



9.18 Township of Sandyston

This section presents the jurisdictional annex for the Township of Sandyston.

9.18.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan’s primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Stanley J. Dukus, Deputy OEM Coordinator 133 Route 645, Sandyston, NJ 07826 Phone: (973) 293-3003 Email: stands@optonline.net	Amanda F. Lobban, Municipal Clerk 133 Route 645, Sandyston, NJ 07826 Phone: (973) 948-3520, x200 Email: clerk@sandystontownship.com

9.18.2 Municipal Profile

Sandyston Township is a small rural township located in the northwestern portion of Sussex County. It has a total area of 43.3 square miles. According to the U.S. Census, the 2010 population for the Township of Sandyston was 1,998. The Township is bordered to the north by Montague Township, to the south by Frankford and Hampton Townships, to the east by Wantage and Frankford Townships, and to the west by Pennsylvania. The Delaware River makes up the entire western border of the Township. Big Flat Brook, Little Flat Brook, and Tuttle's Corner Brook are all streams located within the Township. The following unincorporated communities are located within the Township: Shaytown, Hainesville, Abertown, Layton, Bevans, Tuttle's Corner, and Normanook.

Growth/Development Trends

The Township of Sandyston did not note any recent residential/commercial development since 2010 or any major residential or commercial development, or major infrastructure development planned for the next five years in the municipality.

9.18.3 Natural Hazard Event History Specific to the Municipality

Sussex County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. For the purpose of this plan update, events that have occurred in the County from 2008 to present were summarized to indicate the range and impact of hazard events in the community. Information regarding specific damages is included, if available, based on reference material or local sources. This information is presented in the table below. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.18-1. Hazard Event History

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 26 – September 5, 2011	Hurricane Irene	DR-4021	Yes	Loss of services: between one day and one year. Infrastructure damage: roads, bridges and culverts only. Minor facility and structure damage.
September 28 – October 6, 2011	Remnants of Tropical Storm Lee	DR-4039	Yes	Minimal road closures.
October 29, 2011	Severe Storm	DR-4048	Yes	Roads were restricted due to heavy snow fall.





Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
October 26 – November 8, 2012	Hurricane Sandy	DR-4086	Yes	Minimal loss of services. Generator at municipal building and EOC sustained damages.

9.18.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The risk ranking methodology is presented in Section 5.3. However, each municipality had the opportunity to adjust the final ranking based on municipal feedback. The following summarizes the hazard vulnerabilities and their ranking in the Township of Sandyston. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Township of Sandyston.

Table 9.18-2. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Dam Failure	Damage estimate not available	Occasional	24	High*
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year GBS: \$0 500-Year GBS: \$235,819 2,500-Year GBS: \$3,436,620	Occasional	28	Medium
Flood	1% Annual Chance: \$25,738,467	Frequent	18	Medium
Geologic	Exposed to Carbonate Rock Areas: \$230,730,635	Frequent	42	High
Hurricane	100-year MRP: \$27,921 500-year MRP: \$846,807 Annualized: \$4,502	Frequent	48	High
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$27,921 500-year MRP: \$846,807 Annualized: \$4,502	Frequent	48	High
Severe Winter Weather	1% GBS: \$3,596,430 5% GBS: \$17,982,152	Frequent	51	High
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$62,747,631	Frequent	36	High
Hazardous Materials	Damage estimate not available	Frequent	36	High

Notes:

* The hazard ranking was changed due to the location of high hazard dams in the municipality
GBS = General building stock; MRP = Mean return period.





- a. The general building stock valuation is based on the custom inventory generated for the municipality and based on improved value.
- b. High = Total hazard priority risk ranking score of 31 and above
Medium = Total hazard priority risk ranking of 15-30+
Low = Total hazard risk ranking below 15
- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the estimated value of contents. Loss estimates for the flood and earthquake hazards represent both structure and contents. Potential flood loss estimates were generated using Hazus-MH 3.0 and the 2011 FEMA DFIRM for the 1-percent annual chance event. For the geologic and wildfire hazards, the improved value and estimated contents of buildings located within the identified hazard zones is provided.

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Township of Sandyston.

Table 9.18-3. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 1% Flood Boundary (3)
Township of Sandyston	12	3	\$209,806	0	0	4

Source: FEMA, 2014

Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of November 31, 2014 and are summarized by Community Name. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents claims closed by 11/31/2014.

Note (2) Total building and content losses from the claims file provided by FEMA Region 2.

Note (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Note (4) FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

Critical Facilities

There are no critical facilities located in the FEMA 1% or 0.2% annual chance boundary.

Other Vulnerabilities Identified by Municipality

The hazard profiles in Section 5.0 have detailed information regarding each plan participant’s vulnerability to the identified hazards. Further, mitigation projects have been identified that may more specifically detail vulnerabilities in the community. There are no additional vulnerabilities identified at this time.

9.18.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Education/Outreach and Community classification
- Self-Assessment of Capability
- National Flood Insurance Program
- Community Rating System
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms





Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Township of Sandyston.

Table 9.18-4. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	Yes	Local	Twsp. Comm.	Master Plan 2008
Capital Improvements Plan	No	Local	Twsp. Comm.	In progress.
Floodplain Management/Basin Plan	No			
Stormwater Management Plan	Yes	Local	DPW	Storm Water 2005
Open Space Plan	Yes	Local	Twsp. Comm.	Master Plan 2008
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	Yes	Local	Twsp. Comm.	Master Plan 2008
Comprehensive Emergency Management Plan	Yes	Local	OEM	E.O.P. 8/2013
Emergency Response Plan	Yes	Local	OEM	E.O.P. 8/2013
Post-Disaster Recovery Plan	No			
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:	No			
Regulatory Capability				
Building Code	Yes	State & Local	Building Department	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	Zoning	Chapter 150 - Zoning
Subdivision Ordinance	Yes	Local	Building Department	Chapter 137 – Subdivision and Site Plan Review
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Construction Official	Chapter 75 – Flood Damage Prevention
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	No			
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local	Bldg. Dept.	Chapter 137 – Subdivision and Site Plan Review
Stormwater Management Ordinance	Yes	Local	DPW	Chapter 138 – Stormwater Control
Municipal Separate Storm Sewer System (MS4)	No			
Natural Hazard Ordinance	No			



Table 9.18-4. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	No	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	No			

Administrative and Technical Capability

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

Table 9.18-5. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Land Use/Zoning Board
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Maintenance Programs to Reduce Risk	No	
Mutual Aid Agreements	Yes	Sussex County
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Harold Pellow Assoc. J. Caldwell and Associates
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Harold Pellow Assoc.
Planners or engineers with an understanding of natural hazards	Yes	As per need, Bids for Prof. Services.
NFIP Floodplain Administrator	Yes	Construction Official
Surveyor(s)	Yes	Daniel Kent Inc.
Personnel skilled or trained in GIS and/or Hazus-MH applications	No	
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Twsp. EMC
Grant Writer(s)	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	Yes	As per need, Bids for Prof. Services.

Fiscal Capability

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





Table 9.18-6. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community Development Block Grants (CDBG, CDBG-DR)	Don't know
Capital Improvements Project Funding	CFO & Twsp. Comm.
Authority to levy taxes for specific purposes	Tax Asser
User fees for water, sewer, gas, or electric service	No
Impact Fees for homebuyers or developers of new development/homes	Twsp. Comm.
Stormwater Utility Fee	No
Incur debt through general obligation bonds	CFO & Twsp. Comm.
Incur debt through special tax bonds	CFO & Twsp. Comm.
Incur debt through private activity bonds	Unknown
Withhold public expenditures in hazard-prone areas	Unknown
Other Federal or State Funding Programs	CFO & Twsp. Comm.
Open Space Acquisition Funding Programs	Unknown
Other	

Education/Outreach and Community Classifications

The table below summarizes education/outreach programs the community participates in and the classifications for community program available to the Township of Sandyston.

Table 9.18-7. Education/Outreach and Community Classifications

Program	Do you have/participate in this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	NP	NP
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Fire Department – 10	25 plus years ago.
Storm Ready	No	NP	NP
Firewise	No	NP	NP
Disaster/Safety Programs in/for Schools	Yes	School Administration	
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social media)	Yes	Social Media	
Public-Private Partnerships	No		

N/A = Not Applicable. NP = Not Participating. - = Unavailable. TBD = To Be Determined.

The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery, and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The Community Rating System (CRS) class applies to flood insurance while the Building Code Effectiveness Grading Schedule (BCEGS) and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no



classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1,000 feet of a creditable fire hydrant and is within five road miles of a recognized fire station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO’s Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

Self-Assessment of Capability

The table below provides an approximate measure of the Township of Sandyston’s capability to work in a hazard mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.18-8. Self-Assessment of Capability

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Fiscal Capability	X - limited funds		
Community Political Capability		X	
Community Resiliency Capability			X
Capability to Integrate Mitigation into Municipal Processes and Activities		X	

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

Robert W. Huber, Construction Official

Flood Vulnerability Summary

The Township does not maintain lists or inventories of properties damaged by flooding. During Sandy, two homes were damaged. The FPA did not make Substantial Damage estimates during Sandy or other recent events. There is currently one property in the process of mitigation in the Township and this is being funded by private sources.

Resources

The FPA is the sole person assuming the responsibilities of floodplain administration within the Township. There is a part time administration assistant that will assist the FPA. NFIP administration services and functions provided by the FPA include permit review, inspections, damage assessments, record keeping, GIS, education and outreach. Outreach provided to the community includes advising the public at large and





handing out pamphlets on flood hazards/risk and flood risk reduction. The FPA indicated that there are barriers to running an effective program which includes money and time; however, he feels adequately supported as the municipal floodplain administrator. Additionally, the FPA would welcome continuing education and certification training on floodplain management.

Compliance History

The Township is in good standing with the NFIP; however, the Township has never had a compliance audit conducted.

Regulatory

The Township's flood damage prevention ordinance exceeds the minimum set by FEMA and the State and the Township has other ordinances and program that support floodplain management.

Community Rating System

The Township of Sandyston does not participate in the Community Rating System (CRS) program; however, the Township has considered joining and would attend a CRS seminar if offered.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures.

Planning

Land Use Planning: The Township has a Joint Land Use Board Board which reviews all applications for development and consider natural hazard risk areas in their review.

Sandyston Township Vision Plan 2010: This report, or Vision Statement, summarizes the results of three public sessions and provides an account of the myriad of issues and ideas that were discussed and put forward as part of the Sandyston Township Vision Sessions. The Vision Statement was submitted to the State Planning Commission as part of Sandyston Township's petition for Plan Endorsement. This document identified critical issues, challenges and opportunities for the Township.

Regulatory and Enforcement (Ordinances)

The Township has multiple chapters pertaining to the mitigation of hazards. These ordinances include the Flood Damage Prevention Chapter, Stormwater Control Chapter, and an Environmental Impact Statement requirement included in the Site Plan Review Chapter.

Chapter 75: Flood Damage Prevention

The purpose of this chapter to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- A. To protect human life and health;
- B. To minimize expenditure of public money for costly flood control projects;



- C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. To minimize prolonged business interruptions;
- E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;
- F. To help maintain a stable tax base by providing for the alternate use and development of areas of special flood hazard so as to minimize future flood blight areas;
- G. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

Chapter 138: Stormwater Management

The purposed of the Stormwater Control Chapter is to implement best management practices for stormwater management designed to promote the public health, safety and general welfare of the Townships' citizens and businesses.

Chapter 138-17C.(2): Environmental Site Analysis

A written and graphic description of the natural and man-made features of the site and its environs. This description should include a discussion of soil conditions, slopes, wetlands, waterways and vegetation on the site. Particular attention should be given to unique, unusual, or environmentally sensitive features and to those that provide particular opportunities or constraints for development

Operational and Administration

The Township has established a Planning Board, Zoning Board and an Environmental Committee, that aid in planning decisions to support the conservation and preservation of the Township's critical environmental features. Beyond that the Township employs and Planning Board Secretary and contracts out for professional legal, planning, and engineering services for development review.

Funding

Operating Budget: The Township's operating budget contains minimal provisions for expected repairs like snow removal and infrastructure repair after a storm or natural disaster.

Grants: The Township has received funding from the NJDOT and The Garden State Preservation Trust Fund grant programs. The Township's 2014 Capital Budget includes line items for improvements to the Municipal Building, as well as a number or drainage and roadway improvements.

Education and Outreach

The Township's website posts information regarding upcoming community events and important municipal decisions on the home page. The Township has disaster and emergency mitigation and management information on the emergency management web page.

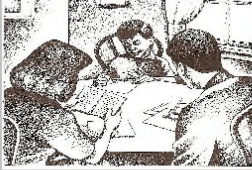
The Township identified new mitigation initiatives to implement FireWise as well as conduct a public outreach and education program on hazard mitigation and preparedness. Refer to Table 9.18-11 for more information.

Figure 9.18-1. Screenshot of Township Website with Examples of their Emergency Information

[Emergency Management](#)

Sandyston Township

Stanley Dutkus, Deputy Emergency Management Coordinator
973-948-3520, extension 207



Flash Flood, Hurricane, Hazardous Materials Spill, Earthquake, Tornado, Winter Storm, Fire: These are all examples of disasters that can affect you and your family. Disasters happen anytime and anywhere. After a disaster, local officials and relief workers will be on the scene, but they cannot reach everyone immediately. You could get help in hours or it could take days. Would your family be prepared to cope with the emergency until help arrives? Your family will cope best by preparing for disaster before it strikes. One way to prepare is by assembling a Disaster Supplies Kit.

Family Disaster Supplies Kit

Water

- ➔ Store one gallon of water per person per day (two quarts for drinking, two quarts for food preparation/sanitation)
- ➔ Keep at least a three-day supply of water for each person in your household

Food

- ➔ Ready-to-eat canned meats, fruits and vegetables and canned juices, milk, soup (if powdered - store extra water)
- ➔ Staples - sugar, salt, pepper
- ➔ High energy foods - peanut butter, jelly, crackers, granola bars, trail mix
- ➔ Vitamins
- ➔ Foods for infants, elderly persons or persons on special diets
- ➔ Comfort/Stress Foods - cookies, hard candy, sweetened cereals, lollipops, instant coffee, tea bags

First Aid Kit

- ➔ Sterile adhesive bandages in assorted sizes, gauze pads, scissors, tweezers, needle, moistened towelettes, antiseptic, thermometer, tongue blades (2), safety pins, cleansing agent/soap, latex gloves, sunscreen
- ➔ Non-prescription drugs including aspirin, nonasprin pain reliever, anti-diarrhea medication, antacid, Syrup of Ipecac, Laxative

Tools and Supplies

- ➔ Paper cups, plates and plastic utensils, battery operated radio and extra batteries, flashlight and extra batteries, cash or traveler's checks, change, non-electric can opener, utility knife, fire extinguisher; tube tent, pliers, tape, matches in waterproof container, aluminum foil, plastic storage containers, signal flare, paper, pencil, needles and thread; medicine dropper
- ➔ Sanitation Supplies like toilet paper, towelettes, soap, liquid detergent, feminine supplies, personal hygiene items, plastic garbage bags, ties; plastic bucket with tight lid, disinfectant, household chlorine bleach

Clothing and Bedding

- ➔ Sturdy shoes and/or workboots, rain gear, blankets or sleeping bags, hat and gloves, thermal underwear, sunglasses

Special Items

- ➔ Items for baby like formula, diapers, bottles, powdered milk and medications

Get More Information

- ➔ Find out which disasters could occur in your area!
- ➔ Ask how to prepare for each disaster!
- ➔ As how you would be warned of an emergency
- ➔ [Click here to visit the to learn more about "Outbound 911" Community Alerting System which is an automated system that notifies homes and businesses of emergencies.](#)
- ➔ Learn about the evacuation routes in Sandyston Township
- ➔ Ask about special assistance for elderly or disabled persons
- ➔ [Click here for the Federal Emergency Management Agency website](#)
- ➔ [Contact the Sussex County Chapter of the American Red Cross](#)

9.18.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2011 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.



Table 9.18-9. Past Mitigation Initiative Status

<u>Initiative Number</u>	<u>2011 Mitigation Action</u>	<u>Responsible Party</u>	<u>Status</u> (In progress, No progress, Complete)	<u>Describe Status</u> 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	<u>Next Step</u> (Include in 2016 HMP? or Discontinue)	<u>Describe Next Step</u> 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Sandyston Township 1	Implement Fire Wise Program throughout the Township.	OEM Coordinator	In Progress	Due to lack of funding, this project has not been completed.	Include in 2016 HMP	Continue to implement the FireWise program within the Township.
Sandyston Township 2	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	OEM Coordinator, in coordination with SCDEM	In Progress	Due to personnel and budget constraints, this project has not been completed.	Include in 2016 HMP	Include in the 2016 HMP update.

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Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The Township has not identified any additional mitigation projects/activities that have been completed since approval of the 2011 Plan.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Township participated in a mitigation action workshop in April 2015 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 ‘Selecting Appropriate Mitigation Measures for Floodprone Structures’ (March 2007) and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013). In May 2015, the Township participated in a second workshop led by FEMA Region 2 and NJOEM and was provided the results to the risk assessment to further assist with the identification of mitigation actions.

Table 9.18-10 summarizes the comprehensive-range of specific mitigation initiatives the Township would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as ‘High’, ‘Medium’, or ‘Low.’ The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.18-11 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.18-10. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
Sandyston-1	Sandyston Township Sunrise Communications Tower Generator	Existing	All	1, 2, 6	Township OEM	Medium	Medium to High	HMGP with local cost share	Short Term / DOF	High	SIP	PP
Sandyston-2	To ensure continuity of operations, install generator Wiring at Municipal Complex	Existing	All	1, 2, 6	Township OEM	Medium	Medium to High	HMGP with local cost share	Short Term / DOF	High	SIP	PP
Sandyston-3	Emergency Generator for DPW Garage & Fire Station #2	Existing	All	1, 2, 6	Township OEM	Medium	Medium to High	HMGP with local cost share	Short Term / DOF	High	SIP	PP
Sandyston-4	Implement Fire Wise Program throughout the Township.	New and Existing	Wildfire	1, 2, 3	Fire Department, OEM	Medium	Low	Municipal Budget	Ongoing	Medium	LPR, EAP	PR, PI
Sandyston-5	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	New and Existing	All	All	Township OEM	Medium	Low	Municipal Budget	Ongoing	Medium	LPR, EAP	PR, PI
Sandyston-6	Install early warning devices in the Township.	New	All	1, 2, 3	Fire Department	Medium	Medium	HMGP with local cost share	Short Term / DOF	High	SIP	PP
Sandyston-7	Protect school building from severe weather related incidents	Existing	Severe Weather	1, 2	Board of Education	Medium	Medium	HMGP with local cost share; School Budget	Short Term / DOF	Medium	SIP	PP
Sandyston-8	Purchase a mini pumper four-wheel drive unit with extended crew cab to support wildland and structural fires.	N/A	Wildfire	1, 2, 3, 6	Fire Department	Medium	High	Grants, Municipal Budget	Short Term / DOF	High	SIP	PP
Sandyston-9	Work with the PUC and FCC for regulations requiring phone providers to maintain phone service during loss of power.	Existing	All	All	Township	Medium	Low	Municipal Budget	Ongoing	High	LPR	PR
Sandyston-10	Protect roadway crossing the Delaware River from damages and debris during hazard events.	Existing	All	All	Private Toll Bridge Owner/Operator	Medium	TBD	Toll Bridge Owner/Operator, Municipal Budget	Short Term	High	SIP	PP
Sandyston-11	Initiate a program to verify that all dams in the community meet the state safety requirements.	Existing	Dam Failure	All	NJDEP, Dam Owners, Township	Medium	High	Grants, Municipal Budget	Short Term	High	LPR	PR

Notes:

Not all acronyms and abbreviations defined below are included in the table.

*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.





Acronyms and Abbreviations:

CRS	Community Rating System
DPW	Department of Public Works
FEMA	Federal Emergency Management Agency
FPA	Floodplain Administrator
HMA	Hazard Mitigation Assistance
N/A	Not applicable
NFIP	National Flood Insurance Program
NJDEP	New Jersey Department of Environmental Protection
NJOEM	New Jersey Office of Emergency Management
OEM	Office of Emergency Management

Potential FEMA HMA Funding Sources:

FMA	Flood Mitigation Assistance Grant Program
HMGP	Hazard Mitigation Grant Program
PDM	Pre-Disaster Mitigation Grant Program
RFC	Repetitive Flood Claims Grant Program (discontinued)
SRL	Severe Repetitive Loss Grant Program (discontinued)

Timeline:

Short	1 to 5 years
Long Term	5 years or greater
OG	On-going program
DOF	Depending on funding

Costs:

Where actual project costs have been reasonably estimated:

Low	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where actual project costs cannot reasonably be established at this time:

Low	Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
Medium	Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
High	Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

Low=	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where numerical project benefits cannot reasonably be established at this time:

Low	Long-term benefits of the project are difficult to quantify in the short term.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
High	Project will have an immediate impact on the reduction of risk exposure to life and property.

Mitigation Category:

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

CRS Category:

- Preventative Measures (PR)-Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP)-These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI)-Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR)-Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.





- *Structural Flood Control Projects (SP)-Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES)-Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

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Table 9.18-11. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
Sandyston-1	Sandyston Township Sunrise Communications Tower Generator	1	1	1	1	0	0	0	0	0	1	1	1	1	0	8	High
Sandyston-2	Generator Wiring at Municipal Complex	1	1	1	1	0	0	0	0	0	1	1	1	1	0	8	High
Sandyston-3	Emergency Generator for DPW Garage & Fire Station #2	1	1	1	1	0	0	0	0	0	1	1	1	1	0	8	High
Sandyston-4	Implement Fire Wise Program throughout the Township.	1	1	1	1	0	0	0	1	0	1	0	1	0	0	7	Medium
Sandyston-5	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	1	1	1	1	0	0	0	1	0	1	1	1	0	0	8	Medium
Sandyston-6	Install early warning devices in the Township.	1	1	0	1	1	0	0	0	1	0	1	0	0	0	6	High
Sandyston-7	Protect school building from severe weather related incidents	1	1	0	0	1	0	0	1	1	0	1	0	1	0	7	High
Sandyston-8	Purchase a mini pumper four-wheel drive unit with extended crew cab to support wildland and structural fires.	1	1	1	1	1	0	0	1	1	0	1	0	1	0	9	High
Sandyston-9	Work with the PUC and FCC for regulations requiring phone providers to maintain phone service during loss of power.	1	1	1	1	1	1	0	1	1	0	1	0	1	0	10	High
Sandyston-10	Protect roadway crossing the Delaware River from damages and debris during hazard events.	1	1	1	1	1	1	0	1	1	0	1	0	0	0	9	High
Sandyston-11	Initiate a program to verify that all dams in the community meet the state safety requirements.	1	1	0	1	1	1	0	1	1	0	1	0	0	0	8	High

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.



9.18.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.18.8 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Township of Sandyston that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Township of Sandyston has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.18.9 Additional Comments

None at this time.

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Figure 9.18-2. Township of Sandyston Hazard Area Extent and Location Map 1

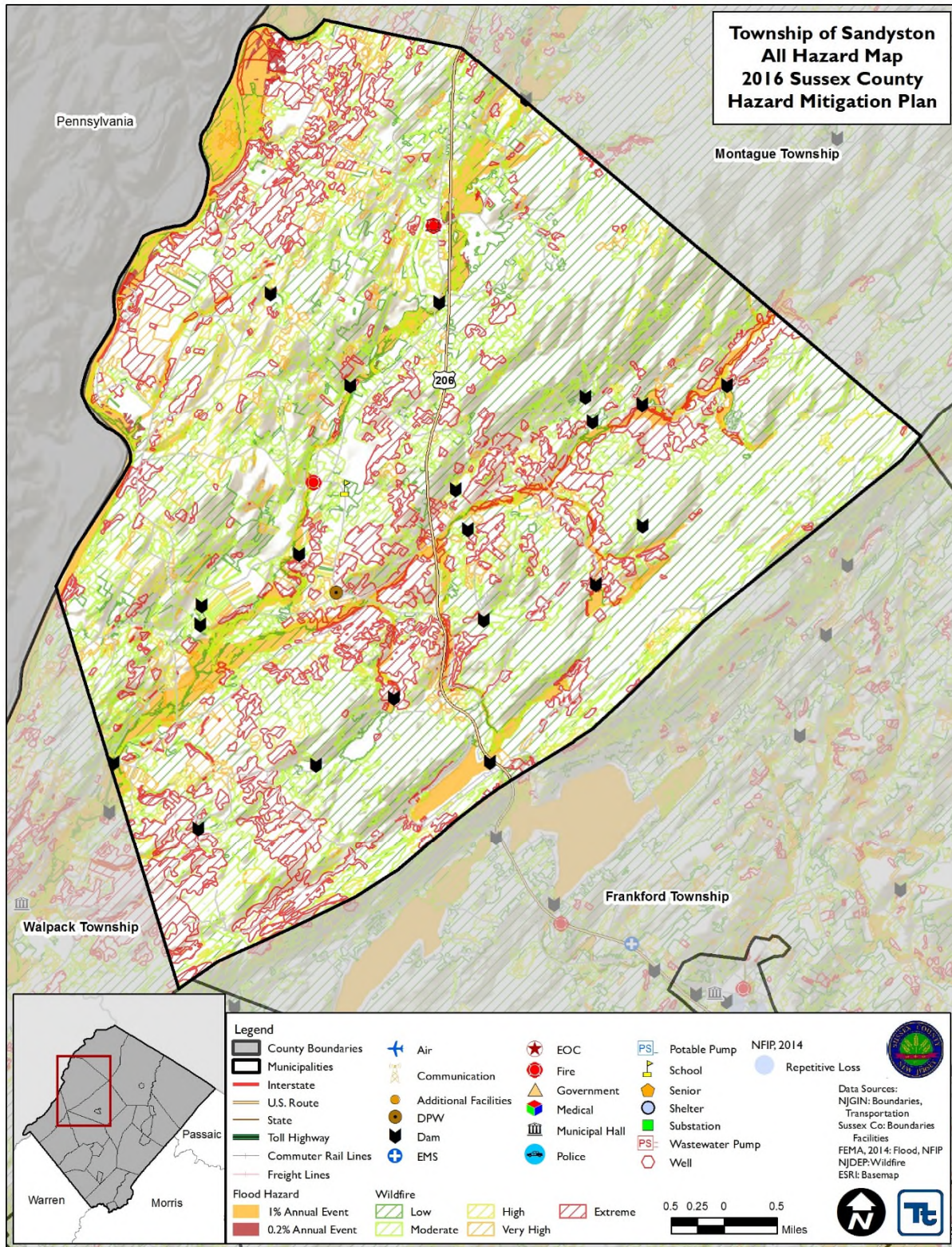
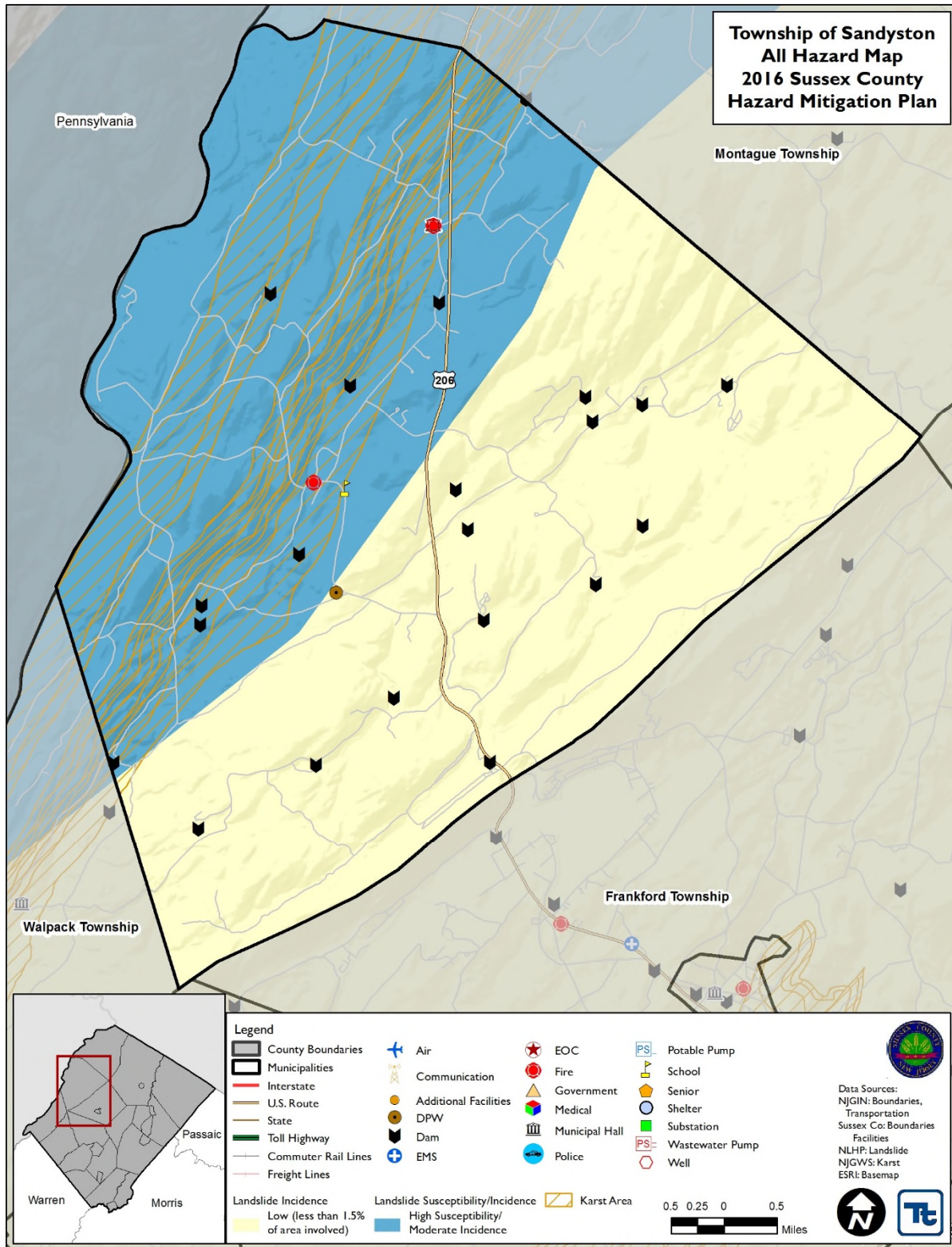




Figure 9.18-3. Township of Sandyston Hazard Area Extent and Location Map 2





Action Number: Sandyston-1

Mitigation Action/Initiative: Sandyston Township Sunrise Communications Tower Generator

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	Loss of power to communications tower
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Sandyston Township Sunrise Communications Tower Generator
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Sandyston Township Sunrise Communications Tower Generator
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	Medium to High
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Township OEM
Local Planning Mechanism	Emergency Operations
Potential Funding Sources	HMGP with local cost share
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Sandyston-1

Mitigation Action/Initiative: Sandyston Township Sunrise Communications Tower Generator

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Provides communications tower with power in the event of a power outage
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All
Timeline	1	Short Term – less than five years; depends on funding
Local Champion	1	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	High	



Action Number: Sandyston-2

Mitigation Action/Initiative: Generator Wiring at Municipal Complex

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	Generator at municipal complex needs to be wired
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Generator Wiring at Municipal Complex
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Generator Wiring at Municipal Complex
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	Medium to High
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Township OEM
Local Planning Mechanism	Emergency Operations
Potential Funding Sources	HMGP with local cost share
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Sandyston-2

Mitigation Action/Initiative: Generator Wiring at Municipal Complex

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All
Timeline	1	Short Term – less than five years; depends on funding
Local Champion	1	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	High	



Action Number: Sandyston-3

Mitigation Action/Initiative: Emergency Generator for DPW Garage & Fire Station #2

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	DPW garage and Fire Station #2 are in need of backup power; cannot operate during an emergency if there is no power
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Emergency Generator for DPW Garage & Fire Station #2
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Emergency Generator for DPW Garage & Fire Station #2
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	Medium to High
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Township OEM
Local Planning Mechanism	Emergency Operations
Potential Funding Sources	HMGP with local cost share
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Sandyston-3

Mitigation Action/Initiative: Emergency Generator for DPW Garage & Fire Station #2

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provide emergency services to those in need during times of power outages
Property Protection	1	Allow these buildings to operate during power outages
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All
Timeline	1	Short Term – less than five years; depends on funding
Local Champion	1	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	High	



Action Number: Sandyston-6

Mitigation Action/Initiative: Early warning devices in the Township

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	Lack of a public notification system within the Township
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Install early warning devices throughout the Township
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Placement of Early Warning Devices throughout the Twsp.
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 3
Applies to existing and/or new development; or not applicable	New
Benefits (losses avoided)	Medium
Estimated Cost	Medium
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Fire Department
Local Planning Mechanism	Emergency Operations
Potential Funding Sources	HMGP with local cost share
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Sandyston-6

Mitigation Action/Initiative: Early warning devices in the Township

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Warning system for residents in the event of an emergency
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	0	
Fiscal	0	
Environmental	0	
Social	1	
Administrative	0	
Multi-Hazard	1	All
Timeline	0	
Local Champion	0	
Other Community Objectives	0	
Total	6	
Priority (High/Med/Low)	High	



Action Number: Sandyston-7

Mitigation Action/Initiative: Protect school building from severe weather related incidents

Assessing the Risk	
Hazard(s) addressed:	Severe Weather
Specific problem being mitigated:	School building is not protected from severe weather related incidents
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Protect school during extreme weather related incidents
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Protect school building from severe weather related incidents
Action/Project Category	SIP
Goals/Objectives Met	1, 2
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	Medium
Priority	Medium
Plan for Implementation	
Responsible/Lead Agency/Department	Board of Education
Local Planning Mechanism	Emergency Operations
Potential Funding Sources	HMGP with local cost share; School Budget
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Sandyston-7

Mitigation Action/Initiative: Protect school building from severe weather related incidents

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect students
Property Protection	1	Protect building
Cost-Effectiveness	0	
Technical	0	
Political	1	
Legal	0	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	0	
Multi-Hazard	1	
Timeline	0	
Local Champion	1	
Other Community Objectives	0	
Total	7	
Priority (High/Med/Low)	High	



Action Number: Sandyston-8

Mitigation Action/Initiative: Purchase equipment to support wildland and structural fire protection

Assessing the Risk	
Hazard(s) addressed:	Wildfire
Specific problem being mitigated:	Lack of equipment to support wildland and structure fires within the Township
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Purchase equipment to support wildland and structural fire protection
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Purchase equipment to support wildland and structural fire protection
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	New and Existing
Benefits (losses avoided)	Medium
Estimated Cost	High
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Fire Department
Local Planning Mechanism	Emergency Operations
Potential Funding Sources	Grant funding; municipal budget
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Sandyston-8

Mitigation Action/Initiative: Purchase equipment to support wildland and structural fire protection

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Allows fire department another means of transportation during a fire
Property Protection	1	Allows fire department another means of transportation during a fire
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	0	
Multi-Hazard	1	Wildfire
Timeline	0	
Local Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	



Action Number: Sandyston-10
Mitigation Action/Initiative: Protect roadway crossing the Delaware River from damages and debris during hazard events.

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	This roadway is the only access in the Township that crosses the river. During hazard events, the bridge may close due to impassable roads, downed debris, etc.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Protect roadway crossing the Delaware River from damages and debris during hazard events.
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Protect roadway crossing the Delaware River from damages and debris during hazard events.
Action/Project Category	SIP
Goals/Objectives Met	All
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	TBD
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Private Toll Bridge Owner/Operator
Local Planning Mechanism	Emergency Operations, Transportation
Potential Funding Sources	Toll Bridge Owner/Operator, Municipal Budget
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Sandyston-10

Mitigation Action/Initiative: Protect roadway crossing the Delaware River from damages and debris during hazard events.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	0	
Multi-Hazard	1	All
Timeline	0	
Local Champion	0	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	