

34 – MILLSTONE TOWNSHIP

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Michael Maloney	OEM Coordinator, Municipal Fire Chief	Primary Point of Contact, Municipal Meeting #1
Kevin Abernethy	Administrator	Municipal Meeting #1
Dan Specht	CPWM, CRP, SRMP, Public Works and Safety Coordinator	Plan review
Matt Shafai	Township Engineer	Plan review

COMMUNITY PROFILE

Overview

The Township of Millstone is a rural community located in southwestern Monmouth County with a land area of 37.38 square miles. Local land development regulations seek to keep an equal balance between existing farmland and new development, preserving not only the rural way of life, but Millstone's surrounding ecosystems. The township spans five of the State's Watershed Management Areas and contains the headwaters of seven rivers (Millstone River, Toms River, Manalapan Creek, Rocky Brook, Ivanhoe, Assunpink and doctors Creek) that are a source of water for many New Jersey residents. The headwaters, along with large wetland areas, and areas with relatively high elevations and steep slopes, all play a vital role in regulating water quality in the region.

Millstone is recognized by the State as an environmentally sensitive area and its master plan maintains a commitment to many of the recommendations of the 2002 Master Plan, such as zoning for low density residential areas, resisting new infrastructure such as sewer connections, and expanding its continuous network of bridle paths, greenways, and open space. As such, the Township continually works to maintain a balance between preserving farmland and environmentally sensitive land, and population growth and development.

Land Use, Development, & Growth

In Millstone, residential and publicly owned land together constitute a large portion of its area, as do farmland and wetlands. From 2015 to 2020, Millstone lost nearly 143 acres of its farmland, 40 acres of its barren land and 18 acres of its wetlands. Meanwhile, the Township's urban or developed land grew by 179 acres during this period.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	4937.6	4794.2	-3%
Barren Land	236.3	196.5	-17%
Forest	6330.3	6345.7	>0%
Urban	6911.6	7090.3	3%
Water	380.3	387.2	2%
Wetlands	5008.9	4991.0	>0%

Source: NJDEP Land Use/Land Cover data, 2015-2020

Recent Major Development and Infrastructure from 2020 to Present

Millstone adopted an updated Comprehensive Farmland Preservation Plan in 2020 that emphasizes the protection and preservation of agricultural land throughout the Township. Recent development largely consists of warehouses, especially within the Highway 33 corridor and the southcentral portion of the Township along County Route 526, and several affordable housing projects. A small portion of Highway 33 is in a FEMA regulatory floodway, and a small portion of County Route 526 is in the FEMA 0.2% annual chance floodplain (NJFloodMapper).

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years

Millstone is a rural community characterized by abundant undeveloped land, dedicated open space, and numerous preserved and unpreserved farms containing prime agricultural soils. The township's most recent master plan, adopted in 2017, prioritizes the care and preservation of its environmentally sensitive areas, natural features, and rural heritage through a green infrastructure approach to planning.

The Master Plan Housing Element and Fair Share Plan indicate the town's affordable housing obligation will be primarily addressed through 100 percent municipally sponsored development and an inclusionary development along Perrineville Road.

Demographics & Vulnerable Populations

This plan analyzed census-derived data on population trends and population age distributions to help illustrate potential vulnerability within the township. A population increase or decrease can illustrate potential hazard vulnerability through development pressures on the built environment, or through physical and social impacts of marked population loss. A community with a large share of population under age five may indicate vulnerabilities in hazard response, resource allocation, and evacuation – FEMA identifies that the pediatric population is disproportionately affected during disasters and requires special consideration in categories of anatomy and physiology, psychological, and education vulnerabilities (FEMA, 2022, NLM, 2022). Individuals over age 65 are a growing share of the country's population and often represent the greatest share of deaths from extreme weather events and other natural disasters. A larger share of population over 65 may indicate local vulnerabilities to hazard events both before and after a disaster occurs – these populations may have mobility needs, uneven access to resources, and limited social networks that makes pre-disaster engagement challenging (FEMA, 2023).

The Township of Millstone has an estimated total population of 10,371, of which an estimated 2.5% are under age 5 and 14.5% are over age 65. Millstone experienced moderate population decline (an estimated -1.4%) in the ACS survey periods of 2013-2017 and 2018-2022. With an aging population making up fourteen percent of their total community, Millstone may focus hazard mitigation efforts on those with robust messaging and engagement for older residents, evacuation plans inclusive of populations with mobility issues, and resilient networks for resource accessibility post-disaster. While a population decline of 1.4% is moderate, effects on the built and social environments in Millstone may be present that impact pre-hazard communication and post-disaster response.

There are no areas of the Township which have been identified by CDRZ, CEJST, or OBC designation criteria.

Demographics Summary

Total Population (2018-2022 ACS 5-year Estimates)	10,371
Population Change since 2017	-1.4%
Percent of Population Age < 5	2.5%
Percent of Population > 65	14.5%

Source: 2018-2022 ACS 5-Year Estimates, 2013-2017 ACS 5-Year Estimates

HAZARD IDENTIFICATION

One of the first steps in developing a risk assessment is for participating municipalities to review and prioritize the hazards that can affect them. This was done based on how often a hazard has occurred, how significant effects have been in the past, the difficulty and cost of recovering from such events. Jurisdictions ranked the list of hazards as either high, medium, low, or no concern. The following include the Borough's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

High	Medium	Low
Natural Hazards		
Nor'easter	Extreme Temperature	Lightning
Wildfire	Extreme Wind	Earthquake
	Hurricane/Tropical Storm	Landslide
	Tornado	Drought
	Winter Storm	
	Dam Failure	
	Flood	
Human-made Hazards		
Power failure	Cyber Attack	Civil Unrest
	Economic Disruption	
	Terrorism	
	Pandemic	

The Township ranked Coastal Erosion, Storm Surge and Wave Action as N/A.

Hazard Ranking Explanation

Dam failure increased in its hazard ranking from the time of the last HMP update. This is primarily due to Prineville Lake Dam, which poses a significant hazard. Landslides also switched from being not applicable to low, due to a new subdivision constructed in old sandpits within the Township. Flood decreased from high to low since there have been no significant flooding events in the last five years that resulted in damages or significant disturbances. However, flooding due to wildlife is a big problem for the Township. Areas within the Township that used to not flood are now experiencing flooding due to beavers constructing dams. Wildfires became a high hazard risk. While there have been no fires resulting in damages to property, the Township is highly wooded with downed trees, dead trees, and roadway blockages, which are highly fire prone. Tornadoes remain a medium-ranked hazard. There has been one EF0 tornado in the Spring of 2024. The tornadoes haven't caused severe damage and have been localized to tree damage and minimal property damage. However, tornadoes remain a prevalent risk. Coastal erosion, storm surge, and wave action remain not applicable as Millstone Township is not a coastal community.

Significant Hazard Events Since Last Plan Update

A straight-line windstorm in August 2022 resulted in widespread power outages within the Township. In the Spring of 2024, there was an EF0 tornado, which caused minimal property damage.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to increase the risks faced by Millstone Township. Rising global temperatures will likely lead to more intense weather events, such as hurricanes, nor'easters, and extreme heat. This will worsen vulnerabilities in areas prone to flooding and wildfires. The township's wooded areas, already at high risk for wildfires, may see more frequent fires due to drought and higher temperatures. Flood-prone areas near creeks and brooks may experience greater flooding from increased precipitation and storms.

Additionally, climate change will impact vulnerable populations, especially the elderly, who are more susceptible to extreme heat and related health issues. Increased heatwaves can cause heat-related illnesses and worsen existing health conditions.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Millstone Township	
Initial FIRM Date	1/20/82
Effective FIRM Date	9/25/2009

Millstone Township	
Number of Policies In-Force:	0
Total Losses:	0
Total Payments:	\$0
Number of RL Properties:	0
Number of Mitigated RL Properties:	0
RL – Total Losses:	0
RL – Total Paid:	\$0
Number of SRL Properties:	0
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	0
SRL – Total Paid:	\$0

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

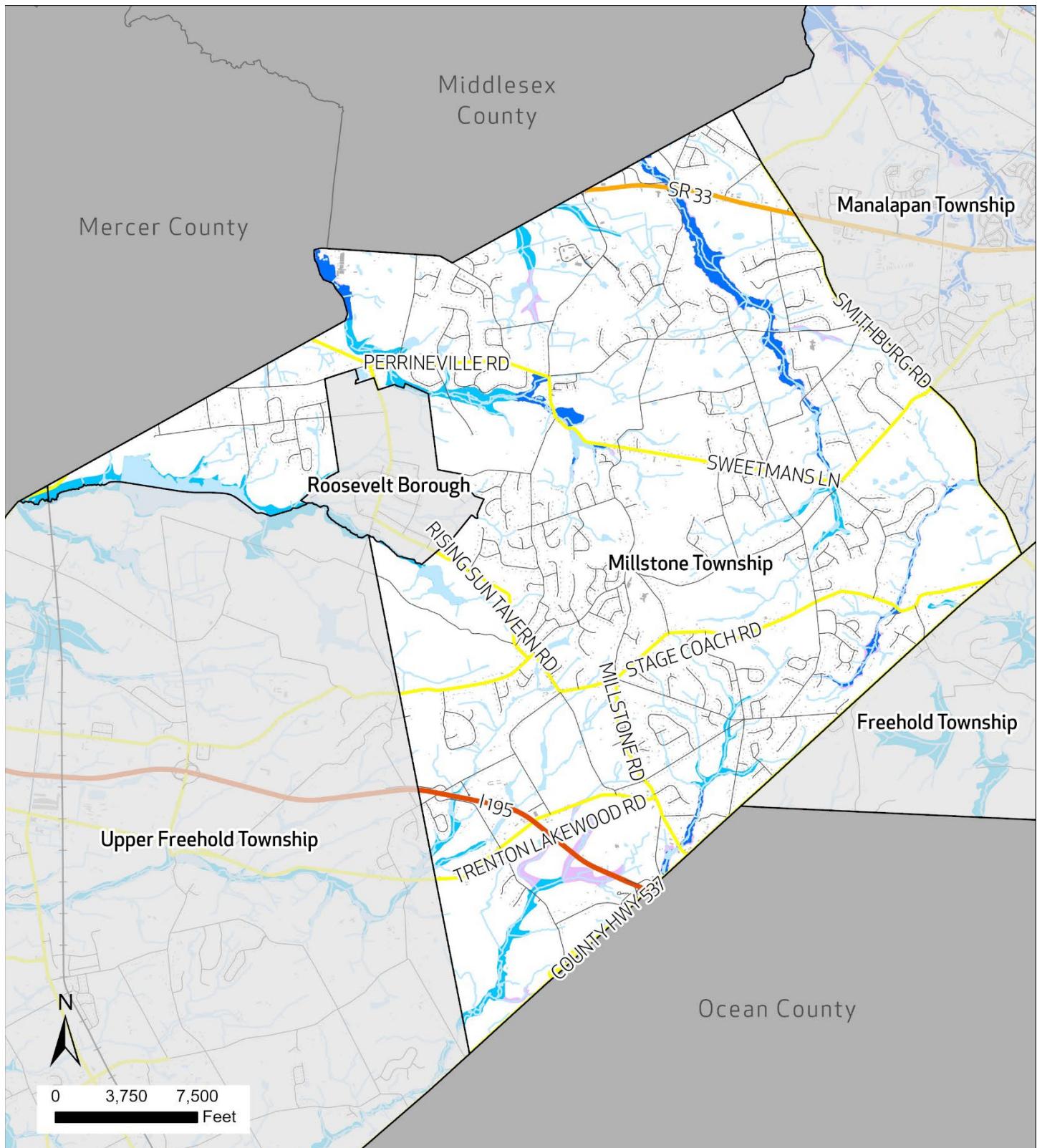
The Special Flood Hazard Area (SFHA) in the Township of Millstone is primarily located adjacent to the many creeks and brooks which pass through town. Approximately 5.3 percent of the total area of Millstone lies within the 1% annual chance flood zone as defined by FEMA. An additional 1 percent of the area of the municipality is in the 0.2% annual chance flood zone.

About 68.4 percent of Millstone is considered developed. Of the developed parcels of the town, 6.4 percent fall within the 1% annual chance flood zone and 0.8 percent are within the 0.2% annual chance flood zone. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain	5 Feet Sea Level Rise
Developed Parcels	6.4%	0.8%	NA
Exposed Land Area	5.3%	1.0%	NA

During the planning process, Millstone identified critical facilities which function as community lifelines. These facilities provide the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. The municipality identified 24 total facilities. Of these facilities, four are located within the floodplain. These facilities are categorized as Water Systems community lifelines. Examples of Water Systems community lifelines include dams and pump stations.

Community Lifeline Type	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number within 5 feet of Sea Level Rise
Water Systems	4	-	NA



Flood Risk Millstone Township

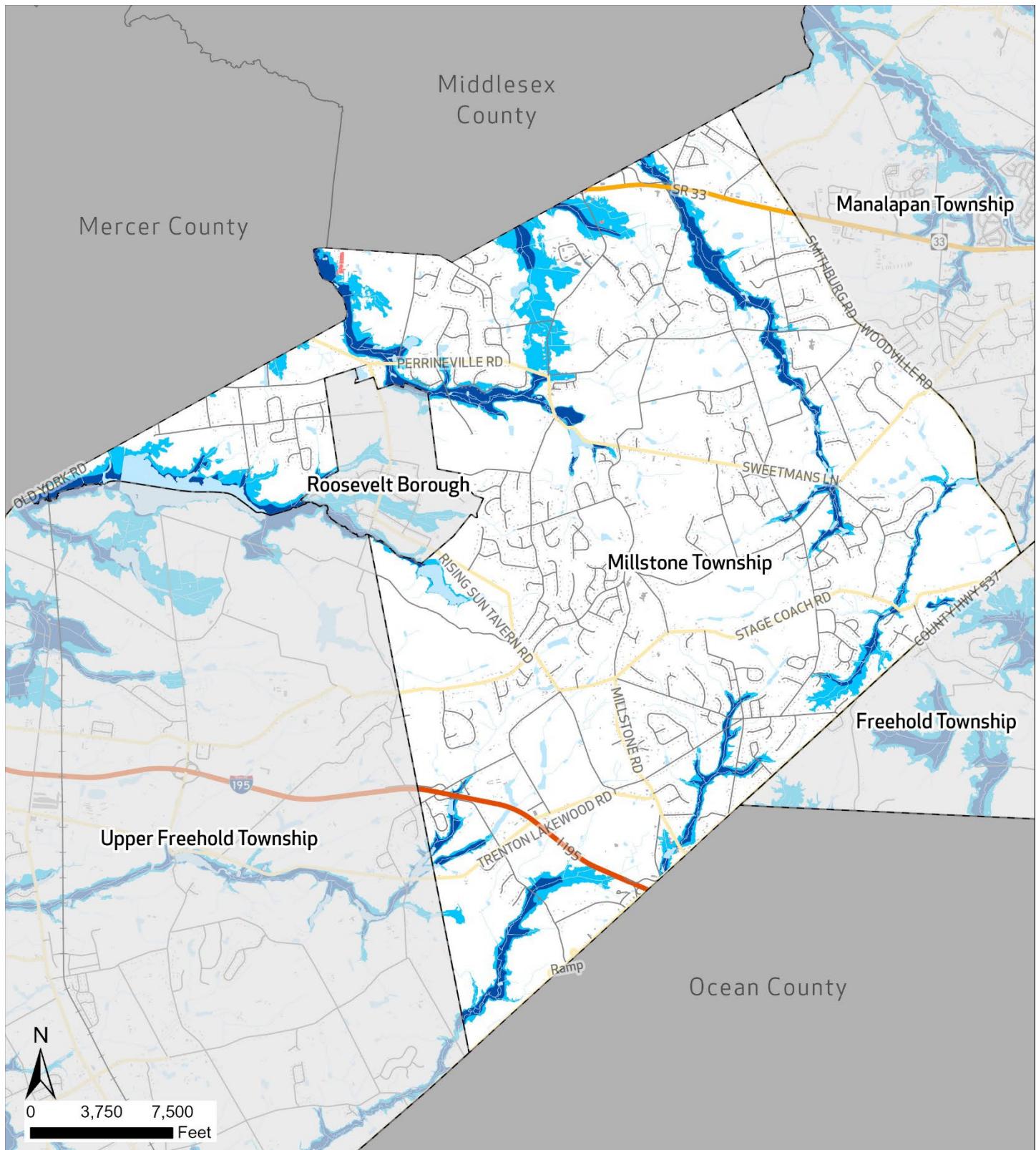
FEMA Flood Zone

- 0.2% Annual Chance
- A(1%)
- AE(1%)

- Interstate Highways
- State Routes
- County Routes
- Local Roads
- Rail Lines

- Municipal Boundaries
- Building Footprints
- Building Footprints within Floodplain
- Water

Source: FEMA NJDEP, NJOIT, NJTransit



NJ Inland Design Flood Elevation Millstone Township

FEMA Flood Zone

- Current Base Flood Elevation (1%)

NJ Inland Design Flood Elevation

FEMA BFE (1%) plus 3 Feet

Interstate Highways

State Routes

County Routes

Local Roads

Railroad

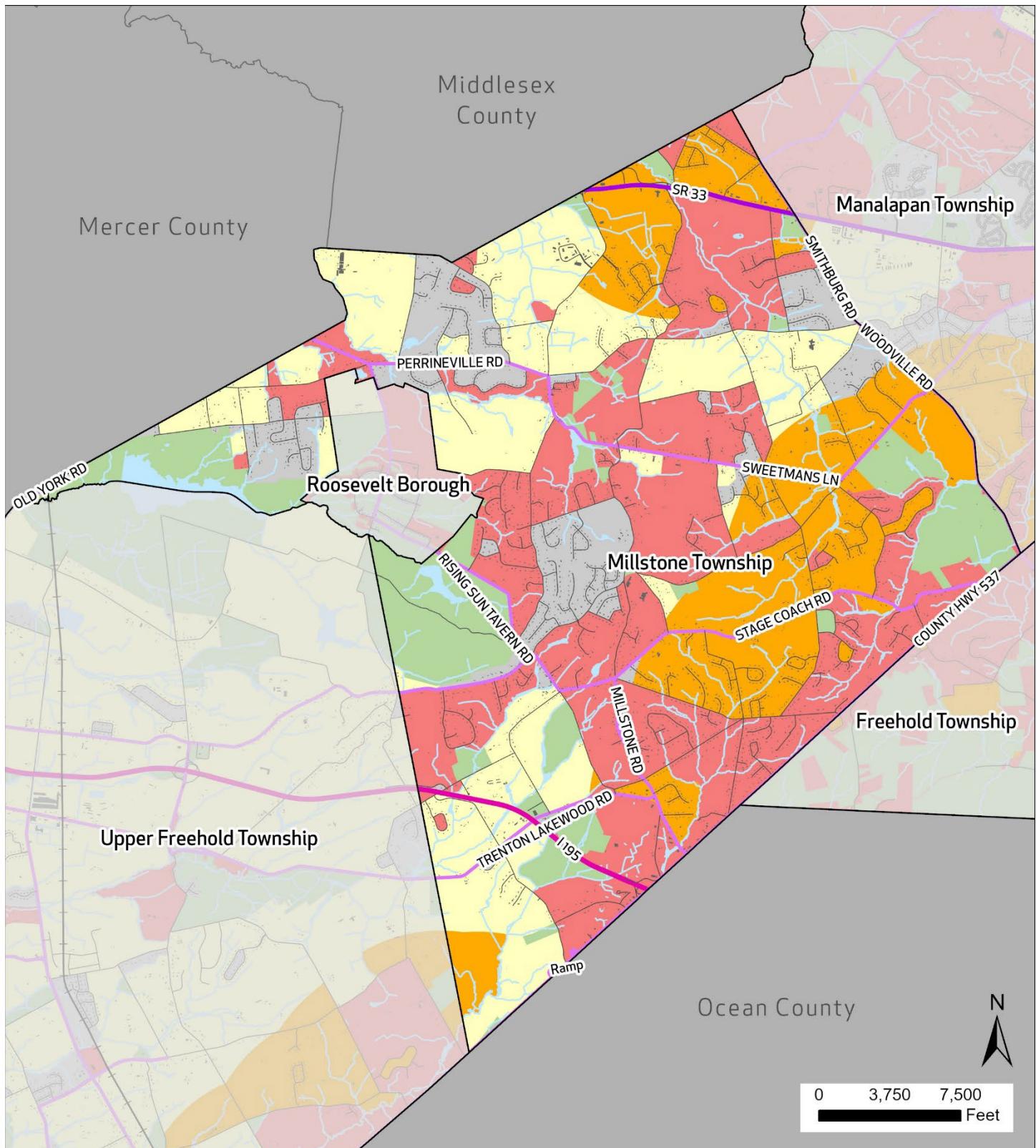
Municipal Boundaries

Water

Building Footprints

Building Footprints within IDFE

Source: FEMA, Rutgers University, NJDEP, NJOIT, NJTransit



Wildland Urban Interface (WUI) Classification

Millstone Township

- Interface
- Intermix
- High or Medium Density Housing
- Low or Very Low Density Housing
- No Housing

- Interstate Highways
- State Routes
- County Routes
- Local Roads
- Rail Lines

- Municipal Boundaries
- Building Footprint
- Water

Source: USFS, NJDEP, NJOIT, NJTransit

CAPABILITY ASSESSMENT

Planning & Regulatory Capabilities

Millstone Township has the following additional Planning & Regulatory capabilities:

Plan and Regulation	Yes	No	Date of last update	How does this capability support hazard mitigation?
Master Plan	X		2017	Commencing next version
Capital Improvement Plan	X		Annually	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	Overall plan directing municipality of how to handle disaster response as well as address areas of needed improvement.
Floodplain Development Ordinance	X		2020	
Floodplain Management Plan	X		2012	
Stormwater Management Ordinance	X		2024	
Stormwater Management Plan	X		2024	
Watershed Management Plan		X		
Sheltering Plan		X		
Evacuation Plan	X		2023	EOP Annex
Substantial Damage/Improved Structures Response	X		2023	EOP Annex
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X			Approved temporary debris management area plan
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X			EOP Annex
Current/recent redevelopment plans or studies				
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation		X		
Other ordinance and regulation that mitigate the impacts of natural hazards	X			2020 Comprehensive Farmland Preservation Plan

Administrative and Technical Capabilities

Millstone Township has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Township Engineer is our Flood Plain Manager
Grant Writer	X		
Staff trained to support mitigation	X		
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		Monmouth County shared services and numerous local contractors
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		Numerous local contractors
Organizations that work with socially vulnerable or underserved populations	X		Affordable Housing Association

Education and Outreach Capabilities

Millstone Township has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Social media and Nixle messaging system,
StormReady		X	
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)		X	

Financial Capabilities

Within the last five years, Millstone Township has used the following financial capabilities to implement hazard mitigation activities:

Financial Capability	Yes	No	Explanation
FEMA BRIC		X	
FEMA FMA		X	
FEMA Public Assistance	X		We have received assistance during Covid and past disasters.
FEMA HMGP			
Non-FEMA Federal Funding Programs	X		DOT
Other FEMA resources		X	
NJ Infrastructure Bank		X	
Other state municipal assistance or grant programs	X		NJ Green Acres, NJ Historic, NJUCF Stewardship Grants, Monmouth County; Parks, Historic, Open Space, Recreation Grants, NJ DOT.
Evaluation process on the prioritization of risk reduction projects against other local activities	X		Annual evaluation during budget preparation.
Other ongoing efforts to build additional financial capabilities	X		Always looking at additional Grant opportunities.

Additional Capability Assessment Information:

- **Community Rating System (CRS) Classification:** 7
- **Sustainable Jersey Participation Status:** Registered

MITIGATION STRATEGY

Overview and Progress Since Last Plan Update

During our annual budget process, we review and assess risks and potential hazards. During the past few years upgrading some of our arterial roads via milling, paving, and upgrading the drainage structures with the help of NJDOT grants has been our largest capital expenditures.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
34-1	Millstone Road Program	Millstone Road milled and paved, improve drainage structures arterial road.	Poor condition	N/A	Millstone Twp.	NJDOT	\$1.1 M	2022 - 2023	Completed	Action completed w/ DOT assistance

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
34-2	Paint Island and Stillhouse Road Program	Paint Island and Stillhouse (phase IV) milled and paved, improve drainage structures arterial road.	Flood	N/A	Millstone Twp.	NJDOT	\$800k	2025	In Progress	Partial grant approved. Added drainage improvements and replaced curb lines. Last phase is to pave Paint Island Spring Road. Stillhouse Rd. is complete. The Township received \$209,528 from NJ DOT out of what will probably be \$800k.
Action 34-3	Improve Stormwater Management through Larger Piping and Maintenance of Drains and Basins	Develop mitigation steps to reduce damage and losses due to flooding through stormwater runoff control and more efficient drainage and discharge to the five major streams. Provide larger piping capacity and reduce sediment and debris from entering.	Flood, Nor'easter, Hurricane and Tropical Storm	Low	Township Engineer	Municipal budget	\$200,000	2 years	Ongoing	
Action 34-4	Remove Dead and Hazardous Trees along Township's ROWs	Removal of dead and hazardous trees along Township roads' rights-of-way	All Hazards	Low	Township Engineer	Municipal budget	\$5,000	1 year	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
Action 34-5	Mitigate Flooding Behind Township Fire House	Mitigate the flooding issue behind the Fire House and coordinate with Monmouth County on the flooding that occurs at the Red Valley Rd. bridge.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Millstone Township and Monmouth County	Municipal budget, County budget, FEMA HMA	\$3,000	2 years	Ongoing	
Action 34-6	Improve Security at Parks and Historic Buildings	Add security cameras to township parks and historic buildings.	Terrorism	Medium	Township Administration	Homeland Security grants	\$50,000	1 year	Ongoing	
Action 34-7	Improve Security by Purchasing and Installing Generators at Parks and Historic Buildings	Upgrade the generator at Department of Public Works and purchase and install a new generator at Wagner Park Farm.	All Hazards	Low	Township Administration	FEMA HMA	\$15,000	1 year	Ongoing	
Action 34-8	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	There are currently no RL or SRL properties in the Township; however, the Township realizes the floodplain changes over time and the risk is always present. If in the next five years properties become RL/SRL, the Township will coordinate with residents.	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough and Property Owners	FEMA HMA	TBD on property	5 + years	Ongoing	
Action 34-9	Repair, Remove, or Rehabilitate the Assumpink #18 Dam (Rising Sun Lake)	Repair, remove, or rehabilitate the Assumpink #18 Dam, a High-Hazard Potential Dam, located on the Assumpink Creek.	Dam Failure	High	State of New Jersey Department of Environmental Protection Division of Fish and Wildlife	Municipal budget, NJDEP Bureau of Dam Safety and Flood Control	\$1 million +	5 years	Ongoing	Emergency Action Plan was conducted in December 2017

Action	Name	Description	Hazards Addressed	Pri- ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
Action 34-10	Power Failure Reductions	Continued enforcement of dead trees on private properties	Power Failure	High	Code Enforcement		\$5,000	1 year	New	Code Enforcement continues to issue violation notices
Action 34-11	Wildfire Prevention	Reduce wildfire risk through prevention and education	Wildfire	High	Fire Department		\$5,000	1 year	New	Continued social media campaign for prevention, enroll and begin NJ Firewise assessment.