



Appendix 22: Borough of South Plainfield

The Borough of South Plainfield participated in the 2015 Middlesex County Hazard Mitigation Plan (HMP) update. This appendix includes the locally-specific information about the Borough. The following sections detail the planning process and participants; the current population, building stock, and land development trends; hazards that specific to the Borough and corresponding risk assessments; the Borough’s mitigation strategy, and a local capability assessment.

1. Plan Development

After February 10, 2014, the OEM Coordinator signed an “Intent to Participate” letter and assigned a point of contact for the HMP update. This individual worked with other municipal employees, consultants, volunteers, and other stakeholders through the formation of a Local Planning Committee, as listed below. The local planning committee filled out the municipal worksheets included in Appendix E and worked to gather the necessary information to support the plan update. The OEM Coordinator met with the Plan Consultant

Table 22-1: Borough of South Plainfield Local Planning Committee Members

Name	Title	Organization
James Parker	OEM Coordinator/Chief of Police	Borough of South Plainfield



2. Community Profile

2.1 Physical Location

The Borough of South Plainfield has a total area of 8.36 square miles and is located on the northern border of Middlesex County, New Jersey. South Plainfield Borough is bordered by Edison and Piscataway in Middlesex County to the east, south, and west, and Plainfield and Scotch Plains to the north in Union County.

2.1.1 Hydrography and Hydrology

South Plainfield Borough is entirely located within the Raritan Basin. Two major brooks flow through the Borough. The Bound Brook flows west across the Borough, collecting water from tributaries and then exiting into Piscataway Township. The Cedar Brook, which is located in the Spring Lake Fork of the Bound Brook subwatershed, flows north to south from Plainfield into South Plainfield converging with Bound Brook just northwest of the center of the Borough.

2.2 History and Governance

The Borough of South Plainfield was formally incorporated on March 10, 1926 from portions of Piscataway Township. The Borough is governed under the Borough form of government, and has an elected Mayor and six Council members. 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 Borough Council holds monthly meetings open to the public where it discusses legislation under consideration.

2.3 Demographics

2.3.1 Population Trends

According to the U.S. Census Bureau, the population in 2010 was 23,285.¹ This is a 7.2% increase from 2000. The Borough of South Plainfield has a population density of 2,808.5 persons per square mile. It is the 17th densest municipality within the County. A summary of major population and household characteristics may be found in the following tables.

¹ U.S. Bureau of the Census. American Fact Finder "South Plainfield Borough, NJ". <http://factfinder.census.gov/>. Retrieved 9/8/15.



Table 22-2: Borough of South Plainfield Population Summary Estimates (2010 Census) ²

Population	Quantity	Percent of Municipal Population
Total Population	23,385	100
Median Age	40.2	N/A
17 years and under	5,374	23.0
65 years and over	3,165	13.5
Race		
White	15,607	66.7
Black/African-American	2,361	10.1
Native American/Alaskan Native	87	0.4
Asian	3,433	13.7
Native Hawaiian/Pacific Islander	8	0.0
Other Race (unspecified)	1,120	4.8
Two or More Races	769	3.3
Hispanic or Latino	3,097	13.2

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 22-3: Borough of South Plainfield Household Characteristics Summary Estimates (2010 Census) ³

Households	Quantity	Percent of Total
Total Households	7,876	100
Family Households (related)	6,174	78.4
Family Households w children under 18	2,770	35.2
Non-Family Households (unrelated)	1,702	21.6
Non-Family Households, living alone	1,432	18.2
Non-Family Households, living alone Male over 65 years	189	2.4
Non-Family Households, living alone Female over 65 years	456	5.8

2.3.2 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,

² Ibid.

³ Ibid.



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, those 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 other needs that may require unique considerations during emergency events.

Identifiable vulnerable populations in South Plainfield include (but may not be limited to) the following:

Table 22-4: Borough of South Plainfield Vulnerable Population Estimates (2010)

Population Type	Population Estimate (2010 Census) ⁴
Under 5 years of age	1,302
Under 18 years of age	5,374
Over 65 years of age	3,165
Limited English Proficiency (LEP)	2,461 (equals 10.9% of population over 5 years old)
Institutionalized	231
Living in Group Quarters	68

In addition to these statistics, approximately 3.9% of the population lives below the poverty line. The mean household income is \$103,145, with the per capita income at approximately \$36,245 (2013 estimates).⁵

2.4 Land Use and Development

The Borough of South Plainfield is a residential community that is close to being built-out. Over 87 percent of the assessed parcels are classified as residential. The land not considered “urban” is largely wetland areas, 16.37 percent, adjacent to the Bound Brook and its tributaries. South Plainfield is located in the headwaters area for the Bound Brook.

Table 22-5: Borough of South Plainfield Land Cover Summary

Land Cover Class	Percent of Total Land ⁶	2002 (acres)	2007 (acres)	2012 (acres)	Percent Change ⁷
Agriculture	0.15%	9.65	9.44	7.90	-18.16%
Barren Land	1.01%	38.76	23.88	53.62	38.32%
Forest	2.32%	179.74	146.50	123.59	-31.24%
Urban	79.25%	4101.47	4212.49	4224.58	3.00%
Water	0.54%	25.75	28.83	28.79	11.81%
Wetlands	16.74%	975.26	909.50	892.16	-8.52%

⁴ Ibid.

⁵ U.S. Bureau of the Census. American Fact Finder “South Plainfield Borough, NJ”. <http://factfinder.census.gov/> . Retrieved 9/8/15.

⁶ Percent based on acres of land in 2012

⁷ Change is calculated between 2002 and 2012



2.4.1 Open Space

The Borough of South Plainfield has preserved about 90 acres of open space, over 36 percent of which is in the Special Flood Hazard Area. Approximately 11 percent of the Special Flood Hazard Area is preserved.

2.4.2 Buildings and Development

Table 22-6: Borough of South Plainfield Housing Statistics

Housing Characteristics	Estimate
Total Occupied Housing Units	8,248
Percent Owner-occupied	81.6
Percent Renter-occupied	18.4
Percent built after 2000	11.6
Percent built before 1979	70.1

2.4.3 Recent and Expected Development

The Borough has had experienced little major development since 2010. There have been a couple of apartment complexes, not built in hazard areas, and are each approximately 30 acres. According to the South Plainfield Property Tax Assessment search, 54 units reported having been built between 2010 and 2015, all residential.

2.5 Critical Facilities and Infrastructure

2.5.1 Essential Facilities

The Borough has a Municipal Building, Public Library, Rescue Squad, Firehouse, Emergency Management Annex, and Senior Center. Most of the community facilities are concentrated in a central district adjacent to the floodplain, but the only building that has experienced any flooding was the Library, which experienced minor flooding in the basement from Hurricane Irene.

2.5.2 Transportation

Primary transportation routes include Interstate 287 and County Routes 501, 529 and 531. New Jersey Transit provides bus service, and there are no commuter rails in South Plainfield, but a rail line does run through the center of town.

2.5.3 Critical Utilities and Infrastructure

The Borough manages its own sewer infrastructure and pump stations. The system is older, experiences infiltration and inflow issues. PSE&G does service the Borough with electricity, the Borough reports that disruptions are largely during heavy rain or storm events.



3. Hazard Identification and Risk Assessment

This section describes the natural hazards and risks that can affect the Borough of South Plainfield. Like all the other municipalities in Middlesex County, South Plainfield is potentially subject to the effects of all the hazards that are considered in this mitigation plan. However, only a few of these hazards have significant impacts that are unique to the community. The remaining hazards are discussed in detail in the County part of this mitigation plan. FEMA mitigation planning guidance requires that County mitigation plans include a risk assessment section that “assess[es] each jurisdiction’s risks where there vary from the risks facing the entire planning area” (44CFR 201.6 (c) (2) (iii)). Because the Middlesex County HMP update includes separate appendices for each municipality, this requirement is met in the appendices, while risks that affect the entire County uniformly are discussed in the County part of the HMP.

Table 22-7
Township of South Plainfield
Hazard Identification and Prioritization

Hazard	Priority
Coastal Erosion	-
Dam/Levee Failure	-
Drought	M
Earthquakes	-
Extremely High Temps	M
Extremely Low Temps	M
Floods*	H
Hurricanes/Tropical Storms*	H
Nor’easters	H
Power Outages	M
Severe Weather	-
Hazardous Substances	H
Wildfire	-
Winter Storm	M

3.1 Background and Hazard Rankings

One of the first steps in developing jurisdictional appendices was 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. The planning team also reviewed hazard-specific data at the jurisdiction level to provide communities with insight about which hazards would be afforded detailed risk assessments. Municipalities ranked the list of hazards as high, medium, low, or no concern.

Table 22-7 shows community hazard rankings. To the extent possible, the level of discussion and detail about specific hazards in this section are based on these rankings. However, in many cases there is insufficient hazard information available at the level of the jurisdiction to allow detailed discussion or risk estimates. For some hazards there is limited jurisdiction-level tabular data included in the County portion of the HMP, and users should refer to those subsections for more detail. The hazards marked with asterisks in the table above are included in this appendix; the others are included in the County portion of this HMP, but not discussed in detail here.



3.2 Flood Hazard

3.2.1 Type, Location, and Extent

The Township of South Plainfield is located in northern Middlesex County. The primary source of flooding here is Bound Brook, which roughly bisects the jurisdiction north and south. There is a small tributary to Bound Brook that enters South Plainfield from the north and meanders south through Spring Lake Park before intercepting Bound Brook near the center of the jurisdiction. Another tributary forms in the south-central part of the jurisdiction and flows north to drain into Bound Brook. South Plainfield has a fairly long history of flooding extending back to the 1970s in some cases, although most of the more serious events have occurred since then. Although (as discussed below) there is an extensive history of flooding, much of it appears to be repetitive flooding of the same discreet areas and properties. A review of flood insurance claims and the Flood Insurance Rate Map shows that the large majority of insured damage has occurred in the central part of the community, adjacent to Bound Brook. The magnitude of insurance claims indicates a range of

One of the best resources for determining flood risk in a jurisdiction is Flood Insurance Rate Maps (FIRMs), which are produced by FEMA. The FIRM is the official map of a community on which FEMA has delineated both the special flood hazard areas (1% annual chance of flooding) and the risk premium zones applicable to the jurisdiction. At the time the Middlesex County HMP was being updated, the effective FIRM for the Township of South Plainfield is dated July 6, 2010. While the effective FIRM is the approved map and is used for regulatory purposes, the Middlesex County hazard mitigation plan update was developed in 2015, and the best available flood mapping at that time was the FEMA revised Preliminary Flood Map (released on January 30, 2015). This map is shown below in Figure 22-1. It shows that the most significant area of floodplain is related to Bound Brook, although the two tributaries also have some floodplain associated with them.



Figure 22-1
South Plainfield portion of FEMA Revised Preliminary Flood Insurance Rate Map
(Source: FEMA Region II, Coastal Analysis and Mapping, Preliminary FIRM, January 2014)

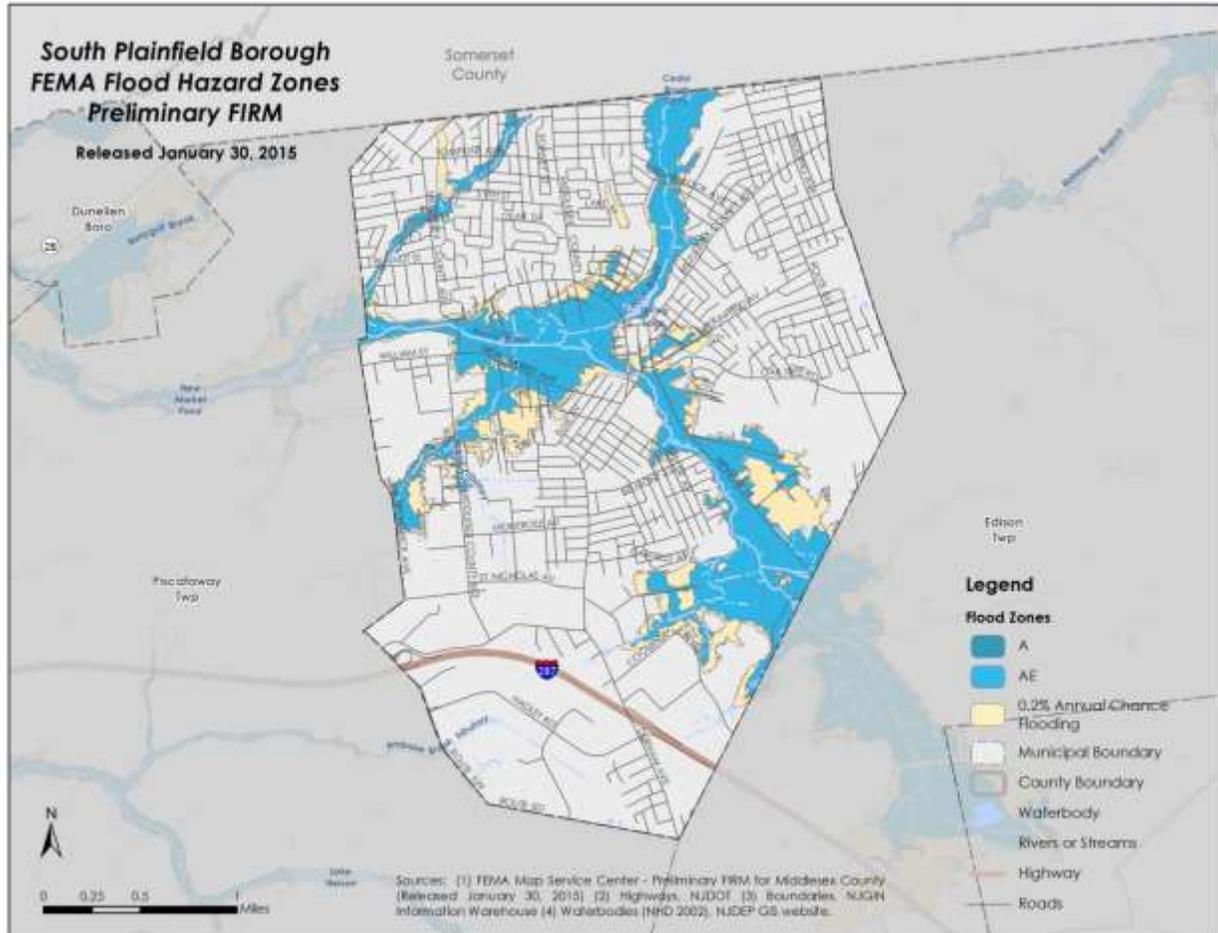




Table 22-8 provides basic information about floodplain and parcels subject to flooding within the jurisdiction. Compared to the overall County, South Plainfield is about average in terms of area within the floodplain and number of parcels with centroids in the floodplain.

Table 22-8
Floodplain and Parcel Data for the Township of South Plainfield
(Source: FEMA Region II, Coastal Analysis and Mapping, Preliminary FIRM, January 2014)

Data Type	Value
Jurisdiction area in square miles	8.32
Square miles within 100-year floodplain	1.26
Jurisdiction area within 100-year floodplain	15.18%
Number of parcels in jurisdiction	8,894
Number of parcels with centroids within 100-year floodplain	406
Parcels with centroids within 100-year floodplain	4.56%

[Note: the table refers to centroids, which are the geographic center of a parcel. This is a better indicator of flood exposure than simple intersection with the floodplain, although it does not necessarily mean that any structures or infrastructure are within the boundaries of the Special Flood Hazard Area].

Current FEMA guidance uses the term *extent* as analogous to potential severity. The extent of the flood hazard in floodprone areas of South Plainfield ranges from moderate to severe, based on a review of insurance claims. Potential depths likely range from very shallow (less than a foot) to multiple feet, based on elevation and proximity to flood sources.

3.2.2 Previous Occurrences and the Probability of Future Floods

As noted above, most of the flooding in this jurisdiction appears to be related to a combination of overbank flooding from Bound Brook and its tributaries, as well as overland flow and poor local drainage. Flood records extend back to the 1970s, but as with most Middlesex jurisdictions, most flood insurance claims in South Plainfield are from three events: Hurricane Floyd in 1999, Tropical Storm Irene in 2011, and Superstorm Sandy in 2012. There are various instances of smaller floods at other times, but these appear to be more localized, and may be due to ponding or site-specific drainage issues. This jurisdiction has no exposure to storm surge, so the probability of future floods will likely be about the same as it has been in the past.

3.2.3 Flood Impacts and Vulnerabilities to Flooding

The impacts from past floods in this jurisdiction have been significant, but in a few relatively localized places. However, in those places, there appears to remain very high vulnerability to floods, particularly on New Market Avenue, Highland Avenue, Fred Allen Drive, Lowden Avenue, and Elsie Avenue. These streets predominate NFIP insurance claims.



3.2.4 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). There is a discussion of the NFIP in the County section of this hazard mitigation plan. South Plainfield has been a member of the NFIP since 1980.

FEMA NFIP statistics indicate that as of February 2015, federal flood insurance policies were in-force on 231 properties in South Plainfield. Between 1978 and 2014, there have been a total of 242 NFIP insurance claims in Township, with a total claims value of \$4,589,894.⁸ South Plainfield comprises 5.1% of the NFIP policies in-force in Middlesex County. The average claim of \$18,966 is much less than the overall County, which is \$31,549.

South Plainfield is not presently a member of the Community Rating System (CRS), a voluntary program for communities participating in the NFIP. The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements.

Table 22-9
NFIP Policies and Claims

Number of Parcels:	
South Plainfield:	8,894
Middlesex County:	283,276
Number of Policies In-Force:	
South Plainfield:	231
Middlesex County:	4,489
Number of Claims:	
South Plainfield:	242
Middlesex County:	3,478
Total Paid Claims	
South Plainfield:	\$4,589,894
Middlesex County:	\$109,727,837

For CRS participating communities, flood insurance premium rates are discounted in increments of 5% based on creditable activities.⁹ CRS communities are ranked between 1 and 10, with Class 1 communities receiving a 45% premium discount.

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.

Figure 22-2 shows all NFIP claims in South Plainfield between 1978 and 2015. The claims are concentrated in the central part of the jurisdiction, where two tributaries intercept Bound Brook. This is the area of most claims and most repetitive and severe repetitive loss properties.

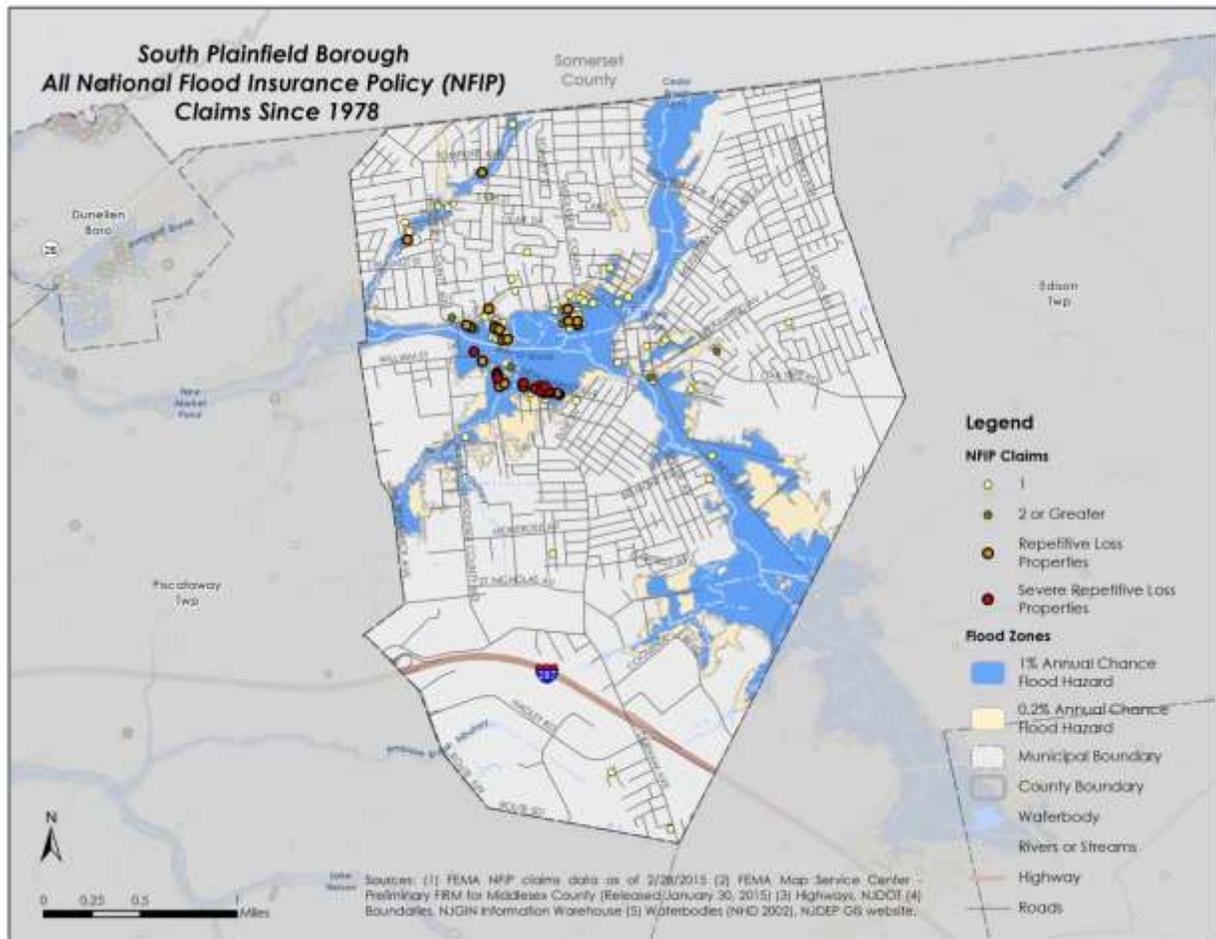
⁸ FEMA – Policy and Claim Statistics for Flood Insurance

⁹ FEMA – Community Rating System (CRS).





Figure 22-2
Map of NFIP Claims in the Township of South Plainfield (1978 to 2015),
Including Repetitive Loss and Severe Repetitive Loss Properties
(Source: FEMA National Flood Insurance Program, February 2015)



3.2.5 Flood Risk to Repetitive Loss Properties in South Plainfield

FEMA requires a discussion of NFIP Repetitive Loss and Severe Repetitive flood loss statistics in hazard mitigation plans. In 2012, the Biggert Waters act redefined repetitive loss property as a structure covered by a contract for flood insurance made available under the NFIP that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25% of market value of the structure at the time of each such flood event. This definition is being used to prioritize properties for mitigation funding. The data about Repetitive Loss properties in this subsection are based on the previous definition. Under the revised definition above, South Plainfield has three RL



properties. See Section 4 of the County portion of this HMP for more details on repetitive loss properties in the County.

The flood risk assessment in this section is based in part on analysis of NFIP data on repetitive flood loss properties. As of February 2014, Middlesex County had 429 such properties based on a query of the FEMA BureauNet NFIP interface. Of this total, 34 properties were located within South Plainfield. This

**Table 22-10
NFIP Policies and Claims**

Repetitive Loss (RL) Properties:	
South Plainfield:	5
Middlesex County:	429
Total Building (RL)	
South Plainfield:	\$148,941
Middlesex County:	\$44,015,885
Total Contents (RL)	
South Plainfield:	\$52,538
Middlesex County:	\$5,106,609
Number of Claims (RL)	
South Plainfield:	18
Middlesex County:	1,322
Average Claim (RL)	
South Plainfield:	\$11,193
Middlesex County:	\$37,158
 Severe Repetitive Loss (SRL)	
Properties:	
South Plainfield:	9
Middlesex County:	77
Total Building (SRL)	
South Plainfield:	\$919,379
Middlesex County:	\$14,512,761
Total Contents (SRL)	
South Plainfield:	\$127,298
Middlesex County:	\$910,122
Number of Claims (SRL)	
South Plainfield:	49
Middlesex County:	385
Average Claim (SRL)	
South Plainfield:	\$21,361
Middlesex County:	\$40,059

comprises 7.9 percent of the County total. Table 22-10 provides a comparison of the residential repetitive loss claims for Middlesex County and South Plainfield. The tables below include the number of repetitive loss properties, building and contents damages, the total number of claims, and the average claim amounts. The 34 repetitive loss properties in South Plainfield were responsible for a total of 118 insurance claims, totaling \$2,157,889.



Table 22-11
Repetitive Loss Statistics in the Township of South Plainfield and Middlesex County
(Source: FEMA National Flood Insurance Program, February 2015)

City/County Name	Properties	Total Building	Total Contents	Total Losses	# of Claims	Average Claim
Borough of South Plainfield	34	\$1,941,982	\$215,907	\$2,157,889	118	\$18,287
Middlesex County	429	\$44,015,885	\$5,106,609	\$49,122,494	1,322	\$37,158

The next table shows the streets in South Plainfield with the most insurance claims. For reasons of confidentiality, this mitigation plan does not show specific addresses.

Table 22-12
Streets in South Plainfield Township with Highest Numbers and Amounts of NFIP Claims
(Repetitive Loss Properties)
(Source: FEMA National Flood Insurance Program, February 2015)

Street Name	Building	Contents	Total	# Claims	Average
Carmine Avenue	\$309,339	\$46,174	\$355,513	13	\$27,347
Fred Allen Drive	\$130,613	\$17,620	\$148,233	7	\$21,176
Highland Avenue	\$181,676	\$8,548	\$190,223	21	\$9,058
New Market Avenue	\$709,464	\$72,922	\$782,386	34	\$23,011
Sampton Avenue	\$64,725	\$0	\$64,725	7	\$9,246

The next table provides the results of a simple risk projection for repetitive loss properties. This is done by annualizing past insurance claims and using this as the basis for estimating future losses. This method employs standard FEMA statistical techniques, and may be used for developing a sense of flood risk, i.e. total future losses over the 100-year planning horizon. The results below should be considered general and preliminary. It is possible to complete more accurate risk assessments for specific projects using FEMA software and methodologies, combined with information about sites and facilities.

Table 22-13
100-Year Risk Projection for NFIP Repetitive Loss Properties in South Plainfield Township

Data	Value
Period in years	19
Number of claims	118
Average claims per year	6.21
Total value of claims	\$2,157,889
Average value of claims per year	\$113,573
Projected risk, 100-year horizon	\$1,620,688



3.2.6 Flood Risk to Severe Repetitive Loss Properties in South Plainfield

Severe Repetitive Flood Loss was also redefined in the Biggert Waters Act as properties that have “incurred flood-related damage for which four or more separate claims payments have been made under flood insurance coverage under this title, with the amount of each claim exceeding \$5,000, and with the cumulative amount of such claims payments exceeding \$20,000; or for which at least two separate claims payments have been made under such coverage, with the cumulative amount of such claims exceeding the value of the insured structure.” The data about Severe Repetitive Loss properties in this subsection are based on the previous definition. Under the revised definition above, South Plainfield has 11 SRL properties. Table 22-14 provides basic information about the SRL properties in this jurisdiction. SRL properties are also shown graphically in Figure 22-2 above.

Table 22-14
Statistics on NFIP Severe Repetitive Loss Properties in the Township of South Plainfield
(Source: FEMA National Flood Insurance Program, February 2015)

City/County Name	Properties	Total Building	Total Contents	Total Losses	# of Claims	Average Claim
Borough of South Plainfield	9	\$919,379	\$127,298	\$1,046,677	49	\$21,361
Middlesex County	77	\$14,512,761	\$910,122	\$15,422,883	385	\$40,059

The next table shows the street in South Plainfield with the most severe repetitive loss insurance claims. For reasons of confidentiality, this mitigation plan does not show specific addresses.

Table 22-15
Street in the Township of South Plainfield with Highest Numbers and Amounts of NFIP Claims
(Severe Repetitive Loss Properties)
(Source: FEMA National Flood Insurance Program, February 2015)

Street Name	Building	Contents	Total	# of Claims	Average
New Market Avenue	\$483,307	\$66,887	\$550,194	21	\$26,200

The next table shows the results of a simple risk (future losses) projection for severe repetitive loss properties. This is done by annualizing past losses and using this as the basis for estimating future losses. This method uses standard FEMA techniques, and may be used for developing a sense of flood risk. The results below should be considered general and preliminary. It is possible to complete more accurate risk assessments for specific projects using FEMA software and methodologies.



Table 22-16

100-Year Risk Projection for NFIP Severe Repetitive Loss Properties in the Township of South Plainfield

Data	Value
Period in years	19
Number of claims	49
Average claims per year	2.58
Total value of claims	\$1,046,677
Average value of claims per year	\$55,088
Projected risk, 100-year horizon	\$786,110

3.3 Hurricanes and Tropical Storms Hazard

Based on input from the hazard ranking process, South Plainfield considers hurricanes and tropical storms significant hazards, and thus there is a short discussion in the present subsection.

Wind Risk Estimates

There are three significant hazards related to hurricanes, tropical storms, and to a lesser extent, nor'easters. These are: floods, storm surge, and high winds. Both floods and storm surge are addressed in the flood section of the present municipal appendix, as well as the County section of the hazard mitigation plan update. This subsection provides a preliminary quantification of hurricane wind risk based that was generated by FEMA's HAZUS-MH software (version 2.1, 2014). The calculations in Table 22-17 show a range of loss categories across the top row versus "occupancy classes" on the first column. The occupancy classes are various land uses that are represented in HAZUS. The last two columns indicate the projected 50-year and 100-year risks, i.e. the total amount of damage over those planning horizons. The figures are based on annualizing losses, then discounting them to present value using the software. There is more detailed information about the calculations and Countywide results in the main section of this HMP update.

FEMA Project Worksheets from Tropical Storm Irene and Hurricane Sandy

Following many natural disasters, FEMA engineers and field teams complete formal assessments of damage to community assets, and document these in project worksheets (PWs). The PWs are the basis of FEMA Public Assistance grants for repairs. There are seven categories of damage, indicated by the letters A through G. These are: A – debris removal; B – emergency protective measures; C – roads and bridges; D – water control facilities; E – public buildings; F – utilities, and; G – recreational facilities/other. The categories and amounts of the PWs are listed in Table 22-18 below for Tropical Storm Irene and Hurricane Sandy. Note that in some cases there are multiple different organizations in a community that are applicants for FEMA Public Assistance. In order to simplify the table, the PW amounts for all applicants in a community are combined.



Table 22-18
Probabilistic Wind Risk in South Plainfield, 50- and 100-year Planning Horizons
(Source: FEMA, HAZUS-MH version 2.1)

Occupancy Class	Total SF	Building Damages	Contents Damages	Inventory Loss	Relocation Cost	Business Income Loss	Rental Loss	Lost Wages
Residential	11,321,126	\$222,351	\$75,775	\$0	\$13,146	\$114	\$5,824	\$269
Commercial	5,848,573	\$38,848	\$17,878	\$701	\$6,317	\$3,250	\$3,409	\$3,661
Industrial	6,107,491	\$42,261	\$31,806	\$4,925	\$2,653	\$576	\$541	\$948
Agricultural	75,115	\$504	\$257	\$31	\$77	\$5	\$3	\$2
Religious	119,612	\$977	\$352	\$0	\$133	\$70	\$12	\$164
Government	32,261	\$211	\$111	\$0	\$45	\$2	\$11	\$221
Education	646,830	\$4,052	\$1,693	\$0	\$712	\$176	\$29	\$415
Totals	24,151,009	\$309,203	\$127,872	\$5,657	\$23,083	\$4,192	\$9,829	\$5,679

Table 22-19
Probabilistic Wind Risk in South Plainfield, 50- and 100-year Planning Horizons
(Source: FEMA, HAZUS-MH version 2.1)

Occupancy Class	Total Annualized Loss	50-year Risk	100-year Risk
Residential	\$317,479	\$4,381,533	\$4,530,114
Commercial	\$74,065	\$1,022,167	\$1,056,829
Industrial	\$83,709	\$1,155,263	\$1,194,439
Agricultural	\$880	\$12,142	\$12,554
Religious	\$1,707	\$23,553	\$24,352
Government	\$601	\$8,290	\$8,571
Education	\$7,076	\$97,660	\$100,972
Totals	\$485,516	\$6,700,608	\$6,927,830

Table 22-20
FEMA Public Assistance Expenditures in Tropical Storm Irene and Hurricane Sandy, by Category
(Source: FEMA Region II, Public Assistance)

Event Name/Public Assistance Category	A	B	C	D	E	F	G	Total
Tropical Storm Irene	\$0	\$20,556	\$0	\$0	\$0	\$0	\$0	\$20,556
Hurricane Sandy	\$243,589	\$29,100	\$0	\$0	\$3,959	\$0	\$0	\$276,648
Total	\$243,589	\$49,656	\$0	\$0	\$3,959	\$0	\$0	\$297,204



4. Capability 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 Cranbury during this plan update.

4.1.1 Planning and Regulatory

Tool / Program (code, ordinance, plan)	(Yes/No)	Code Citation and Comments
Master Plan	Y	
Capital Improvements Plan	-	
Floodplain Management / Basin Plan	-	
Stormwater Management Plan	Y	
Open Space Plan	-	
Stream Corridor Management Plan	-	
Watershed Management or Protection Plan	-	
Economic Development Plan	-	
Comprehensive Emergency Management Plan	Y	
Emergency Operation Plan	Y	
Post-Disaster Recovery Plan	-	
Transportation Plan	-	
Strategic Recovery Planning Report	-	
Zoning Ordinance	Y	
Subdivision Ordinance	Y	
NFIP: Cumulative Substantial Damages	-	
Growth Management Ordinances	-	
Site Plan Review Requirements	Y	
Stormwater Management Ordinance	Y	
Municipal Separate Storm Sewer System (MS4)	Y	
Combined Sewer Overflows (CSO)	-	
Natural Hazard Ordinance	-	
Real Estate Disclosure Requirement	-	
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	-	

4.1.2 Staff/Personnel

Resources	Is this in place? (Y/N)	Department/ Agency/Position
Planning Board	Y	
Mitigation Planning Committee	-	
Environmental Board/Commission	Y	
Open Space Board/Committee	-	
Economic Development Commission/Committee	Y	
Maintenance Programs to Reduce Risk	Y	
Mutual Aid Agreements	Y	
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	



Resources	Is this in place? (Y/N)	Department/ Agency/Position
Planners or engineers on staff with a strong understanding of natural hazards	-	
NFIP Floodplain Administrator	Y	
Surveyors	-	
GIS layers and maps	-	
Personnel trained in GIS	-	
Personnel trained in HAZUS	-	
Emergency Manager	Y	
Grant Writer	-	
Staff with expertise in cost/benefit analysis	-	
Professionals trained in conducting damage assessments	-	

4.1.3 Education/Outreach and Community Classifications

Program	Do you Participate in/Use this Program (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	N		
Building Code Effectiveness Grading Schedule (BCEGS)	N		
Public Protection (ISO Fire Protection Classes 1 to 10)	-		
Storm Ready	-		
Firewise	-		
Disaster/Safety Programs in/for Schools	Y		
Organizations with Mitigation Focus (advocacy group, non-government)	-		
Public Education Program/Outreach (through website, social media)	Y		
Public-Private Partnerships	-		

4.1.4 Fiscal Capabilities

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



5. Mitigation Strategy

This section describes what projects, initiatives, and other actions the Borough has undertaken or plans to implement to reduce risk and loss within its jurisdiction. This includes the status of previously identified actions and any other projects that have been completed since the 2010 Plan was adopted. The additional actions were determined by the LPC based on self-determined priorities and experience.

5.1 Past Mitigation Actions

The table below lists the mitigation projects and actions that were included in the original 2010 Plan.

Mitigation Action	Responsible Party	Status	Review Comments
South Plainfield 1: Acquisition of 23 homes located around New Market Avenue (specific streets include New Market Ave, Anthony Ave, Carmine Ave and Elsie Street)	South Plainfield OEM	Not completed due to lack of funding. Keep as future project.	
South Plainfield 2: Hardening/Retrofitting and generator for EOC located on South Plainfield Ave.	South Plainfield OEM	Complete	
South Plainfield 3: Flood proofing, elevation, Hardening/Retrofitting, burying utility lines for Police building located on Plainfield Ave.	South Plainfield OEM	Complete	
South Plainfield 4: Hardening/Retrofitting, burying utility lines for FIRE/EMS located on Spring Lake Parks.	South Plainfield OEM	Not completed due to lack of funding. Keep as future project.	
South Plainfield 5: Construction of barrier around Water/Sewage facilities lift station located on New Market Ave, Hadley Field Rd, Cedar Brooke Ave, Loaden Avenue	South Plainfield OEM-DPW	Complete	



Mitigation Action	Responsible Party	Status	Review Comments
South Plainfield 6: Harden/Retrofit Shelter (Franklin Elementary School) located on Franklin Ave.	South Plainfield OEM	Not complete, replaced with action below	
South Plainfield 7: Harden/Retrofit Shelter (South Plainfield Middle School) located on Plainfield Ave.	South Plainfield OEM	Not complete, replaced with action below	
South Plainfield 8: Harden/Retrofit Shelter (Kennedy School) located on Norwood Ave.	South Plainfield OEM	Not complete, replaced with action below	
South Plainfield 9: Harden/Retrofit Shelter (Roosevelt Elementary School) located on Jackson Ave.	South Plainfield OEM	Not complete, replaced with action below	
South Plainfield 10: Harden/Retrofit Shelter (Grant Elementary School) located on Cromwell Ave.	South Plainfield OEM	Not complete, replaced with action below	
South Plainfield 11: Harden/Retrofit Shelter (Riley Elementary School) located on Morris Ave.	South Plainfield OEM	Not complete, replaced with action below	
South Plainfield 12: Harden/Retrofit Shelter (South Plainfield High School) located on Lake Ave.	South Plainfield OEM	Not complete, replaced with action below	

5.2 Proposed Mitigation Actions

The table below details the mitigation initiatives the Borough of South Plainfield would like to pursue to minimize future effects of hazard events. These actions have been determined through a local assessment of current risk and needs. The LPC met with the Plan Consultant to review all hazard and risk assessment data and evaluate the strategy. These initiatives are dependent upon funding and may change based on municipal priorities and future hazard events.

For each new mitigation action, the Borough has ranked as ‘High’, ‘Medium’, or ‘Low’, based on the



evaluation criteria outlined in Section 5.

Proposed Action	Anticipated Benefits	Responsible Party	Funding or Implementation Mechanism	Timeline	Priority
Elevate or acquire repetitive loss properties	Reduce property loss from flooding	OEM	Grants	1-3 years	High
Investigate use of schools as municipal shelter	Allow a safe municipal location for displaced residents during hazard events.	OEM	Staff time/Existing resources	1-2 years	High
Portable generators	Generators for maintaining electricity intersections at main thoroughfares. Improve egress during long-term disruptions.	OEM	Capital/Grants	1-2 years	High



6. Plan Implementation

The LPC shall document, as needed and appropriate:

- Hazard events and losses in South Plainfield and the effects that mitigation actions have had on impacts and losses,
- Progress on the implementation of mitigation actions, including efforts to obtain outside funding for projects,
- Any obstacles or impediments to the implementation of actions,
- Additional mitigation actions believed to be appropriate and feasible,
- All public and stakeholder input and comment on the Plan that has been received by the Borough.
- Copies of any grant applications filed on behalf of the Borough

Continued Public Input

The Borough of South Plainfield is committed to incorporating public input into its ongoing hazard mitigation planning. The public will have an opportunity to comment on the Plan prior to any changes and during the 5-year plan update. The annual progress reports will be posted on the County mitigation website in addition to the adopted Plan.

All public comments and input on the plan will be recorded and addressed, as appropriate. Opportunity to comment on the plan will be provided directly through the County's website. Public comments can also be submitted in writing to the County's HMP Coordinator. All public comments shall be addressed to: Middlesex County Office of Emergency Management c/o All Hazards Pre-disaster Mitigation Plan Coordinator, 1001 Fire Academy Drive, Sayreville, NJ 08872.

The Borough of South Plainfield's LPC shall ensure that:

- Copies of the latest approved Plan are available for review at Borough Hall along with instructions to facilitate public input and comment on the Plan.
- Public notices are made as appropriate to inform the public of the availability of the Plan, particularly during Plan update cycles.
- For minor changes to this appendix, the Borough of South Plainfield will post a notice on the Borough's website and invite the public to review and comment.
- For major changes involving Borough Council approval, the Borough will use its standard public notice procedures inviting the public to review the document and provide feedback.

Plan Adoption

On [insert date] Middlesex County submitted the initial draft of the 2015 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 Borough Council approved the plan on [insert date]. The Borough resolution for adoption is provided below, the County's adoption resolution is provided as Appendix F of the 2014 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 G.

Plan Maintenance

The Borough of South Plainfield will review this Appendix of the County's hazard mitigation plan appendix each year and give the County's HMP Coordinator an annual progress report. The Emergency Management Coordinator is responsible for convening the LPC, initiating the plan review, and submitting the annual progress report. The LPC may use worksheets #1 and #3 in the FEMA 386-4 guidance document, to facilitate the review and progress report. FEMA guidance worksheets are provided in Appendix H. 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 Emergency Management Coordinator will convene a meeting of the LPC to review and approve all changes. The Borough retains the discretion to implement minor changes to the document without formal procedures involving the Borough Council subject to local policies and regulations.

In addition to the annual progress report, the Borough of South Plainfield 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.