



Appendix 9: Borough of Mountainside

This appendix is part of the 2014 Union County Hazard Mitigation Plan (HMP) update, and includes only jurisdiction-specific information about the Borough of Mountainside, which is one of the twenty (20) municipalities within Union County that is participating in the plan update. Union County led the planning process and outreach for this update. For a detailed description of the planning process and the public outreach efforts for this update, see Section 3 of the 2015 HMP.

1. Planning Process and Participation

The County formed a Steering Committee, which was responsible for key decisions during the plan update. This committee sent a letter to the Mayor of each municipality within the County. The Mayors and local officials selected a single individual to represent the town in the broader process. This person was the point of contact for the plan update, but worked with other municipal employees, consultants, volunteers, and other stakeholders throughout the planning process. This collection of participants, considered the local planning committee, is listed below. The committee was responsible for various decisions that informed the development of this appendix, including: prioritizing the natural hazards that can affect the community, reviewing and prioritizing the mitigation actions that are included in Table 9-1, and informing community leaders about the status of the County mitigation plan update, including this appendix.

The Borough of Mountainside Planning Committee evaluated and identified the hazards of concern, completed the request for information (RFI), reviewed the plan documents and vulnerability assessment, identified local stakeholders for outreach, and worked collectively to update the mitigation strategy. In order to complete the update process, the Borough attended the kickoff meeting held by Princeton Hydro in May 2014. To further the plan development, the Planning Committee met with the Consultant to review the plan documents and revise the mitigation strategy in a workshop format on August 7th, 2014.

Table Error! Reference source not found.-1
Local Planning Committee (Source: Borough of Mountainside)

Name	Title	Organization
James J. Debbie Jr.	OEM Director	Boro of Mountainside
Ronald Romak	OEM Deputy	Boro of Mountainside
Keith Turner	Councilman	Boro of Mountainside
Lewis Giordino	Fire Prevention Official	Boro of Mountainside
Matt Watson	Fire Chief	Mountainside Fire Department
Eric Pastore	Captain	Mountainside Rescue Squad
Chief	Chief	Mountainside Police Department



2. Community Profile

The Borough of Mountainside has a total area of 4.049 square miles and is located in western Union County, New Jersey. Major thoroughfares include Route 22 and Interstate 78.

As of 2010, the population was estimated at 6,685. This is a 1.26 percent increase from the 2000 population, which was estimated at 6,602. Figure 9-1 is a land use map of the Borough of Mountainside. See Section 2 for a map of Union County.

The area occupied by Borough of Mountainside has a similar history to other locations in Union County, serving initially as farmland, and developing into communities serving travelers and light industry into the 20th century. The Borough of Mountainside was officially incorporated on Sept. 25, 1895 from a portion of northern Westfield Village, a result of a referendum to separate so that residents' taxes would not go toward Westfield improvements.¹ It is governed under a Mayor-Council format, with the Mayor serving four-year terms and a six-member Council serving staggered terms of three years each. All positions are elected at-large.

2.1 Land Use and Development

Mountainside is a community of mixed use development, with 60.53 percent of its 4.04 square miles of land area classified as urban/developed. Over 88 percent of the parcels within Mountainside are classified as residential, based on tax assessment data. Between 2004 and 2012, 56 building permits were issued for residential homes within the Borough. This is 0.68 percent of the total building permits issued for Union County during this time period. All (100%) of these permits were for 1- and 2-family homes. Mountainside has a population density of 1654 people per square mile, the lowest density in Union County. The 2010 census estimates that 9.1 percent of the housing within the Borough was renter-occupied, much lower than the County average of 30.5 percent renter-occupied properties.

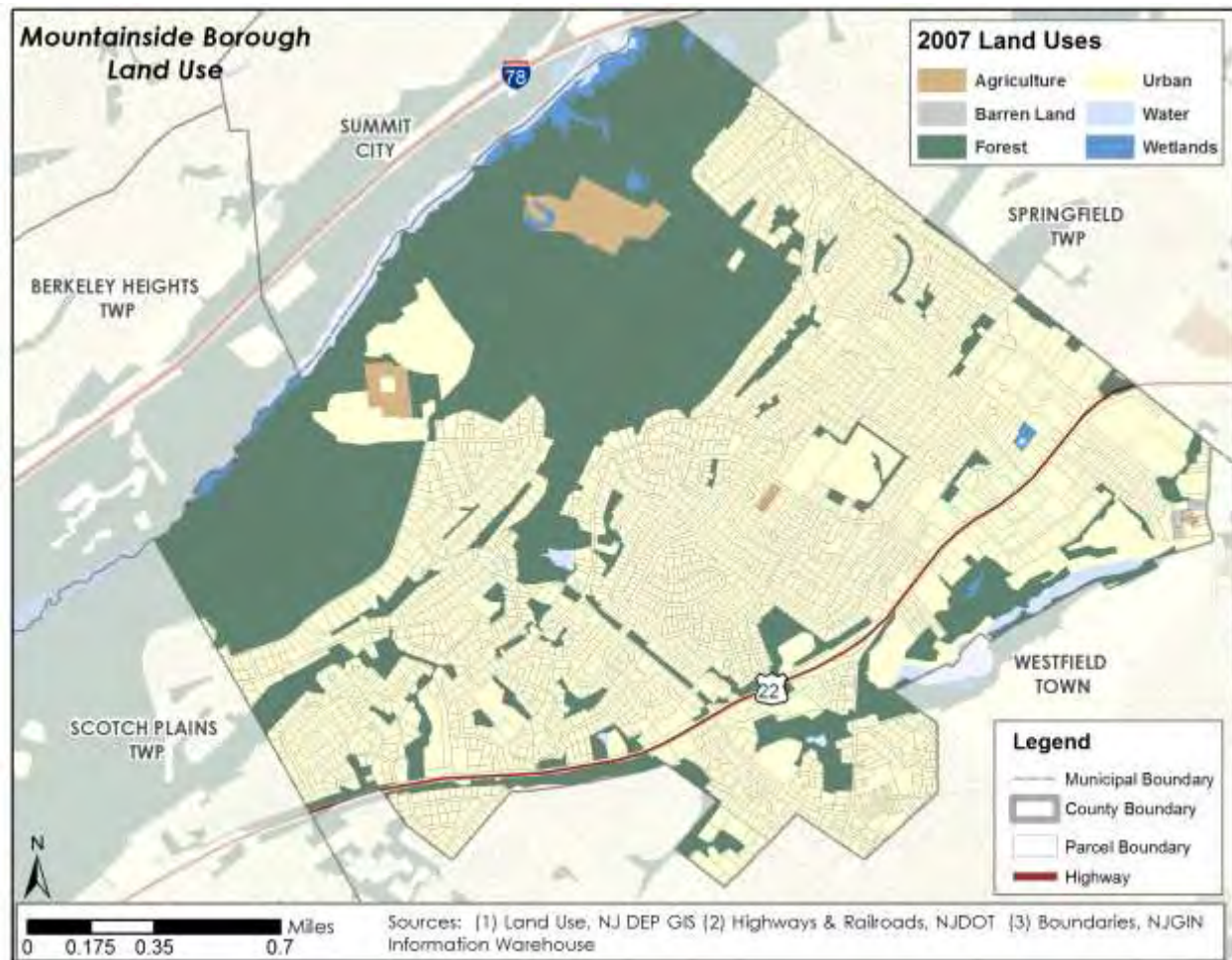
Table 9-2
Land Use/Land Cover Trends
(NJDEP GIS, 2007)

Land Cover Class	2002 (acres)	2007 (acres)	Percent Change	Percent of Total Land ¹
Agriculture	40.78	39.22	-3.82%	1.52%
Barren Land		2.80		0.11%
Forest	935.29	921.84	-1.44%	35.65%
Urban	1,552.85	1,565.05	0.79%	60.53%
Water	29.95	29.70	-0.82%	1.15%
Wetlands	26.83	27.07	0.92%	1.05%

¹ "Entering Mountainside: 1895-1920" <http://mountainsidelibrary.org/site/1858moun/EnteringMountainside.pdf>.



Figure 9-1: Land Use/Land Cover Map Borough of Mountainside





3. Hazard Identification and Risk Assessment

This section of the Mountainside mitigation plan appendix describes the natural hazards and risks that can affect the community. It should be noted that -- in accordance with FEMA requirements -- only the hazards with aspects that are unique to the community are included in detail in this appendix.

3.1 Background and Hazard Rankings

Like all the other jurisdictions in Union County, the Borough of Mountainside is potentially subject to the effects of all the hazards that are considered in this mitigation plan. However, the majority of these hazards have minimal impacts on the area, and are discussed in detail in the County part of the 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 Union County HMP update includes separate appendices for each jurisdiction, this requirement is met in the appendices, while risks that affect the entire County uniformly are discussed in the County part of the HMP.

One of the first steps in developing jurisdictional appendices was for 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.

Table 9-3 shows Mountainside’s hazard rankings. The level of discussion and detail about specific hazards in this section are based on these rankings. Hazards that are ranked *high* include the most detail, and to the extent possible include probabilistic assessments of risk, i.e. likely future damages in the community based on the likelihood of occurrence. Hazards that are ranked *medium* have less detail and may in some cases refer to the main part of the county mitigation plan; they usually do not have probabilistic risk assessments, although potential future losses

Table 9-3
Borough of Mountainside Hazard
Identification and Prioritization

Hazard	Priority
Extreme temperature – cold	High
Severe storm – winter weather	High
Flood	Med
Hazmat release – fixed site	Med
Hazmat release – transportation	Med
High wind – straight-line winds	Med
High wind – tornado	Med
Dam Failure	Low
Drought	Low
Earthquake / Geological	Low
Erosion	Low
Extreme temperature – heat	Low
Hail	Low
Landslide (non-seismic)	Low
Severe storm – lightning	Low
Storm surge	None
Wildfire	None

**Only the hazards ranked high and medium are analyzed in this appendix*



are discussed based on best available data. Hazards ranked *low* and *none* are not addressed in this jurisdictional appendix because they are discussed in the County part of the HMP, and there are no significant differences in risk between the County and the municipality.

3.2 Flood Hazard

3.2.1 Type, Location and Extent

Compared to many other jurisdictions in Union County, the flood hazard in Mountainside Borough is very minor and limited to only two small areas, as shown in Figure 9-2 below. These appear to be along minor and unnamed streams that drain into the south side of Echo Lake. There is only a small amount of floodplain in the jurisdiction, and very few flood insurance claims since the community entered the National Flood Insurance Program in 1977. When flooding does occur in Mountainside, it is most likely related to overland flow and ponding, although the few properties with flood insurance claims are near mapped Special Flood Hazard Areas.

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. The effective FIRM date for Union County is September 20th, 2006. The FIRM is shown in Figure 9-2.

Current FEMA guidance uses the term extent as analogous to potential severity. The extent of the flood hazard in Mountainside Borough is very minor. The areas discussed above have experienced fairly shallow and low-velocity flooding at various times in the past, and in this case this is the best indicator of extent in the future. The most flood-prone areas of the jurisdiction can expect to experience flooding of a foot or two maximum (occasionally), with more frequent rain events causing a few inches of inundation at low spots, and those adjacent to culverts and stream channels. The current engineering design standard for the jurisdiction is a 25-year event (i.e. one with a 4% annual chance of occurring), so events more significant than that have the potential to inundate specific areas.

Table 9-4 shows the number of parcels in Mountainside Borough with at least 60% of their area in the 100-year (1% annual) and 500-year (0.2% annual) floodplain. Although these figures offer some insight into the flood hazard in this jurisdiction, they are not particularly reliable as a risk indicator because in many cases structures and infrastructure (where the risk-producing impacts occur) are not located in the specific areas that are in the floodplain.

Table 9-4: Flood-prone Properties

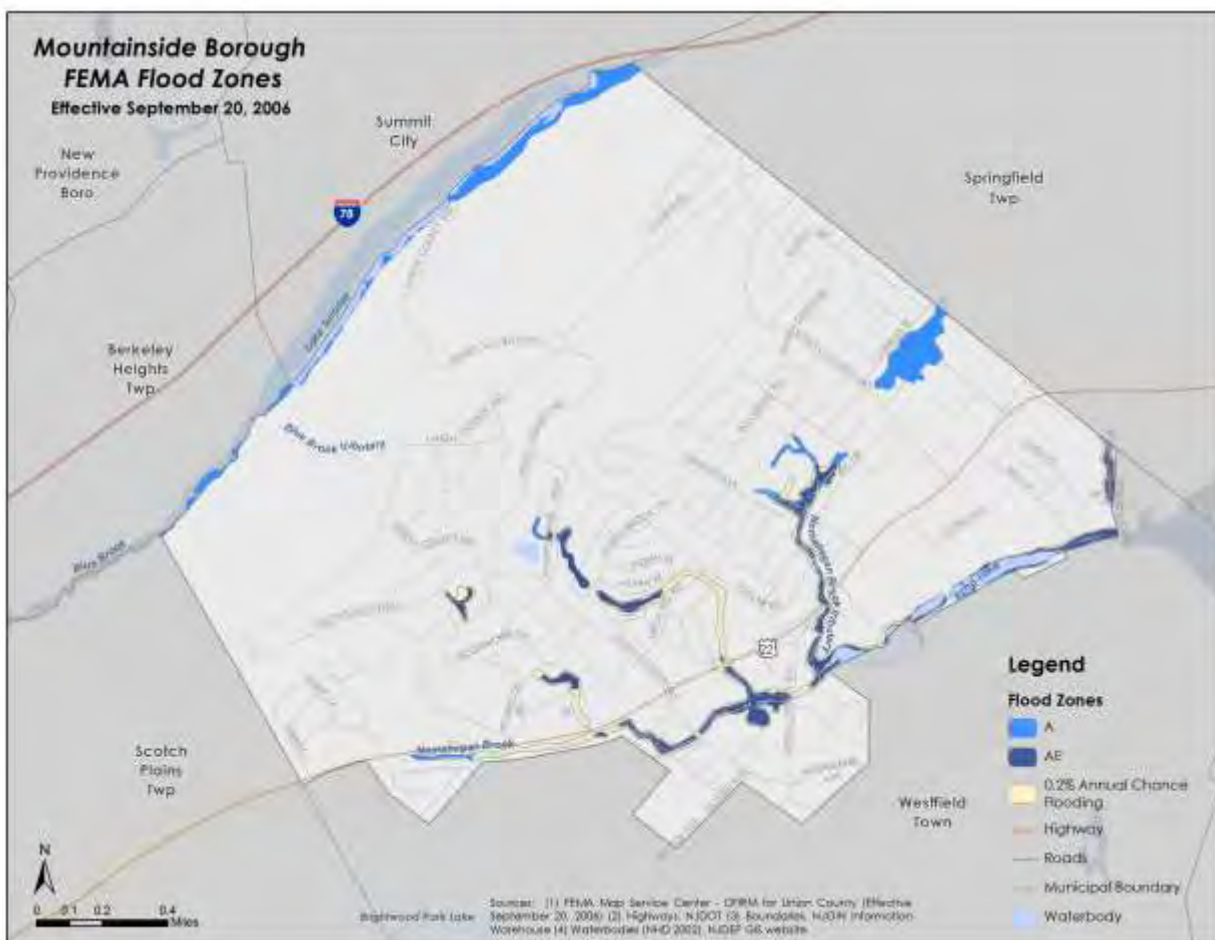
Flood hazard area	Number of Parcels
100-year (1%) floodplain	20
500-year (0.2%) floodplain	5



3.2.2 Previous Occurrences and the Probability of Future Floods

Minor flooding occurs in Mountainside Borough every few years, although the severity of these frequent events is minimal. As discussed in the main (County) section of the mitigation plan, more significant events like tropical cyclones and nor'easters occur every few years (section citation to main plan), and can result in significant flooding. Notwithstanding the potential effects of climate change on weather patterns, the Borough can probably expect to experience some level of flooding every year or two, with more significant events happening every five to ten years on average. The main (County) part of this HMP discusses past occurrences in detail, and that history and statistics are generally the same as for Mountainside.

Figure 9-2: Effective FIRM Map Borough of Mountainside





**Table 9-5
NFIP Policies and Claims**

Number of Parcels:

Mountainside:	2700
Union County:	199,489

Number of Policies In-Force:

Mountainside:	40
Union County:	6,055

Number of Claims:

Mountainside:	207
Union County:	5,560

Total Paid Claims

Mountainside:	\$129,018
Union County:	\$96,782,279

Repetitive Loss Properties:

Mountainside:	2
Union County:	707

Total Building

Mountainside:	\$29,053
Union County:	\$16,597,500

Total Contents

Mountainside:	\$12,423
Union County:	\$3,787,671

Number of Claims

Mountainside:	5
Union County:	2,061

Average Claim

Mountainside:	\$8,295
Union County:	\$9,891

3.2.3 Flood Impacts and Vulnerability to Flooding

As discussed elsewhere, flood impacts in Mountainside Borough are relatively minor based on various metrics such as NFIP claims, FEMA PA Program Project Worksheets, and the known history of flooding. There is no significant history of flood damage to critical facilities or populations in the jurisdiction. Some small areas of the jurisdiction are vulnerable to periodic yard and basement flooding.

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). The U.S. Congress established the NFIP with the passage of the National Flood Insurance Act of 1968. The NFIP is a Federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. Participation in the NFIP is based on an agreement between communities and the Federal Government. If a community adopts and enforces a floodplain management ordinance to reduce future flood risk to new construction in floodplains, the federal government will make flood insurance available within the community as a financial protection against flood losses. Mountainside Borough has been a member of the NFIP since 1977.

FEMA NFIP statistics indicate that as of February 2014, federal flood insurance policies were in-force on 40 properties in Mountainside. This represents a dollar value of property and contents coverage totaling \$12,003,900. Between 1978 and 2014, there have been a

total of 207 NFIP insurance claims in Mountainside Borough with a total claims value of \$129,018. Table 9-5 compares the number of policies in-force and paid claims in the jurisdiction. The Table shows that Mountainside Borough comprises 0.6% of the NFIP policies in-force in Union County.

Mountainside Borough 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. For CRS participating communities, flood insurance premium rates are discounted



in increments of 5% based on creditable activities. 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 9-3 shows all NFIP claims in Mountainside Borough between 1978 and 2014.

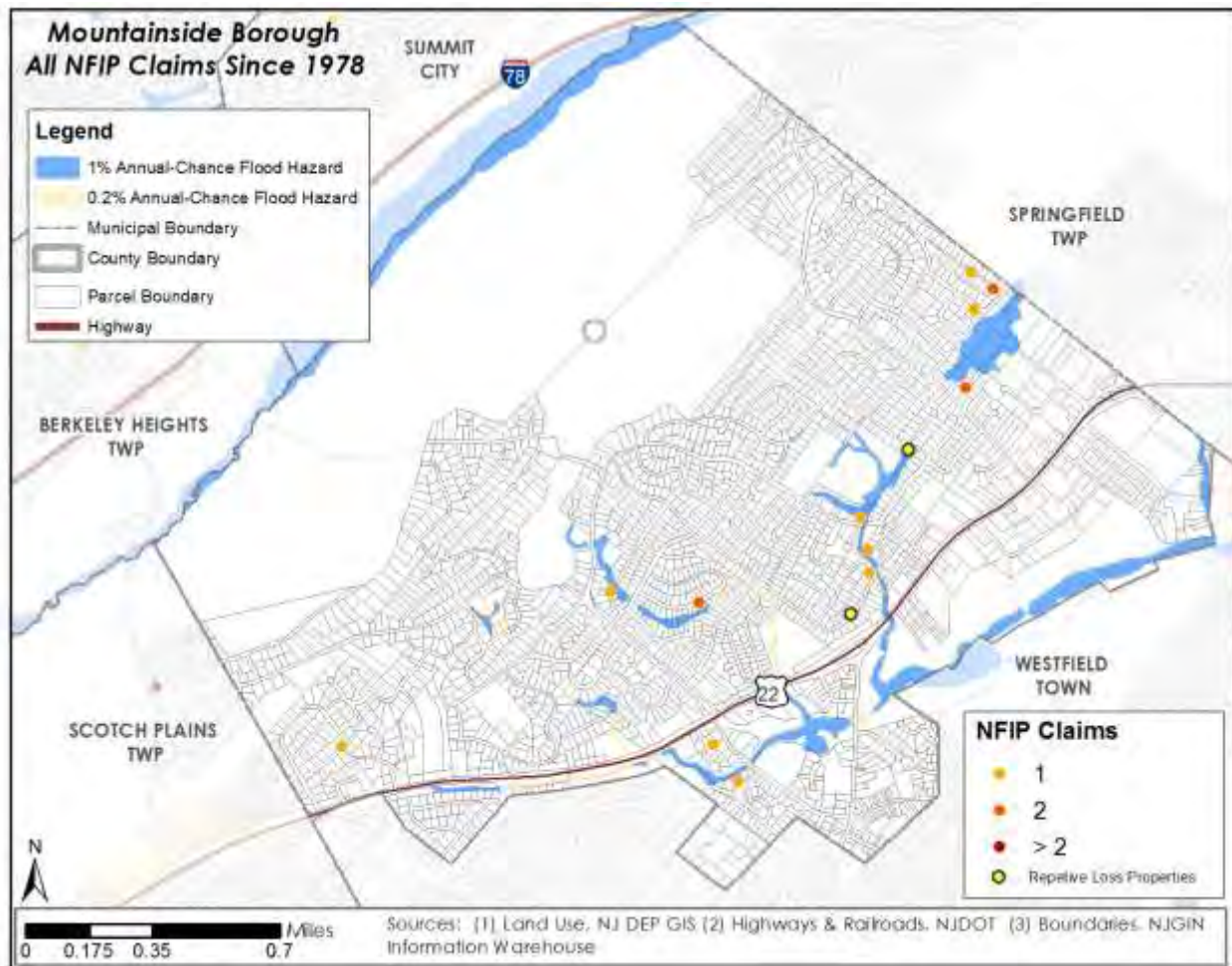
FEMA requires a discussion of NFIP Repetitive Loss and Severe Repetitive flood loss statistics in hazard mitigation plans. The NFIP defines repetitive loss properties as those with two or more claims of more than \$1,000 each during any rolling ten-year period.

The flood risk assessment method is based on analysis of NFIP data on repetitive flood loss properties. The NFIP defines repetitive loss (RL) properties as those that have received at least two NFIP insurance payments of more than \$1,000 each in any rolling ten-year period. As of February 2014, Union County had 707 such properties based on a query of the FEMA BureauNet NFIP interface. Of this total, 2 properties were located within Mountainside; this comprises less than one percent of the County total. Table 9-5 provides a comparison of the residential repetitive loss claims for Union County and Mountainside Borough. The tables below include the number of repetitive loss properties, building and contents damages, the total number of claims, and the average claim amounts. Mountainside has properties, and the total of claims on them is relatively small, as shown in Table 9-5. These properties are also shown in Figure 9-3.

There are no significant concentrations of repetitive loss properties in Mountainside.



Figure 9-3: NIFP Claims Map, Borough of Mountainside



3.2.5 Flood Risk to Repetitive Loss Properties in Mountainside

Residential flood risk is calculated by a simple methodology that uses the FEMA default present-value coefficients from the benefit-cost analysis software modules. To perform this calculation, the flood insurance claims data were reviewed to determine an approximate period over which the claims occurred. This method should be used only for very general estimates of flood risk because the NFIP data represents only part of the flood losses in any jurisdiction. This is because there are always properties that are uninsured or under-insured. These flood claims occurred between 1979 and 2011, a period of 33 years.

As shown in Table 9-6, there have been five flood insurance claims in the 33-year period, for an average number of claims per year of 0.15. Based on a 100-year horizon and a present value coefficient of 14.27 (the coefficient for 100 years using the mandatory OMB discount rate of 7.0 percent), the projected



flood risk to these properties is \$17,936. It must be understood that individuals can obtain and cancel flood insurance policies, and the flood hazard depends on many variables, including the weather, so this projection is simply an estimate of potential damages. Nevertheless, it offers a useful metric that can be used in assessing the potential cost effectiveness of mitigation actions, although in this case, site-specific loss estimates are fairly small, meaning that the amount of grant funds that could be expended on projects will probably be limited.

3.2.6 Flood Risk to Severe Repetitive Loss Properties in Mountainside

The definition of Severe Repetitive Flood Loss is included in the County portion of this mitigation plan. As of February 2014, Mountainside had no NFIP severe repetitive flood loss properties.

**Table 9-6: Projected 100-year Flood,
Based on Past Flood Insurance Claims
(Source: FEMA NFIP query February 2014)**

Data	Value
Period in years	33
Number of claims	5
Average claims per year	0.15
Total value of claims	\$706,990
Average value of claims per year	\$1,257
Projected risk, 100-year horizon	\$17,936



3.3 Hazardous Materials Releases – Fixed Sites and Transportation

The main section of this hazard mitigation plan includes more details about the hazardous materials hazards in the County as a whole, although by their nature such events are non-probabilistic. As such, it is impossible to estimate risk with any accuracy whatsoever. Hazardous materials releases are included in this appendix because the County required that it remain on the list of hazards, and Mountainside indicated it has a hazard of high or medium concern. However, for reasons of security and a lack of open-source information, this subsection is necessarily short and very general.

This mitigation plan is a public document, and as such does not include any descriptions specific enough that they could be used for malicious purposes. As part of this HMP update, the planning team queried the New Jersey Department of Environmental Protection Right to Know database. The database includes reports of hazardous materials spills, listing their location, date of occurrence and the type of material. The database was queried from January, 2000 to the present day. Results are a combination of occurrences on fixed sites and those related to transportation. For Mountainside, these tended to be in five categories: soil contamination, underground tanks (presumably leakage), illegal dumping, improper storage/disposal, and abandoned containers.

3.3.1 Fixed Sites

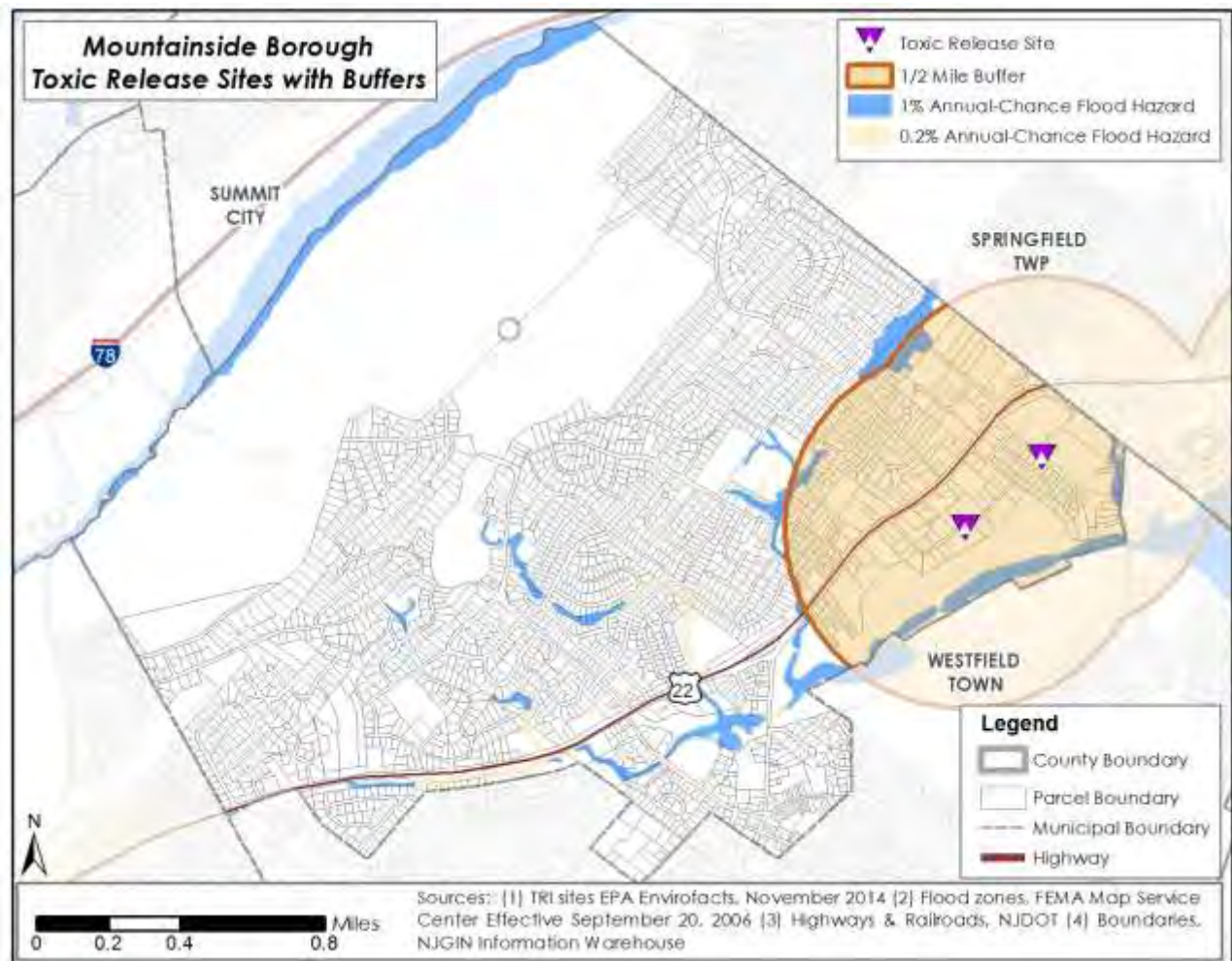
The US Environmental Protection Agency maintains a database of toxic releases by site. The database is known as the Toxic Release Inventory (TRI), and provides basic information about the locations, types and amounts of releases of hazardous materials. This is explained in detail in the County section of this mitigation plan. Union County has 138 such sites, two of which are in Mountainside. The following graphic shows the TRI sites in and around the jurisdiction, with a half-mile buffer depicted. This does not suggest a specific level of increased risk within the buffer, however, as the potential for exposure and possible effects are dependent on many factors, most of which are not explained in this appendix.

3.3.2 Transportation

Because of the large presence of the chemical and oil industries in eastern New Jersey, many major transportation routes and rail lines carry a high volume of hazardous materials, many of which could cause damage, death and injury to Union County under some circumstances. As noted, there are few open sources of information about the materials that are transported on these routes, the routes themselves, or the carriers' schedules. For more information contact the New Jersey State Department of Environmental Protection or local Emergency Management offices.



Figure 9-4: Map of Toxic Release Inventory Sites





3.4 Tornadoes

3.4.1 Type, Location and Extent

Tornado risks are discussed in detail in Section 4 of the County portion of this mitigation plan. There are no significant differences in the type, location or extent of this hazard between the County and Mountainside, and there are no aspects of the hazard that are unique to this jurisdiction.

3.4.2 Previous Occurrences and the Probability of Future Occurrences

Previous occurrences of the tornado hazard are discussed in detail in the County portion of this hazard mitigation plan (see Section 4), and for reasons of brevity are not repeated here. There are no meaningful differences between the County as a whole versus Mountainside Borough with regard to occurrences or the future probability of this hazard.

3.4.3 Tornado Impacts and Vulnerabilities to the Hazard

Because of the size of the sample area and the nature of the built environment, tornado impacts in Mountainside are substantially similar to the County as a whole. The most significant potential impacts from this hazard are damage to structures (and to a lesser degree, infrastructure), injuries and deaths.

3.5 Straight Line Wind Hazard

3.5.1 Type, Location and Extent

The high wind – straight-line wind hazard (including type, location and extent) is uniform across Union County, and is discussed in detail in the County portion of this mitigation plan (see Section 4). For reasons of brevity these details are not repeated here. There are no wind hazards that are unique to Mountainside Borough.

3.5.2 Previous Occurrences and the Probability of Future Occurrences

Previously occurrences and the probability of future events are the same for Mountainside as for Union County. Refer to Section 4 for that information at a County level.

3.5.3 Straight Line Wind Impacts and Vulnerabilities to the Hazard

Mountainside is a typical residential community, predominated by balloon-frame and unreinforced masonry residential structures, the majority of which have gable or hip roofs. As discussed in the County part of the plan, wind profiles in this area of the country indicate a relatively low potential for severe events, and adequate construction techniques and building codes have generally sufficed to keep risks low. There are two main sources of potential wind damage in such communities: (1) structural damage to residential and non-residential buildings, and (2) power losses, mainly due to trees falling on above-ground lines. There are established methodologies for completing general risk assessments for these hazards. These are explained in detail in the County portion of the plan (see



Section 4). Table 9-8 below summarizes annual straight-line wind risks and cumulative risks over 50- and 100-year planning horizons in Mountainside. Risks are in seven discreet categories: building damages, contents damages, inventory loss, relocation costs, business income lost, rental income lost and wages lost.

The next table shows power loss risks in Mountainside, annualized and for 50- and 100-year planning horizons.

**Table 9-7: Straight-line Wind Risks for Range of Loss Types,
Borough of Mountainside
Annualized and 50- and 100-year Planning Horizons**

Occupancy Class	Total SF	Total Annualized Damages	50-year Risk	100-year Risk
Residential	\$4,240,885	\$87,514	\$1,207,775	\$1,248,731
Commercial	\$1,508,589	\$14,505	\$200,179	\$206,968
Industrial	\$998,331	\$8,855	\$122,210	\$126,354
Agricultural	\$26,452	\$227	\$3,133	\$3,239
Religious	\$56,200	\$506	\$6,979	\$7,216
Government	\$25,566	\$199	\$2,747	\$2,840
Education	\$35,197	\$262	\$3,619	\$3,742
Total	\$6,891,219	\$112,067	\$1,546,642	\$1,599,090

Table 9-8: Power Loss Horizons

Period	Risk Value
Annual	\$68,932
50-year planning horizon	\$951,313
100-year planning horizon	\$983,608

3.6 Winter Weather Hazard in the Community

3.6.1 Type, Location and Extent

Because the hazards severe storm – winter weather, ice storms and extreme temperatures – cold are closely related, they are combined in this subsection of the appendix. Severe storms and winter weather risks are discussed in detail in Section 4 of the County portion of this mitigation plan. There are no significant differences in the type, location or extent of this hazard between the County and Mountainside Borough, and there are no aspects of the hazard that are unique to this jurisdiction.



3.6.2 Previous Occurrences and the Probability of Future Occurrences

Previous occurrences of the severe storm-winter weather/ice storm/extreme temperature - cold hazards are discussed in detail in the County portion of this hazard mitigation plan (see Section 4), and for reasons of brevity are not repeated here. There are no meaningful differences between the County as a whole versus Mountainside Borough with regard to occurrences or the future probability of these hazards.

3.6.3 Severe Storm – Winter Weather Impacts and Vulnerabilities to the Hazard

The impacts from these three hazards in Mountainside Borough are substantially similar to the County as a whole, and include lost productivity, traffic accidents, downed trees (and related power losses), medical events (such as heart attacks), and hypothermia (which rarely causes any significant or long-term problems). The community has no unique or pronounced vulnerabilities to these hazards. Like most established communities, over time Mountainside Borough has adapted its systems and infrastructure to minimize the effects of cold weather and associated meteorological effects. In rare cases, buildings may experience structural problems due to snow loads, and public or private infrastructure may fail due to freezing. However, these problems are usually minor and are addressed by private citizens (through their own work, or via insurance proceeds) or by the government in the case of infrastructure.

Perhaps the most significant potential impacts of winter weather are traffic accidents (with related injuries and fatalities), and power losses from ice and downed trees. For the most part, damage to vehicles is addressed via private insurance, records of which are proprietary. However, there are national statistics regarding injuries and deaths related to such weather. Local values for injuries and deaths can be deduced from national statistics. Figures for Mountainside Borough are displayed in the table below. Refer to the County portion of this mitigation plan for source citations and an explanation of the methodology.

An additional source of risk from cold and winter weather is hypothermia deaths. Although the risk from this hazard is relatively small, it can nevertheless be calculated by deduction from national statistics. Annual deaths nationwide were obtained from a U.S. Centers for Disease Control report.

**Table 9-9: Winter Storm-related Risks (traffic injuries and fatalities),
Mountainside Borough 50- and 100-year Planning Horizons**

	Injuries (combined)	Deaths
Snow/sleet	\$918,156	\$104,267
Icy pavement	\$714,333	\$78,641
Snow/slush	\$688,534	\$69,285
Total annual risk (all hazards)	\$2,321,023	\$252,194
50-year risk	\$32,030,124	\$3,480,271
100-year risk	\$33,121,005	\$3,598,802



**Table 9-10 Risks from Hypothermia Mountainside Borough
Annually and 50- and 100-year Planning Horizons**

2010 Population	% of US	Annual Death (\$)	50-year Horizon	100-year Horizon
6,685	0.0021%	\$180,386	\$2,489,330	\$2,574,111

3.7 Lightning

3.7.1 Type, Location and Extent

Lightning weather risks are discussed in detail in Section 4 of the County portion of this mitigation plan. There are no significant differences in the type, location or extent of this hazard between the County and Mountainside Borough, and there are no aspects of the hazard that are unique to this jurisdiction.

3.7.2 Previous Occurrences and the Probability of Future Occurrences

Previous occurrences of the lightning hazard are discussed in detail in the County portion of this hazard mitigation plan, and for reasons of brevity are not repeated here. There are no meaningful differences between the County as a whole versus Mountainside Borough with regard to occurrences or the future probability of this hazard.

3.7.3 Lightning Impacts and Vulnerabilities to the Hazard

Lightning impacts in Mountainside Borough are substantially similar to the County as a whole. These include occasional impacts on electrical systems, and (very infrequently) damage to structures. The most common impact is damage to trees. The community has no unique or pronounced vulnerabilities to lightning.

3.8 Public and Critical Facilities

The Borough of Mountainside has no critical facilities within the Special Flood Hazard Area.

Facility	Address	Building Assessment Value	Square Footage
Beechwood School	1497 Woodacres Dr.	\$1,166,800	33,887
Deerfield School	302 central Ave.	\$3,157,000	94,493
P.O. 07092	604 Sherwood Pkwy.	\$91,100	3,229
Mun. Bldg. & Police H.Q.	29 Park Ave.	\$147,000	14,310
Public Library	Constitution Plaza	\$0	12,633
Children's Specialized Hospital	150 New Providence Rd.	\$0	103,926
Fire Headquarters		\$484,600	5,804
Trailside Nature & Science Center	425 New Providence Rd.	\$4,714,600	11,928
Watchung Stable		\$4,714,600	33,411



4. Borough of Mountainside Mitigation Strategy

This section contains goals, objectives, and action items for the Borough of Mountainside, as part of the Union County Plan Update. The goals are similar to the goals outlined in the County plan, but the objectives are adjusted for the jurisdiction. The definitions for these terms can be found in Section 6 of the Union County Plan Update.

4.1 Goals

- Goal 1: Improve **LOCAL KNOWLEDGE** about the potential impacts of hazards, and the identification of specific measures that can be taken to reduce their impacts
- Goal 2: Improve **DATA COLLECTION, USE, AND SHARING** to reduce the impacts of hazards
- Goal 3: Improve **CAPABILITIES, COORDINATION, AND OPPORTUNITIES** to plan and implement risk reduction projects, programs, and activities
- Goal 4: Pursue a range of **MITIGATION OPPORTUNITIES**, including addressing NFIP repetitive and severe repetitive loss properties, and reducing risk to public properties and infrastructure

4.2 Objectives

- Objective 1.A: Increase risk awareness among officials and citizens.
- Objective 1.B: Maintain and improve jurisdiction-level awareness regarding funding opportunities for mitigation, including that provided by FEMA and other federal and State agencies.
- Objective 2.A: Improve the availability and accuracy of risk- and mitigation-related data at the local level, as the basis for planning and development of risk-reduction activities.
- Objective 2.B: Ensure that government officials and local practitioners have accurate and current information about best practices for hazard mitigation planning, project identification, and implementation.
- Objective 2.C: Develop and maintain detailed data about critical facilities, as the basis for risk assessment and development of mitigation options.
- Objective 3.A: Continue support of hazard mitigation planning, project identification, and implementation at the municipal level.
- Objective 3.B: Continue close coordination with the County in a range of risk-related areas, such as FEMA programs, mitigation planning, development of hazard mitigation projects, etc.
- Objective 3.C: Increase property owner participation in the National Flood Insurance Program.
- Objective 3.D: Implement activities to improve the community's CRS rating.
- Objective 3.E: Work towards increasing the integration of mitigation principles and activities in a range of local regulations, plans, ordinances and activities.
- Objective 3.F: Maintain and improve coordination with surrounding communities with regard to understanding and reducing risks.
- Objective 4.A: Facilitate development and timely submittal of project applications meeting state and federal guidelines for funding (1) for RL and SRL properties and (2) for hardening/retrofitting infrastructure that is at the highest risk.
- Objective 4.B: Maintain and enhance local planning and regulatory standards related to future development and investments.



4.3 Mitigation Strategy

The table below lists prioritized mitigation projects and actions identified by the Borough of Mountainside. This is Mountainside's first mitigation strategy as part of a multi-jurisdictional hazard mitigation plan; all of the projects reflect current priorities and efforts.

Mitigation Action, Program, or Project	Hazard	Priority	Implementation Mechanism	Responsible Party	Target Start Date	Project Duration	Estimated Cost	Current Status
Install emergency backup generator at Mountainside Rescue Squad EOC (1399 Route 22 East) and the Municipal shelter at the Mountainside Public Library (1 Constitution Plaza)	High Wind/Sever Weather/Ice Storm/Flood	High	Federal Funding	OEM Director	October 2013	1-yr.	\$142,000	Not started.
Dredging of pre-existing creek that runs south of Charles St. and North of Willow Road (approximately 1,500 ft.)	Flood	High	Capital Improvement Plan	Engineering/Public Works	2012	1-year	\$100,000	Completed in 2013.
Develop media committee. Join new emergency system (First-Alert). Develop telephone emergency based system to notify residents, including Facebook and Twitter.	All-Hazards	High	Borough Tax Dollars	Mayor's Office	2013	Ongoing	Staff time	Joined First Alert in 2013, developed website, and created emergency division of CC-TV.
Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	All	High	Emergency Management	OEM Coordinator, in coordination with SCOEM		One Year	Staff Time	Ongoing



4.4 Capability Assessment

4.4.1 Planning and Regulatory

Tool	Borough Has (y/n)
Zoning Ordinance	Y
Subdivision Ordinance	Y
Flood Damage Prevention Ordinance (per NFIP)	Y
Special Purpose Ordinances (e.g. wetlands, critical or sensitive areas)	
Stormwater Management Plan/Ordinance	Y
Comprehensive Plan / Master Plan	Y
Capital Improvements Plan	
Site Plan Review Requirements	Y
Habitat Conservation Plan	
Economic Development Plan	Y
Local EOP	Y
Continuity of Operations Plan	
Post Disaster Recovery Plan or Ordinance	
Wildfire Protection Plan	
Real Estate Disclosure req.	
Other (e.g. steep slope ordinance, local waterfront revitalization plan)	
Freeboard	
Cumulative Substantial Damages	
Shoreline Management Plan	

4.4.2 Communication and Emergency Response

	Does the Borough have this (y/n)
Outdoor warning system	
Nixle	
Auto-Dialer/Reverse 911/Emailer	
Social Media	
Website Updates	
Other Emergency Communications	
Mutual Aid Agreements	
Emergency Operations Center	
Evacuation Vehicles	
Swift-water rescue	
Shallow water boats	



4.4.4 Staff/Personnel

	Does this Borough have this expertise on staff?
Staff with expertise or training in benefit/cost analysis	
Grant Writer(s)	
Emergency Manager	
Professionals trained in conducting damage assessments	
Scientist familiar with natural hazards in the municipality.	
Personnel skilled or trained in "GIS" applications	
Surveyor(s)	
NFIP Floodplain Administrator	
Planner(s) or Engineer(s) with knowledge of land development and land management practices	
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	

4.4.5 Fiscal Capabilities

Fiscal Mechanism	Does the Borough have this capability?
Community development Block Grants (CDBG)	
Capital Improvements Project Funding	
Authority to Levy Taxes for specific purposes	
User fees for water, sewer, gas or electric service	
Impact Fees for homebuyers or developers of new development/homes	
Incur debt through general obligation bonds	
Incur debt through special tax bonds	
Incur debt through private activity bonds	
Withhold public expenditures in hazard-prone areas mitigation grant programs	



5. Plan Maintenance and Adoption

5.1 Plan Maintenance

The Borough of Mountainside 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 OEM Director 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 X. 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 Director 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 Mountainside will provide Union County with a copy of the written notice of any changes to the jurisdictional appendix at the time such changes are implemented.

The LPC shall document, as needed and appropriate:

- Hazard events and losses in Linden 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

5.1.2 Continued Public Input

The Borough of Mountainside 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: Union County Office of Emergency Management c/o All Hazards Pre-disaster Mitigation Plan Coordinator 300 North Ave East, Westfield, NJ 07090.

The Borough of Mountainside'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 Mountainside 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.

5.2 Plan Adoption

On [insert date] Union 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 Union County Board of Chosen Freeholders for adoption, which occurred on [insert date].

The Borough Council approved the plan on [insert date]. The Borough's resolution for adoption and the County's adoption resolution are provided as Appendix E of the 2015 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 D.