	0	8	Medium
2020-BELLEVILLE-003 (previous action Belleville-1)	Fairway Avenue Study and Implementation	1	1	1	1	1	1	0	1	0	0	1	0	1	1	10	High
2020-BELLEVILLE-004 (previous action Belleville-6 and 11)	Main Street flooding, entire length, Newark to Nutley borders	1	1	1	1	1	0	0	1	1	1	1	1	1	0	11	High
2020-BELLEVILLE-005 (previous action Belleville-7 and 11)	Flood Study of Third River	1	1	1	1	1	0	0	1	1	1	1	1	1	0	11	High
2020-BELLEVILLE-006	RL/SRL Properties in the Valley Section of Belleville Township	1	1	1	1	1	1	0	1	0	0	1	0	1	1	10	High

Notes: Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions.
Low (0-4), Medium (5-8), High (9-14).

Table 9.2-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
Coastal Erosion and Sea Level Rise								
Coastal Storm		-004, -005	-005, -006	-005		-004, -006		
Drought								
Earthquake								
Extreme Temperature								
Flood			-001, -002			-003, -004		
Geological hazards								
Severe Weather						-004		
Severe Winter Weather								
Wildfire								
Civil Disorder								
Cyber Attack								
Disease Outbreak								
Economic Collapse								
Hazardous Substances								
Utility Interruption								
Terrorism								
Transportation Failure								

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

9.2.8 Staff and Local Stakeholder Involvement in Annex Development

The Township of Belleville followed the planning process described in Section 2 (Planning Process). This annex was developed over the course of several months with input from many jurisdiction representatives. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization. The following table summarizes who actively participated and in what capacity. In addition, several municipal representatives were asked to review and contribute to the draft annex as documented on the annex sign-off sheets in Appendix B (Participation Documentation). Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 2 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.2-19. Contributors to the Annex

Entity	Title	Method of Participation
Martin Lutz	Deputy Fire Chief, OEM Coordinator	Primary POC, reviewed annex, attended meetings, contributed to the mitigation strategy
Nick Breiner	Deputy OEM Coordinator	Steering Committee member, alternate POC, reviewed annex, attended meetings, contributed to the mitigation strategy

Figure 9.2-1. Township of Belleville Hazard Area Extent and Location Map

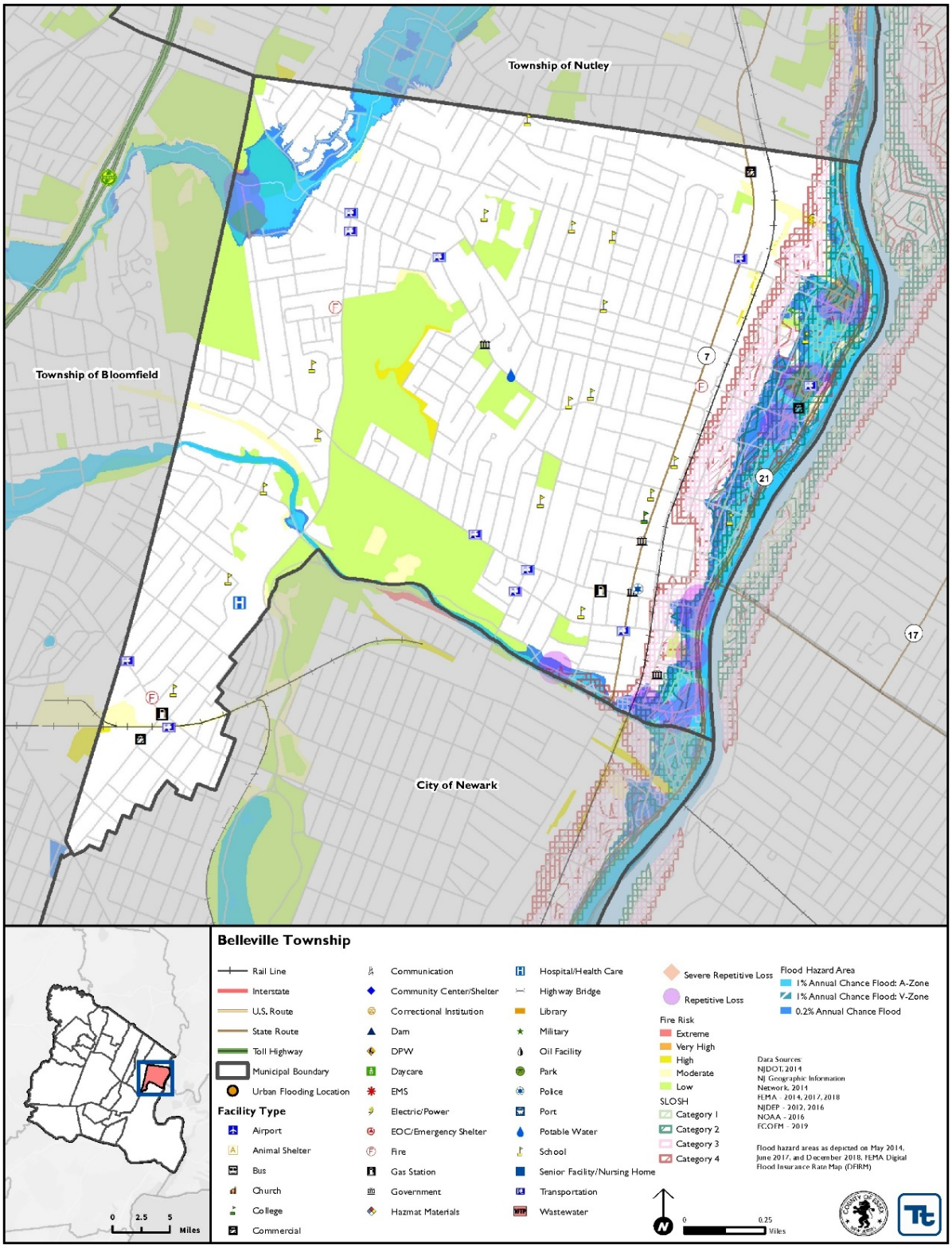
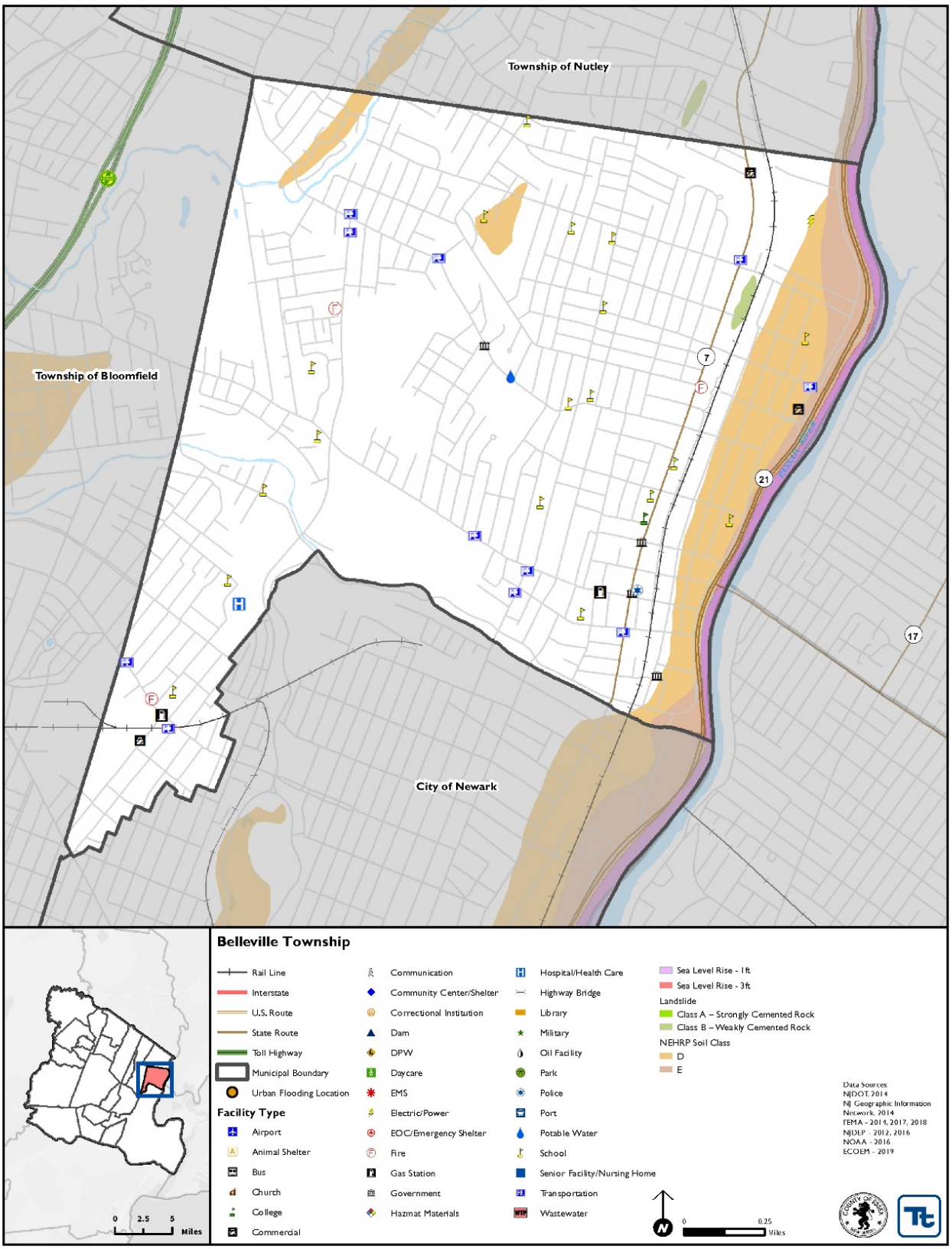


Figure 9.2-2. Township of Belleville Hazard Area Extent and Location Map 2



Action Worksheet			
Project Name:	Fairway Avenue Study and Implementation		
Project Number:	2020-BELLEVILLE-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather, Coastal Storm		
Description of the Problem:	Areas along Fairway Avenue are prone to flooding during heavy rain events. The river and golf course water flow to this area and flood homes. There is also a pump station that becomes inundated and cannot function properly.		
Action or Project Intended for Implementation			
Description of the Solution:	This will be a phased approach: 1. Conduct a study of the area to determine why this area continues to flood. 2. Educate residents that their property is identified as RL or SRL and provide them mitigation options 3. Investigate pump station to determine if needs to be repaired for replaced.		
Is this project related to a Critical Facility or Lifeline?	Yes ☐	No ☒	
Level of Protection:	1% annual chance flood event	**Estimated Benefits (losses avoided):**	Identifies the cause of flooding and identities potential solutions to alleviate flood damage
Useful Life:	50 years	**Goals Met:**	1, 2, 6
Estimated Cost:	$500,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of receiving funds
Estimated Time Required for Project Implementation:	3-5 years	**Potential Funding Sources:**	FEMA PDM for study; FEMA FMA for implementation
Responsible Organization:	Belleville Emergency Management, Floodplain Administrator	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Current problem continues
	Acquire all properties in this section of the Township	$6 million	Too costly, Township will lose tax base, homeowners and business owners might not want to move
	Regrade golf course	$10 million	While the golf course is one of the main issues of flooding, it is too costly and not a permanent solution for this problem

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Action Worksheet		
Project Name:	Fairway Avenue Study and Implementation	
Project Number:	2020-BELLEVILLE-003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Relocate residents for safety
Property Protection	1	Protect properties from floods
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	It is technically feasible
Political	1	There is political support for this project
Legal	1	Township has authority to conduct the study and work
Fiscal	0	Requires grant funding
Environmental	1	
Social	0	Project would require several homes to relocate
Administrative	0	
Multi-Hazard	1	Flood, Severe Weather, Coastal Storm
Timeline	0	To be completed within 5 years
Agency Champion	1	Homeowners and floodplain administrator support this project
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Main Street flooding, entire length, Newark to Nutley borders		
Project Number:	2020-BELLEVILLE-004		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather, Coastal Storm		
Description of the Problem:	The entire length of Main Street in the Township is prone to flooding. The Township has received funds from NJEDA; however, additional funding is needed to complete.		
Action or Project Intended for Implementation			
Description of the Solution:	Installation of check valves on the Route 21 drainage outfalls.		
Is this project related to a Critical Facility or Lifeline?	Yes ☐	No ☒	
Level of Protection:	1% annual chance flood event	**Estimated Benefits (losses avoided):**	Identifies the cause of flooding and provides projects that can alleviate the flooding
Useful Life:	50 years	**Goals Met:**	1, 2, 6
Estimated Cost:	$300,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of receiving funds
Estimated Time Required for Project Implementation:	Within 5 years	**Potential Funding Sources:**	FEMA HMGP and NJEDA
Responsible Organization:	Engineering Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Current problem continues
	Acquire all properties in this section of the Township	$6 million	Too costly, Township will lose tax base, homeowners and business owners might not want to move
	Elevate all structures	$10 million+	Too costly, might not be necessary to elevate all structures

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Action Worksheet		
Project Name:	Main Street flooding, entire length, Newark to Nutley borders	
Project Number:	2020-BELLEVILLE-004	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Increase safety of residents, reduce or eliminate those impacted by flood
Property Protection	1	Protect properties from floods
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	It is technically feasible
Political	1	There is political support for this project
Legal	1	
Fiscal	0	Requires funding
Environmental	1	
Social	0	
Administrative	0	
Multi-Hazard	1	Flood, Severe Weather, Coastal Storm
Timeline	0	To be completed within 5 years
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Flood Study of Third River		
Project Number:	2020-BELLEVILLE-005		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather, Coastal Storm		
Description of the Problem:	Third River flows through the Township and floods the sanitary sewer system. While the Township maintains the system by clearing snags and debris, it has not alleviated the problem.		
Action or Project Intended for Implementation			
Description of the Solution:	Conduct a study of Third River to determine the cause of flooding and identify actions to reduce or alleviate flooding associated with Third River in the Township.		
Is this project related to a Critical Facility or Lifeline?	Yes ☐	No ☒	
Level of Protection:	1% annual chance flood event	**Estimated Benefits (losses avoided):**	Identifies the cause of flooding and provides projects that can alleviate the flooding
Useful Life:	50 years	**Goals Met:**	1, 2, 6
Estimated Cost:	$100,000	**Mitigation Action Type:**	NSP, EAP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of receiving funds
Estimated Time Required for Project Implementation:	Within 5 years	**Potential Funding Sources:**	FEMA PDM, Municipal Budget
Responsible Organization:	Engineering	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Current problem continues
	Acquire all properties in this section of the Township	$6 million	Too costly, Township will lose tax base, homeowners and business owners might not want to move
	Elevate all structures	$10 million+	Too costly, might not be necessary to elevate all structures

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Action Worksheet		
Project Name:	Flood Study of Third River	
Project Number:	2020-BELLEVILLE-005	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Increase safety of residents, reduce or eliminate those impacted by flood
Property Protection	1	Protect properties from floods
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	It is technically feasible
Political	1	There is political support for this project
Legal	1	
Fiscal	0	Requires funding
Environmental	1	
Social	0	
Administrative	0	
Multi-Hazard	1	Flood, Severe Weather, Coastal Storm
Timeline	0	To be completed within 5 years
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	RL/SRL Properties in the Valley Section of Belleville Township		
Project Number:	2020-BELLEVILLE-006		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather		
Description of the Problem:	Frequent flooding events have resulted in damages in the Valley Section of the Township. This includes Little Street, Main Street, Roosevelt Ave., Mill Street, Cortlandt St., and Davidson Ave. This area is residential and these properties have been repetitively flooded as documented by paid NFIP claims. If not mitigated, these structures will continue to be damaged by flood events.		
Action or Project Intended for Implementation			
Description of the Solution:	Conduct outreach to 24 floodprone property owners, including RL/SRL properties, and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property owner information and develop a FEMA grant application and BCA to obtain funding to implement mitigation of residential homes in the Valley section of the Township.		
Is this project related to a Critical Facility or Lifeline?	Yes ☐	No ☒	
Level of Protection:	1% annual chance flood event + freeboard *(in accordance with the Township's flood ordinance)*	**Estimated Benefits (losses avoided):**	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.
Useful Life:	Acquisition: Lifetime Elevation: 30 years (residential)	**Goals Met:**	1, 2, 3
Estimated Cost:	<$5,000 for outreach; $5 million for mitigation	**Mitigation Action Type:**	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	6-12 months
Estimated Time Required for Project Implementation:	Three years	**Potential Funding Sources:**	Municipal budget for outreach, FEMA HMGP and FMA for mitigation
Responsible Organization:	Emergency Management, NFIP Floodplain Administrator, supported by homeowners	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Current problem continues
	Elevate homes	$4.2 million	When this area floods, the entire area is impacted; elevating homes would not eliminate the problem and still lead to road closures and impassable roads
	Elevate roads	$500,000	Elevated roadways would not protect the homes from flood damages

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Action Worksheet		
Project Name:	RL/SRL Properties in the Valley Section of Belleville Township	
Project Number:	2020-BELLEVILLE-006	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Families moved out of high-risk flood areas.
Property Protection	1	Properties removed from high-risk flood areas.
Cost-Effectiveness	1	Cost-effective project
Technical	1	Technically feasible project
Political	1	
Legal	1	The Town has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would remove families from the Valley Section area of Township
Administrative	0	
Multi-Hazard	1	Flood, Severe Storm
Timeline	0	
Agency Champion	1	NFIP Floodplain Administrator, supported by homeowners
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	