

*A RESOLUTION OF THE Governing Body OF THE TOWNSHIP OF NORTH BRUNSWICK  
AUTHORIZING THE ADOPTION OF THE MIDDLESEX COUNTY MULTI-JURISDICTIONAL ALL-  
HAZARDS MITIGATION PLAN*

*WHEREAS Middlesex County, NJ has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and*

*WHEREAS pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and*

*WHEREAS a Multi-jurisdictional All-Hazards Mitigation Plan has been developed by the County's Hazard Mitigation Steering Committee*

*WHEREAS the Hazard Mitigation Plan assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy including a prioritized list of mitigation actions including activities that, over time, will help minimize and reduce safety threats and damage to private and public property, and creates a plan for implementing, evaluating and revising this strategy;*

*NOW, THEREFORE, BE IT RESOLVED by the Township of North Brunswick:*

- 1. The Township of North Brunswick adopts in its entirety, the Middlesex County Multi-Jurisdictional All-Hazards Mitigation Plan (the "HMP") as the jurisdiction's official Hazard Mitigation Plan; minor revisions to the HMP recommended by the Federal Emergency Management Agency and/or the New Jersey Office of Emergency Management may be incorporated without further action.*
- 2. The Township of North Brunswick resolves to execute the actions identified in the HMP that pertain to this jurisdiction, and municipal departments identified in the HMP are directed to pursue implementation of the recommended high-priority activities that are assigned to them.*
- 3. The Township of North Brunswick will use the adopted and approved portions of the HMP to guide pre- and post-disaster mitigation of the hazards identified.*
- 4. The Township of North Brunswick will coordinate the strategies identified in the HMP with other planning programs and mechanisms under its jurisdictional authority.*
- 5. The Township of North Brunswick will continue its support of the Local Mitigation Planning Committee as described within the Plan.*
- 6. The Township of North Brunswick will help to promote and support the mitigation successes of all participants in this Plan.*
- 7. The Township of North Brunswick will incorporate mitigation planning as an integral component of government and partner operations.*
- 8. The Township of North Brunswick will provide an update of the Plan in conjunction with the County no less than every five years.*

*PASSED AND ADOPTED on this 13th day of December 2021, by the following vote:*

<b>COUNCIL MEMBER</b>	<b>YES</b>	<b>NO</b>	<b>ABSTAIN</b>	<b>NOTES</b>
MEHTA				
LOPEZ				
GUADAGNINO				
ANDREWS				
DAVIS				
SOCIO				
MAYOR WOMACK				

Signed:

\_\_\_\_\_ *Mayor, The Township of North Brunswick*

*ATTEST:* \_\_\_\_\_ *Clerk, The Township of North Brunswick*



## Appendix A-14: Township of North Brunswick

The Township of North Brunswick participated in the 2020/2021 Middlesex County Hazard Mitigation Plan (HMP) update. This appendix includes the locally-specific information about the Township. The following sections detail the planning process and participants; the current population, building stock, and land development trends; hazards that specific to the Township and corresponding risk assessments; the Township’s mitigation strategy, and a local capability assessment. Information and data that is uniform throughout the planning area is included in Sections 1-7 of this plan update

### 1. PLAN DEVELOPMENT

On July 29, 2020, the Township of North Brunswick returned a Letter of Intent to Participate in the Hazard Mitigation Plan, designating various municipal employees to sit on a Local Planning Committee, as listed below. The Local Planning Committee received municipal worksheets (included in Appendices C & E) and worked to gather the necessary information to support the plan update. Members of the LPC met with the Planning Consultant on December 2, 2020. The LPC reviewed all drafts of this appendix prior to adoption.

See section 2.2 in the main body of the Hazard Mitigation Plan for a description of the stakeholder engagement process and the list of members on the stakeholder engagement committee. Stakeholder input is summarized in section 4.2.3.

Table 1. Township of North Brunswick Local Planning Committee Members (2021)

Name	Title	Organization
Justine Progebin	Business Administrator	Township
Lisa Russo	Clerk	Township
Tom Paun	Construction Code Official	Township
Keith Chiaverallo	Engineering Consultant	CME Associates
Nick DeStefano	Health official	Middlesex County Health Department
Francis Womack	Mayor	Township
Mark Cafferty	OEM Coordinator	Township
Tom Vigna	Planner	Township
Eric Chaszar	Public Works	Township
Lou Ann Benson	Recreation Department	Township

### 2. COMMUNITY PROFILE

#### *Physical Location*

The Township of North Brunswick has a total area of 12.13 square miles and is located in the west-central region of Middlesex County, New Jersey. North Brunswick is bordered by New Brunswick to the north, East Brunswick and Milltown to the east, South Brunswick to the south and Franklin Township, Somerset County, to the west.

#### *Hydrography and Hydrology*

The Township of North Brunswick is located entirely in the Raritan River Basin. North Brunswick’s eastern boundary is defined by Westons Mill Pond and Farrington Lake. Both of which are fed by



Lawrence Brook and its tributaries. The northern portion of the Township drains into the Mile Run sub-watershed and stream. The western portion of this Township drains into Six Mile Run and its tributaries.

*History and Governance*

The Township of North Brunswick was formally incorporated on February 21, 1798 and was one of the earlier townships established in the State. The Township is governed under the Mayor-Council-Administrator form of government, and has an elected Mayor and six Council members, all elected at-large. The Mayor is elected directly to a four-year term of office. Town Council members are elected to serve three-year terms on a staggered basis, with two seats coming up for election every year. The Township Council holds monthly meetings open to the public where it discusses legislation under consideration.

**3. CLIMATE PROFILE**

**Table 2. Climate Change Interactions and Impacts Summary**

Primary Climate Change Interaction	Natural Hazard	Other Interactions	Potential Climate Change Impacts
Changes in Precipitation	Drought		Less rainfall can prompt droughts; both possess negative impacts on agricultural output.
	Flooding	Dam/Levee Failure	Increased rainfall will cause more floods that can overtop dams and break levees.
	Geologic	Power Failure	Increased rainfall can lead to soil saturation, which catalyzes landslides. Landslides can damage existing power and fuel infrastructure.
Extreme Temperature	Drought, Wildfire		Increased heat can kill trees and accumulate masses of flammable dry wood or brush. This can cause wildfires or brushfires to burn longer and with more intensity.
		Power Failure	Electricity use for air conditioning may strain power grids leading to outages.
Non-Climate Influenced Hazards	Earthquake	Power Failure	There are no established connections between climate change and the likelihood of this hazard.

**4. DEMOGRAPHICS**

*Population Trends*

According to the American Community Survey, the population in 2019 was 41,948. This is a 2.87% increase from 2010. The Township of North Brunswick has a population density of 3,458 persons per square mile. It is the 13th densest municipality within the County. A summary of major population and household characteristics may be found in the following tables.





**Table 3. Population Summary Estimates (2019 American Community Survey)**

Population	Quantity	Percent of Municipal Population
Total Population	41,948	100
Median Age	35.9	N/A
17 years and under	9,554	22.8
65 years and over	4,906	11.7
<b>Race</b>		
White	20,625	49.2
Black/African-American	8,301	19.8
Native American/Alaskan Native	158	0.4
Asian	10,341	24.7
Native Hawaiian/Pacific Islander	10	0
Other Race (unspecified)	1,714	4.1
Two or More Races	799	1.9
Hispanic or Latino	8,683	20.7

Population statistics may further reveal potential vulnerabilities in the community. The following table details the distribution of two groups included in vulnerable population analyses (children and the elderly) according to household description. Residents living alone, particularly the elderly, may have fewer coping mechanisms and resource than those in household groups, therefore may constitute a demographic that could require assistance in mitigating their vulnerability.

**Table 4 Household Characteristics Summary Estimates (2019 American Community Survey)**

Households	Quantity	Percent of Total
Total Households	14,009	100
Family Households (related)	10,407	74.3
Family Households w children under 18	5,363	38.3
Non-Family Households (unrelated)	3,602	25.7
Non-Family Households, living alone	2,932	20.9
Non-Family Households, living alone over 65 years	1,053	7.5

There is a mix of housing unit ownership in the Township with a little more than half (56%) occupied by owners while renter occupy about 44%. About half of the housing units (50.3%) were built prior to 1979 and so are over 40 years old.

**Table 5. Housing Characteristics Summary Estimates (2019 American Community Survey)**

Housing Characteristics	Estimate
Total Occupied Housing Units	14,009
Percent Owner-occupied	56.2
Percent Renter-occupied	43.8



Percent built after 2010	1.8
Percent built before 1979	50.3

*Vulnerable Populations*

Vulnerable populations include those groups that may require special assistance, considerations, accommodation or other needs during emergency events to facilitate their effective and safe compliance with emergency instructions. This includes, but is not limited to, those individuals needing mobility assistance (strollers, wheelchairs, etc.), those with financial needs (cannot afford hotel rooms, food, necessities, during evacuation periods, etc.), those requiring translation or interpretation services to understand emergency information (non-English-speaking populations, deaf and hard of hearing), persons considered legal minors, persons with cognitive impairments, persons with specialized medical needs (electric dependent equipment, refrigerated medications, use of personal assistants for routine and basic care, medical transportation needs, etc.), and populations with social disadvantages or other needs that may require unique considerations during emergency events. Identifiable vulnerable populations in North Brunswick include (but may not be limited to) the following:

Table 6. North Brunswick Social Vulnerability Profile

<b>High Overall Social Vulnerability Tracts</b>	<b>2</b>	
<b>Municipal Socioeconomic Status</b>	<b>High Vulnerability Tracts</b>	<b>1</b>
<b>Population Variable</b>	<b>Population Within Variable</b>	<b>% of Total Population</b>
Below Poverty	3,163	7.54%
Unemployed	1,415	3.37%
No High School Diploma	2,750	6.56%
<b>Municipal Household Composition &amp; Disability</b>	<b>High Vulnerability Tracts</b>	<b>0</b>
<b>Population Variable</b>	<b>Population Within Variable</b>	<b>% of Total Population</b>
Aged 65 or Over	4,906	11.70%
Aged 17 Or Younger	9,554	22.78%
Civilian with a Disability	3,120	7.44%
<b>Household Variables</b>	<b>Households Within Variable</b>	<b>% of Total Households</b>
Single-Parent Households	1,415	9.65%
Average Household Income:	\$38,552	
<b>Municipal Minority Status &amp; Language</b>	<b>High Vulnerability Tracts</b>	<b>1</b>
<b>Population Variable</b>	<b>Population Within Variable</b>	<b>% of Total Population</b>
Minority	27,572	65.73%
Black or African American	7,788	18.57%
AIAN	72	0.17%
Asian	10,281	24.51%
NHPI	10	0.02%



Other	88	0.21%
Two Or More Races	650	1.55%
Hispanic or Latino	8,683	20.70%
Speak English "Less than Well"	2,096	5.00%

Municipal Housing & Transportation		High Vulnerability Tracts	3
Household Variables		Households Within Variable	% of Total Households
Multi-Unit Structures		3,035	20.69%
Mobile Homes		388	2.64%
Crowding		627	4.27%
No Vehicle		716	4.88%
Population Variable		Population Within Variable	% of Total Population
Group Quarters		2,416	5.76%

Social vulnerability is presented in section 3.4.1 of the report. During our discussion, the individual municipalities referenced considerations for vulnerable populations. In North Brunswick, officials identified vulnerable populations as those that live in elderly housing, such as the Paul J. Maticera Senior Housing Complex.

*Recent and Expected Development*

According to the Township, North Brunswick is nearly built out. Other than the train station and transit village development that is just getting started, there are no other projects proposed for the Township. The only other large tract, an undeveloped area off of Route 1 and South Street across from Thomas Ave, is mostly wooded wetlands.

All new development projects are subject to floodplain regulations and stormwater management regulations.

**Table 7. Land Use Change and Projects Proposed**

Project Name	Type	Number of Structures	Location	Known Hazards	Description/Status
Train Station and Transit Village			Behind Costco and Target off Route 1 North		Train station development with mixed use -- commercial and residential

*Community Lifelines and Interconnections with Hazard Mitigation and Response*

In the main body of the HMP, Section 4.5 summarizes the reliance and relationships between municipalities and community lifelines with regard to specific hazards. Each of the seven lifelines (safety/security, food/water/shelter, health/medical, energy, communications, transportation, hazardous material) represent a critical area for response. This is the first year that the plan is using this lifeline





framework. As a result, each of the municipal entities may have some data deficiencies regarding the reporting about the presence of specific lifeline sub-components. NJOEM intends to further inventory and identify data sources that will assist communities in building out comprehensive lifeline and asset inventories.

Community lifeline risk assessments, because of their systematic view and reliance on regional collaboration, are recorded as part of the main planning document.

Commented [KL1]: Is this true?

In North Brunswick, there is a desire to continue to build better relationships with churches to provide food/water/shelter during floods. During the pandemic, the communications lifelines included many community meetings and the use of Channel 15 cable.

### 5. HAZARDS

Table 8. Hazard Assessment

Hazard	2015 Priority	2021 Priority	LPC Comments
Civil Unrest	<i>new in 2021</i>	Low	
Coastal Erosion	Low	no concern	not coastal
Dam/Levee Failure	Low*	Low	Farrington Lake Dam - recently repaired so should be low concern
Drought	Low	Low	
Earthquakes	Low	Low	
Extremely High Temperatures	Low	Low	Open cooling centers as needed
Extremely Low Temperatures	Low	Low	Township has agreements with New Brunswick City on <i>Code Blue</i> , to provide Twp personnel at, and use, NB City facilities (These agreements have not yet been renewed for 2021).
Floods (riverine, coastal, storm surge, tsunami, and stormwater flooding caused by local drainage and groundwater levels)	Low*	Low	Biggest risk is flooding in bordering towns
Geologic Hazards (landslides, subsidence, and sinkholes)	<i>not ranked</i>	Low	
Hazardous Materials (fixed sites, rails, and other transportation)	Medium	Medium	number of businesses handling hazardous materials decreased over years. Aware of potential concerns; think they are well managed
Hurricanes/Tropical Storms	Medium*	Medium	
Nor'easters	Medium	Medium	
Pandemic	<i>new in 2021</i>	Medium	Frequent communications. Good rapport with larger churches, food banks, etc.
Power Outages	Medium	Medium	Good relationship with PSEG

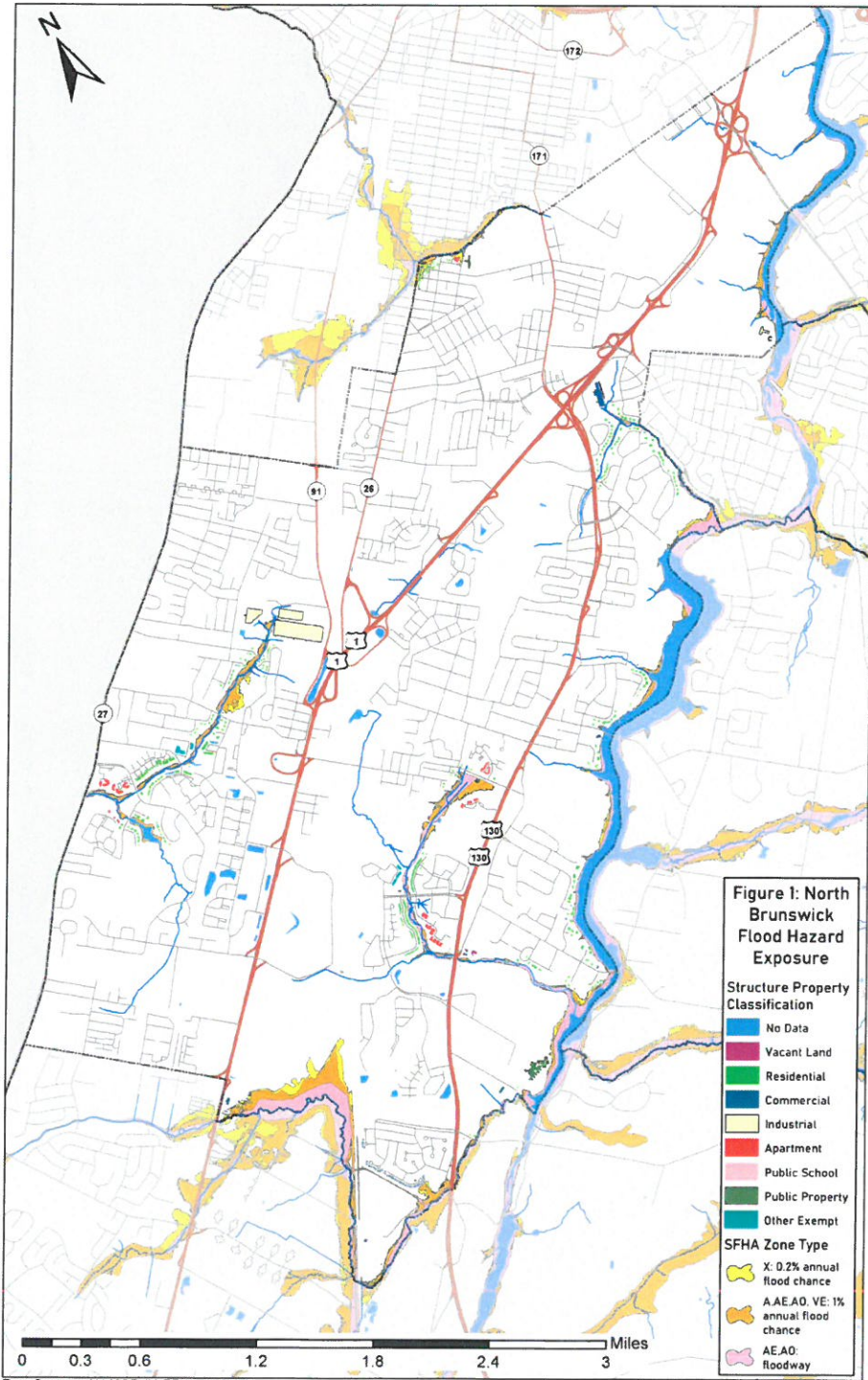


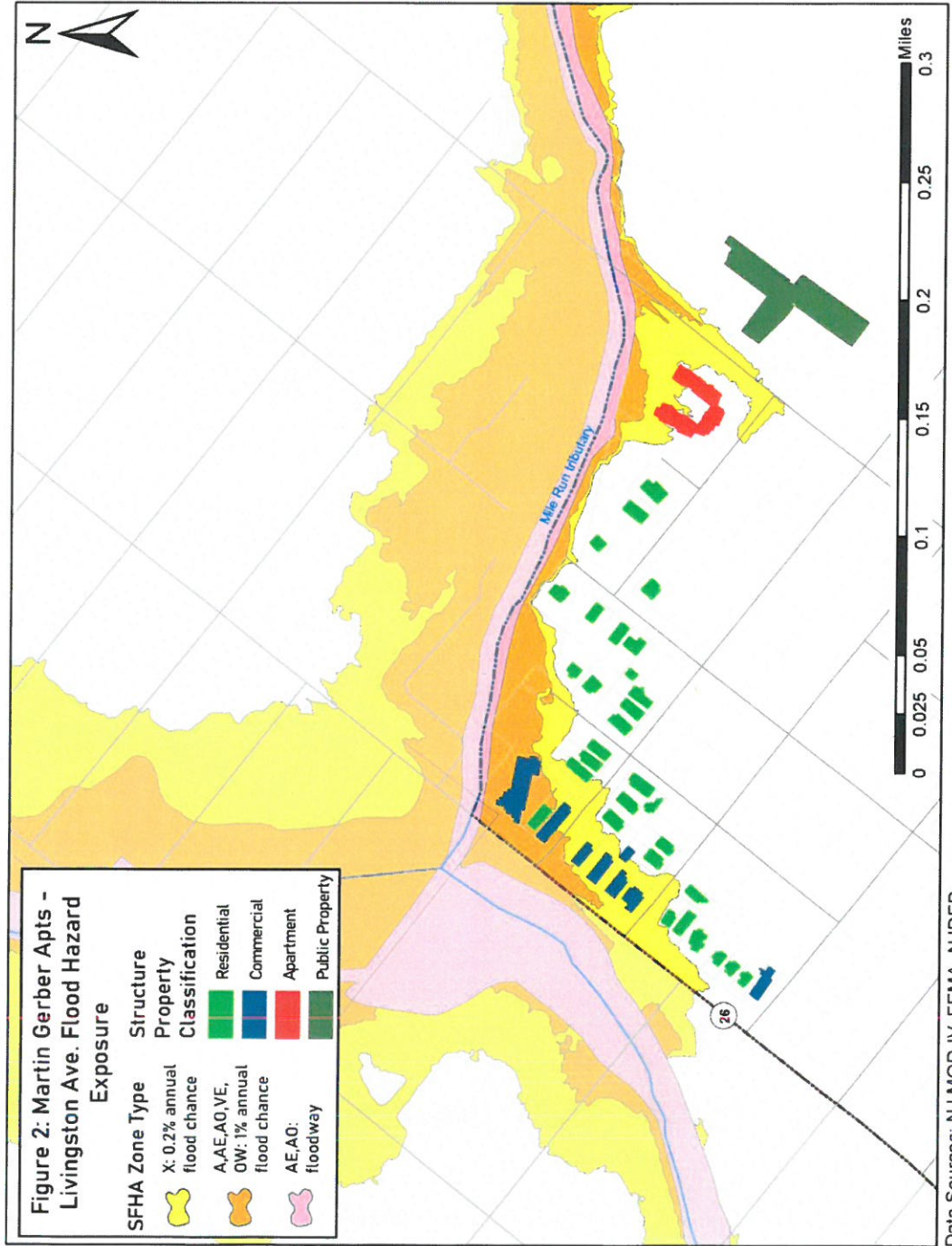


<b>Severe Weather</b> (high winds, tornadoes, and hail)	Medium	Medium	
<b>Wildfire</b>	Low	Low	
<b>Winter Storm</b> (snow, blizzards, and ice storms)	Medium	Medium	

Table 8 shows the community hazard rankings from 2015 and from 2021. As part of the development of the jurisdictional appendices for the 2015 plan, municipalities ranked the list of hazards as high, medium, low, or no concern. For the 2021 update, municipalities again considered and ranked the salience of the hazards. This time, municipalities selected the top three priority hazards, shown as “High” in the 2021 column of the table. (Note that two hazards, pandemic and civil unrest, were added to the 2021 list). For those hazards not ranked as the top three, the 2021 column carries through the same ranking as the 2015 column, unless there was a specific discussion about that hazard changing in severity in the five-year span. The specific hazards in the subsections below are based on these rankings.

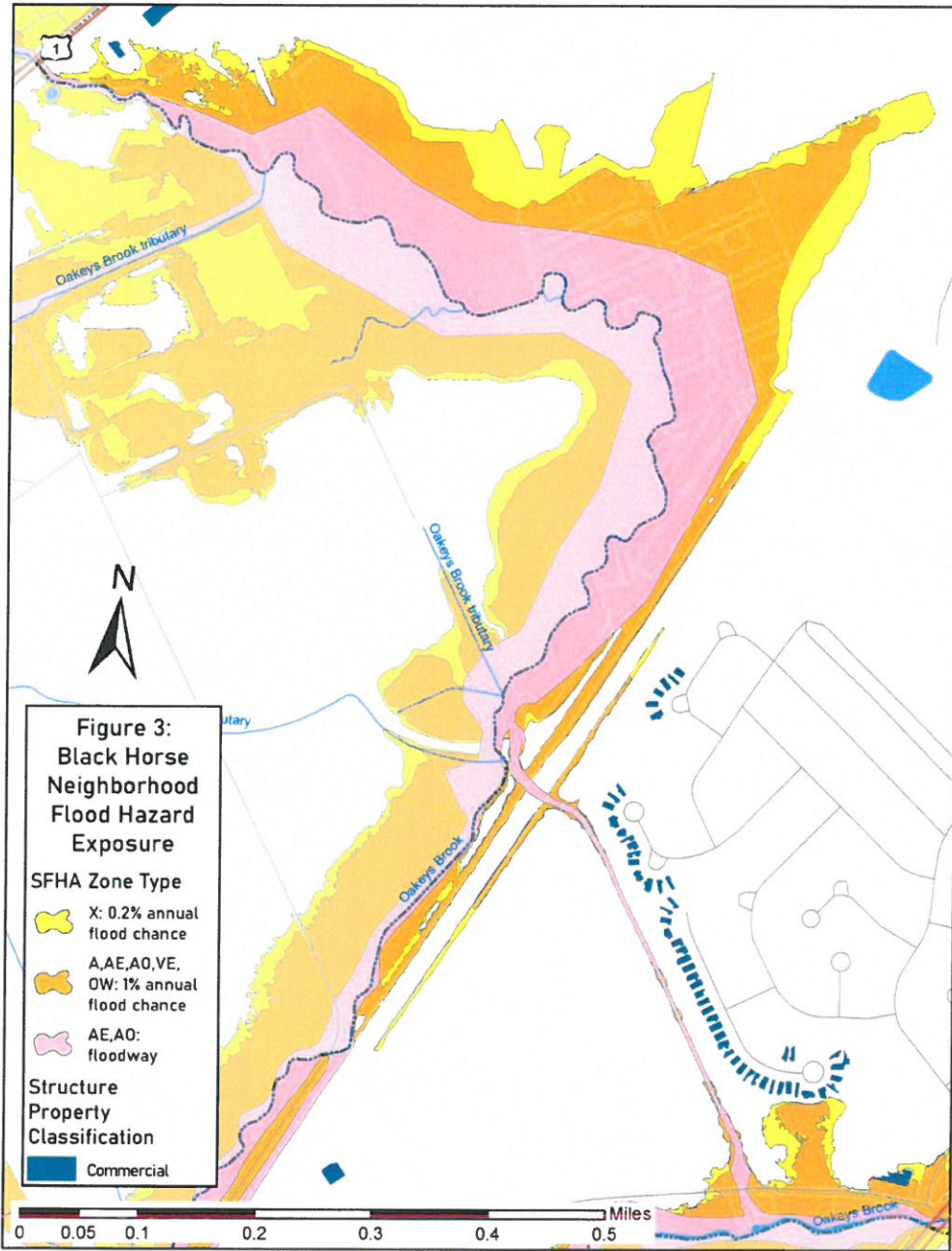
There were no changes in the hazard profile between 2015 and 2021.



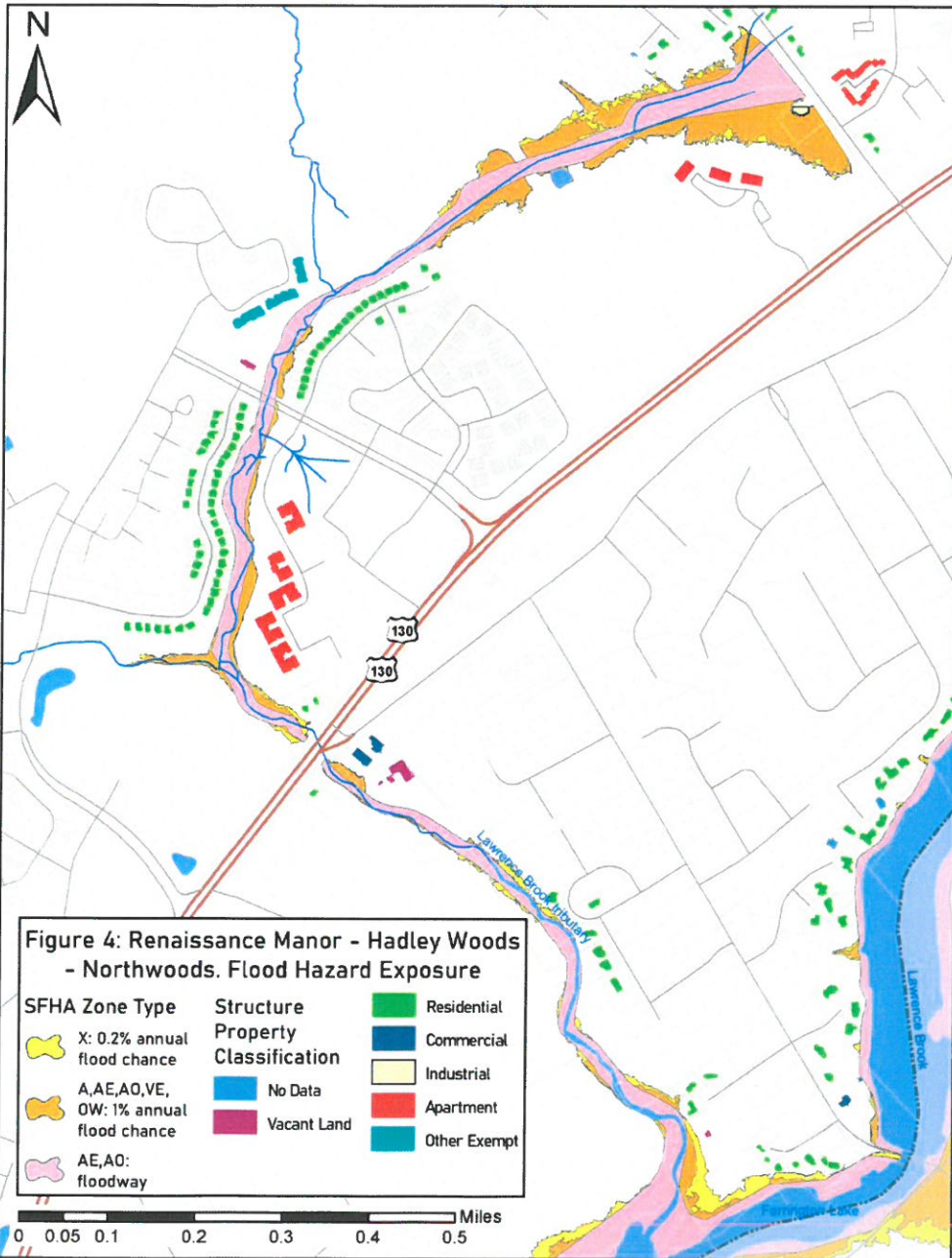


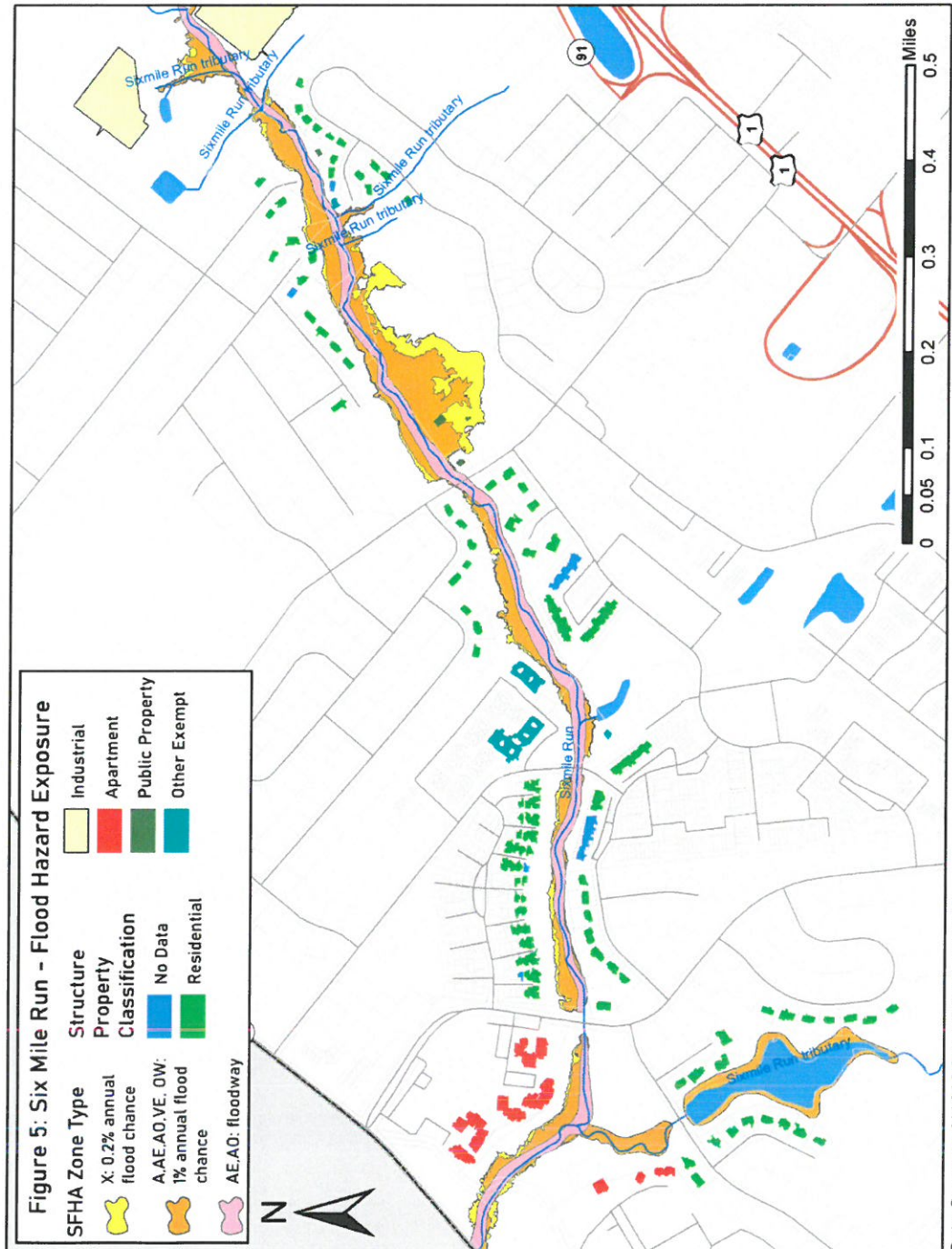
Data Sources: NJ MOD-IV, FEMA, NJDEP





Data Sources: NJ MOD-IV, FEMA, NJDEP





Data Sources: NJ MOD-IV, FEMA, NJDEP





**National Flood Insurance Program and Repetitive Loss Properties**

To provide a sense of the flood risk in a community it is also beneficial to summarize the policies in force and claims statistics from the National Flood Insurance Program (NFIP). North Brunswick has been a member of the NFIP since 1979. North Brunswick does not currently participate in the Community Rating System (CRS) program.

FEMA NFIP statistics indicate that as of December 2020, federal flood insurance policies were in-force on 42 (58) properties in North Brunswick. Between 1978 and 2020, there have been a total of 22 (15) NFIP insurance claims in the jurisdiction, with a total claims value of \$96,616 (\$89,603). As of September 2019, FEMA calculated that 0.00% of structures whose parcels were within the effective special flood hazard area held federal flood insurance.

Table 9 compares the number of policies in-force and paid claims in the jurisdiction. The table shows that North Brunswick comprises 1.3% of the NFIP policies in-force in Middlesex County. The average NFIP claim in North Brunswick \$4,392 (\$5,974) is significantly less than the County average of \$26,259 (\$31,549).

It should be noted that NFIP claims are not a direct or completely accurate proxy for flood risk in a community. The data does not include flood damages to structures that had no flood insurance. Also, in some cases, structures or contents may have been underinsured. The NFIP claims data also does not include any damages to public facilities, which may be insured via other means (such as self-insurance or non-FEMA policies); such damages may also be addressed through other federal programs such as FEMA’s Public Assistance Program.

**Table 9. NFIP Policies and Claims in North Brunswick**

Measure	North Brunswick	Middlesex County	Local Percent
2020 Policies in Force	42	3,344	1.3
Total Claims (1978 – Current)	22	4,331	0.5
Total Paid (1978 – Current)	\$96,616	\$113,730,153	0.1

Source: FEMA HUDEX Report ([https://nfipservices.floodsmart.gov/sites/default/files/NFIP\\_HUDEX-Policy-Loss-Data-by-Geo\\_20201231.xlsx](https://nfipservices.floodsmart.gov/sites/default/files/NFIP_HUDEX-Policy-Loss-Data-by-Geo_20201231.xlsx))

FEMA FIRM maps and hazard areas are the current standard for floodplain management, and this standard was used to determine properties in hazard areas (Table 10). The 100- and 500-year FEMA FIRM flood zones and building footprints are shown in Map 1, with additional neighborhood-scale detail for Livingston Ave-Remsen Ave, Black Horse, Renaissance Manor-Hadley Woods-Northwoods, and Six Mile Run in Maps 2 through 5.

**Table 10. Replacement Value of Properties (in thousands (\$000)) within FEMA FIRM Inland and Coastal Flood Hazard Areas**

North Brunswick		2 residential	4A commercial	4B industrial	15C public property	15E cemetery + graveyard	no class data	Grand Total
AE (100yr)	\$ Value	\$172	\$990	\$332	\$0	\$0		\$1,494
	Number	1	2	1	3	1		8
X (500yr)	\$ Value	\$0	\$996	\$0	\$0	\$0	\$0	\$996
	Number	0	5	0	1	0	0	6



Notes: Exposures include flooding from both tidal and non-tidal waters. The 'X' (500-year floodplain) exposures represent those facilities exposed between the 100-year and 500-year floodplain, **not a cumulative value**. The replacement value for exempt property classes (15) is consistently \$0 because those assessments are based on property tax payments, from which such properties are exempt. Public properties partially represent buyout properties where previous building footprints have been purchased and come under public ownership and demolition. Commercial and apartment buildings represent more than one unit / household exposure.

For a 1% annual chance flood event (100-year flood), residential property exposures are greatest in number and in replacement value. Specific streets or areas of the Township with properties in the 100-year zone include:

- Commercial buildings on Livingston Ave near the intersection with Nassau St (Map 2).
- A building in the far north of Elmwood Cemetery.
- A commercial-class building near the intersection of Blackhorse Ln and Georges Rd, directly south of the Deer Brook Village tennis courts (Map 3).
- A public building in Sabella Park off Cozzens Rd (Map 5).
- Additional buildings which may or may not be data artifacts include a 4B building on the shore of Westons Mill Pond, at the far east of King Arthur Ct; and two 15C buildings on the shore of Farrington Lake just north of Washington Pl.

Within the 0.2% annual chance X-zone floodplain (500-year), the properties additionally exposed are similar in total value, but less in number, compared to properties exposed in the 100-year floodplain. Much of the expanded exposure in the 500-year floodplain is contiguous to properties on the streets mentioned above; additional parts in the Township with exposed properties include:

- Livingston Ave north of Hollywood St, and part of the Martin Gerber Apts (Map 2).
- Another building in Sabella Park (Map 5).

**Table 11. Repetitive Loss Properties (NFIP) in North Brunswick**

Flood Zone	Number of Repetitive Loss Properties			Number of Repetitive Loss Claims			Property Losses (thousands of dollars)		
	At-Risk	Mitigated	Total	At-Risk	Mitigated	Total	At-Risk	Mitigated	Total
X	1	0	1	2	0	2	\$13	\$0	\$13
All zones	1	0	1	2	0	2	\$13	\$0	\$13

Table 11 above accounts for all *NFIP-recorded* Repetitive-Loss properties, claims, and losses in the Township, separated by status: mitigated, or still-at-risk. Specific addresses of individual RL properties may not be divulged.

## 6. CAPABILITIES ASSESSMENT

Each community within the planning area has a unique set of capabilities and priorities that affect its mitigation strategy. The following tables detail the capabilities assessed for the Township of North Brunswick during this plan update.

**Table 12. Planning and Regulatory**

Tool / Program (code, ordinance, plan)	2015	2020	Updated	Mitigation Updates
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Master Plan	Y	Y	N
Capital Improvements Plan	Y	Y	N
Floodplain Management / Basin Plan	Y	Y	N
Stormwater Management Plan	Y	Y	N
Open Space Plan	N	N	N
Stream Corridor Management Plan	N	N	N
Watershed Management or Protection Plan	N	N	N
Economic Development Plan	N	N	N
Comprehensive Emergency Management Plan	Y	Y	N
Emergency Operation Plan	Y	Y	N
Post-Disaster Recovery Plan	N	N	N
Transportation Plan	Y	Y	N
Strategic Recovery Planning Report	N	N	N
Zoning Ordinance	Y	Y	N
Subdivision Ordinance	Y	Y	N
NFIP: Cumulative Substantial Damages	N	N	N
Growth Management Ordinances	Y	Y	N
Site Plan Review Requirements	Y	Y	N
Stormwater Management Ordinance	Y	Y	N
Municipal Separate Storm Sewer System (MS4)	Y	Y	N
Combined Sewer Overflows (CSO)	n/a	n/a	N
Natural Hazard Ordinance	N	N	N
Post-Disaster Recovery Ordinance	N	N	N
Real Estate Disclosure Requirement	N	N	N
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Y	Y	N

Table 13. Staff/Personnel

Resources	2015	2020	Updated	Comments
Planning Board	Y	Y	N	
Mitigation Planning Committee	N	N	N	
Environmental Board/Commission	Y	Y	N	
Open Space Board/Committee	Y	Y	N	
Economic Development Commission/Committee	N	N	N	
Maintenance Programs to Reduce Risk	N	N	N	
Mutual Aid Agreements	Y	Y	N	
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Y	N	
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Y	N	
Planners or engineers on staff with a strong understanding of natural hazards	Y	Y	N	
NFIP Floodplain Administrator	Y	Y	N	
Surveyors	Y	Y	N	
GIS layers and maps	Y	Y	N	
Personnel trained in GIS	Y	Y	N	
Personnel trained in HAZUS	N	N	N	





Emergency Manager	Y	Y	N
Grant Writer	Y	Y	N
Staff with expertise in cost/benefit analysis	Y	Y	N
Professionals trained in conducting damage assessments	Y	Y	N

Table 14. Education/Outreach and Community Classifications

Program	2015	2020	Updated	Comments
Community Rating System (CRS)	N	N	N	
Building Code Effectiveness Grading Schedule (BCEGS)	N	N	N	
Public Protection (ISO Fire Protection Classes 1 to 10)	N	N	N	
Storm Ready	N	N	N	
Firewise	N	N	N	
Disaster/Safety Programs in/for Schools	N	N	N	
Organizations with Mitigation Focus (advocacy group, non-government)	N	N	N	
Public Education Program/Outreach (through website, social media)	Y	Y	N	
Public-Private Partnerships	N	N	N	

Table 15. Fiscal Capabilities

	2015	2020	Updated
Do you have a line item in your operating budget for mitigation project funding?	N	N	N
If no, will you look at mitigation actions when allocating funding in the future?	Y	Y	N
Do you have a line item in the Capital Improvement Budget for mitigation project funding?	N	N	N
Have you provided funding for mitigation projects identified in the hazard mitigation plan?	N	N	N
Does your town have the authority to Levy Taxes for specific purposes?	N	N	N
Does your town have user fees for water, sewer, gas or electric service?	Y	Y	N
Do you impose impact Fees for homebuyers or developers of new development/homes?	N	N	N
Does your community have an open space acquisition fund?	Y	Y	N
Do you use bonds to finance projects (general obligation bonds, special tax bonds, private activity bonds)	Y	Y	N



## 7. MITIGATION STRATEGY

Table 16. Previous Mitigation Actions – Completed and/or Ongoing

LM A #	HMP Round	Mitigation action	Anticipated benefits to hazard mitigation	Applies to existing or new structures	Existing implementation mechanism	Responsible Party	Target Date	Estimated cost (\$)	Funding Source	Priority (H/M/L)	Status/Review
1	2010	Backup power (generator) and/or utility protective measures to Fire Station #2	This project has provided emergency standby electrical power around the clock during any power outages.	Existing	N/A	Fire Company/municipality	N/A	Fire Co. # 1 and 2 were priced together in a \$193,500 CDBG, and a \$107,585 Capital Imp Grant.	Community Development Block Grant, Capital Improvement Grant.	N/A	Completed in 2011
2	2010	Backup power (generator) and/or utility protective measures to Fire Station #1	This project has provided emergency standby electrical power around the clock during any power outages.	Existing	Community Development Block Grants.	Fire Company/municipality	Completed in 2010	And a \$107,585 Capital improvement Grant	See explanation in the above box.	N/A	Completed in 2010
3	2010	Backup power (generator) and/or utility protective measures to Fire Station #3	This project has provided emergency standby electrical power around the clock during any power outages.	Existing	The cost was budgeted in the Municipal Capital budget.	Fire Company/municipality	Completed in 2007	\$27,800 (from CDBG)	\$27,800 Community Development Block Grant	N/A	Completed in 2007



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4	Past	Generator for Municipal Complex	This project has provided emergency standby electrical power around the clock during any power outages for municipal complex	Existing	The cost was budgeted in the Municipal Capital budget and a 25% FEMA Grant	Municipality	Completed in 2016	FEMA 25% North Brunswick Capital Funding 75%	N/A	Completed in 2016	
5	2015	Investigate drainage project feasibility near Huron Rd and Route 1	Completion of this project would hopefully stop the continued road closures resulting from flooding	Existing	It appears that this project will be funded through the NJDOT	NJDOT	ongoing	Unknown	NJDOT	Medium	Ongoing. This project is currently under design investigation
6	2015	Install generator at pump station	This project has provided emergency standby electrical power around the clock during any power outages for this Pump Station	Existing	The cost was budgeted in the Municipal Capital budget	Municipality	Complete	The entire estimate of the electrical estimate for this project was \$358,000. We do not have a breakdown for just the generator.	The Generator Portion of this entire project was funded through the North Brunswick Sewer Capital account	N/A	Completed in 2019
7	2015, renewed 2021	Investigate options for flood proofing, elevating, or mitigating the water treatment plant	This project will provide information to assist in identifying ways to prevent future flooding of the water	Existing infrastructure. Twp owns plant in Franklin, AmWaterC operates it.	Municipal Capital Budget; Most of this water / waste Water consulting is done on a time &	Municipality	Currently in the planning stage	unknown	TBD (exploring grants, or utility revenue)	H	Ongoing, for at least a decade





		treatment plant.	material basis							
8	2015	Investigate green infrastructure and stormwater management retrofit opportunities to reduce system loading	N/A	Expensive, requires private commitment	DPW/ Engineering	N/A	Project costing was higher than available funding	No funding located at this time	L	Suspended. Rutgers Water Resources identified improvement site Milltown Rd/Rte 1; preliminary designs were too costly

Table 17. Current Mitigation Actions – Carryover and/or New

LMA #	HMP Round	Mitigation action	Anticipated benefits to hazard mitigation	Applies to existing or new structures	Existing implementation mechanism	Responsible Party	Target Date	Estimated cost (\$)	Funding Source	Priority (H/M/L)	Status/Review
9	2021	Redirect stormwater runoff at Ridgewood Ave and Linwood Pl away from private property	Facilitate management of culverts/swales to prevent localized stormwater flooding	Existing buildings and infrastructure	Township municipal improvement	DPW	3-5 years	Unknown	Municipal budget	L	To be scheduled according to priority
10	2021	Address undersized culvert/drainage issues in the area of Jersey Avenue and 6 Mile Run at Corporate Road	Reduce stormwater flooding concerns	Existing	State road requires DOT implementation	DPW in cooperation with state transportation agency	1-3 years	Unknown	State transportation funding with municipal support	M	Establishing contact with NJ DOT to plan improvements



Appendix A: Municipal Appendices  
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11	2021	Upgrade water infrastructure including cleaning and lining 12" main down George Road	Reduce/prevent water supply disruptions from broken mains	Existing	Water Department authority	North Brunswick Water Department	1-3 years	Unknown	Infrastructure budget, maybe capital bonds	M	Ongoing, regular maintenance project
12	2021	Explore/develop more formal relationship with faith-based community to facilitate emergency response to affiliated populations	Ensure adequate emergency notification/response to assist as volunteer emergency shelter workers.	N/A	Continue to meet with church leadership groups to explain the importance of their organizations participation, during an emergency.	OEM Coordinator and the Supervisor of the Social Services, Reception and Care Annex.	ongoing	n/a	Donation of the use of private facilities	M	Developing working relationships with churches to explore community sheltering partnership.
13	2021	Replace/repair Municipal facilities; bldg. mechanicals, vehicles, equipment damaged in Ida.	Continuity and effectiveness of local government diminished by loss of municipal complex.	Existing government facility	Township authority	Twp admin, and All displaced municipal departments	ASAP	Losses are being evaluated w/ FEMA and insurance carrier – est 5-10 million	Insurance coverage, FEMA public assistance	H	Twp has removed damaged property and contaminate materials, repairing as needed, and is continuing to assess damages



## 8. PLAN ADOPTION

On [insert date] Middlesex County submitted the initial draft of the 2020 Plan Update to NJOEM for review and comment. After addressing NJOEM comments in the document, the HMP was resubmitted for final consideration and approval by NJOEM and FEMA. FEMA approved the plan on [insert date], and the Plan update was forwarded to the Middlesex County Board of Chosen Freeholders for adoption, which occurred on [insert date].

The Township Council approved the plan on [insert date]. The Township resolution for adoption is provided below, and Middlesex County's adoption resolution is provided as Appendix K of the 2021 HMP update. Following adoption, the plan update was resubmitted to FEMA for final approval, which occurred on [insert date]. The FEMA approval letter is included as Appendix L.

## 9. PLAN MAINTENANCE

The Township of North Brunswick will review this Appendix of the County's All Hazards Mitigation Plan every year and give the County's HMP Coordinator an annual progress report. The OEM Coordinator is responsible for convening the LPC, initiating the plan review, and submitting the annual progress report. The LPC may use [worksheet 7.1](#) in FEMA's *Local Mitigation Planning Handbook* to facilitate the review and progress report.. Local progress reports shall be provided to the County HMP Coordinator at least two weeks prior to the annual plan review meeting.

Additionally, the LPC will convene and review the plan when major hazard events impact the jurisdiction, potentially yielding opportunities for mitigation grant funding, or when new information suggests that plan elements do not accurately reflect the community's risk or its mitigation priorities.

If necessary, the OEM Coordinator will convene a meeting of the LPC to review and approve all changes. The Township retains the discretion to implement minor changes to the document without formal procedures involving the Township Council subject to local policies and regulations.

In addition to the annual progress report, the Township of North Brunswick will provide Middlesex County with a copy of the written notice of any changes to the jurisdictional appendix at the time such changes are implemented.