Passaic County, New Jersey
Multi-Jurisdictional Hazard Mitigation Plan

prepared by:

Passaic County, New Jersey
Office of Emergency Management

Appendices – August 12, 2010

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Appendix A
Acronyms

ABFE:	Advisory Base Flood Elevation
ADA:	Americans with Disabilities Act
BCA:	Benefit-Cost Analysis
BFE:	Base Flood Elevation
BRS:	Biennial Reporting System
CAFRA:	Coastal Area Facility Review Act
CAMEO:	Computer Aided Management of Emergency Operations
CDBG:	Community Development Block Grant Program
CERCLIS:	Comprehensive Environmental Response, Compensation, and Liability Information System
CFP:	Certified Floodplain Manager
CIP:	Capital Improvement Program
CMP:	Comprehensive Management Plan
CRS:	Community Rating System
CSAO:	Conrail Shared Assets Operations
CZM:	Coastal Zone Management
DCA:	Division of Codes and Standards
DFIRM:	Digital Flood Insurance Rate Map
DLUR:	Division of Land Use Regulation
DMA 2000:	Disaster Mitigation Act of 2000
DOT:	US Department of Transportation
DPCC:	Discharge Prevention, Containment and Countermeasure
EF-Scale:	Enhanced Fujita Scale
EMA:	Emergency Management Agency
EMPG:	Emergency Management Performance Grant
EOP:	New Jersey Emergency Operations Plan
EPA:	United States Environmental Protection Agency
EPCRA:	Emergency Planning and Community Right-to-Know Act
ERNS:	Emergency Response Notification System
ESF:	Emergency Support Function
FEMA:	Federal Emergency Management Agency
FIA:	Federal Insurance Administration

FIRM:	Flood Insurance Rate Map
FIS:	Flood Insurance Study
FLP:	Forest Legacy Program
FMA:	Flood Mitigation Assistance Grant Program
F-Scale:	Fujita Tornado Scale
GACES:	Governor's Advisory Council on Emergency Services
GIS:	Geographic Information System
GRTS:	Grant Reporting and Tracking System
GSP:	Garden State Parkway
HAZUS:	Hazards US
HIRA:	Hazard Identification and Risk Assessment
HMGP:	Hazard Mitigation Grant Program
HMP:	Hazard Mitigation Plan
HMSC:	Hazard Mitigation Steering Committee
HUD:	United States Department of Housing and Urban Development
IBC:	International Building Code
IFR:	Interim Final Rule
IRC:	International Residential Code
JLWA:	James Lee Witt Associates
KCS:	Known Contaminated Sites
LQC:	Large Quantity Generator
LWCF:	Land and Water Conservation Fund
MAGNET:	Meadowlands Area Grants for Natural and Economic Transformation Program
MERI:	Meadowlands Environmental Research Institute
MLUL:	Municipal Land Use Law
MPO:	Metropolitan Planning Organization
NCDC:	National Climatic Data Center
NFIP:	National Flood Insurance Program
NHC:	National Hurricane Center
NJAC:	New Jersey Administrative Code
NJBPN:	New Jersey Beach Profile Network
NJBPU:	New Jersey Board of Public Utilities
NJDA:	New Jersey Department of Agriculture
NJDEP:	New Jersey Department of Environmental Protection

NJDCA:	New Jersey Department of Community Affairs
NJDOT:	New Jersey Department of Transportation
NJDRP:	New Jersey Development and Redevelopment Plan
NJGIN:	New Jersey Geographic Information Network
NJGS:	New Jersey Geologic Survey
NJMC:	New Jersey Meadowlands Commission
NJOEM:	New Jersey Office of Emergency Management
NJ SHMP	New Jersey State Hazard Mitigation Plant
NJTP:	New Jersey Turnpike
NJTPA:	New Jersey Transportation Planning Authority
NOAA:	National Oceanic Atmospheric Administration
NWS:	National Weather Service
OEM:	Office of Emergency Management
OIT:	Office of Information Technology
OMB:	New Jersey Office of Management and Budget
OPA90:	Oil Pollution Act
OREIS:	Operation Respond Emergency Information System
OSG:	Office of Smart Growth
PA:	Public Assistance Grant Program
PCIA:	Passaic County Improvement Authority
PCOEM:	Passaic County Office of Emergency Management
PDM:	Pre-Disaster Mitigation Grant Program
PW:	Project Worksheet
RCRA:	Resource Conservation and Recovery Act
RFC:	Repetitive Flood Claims Grant Program
RL:	Repetitive Loss
RTAC:	Regional Technical Advisory Committee
RTK:	Right-To-Know Network
RTKHSL:	Right to Know Hazardous Substance List
SADC:	State Agricultural Development Committee
SARA:	Superfund Amendments and Reauthorization Act
SF:	Square Feet
SFHA:	Special Flood Hazard Area
SHMPU:	State Hazard Mitigation Plan Update

SHMT:	State Hazard Mitigation Team
SLOSH:	Sea Lake and Overland Surges from Hurricanes Model
SPCC:	Spill Prevention, Control, and Countermeasure
SRL:	Severe Repetitive Loss Grant Program
STAPLEE:	Social, Technical, Administrative, Political, Legal, Economic, and Environmental
STIP:	Statewide Transportation Improvement Program
TCPA:	Toxic Catastrophe Prevention Act
TIP:	Transportation Improvement Program
TRI:	Toxic Release Inventory
TSD:	Treatment Storage Disposal
UASI:	Urban Area Security Initiative
USACE:	United States Army Corp of Engineers
USDA:	United States Department of Agriculture
USDOT:	United States Department of Transportation
USGS:	United States Geologic Survey
WRDA:	Water Resources Development Act

Appendix B
Sources

B.1 Sources for Executive Summary (Section 2)

- FEMA-HAZUS (Hazards US) Version MR1 (v.1.1)
- FEMA. Mitigation Planning Guidance (386 Series). Available on the web at: http://www.fema.gov/plan/mitplanning/planning_resources.shtm
- US Census Bureau. 2000 Census

B.2 Sources for Context (Section 3)

- DVRPC-Data Bulletin 85. Available on the web at: http://www.dvrpc.org/data/databull/rdb/db86.pdf
- Passaic County Fast Facts. 12 October 2008. http://www.passaiccountynj.org/Departments/Economic_Development/PDF/Demographics.pdf
- Monthly Station Norms at Wanaque Dam. Available on the web at: http://climate.rutgers.edu/stateclim_v1/norms/monthly/index.html
- New Jersey One Stop Career Center. Available on the web at: http://www.wnjpin.state.nj.us/OneStopCareerCenter/LaborMarketInformation/lmi18/bp2000/2000-06.pdf.
- US Census Bureau. 1990 Census
- US Census Bureau. 2000 Census
- US Census Bureau. 2006 American Community Survey

B.3 Sources for Hazard Identification, Profiling, and Ranking (Section 6)

Overview of Passaic County's History of Hazards

- Federal Emergency Management Agency (FEMA). Disaster Declarations database. Available on the web at: http://www.fema.gov/news/disasters.fema
- National Oceanic and Atmospheric Administration (NOAA) / National Climatic Data Center (NCDC) database. History and description of major hazard events. Available from the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms
- New Jersey Office of Emergency Management (OEM). Summary of Presidentially Declared Disasters 1992 - 2000. Available on the World Wide Web (the web) at: http://www.nj.gov/oem/county/press_1992pres.html

Dam Failure

- New Jersey Administrative Code – Dam Safety Standards (NJAC: 7-20). Dam Classifications. Available on the web at: http://www.nj.gov/dep/damsafety/standard.pdf
- New Jersey Department of Environmental Protection (NJDEP) – Department of Dam Safety and Flood Control. History of dam failure events. Available from the web at: http://www.nj.gov/dep/damsafety/
- New Jersey DEP – Department of Dam Safety and Flood Control. Passaic County dam inventory. Spring, 2008

Drought

- FEMA. Comparison of Droughts, Floods, and Hurricanes in the US. 1997. Available from the web at: http://drought.unl.edu/risk/us/compare.htm
- NOAA / NCDC database. History of Passaic County drought events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms
- Office of the New Jersey State Climatologist at Rutgers University. Available on the web at: http://climate.rutgers.edu/stateclim/

Earthquake

- New Jersey Geologic Survey (NJGS). *Earthquake Loss Estimation Study for Passaic County.* September, 2004
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- United States Geological Survey (USGS). Earthquake History in New Jersey. Available on the web at: http://earthquake.usgs.gov/regional/states/new_jersey/history.php
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Erosion

- NOAA / NCDC database. History of Passaic County coastal flooding events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms
- NOAA. State, Territory, and Commonwealth Beach Nourishment Programs – Technical document No. 00-01, March 2000. Available on the web at: http://coastalmanagement.noaa.gov/resources/docs/finalbeach.pdf

Extreme Temperature–Cold

- NOAA / NCDC database. History of Passaic County extreme temperature events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms
- NOAA. Winter Storms….The Deceptive Killers. Available on the web at: http://www.weather.gov/om/brochures/wntrstm.htm

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- NOAA. Heat Wave: A Major Summer Killer. Available on the web at: http://www.noaawatch.gov/themes/heat.php

Flood

- FEMA. Disaster Declarations database. Available on the web at: http://www.fema.gov/news/disasters.fema
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- FEMA. Passaic County Flood Insurance Study (FIS), September 20, 2006. Available on the web at: FEMA Map Service Center - Product Catalog
- NOAA / NCDC database. History of Passaic County flood events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms
- Passaic River.com. Available on the web at: http://www.passaicriver.com/default.html
- USACE – New York District. Passaic River Mainstem and Tributaries, New Jersey. Flood Damage Reduction and Restoration Projects
- USACE – New York District. Ramapo River at Oakland, NJ. Flood Damage Reduction Project – Fact Sheet. Available on the web at: http://www.nan.usace.army.mil/project/newjers/factsh/pdf/oakland.pdf
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- Wikipedia. Ramapo River description. Available on the web at: http://en.wikipedia.org/wiki/Ramapo_River
- Wikipedia. Photo of Passaic River during April, 2007 flood. Available on the web at: http://en.wikipedia.org/wiki/Passaic_River

Hail

- NOAA / NCDC database. History of Passaic County hail events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms

Hazardous Materials–Fixed Sites

- FEMA. Hazardous material related Federal Disaster Declarations. Available on the web at: http://www.fema.gov/news/disasters.fema
- FEMA - HAZUS (Hazards US) Version MR1 (v.1.1). Technical Manual, Chapter 10 – Hazardous Materials Release
- Office of Hazardous Materials Safety: US DOT. Reported Hazardous Materials Incidents. Available on the web at: http://hazmat.dot.gov/enforce/spills/spills.htm
- Right-to-Know (RTK) Network. Biennial Reporting System. Query Download: 2001-2005. Summary of various other databases. Available on the web at: http://www.rtknet.org/
- State of New Jersey Department of Health. Department of Health and Senior Services. Right to Know Hazardous Substance List. http://web.doh.state.nj.us/rtkhsfs/rtkhsl.aspx
- US EPA. Technology Transfer Network – Air Toxics web site. Available on the web at: http://www.epa.gov/ttn/atw/hlthef/manganes.html
- US EPA – Toxic Release Inventory Explorer. Query download: 2000-2006. Available on the web at: EPA Toxic Release Inventory Explorer

Hazardous Materials–Transportation

- Office of Hazardous Materials Safety: US DOT. Hazardous Materials Incident Data. Available on the web at: http://hazmat.dot.gov/pubs/inc/data/2007/2007frm.htm
- Right-to-Know (RTK) Network. Emergency Response Notification Database. Query download: 1990-2003. Available on the web at: http://www.rtknet.org/

High Winds–Straight-Line Winds

- American Society of Civil Engineers. New Jersey Wind Zone Map
- FEMA. Map of Wind Zones in the United States
- New Jersey Department of Community Affairs. Division of Codes and Standards: Bulletin No. 3-4 – Wind Speed Map
- NOAA. Coastal Service Center – Historic Hurricane Tracks Database. Available on the web at: http://maps.csc.noaa.gov/hurricanes/viewer.html
- NOAA / NCDC database. History of Passaic County hurricane and high wind events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms

High Winds–Tornadoes

- FEMA. Tornado Activity in the United States. Available on the web at: http://www.fema.gov/plan/prevent/saferoom/tsfs02_torn_activity.shtm
- NOAA. National Weather Service. Enhanced Fujita Scale. Available on the web at: http://www.spc.noaa.gov/efscale/

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Ice Storm

- NOAA / NCDC database. History of Passaic County winter weather events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms

Landslide

- NJGS. *Earthquake Loss Estimation Study for Passaic County.* September, 2004
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Severe Storm−Lightning

- NOAA / NCDC database. History of Passaic County lightning events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms

Severe Storm–Winter Weather

- New Jersey OEM. *Hazard Analysis NJ*. Average yearly snowfall graphic. 1984
- NOAA. National Weather Service. Winter storm event history for Passaic County
- NOAA / NCDC database. History of Passaic County winter weather events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms
- Office of the New Jersey State Climatologist at Rutgers University. Available on the web at: http://climate.rutgers.edu/stateclim/

Storm Surge

- NOAA. National Hurricane Center. Hurricane Preparedness - Storm Surge. Available on the web at: http://www.nhc.noaa.gov/HAW2/english/storm_surge.shtml
- NOAA / NCDC database. History of Passaic County coastal flooding events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms
- USACE –New York District. Passaic River Flood Protection Project, Storm Surge Analysis. September, 1992. Available on the web at: USACE - Passaic River Basin Storm surge analysis

Wildfire

- NOAA / NCDC database. History of Passaic County wildfire events. Available on the web at: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms
- New Jersey Forest Fire Service. Number of wildfire incidents and acres burned in New Jersey from 1996 - 2006

B.4 Sources for Risk Assessment (Section 7)

Estimate of Potential Losses (Risk Assessment)

- New Jersey Department of Community Affairs, Office of Smart Growth. Available on the web at: http://www.nj.gov/dca/divisions/osg/
- U.S. Census Bureau, State and County Quick Facts (Passaic County). Available on the web at: http://quickfacts.census.gov/qfd/states/34/34031.html

Flood Risk in Passaic County

- New Jersey DEP. Passaic County Land Use Land Cover data. Available on the web at: http://www.princeton.edu/~geolib/gis/njluse.html
- FEMA. Disaster Declarations database. Available on the web at: http://www.fema.gov/news/disasters.fema
- FEMA. Flood hazard zones. Digital Flood Insurance Rate Map (DFIRM) for Passaic County. FEMA "Q3" data for surrounding counties. DFIRM – September, 2006 release. Q3 Data – September, 1996 release
- FEMA. Flood zone designations. Available on the web at: FEMA Flood Zone Designations
- FEMA. HAZUS Version MR1 (v.1.1) - Exposure data for Passaic County asset classes
- FEMA. National Flood Insurance Program. BureauNet NFIP interface. March 2008 query
- FEMA - Region II. Public Assistance Records. September 2007

Wind Risk in Passaic County

- FEMA. Benefit Cost Analysis Tool Kit (Version 3.0) - Wind Hazard Database. July, 2006
- FEMA. Full-Data Hurricane Wind Benefit Cost Analysis (BCA) Module
- FEMA. HAZUS Version MR1 (v.1.1) – Exposure value for Passaic County asset classes
- FEMA. HAZUS Version MR1 (v.1.1) – Structure and Roof types
- RS Means Quickcost Estimator. Available on the web at: http://www.rsmeans.com/calculator/index.asp?specialUser=FSONL

Earthquake Risk in Passaic County

- FEMA. Full-Data Earthquake BCA Module
- FEMA. HAZUS Version MR1 (v.1.1) – Structure and Roof types
- NJGS. *Earthquake Loss Estimation Study for Passaic County.* September, 2003

Passaic County Future Development Trends

- New Jersey State Development and Redevelopment Plan. Description of Five Planning Areas. March, 2001
- NJ Department of Community Affairs - Office of Smart Growth. Description of Smart Growth areas. Available on the web at: http://www.nj.gov/dca/osg/smart/
- NJ Department of Community Affairs - Office of Smart Growth. Geographical Information System (GIS) data. Available on the web at: http://www.nj.gov/dca/osg/resources/maps/index.shtml
- *Passaic County Transportation and Smart Growth Strategy Evaluation Model,* July, 2005. Available on the web at: http://www.passaiccountynj.org/Departments/Planning/PDF/Technical_Appendices.pdf
- Passaic County Department of Economic Development. *Passaic County Fast Facts, 2008-2009*. Available on the web at: http://www.passaiccountynj.org/Departments/Economic_Development/PDF/Demographics.pdf

B.5 Sources for Capabilities Assessment (Section 8)

- FEMA. Community Rating System Eligible Communities. Available on the web at: http://www.fema.gov/pdf/nfip/manual200805/19crs.pdf
- FEMA. Community Status Book. Available on the web at: http://www.fema.gov/fema/csb.shtm
- New Jersey OEM. New Jersey State Hazard Mitigation Plan Update, 2008. Available on the web at: http://www.state.nj.us/njoem/mitigation-plan08.html
- Passaic County Open Space and Farmland Preservation Trust Fund. Available on the web at: http://www.passaiccountynj.org/Departments/Planning/PDF/Farmland_Preservation_Trust_Fund/OSTF_Rules_&_Regs.pdf

Appendix C
Planning Process

Contents of this Appendix

C.1 Meetings and Working Sessions
C.2 Public Process
C.3 Correspondence

C.1 Meetings and Working Sessions

On the following pages are copies of agendas, sign-in sheets, presentation materials, and meeting notes where appropriate for the following meetings and working sessions.

- September 19, 2008 — Kickoff Planning Committee Meeting
- October 9, 2008 — Planning Committee Meeting
- November 13, 2008 — Planning Committee Meeting
- November 13-14, 2008 — Municipal Working Sessions
- December 11, 2008 — Planning Committee Meeting
- January 8, 2009 — Planning Committee Meeting
- February 19, 2009 — Planning Committee Meeting
- March 12, 2009 — Planning Committee Meeting
- June 18, 2009 — Planning Committee Meeting

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Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan
Working Group Kickoff Meeting - Agenda
September 19, 2008 – 10:00 am

1. **Introductions**
   a. Passaic County Hazard Mitigation Planning Committee
   b. Participating Municipalities and Jurisdictions
   c. Special Districts and Organizations
   d. James Lee Witt Associates Consultant Team

2. **Hazard Mitigation Planning / General Schedule Overview**

3. **Work-in-progress**
   a. Data requests ("wish list") status
   b. Hazard Identification – Preliminary List
   c. Hazard Profiling

4. **Next Steps**
   a. Asset Inventories – Critical Facilities
   b. Capability Assessment - Survey

5. **Force Account / In-Kind Services Documentation**

6. **Next Meeting / Action Items**

PASSAIC COUNTY MUNICIPAL OEM COORDINATOR'S MEETNG	FRIDAY SEPTEMBER 19, 2008	LOCATION: PCOEM @PSA TIME: 10 A.M.
NAME	***AGENCY***	***E-MAIL ADDRESS***
NICHOLAS ARBOLINO	NJSP OEM	LPP494H@GW.NJSP.ORG
CAS JASONEK	City of PASSAIC	JASON181@AOL.COM
Mark McGrath	Wayne Twsp	mcgrathm@waynetownship.com
SgT JOHN CARBONE	HAWTHORNE OEM	
Ed Vander Ploeg	Prospect Park OEM	
JACK NIGRO	COUNTY OF PASSAIC	Jackn@Passaiccountynj.org.
Ronald Svrcek	West Milford OEM	Fireoffice2@westmilford.org
ED Steines	West Milford OEM	Firecomm@Westmilford.org
AL EVANGELISTA	POMPTON LAKES OEM	AEVANGELISTA@RIH.ORG
ALLEN DELVECCHIO	TOTOWA OEM/PVOEM	TOTOWAOEM@AOL.COM
G GALBRAITH	WESTPATERSON/PVOEM	GGALBRAITH@WESTPATERSON.COM
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FRED BATELLI	P.V. OEM LITTLE FALLS	ABATELLI@LITTLEFALLSPD.ORG
Michael Onder	Clifton OEM	Monder@cliftonnj.org
Jo JORDON	JLWA	jjordon@wittassociates.com
Cathy Mouir for Jerry Volpe	Passaic Co.	jvolpe@passaiccountynj.org
Bernard Lombardo	Ringwood OEM	lombardo@ringwoodpolice.com
PATRICK J. MURRAY	RINGWOOD OEM	PJMURRAY@PJMANDJSONS.COM.
TOM NORTON	WANAQUE OEM	tnorton@wanaqueborough.com
JEFF CRAPSLEY	NJSP	LP14435@GW.NJSP.ORG
MICK GALLAGHER	NJSP	
Edward Murphy	PC OEM	

SSAIC COUNTY MUNICIPAL OEM COORDINATOR'S MEETNG	FRIDAY SEPTEMBER 19, 2008	LOCATION: PCOEM @PSA TIME: 10 A.M.
NAME	***AGENCY***	***E-MAIL ADDRESS***
Robert A. Lyons	PCOEM	robertl@passaccountynj.org
Maryann Trommelen	PCOEM	pcoem@passaccountynj.org
Michael LaPlace	PC Planning	mlaplace@passaccountynj.or

Passaic County NJ Multi-Jurisdictional Hazard Mitigation Plan
General Schedule

September 19, 2008

#	Description	9/5/08	9/12/08	9/19/08	9/26/08	10/3/08	10/10/08	10/17/08	10/24/08	10/31/08	11/7/08	11/14/08	11/21/08	11/28/08	12/5/08	12/12/08	12/19/08	12/26/08	1/2/09	1/9/09	1/16/09	1/23/09	1/30/09	2/6/09	2/13/09	2/20/09	2/27/09	3/6/09	3/13/09	3/20/09	3/27/09	4/3/09	4/10/09	4/17/09	4/24/09	5/1/09	5/8/09	5/15/09	5/22/09	5/29/09	6/5/09	6/12/09	6/19/09	6/26/09	7/3/09	7/10/09	7/17/09	7/24/09	7/31/09	8/7/09	8/14/09	8/21/09	8/28/09
3.1a	OEM Kick-off Meeting	✓																																																			
3.1b	LC Kick-off Meeting			✓																																																	
3.1c	HMPC Progress Meetings			✓					**[Note: HMPC Progress Meetings will occur on a monthly basis on a regular schedule to be determined]**																																											
3.1d	Interviews																																																				
3.2	Data Collection																																																				
3.3	Hazard ID and Profiling																																																				
3.1e	Public Meeting #1												✓																																								
3.4	Vulnerability Assessment																																																				
3.1e	Public Meeting #2																✓																																				
3.5	Hazard Mitigation Strategy																																																				
3.1e	Public Meeting #3																					✓																															
3.6a	HMPC Draft																																																				
	HMPC Review																																																				
3.6b	NJOEM/FEMA Draft																																																				
	NJOEM / FEMA Review																																																				
3.6c	Final Draft HMP																																																				
3.1e	Public Meeting #4																																													✓							
3.6d	Final HMP																																																				
3.1e	Final Presentation (#5)																																																		✓		
3.7	Plan Adoption and Approval																																																				
3.8	Plan Maintenance																																																				
3.9	Plan Reproduction																																																				

Notes:

(1) The process for reviewing comments from the Hazard Mitigation Steering Committee for the Committee Draft and Final Draft HMP will need to be arranged.
(2) NJOEM /FEMA Review time frame includes 30-day review period for NJOEM and 45-day statutory review period for FEMA per DMA 2000.
(3) Task 3.8 will be accomplished coincident with Tasks 3.5 and 3.6.
(4) Task 3.9 will be accomplished coincident with Tasks 3.5 and 3.6.

Legend:

OEM Passaic County Office of Emergency Management
HMPC Hazard Mitigation Planning Committee
LC Local OEM Coordinators
NJOEM New Jersey Office of Emergency Management
FEMA Federal Emergency Management Agency

Passaic County, NJ Multi-Jurisdictional Hazard Mitigation Plan

Kickoff Meeting - September 19, 2008

prepared for:

Passaic County
Office of Emergency Management

prepared by:

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Agenda

- Introductions
- Benefits & Costs of Participation
- Hazard Mitigation Planning Overview
- Municipal Participation
- General Schedule
- Work-in-Progress
- Next Steps
- Force Account / In-Kind Services
- Next Meeting / Action Items

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Introductions

- Passaic County Office of Emergency Management
- Passaic County Hazard Mitigation Planning Committee
- Participating Municipalities
- Special Districts and Organizations
- James Lee Witt Associates

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Introductions

- Name, Position, Organization
- Previous Experience in Hazard Mitigation Planning or Implementation?

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Benefits & Costs of Participation

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Benefits of Participation

- Understanding risks to your communities from natural hazards.
- Identifying and documenting projects to reduce identified risks.
- Describing an implementation strategy for projects including potential funding sources.

Benefits of Participation

- Every $1 spent on Mitigation saves $4 in Recovery*
- From 1955-2005, mitigation measures prevented 220 deaths and 4,700 injuries*
- For every eligible $1 spent by local communities on FEMA-funded grant projects, the Federal government contributes $3 to $9.

* Source: The Multihazard Mitigation Council, "Hazard Mitigation Saves," 2005 an independent review of FEMA mitigation activities

Benefits of Participation

- Opportunities to improve local insurance ratings = lower flood insurance premiums
- Minimal financial investment:
  - Planning process is 75% paid for by Federal funds
  - Local and County portion will be covered through "force-account" or "in-kind" services

Costs of Not Participating

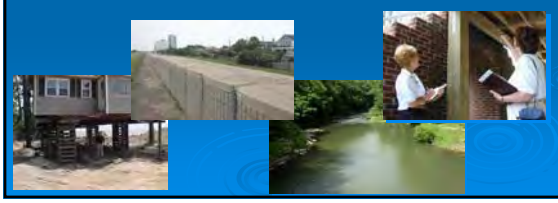
- In a Presidential Disaster Declaration:
  - Public Assistance Categories A & B only are covered, Categories C – G Not Available
  - Hazard Mitigation Grant Program (HMGP) Funding Not Available - Up to 20% of total disaster cost will not be available for projects
- Annually:
  - Pre-Disaster Mitigation Program (PDM) Funding Not Available
  - Flood Mitigation Assistance (FMA) Program Funding Not Available
  - Severe Repetitive Loss (SRL) & Repetitive Flood Claim (RFC) Program Funding Not Available

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

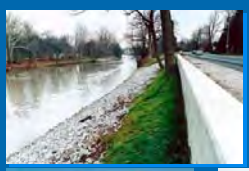
Hazard Mitigation Planning Overview

What is "Hazard Mitigation"?

Any measures undertaken to reduce risks posed by natural and/or manmade hazards on a place and its population.



What is "Hazard Mitigation"?



Hazard mitigation measures can include **projects that limit the extent of hazards** like levees, floodwalls, building safe rooms…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is "Hazard Mitigation"?

… **projects that move or protect assets** like acquisition, elevation, or retrofit of buildings…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is "Hazard Mitigation"?

…**regulatory practices** like enacting or enforcing building codes, permits, or land use policies…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is "Hazard Mitigation"?

…**training and educational programs** for communities and local agencies…

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What is a "Hazard Mitigation Plan"?

- **Hazard Mitigation Plan**:
  A plan to reduce a community's risk and exposure to disasters

… which is different from an …

- **Emergency Operations Plan** (EOP):
  A plan to guide a community's response to an emergency or disaster

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is a "Hazard Mitigation Plan"?

- A Hazard Mitigation Plan is typically written before hazard events occur (**pre-disaster**)
- Hazard mitigation projects can be implemented either before or after a disaster (**pre-disaster** or **post-disaster**).

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

This graphic shows the process recommended by FEMA.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

organize resources

From the start, communities should focus the resources needed for a successful mitigation planning process. Essential steps include identifying and organizing interested members of the community as well as the technical expertise required during the planning process.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

assess risks

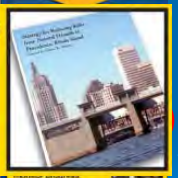
Next, communities need to identify the characteristics and potential consequences of natural hazards. It is important to understand how much of the community can be affected by specific hazards and what the impacts would be for important community assets.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

develop a mitigation plan

Armed with an understanding of the risks posed by natural hazards, communities need to determine what their priorities should be and then look at possible ways to avoid or minimize the undesired effects. The result is a natural hazard mitigation plan and strategy for implementation.



Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

implement the plan and monitor progress

Communities can bring the plan to life in a variety of ways ranging from implementing specific mitigation projects to changes in the day-to-day operation of the local government. To ensure the success of an on-going program, it is critical that the plan remains effective. Thus, it is important to conduct periodic evaluations and make revisions as needed.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

It all boils down to **two basic questions**:

1. What hazards present the greatest risk to the County and its citizens?
2. What are the most effective ways to reduce those risks?

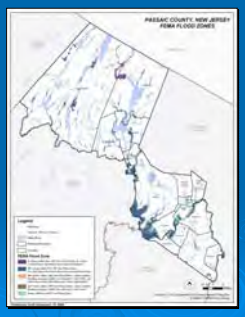
Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Risk Assessment

Risk Assessment

Risk is assessed in several ways:

- Exposure of assets to hazards that occur in predictable areas - such as flood (per FEMA FIRM maps)…



Risk Assessment

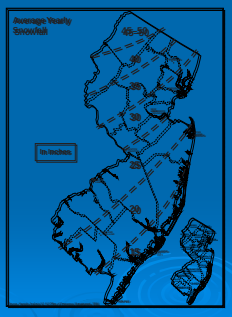
…or a manmade hazard like dam failure.

Risk Assessment

- Patterns of past damages – such as repetitive flood damage claims under the National Flood Insurance Program (NFIP).

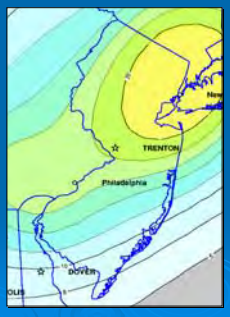
Risk Assessment

- Exposure to events of predictable magnitudes that can cause building failures – such as such as snow loads from winter storms…



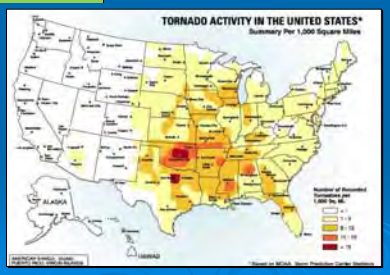
Risk Assessment

…or earthquakes…



Risk Assessment

…and high winds



Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Project Types Overview

Potential Mitigation Projects

"Soft" mitigation projects include mitigation activities such as:

- building code enforcement
- land development regulations
- public education
- studies and plans
- etc.

Potential Mitigation Projects

"Hard" mitigation projects or "property protection" construction activities:

- acquisition / elevation / mitigation reconstruction of structures
- retrofits for high wind loads such as installing hurricane shutters
- improving drainage
- etc.

Acquisition

- Most cost-effective mitigation measure.
- Permanently removes vulnerable property from the floodplain.
- The structure is demolished or relocated and the land is dedicated as open space in perpetuity.
- Requires willing sellers and communities.

Taken from Missouri Buyout Program 2002

Elevation

- Raising a structure above the Base Flood Elevation.
- Building size, structural integrity, and type of foundation must be considered.
- There are different types of elevation which can be used depending on the structure.

Top Picture: A house in Miami in the process of being elevated.
Bottom Picture: That same house once completed.
Taken from FEMA: *Above the Flood*, 2000

Mitigation Reconstruction

- Pilot program funded under Disaster Declarations 1603 and 1607 (Hurricanes Katrina and Rita)
- If acquisition and elevation are not feasible then a structure may be demolished and reconstructed at the same location meeting current construction codes and standards.

Hardening or Retrofitting of Critical Facilities

- Potential Projects for public buildings, hospitals and health care facilities, utilities, police stations, fire stations, emergency operations center, jails and detention centers, and schools:
  - Install shutters or impact resistant glass on windows
  - Strengthen the doors.
  - Install hurricane straps and clips to strengthen roof.
  - Bolt walls to foundation.
  - Relocate utility lines underground.
  - Elevate the heating, ventilating and cooling (HVAC) equipment, such as furnace and hot water heater.

Hardening or Retrofitting of Critical Facilities

- Install shutters or impact resistant glass on windows

Accordion Shutters

Roll-Down Shutters

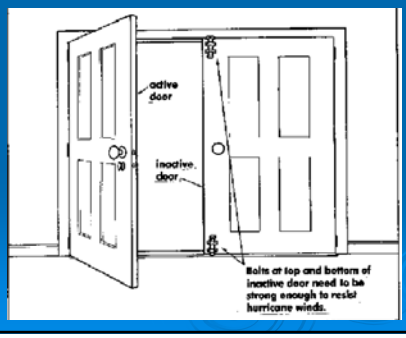
Impact Resistant Glass

Colonial Shutters

Corrugated Metal Panel

Hardening or Retrofitting of Critical Facilities

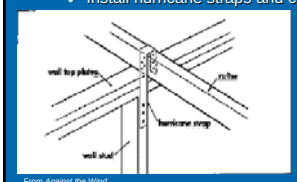
- Strengthen the doors.



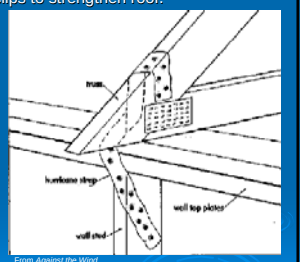
From *Against the Wind*

Hardening or Retrofitting of Critical Facilities

- Install hurricane straps and clips to strengthen roof.



From *Against the Wind*

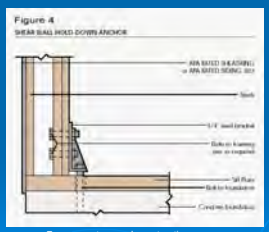


From *Against the Wind*

From *The Advocate*

Hardening or Retrofitting of Critical Facilities

- Bolt walls to foundation.



From www.townparkconstruction.com

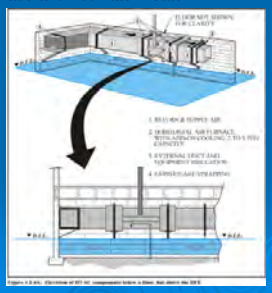
Hardening or Retrofitting of Critical Facilities

- Relocate utility lines underground.

Fallen utility lines after Wilma. From www.galtmile.com

Hardening or Retrofitting of Critical Facilities

- Elevate the heating, ventilating and cooling (HVAC) equipment, such as furnace and hot water heater.



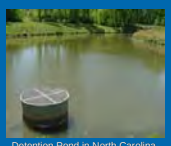
From FEMA, *Protecting Building Utilities*

Hardening or Retrofitting of Critical Facilities

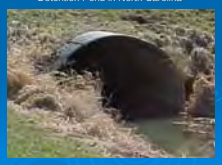
- Potential projects for pump stations, water control facilities, water treatment and delivery systems, power generation facilities, sewage collection and treatment facilities:
  - Install backflow valves.
  - Elevate the generators and pumps.
  - Anchor fuel tanks.
  - Eliminate infiltration problems with underground utility systems.

Drainage Improvements

- Creating detention/retention ponds and reservoirs.
- Building floodwalls and diversions.
- Constructing storm sewers and increasing culvert capacity.
- Maintenance is not an eligible project.



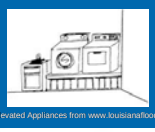
Detention Pond in North Carolina



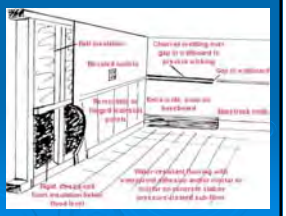
A culvert

Wet Floodproofing

- Modifying uninhabited portions of the structure to allow floodwaters to enter without causing significant damage.
- Materials must be water resistant.
- Not practical for most slab-on-grade structures with living space near ground level.
- Does not reduce damage from high velocity floods.
- Only appropriate in limited situations.



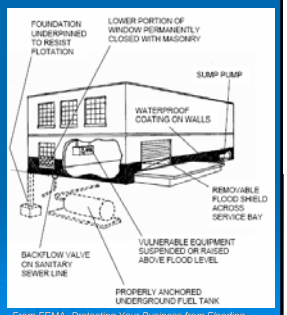
Elevated Appliances from www.louisianafloods.org



From www.louisianafloods.org

Dry Floodproofing

- Making the structure watertight below the level that needs flood protection.
- Requires sealing the walls and providing waterproof closures for any openings such as doors.
- Effective for low duration flooding with depths under 3 feet.
- Not effective for high velocity flooding.



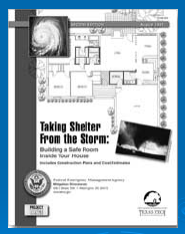
From FEMA, *Protecting Your Business from Flooding*

Community Shelters

- A structure built to withstand extreme winds and flying debris from tornadoes, hurricanes, and other storms that is accessible to the public.
- Guidelines can be found in FEMA 361.
- The shelter cannot be used for anything else.

Safe Rooms

- Can be built on-site, or manufactured.
- Can be installed in new or existing homes.
- Must have adequate ventilation.
- Must be securely anchored to the foundation and structurally isolated from the main structure.
- Can be on the first floor, in a basement, or outside.
- Guidelines are outlined in FEMA Publication 320



5% Initiative Mitigation Projects

5% Initiative Projects eligible for funding can include new, unproven mitigation techniques and technologies where benefits are not proven or not clearly measurable:

- Generators; or
- Disaster warning equipment and systems.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Municipal Participation

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Municipal Participation

- **Need assistance with:**
  - Responding to data and document requests
  - Completing on-line Capability Assessment
  - Reviewing and editing Critical Facility inventories
  - Project identification and prioritization

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Municipal Participation

- **Need assistance with:**
  - Attendance at regularly scheduled quarterly local Mitigation coordination meetings
  - A commitment to read plan materials and to participate in the joint planning process
  - Plan adoption (at the end of the process)

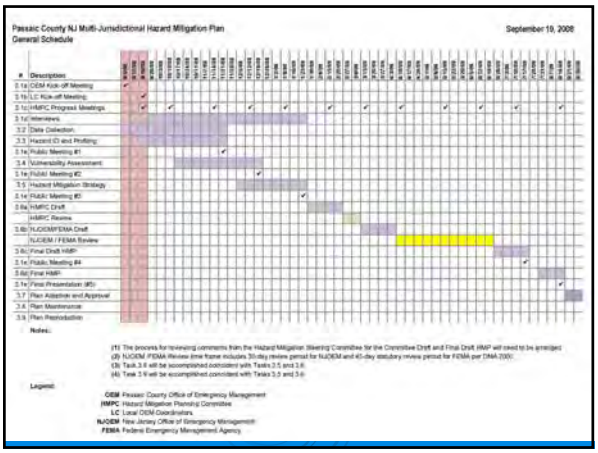
Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Municipal Participation

- **Implications:**
  - Pre-disaster hazard mitigation grant programs
  - Post-disaster public assistance and hazard mitigation grant programs

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

General Schedule



Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Work-in-Progress

Work-in-Progress

- Public Participation
- Data Requests ('wish lists")
- Hazard Identification
- Hazard Profiling

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Hazard Identification

Work in Progress: Hazard Identification

- Civil disturbance
- Crime
- Dam failure
- Drought
- Earthquake / Geological
- Economic crisis
- Enemy Attack / Terrorism
- Erosion
- Extreme temperatures. (cold/heat)
- Flood
- Hail
- Hazmat (fixed/transport)
- High wind (hurricanes, etc.)
- High wind (tornado)
- Ice storm
- Landslide
- Pandemic disease
- Radiological incident
- Severe Storm / Lightning
- Severe Storm / Winter weather
- Storm surge
- Utility Failure
- Urban Fire
- Wildfire

Work in Progress: Hazard Profiling

- Civil disturbance
- Crime
- Dam failure
- Drought
- Earthquake / Geological
- Economic crisis
- Energy / Fuel / Transport
- Erosion
- Extreme temperatures (cold/heat)
- Flood
- Hail
- Hazmat (fixed/transport)
- High wind (hurricanes, etc.)
- High wind (tornado)
- Ice storm
- Landslide
- Pandemic diseases
- Participant incident
- Severe Storm / Lightning
- Severe Storm / Winter weather
- Storm Surge
- Utility Failure
- Urban Fire
- Wildfire

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Hazard Profiling – Flood

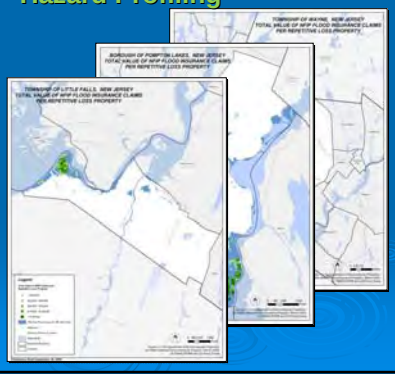
Work in Progress: Hazard Profiling

Both Repetitive Loss (RL) and Severe Repetitive Loss (SRL) claim record trends are being analyzed…

…county-wide…

Work in Progress: Hazard Profiling

…and at the municipal level.



Passaic County Multi-Jurisdictional Hazard Mitigation Plan

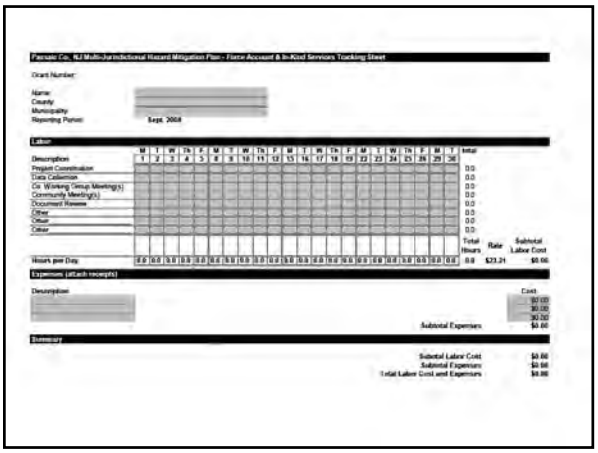
Next Steps

Next Steps

- Asset Inventories – Critical Facilities
- Capability Assessment – Survey
- Project Identification and Prioritization

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Force Account / In-Kind Services Documentation


Passaic Co. NJ Multi-Jurisdictional Hazard Mitigation Plan - Force Account & In-Kind Services Tracking Sheet

Grant Number:

Name:
County:
Municipality:
Reporting Period: Sept. 2008

Labor

Description	M 1	T 2	W 3	Th 4	F 5	M 8	T 9	W 10	Th 11	F 12	M 15	T 16	W 17	Th 18	F 19	M 22	T 23	W 24	Th 25	F 26	M 29	T 30	Total	Rate	Subtotal Labor Cost
Project Coordination																							0.0		
Data Collection																							0.0		
Co. Working Group Meeting(s)																							0.0		
Community Meeting(s)																							0.0		
Document Review																							0.0		
Other																							0.0		
Other																							0.0		
Other																							0.0		
Hours per Day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Total Hours 0.0	$23.21	$0.00

Expenses (attach receipts)

Description	Cost
	$0.00
	$0.00
	$0.00
	$0.00
Subtotal Expenses	$0.00

Summary

Subtotal Labor Cost	$0.00
Subtotal Expenses	$0.00
Total Labor Cost and Expenses	$0.00

Next Meeting(s)

- Hazard Mitigation Planning Committee Meetings
  - Thursday, October 9th
  - 2nd Thursdays for the next few months
- Participating Municipalities and Jurisdictions
  - Regularly quarterly Local Coordinator Meetings
  - Phone interviews
  - Working Sessions

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Comments and Questions

Example Hazard Mitigation Project List

	Mitigation action, program or project	Hazard(s) addressed	Existing or new structures	Existing implementation mechanism	Responsible Party	Target Date	Estimated cost ($)	Funding Source	Priority
1	**Acquisition of 23 homes**	Flood	Existing	Floodplain Management Plan	Township	2 years	TBD	PDM, HMGP, FMA, RFC, SRL	High
2	**Elevation of repetitive loss property**	Flood	Existing	County Mitigation Plan/Flood Plain Management	Township OEM	1-2 years from plan adoption date	$350,000	Pre-Disaster Mitigation Program (75%) and local match (open space program) (25%)	High Emergency Services Response affected.
3	**Apartment Complex waterproofing electrics**	Flood	Existing	NA	Apartment Complex	1 year	$100,000	Private	Medium
4	**Elevate critical facility (hospital)**	Flood	Existing	NFIP participa-tion	NFIP coordinator	2 years	$50,000	FMA, PDM, HMGP	High
5	**Relocation of Township EOC**	Flood	Existing	Township EOP	Township OEM	1-2 years from plan adoption date	3.4million	HMGP	High
6	**Feasibility determination/ project design for drainage for Fire/Police and EOC**	Flood	Existing	Capital Improvement Plan	Municipality	1 to 2 years	TBD	PDM	High
7	**Engineering/drainage study to assess options for reducing flooding**	Flood	NA	NA	Municipal Administrator	1 year	$150,000	PDM (assuming project feasibility), Capital Improvements	High
8	**Repair and retrofit of Main Street Dam**	Dam Failure	Existing	Local Mitigation Plan	Unknown Ownership of abandoned water control facility.	2 years from plan adoption date	TBD	TBD	High
9	**Propose regionalized coordination of dam releases / Develop Standard Operating Procedures**	Dam Failure	NA	NA	County OEM	6 months	Staff Time	Department Budget	High

	Mitigation action, program or project	Hazard(s) addressed	Existing or new structures	Existing implementation mechanism	Responsible Party	Target Date	Estimated cost ($)	Funding Source	Priority
10	**Hardening/Retrofitting and generator for EOC**	Wind	Existing	Unknown	Township	1 year	TBD	HMGP, PDM	High
11	**Hardening/Retrofitting, burying utility lines for FIRE/EMS**	Wind	Existing	Unknown	Township	1 year	TBD	HMGP, PDM	High
12	**Harden Memorial School to FEMA 361 Standards**	Wind	New	Capital Improvement Plan	School Board	2 years	TBD by Engineer / Architect	HMGP, PDM, Capital Improvements	High
13	**Envelope hardening, securing external infrastructure, securing roof ballast and public outreach and education programs of Senior Citizen Complex.**	Wind	Existing	Unknown	Township	1 year	TBD	HMGP, PDM	High
14	**Shelter enclosure/wind screen to protect critical response equipment at Municipal Marina**	Wind	Existing	None	Municipality	6 months	$100,000	General fund	Medium to High
15	**Backup power (generator) and/or utility protective measures for Memorial School**	All	New	Hazard Mitigation Plan	Municipal OEM	2 years	$50,000	HMGP (5% initiative), PDM	High
16	**Check valves for sanitation system (non-maintenance-related costs only)**	Flood	Existing	Capital Improvement Plan	Municipal Public Works Department (sewer)	2 years from plan adoption date	$10,000	HMGP, PDM	High
17	**Develop "All Hazards" public education and outreach program for hazard mitigation and preparedness**	All	NA	Hazard Mitigation Plan	County and Municipal OEM	1 year	Staff Time	Department Budget	High
18	**Building Code update**	Seismic and wind	New	Building Code Ordinance	Municipal Code Enforcement	3 years	staff time	Department budget	Medium

	Mitigation action, program or project	Hazard(s) addressed	Existing or new structures	Existing implementation mechanism	Responsible Party	Target Date	Estimated cost ($)	Funding Source	Priority
19	**Work with County and Flood Commission to dredge Cranberry Bogs to increase holding capacity**	Flood	Existing	NA	County/ Flood Commission	1 year	TBD by Engineer	County/ Flood Commission	High
20	**Eliminate sanitary sewer infiltration and manhole rehabilitation near Snuff Mill (non-maintenance costs only)**	Flood	Existing	Capital Improvement Plan	Municipal Department of Public Works/ Engineering	1 to 2 years	$200,000-$500,000	PDM, USDA Infrastructure Grant	Low
21	**Based on jurisdiction determination work with NJDOT to eliminate flooding**	Flood	Existing	Storm Water Management	Municipal Department of Public Works	Based on jurisdiction determination	TBD	HMGP, PDM, FMA	High
22	**Notification System such as reverse 911 and/or warning sirens**	All	NA	Capital Improvement Plan/ Hazard Mitigation Plan	Municipal OEM	1 to 2 years	Dependent upon type of system	HMGP (5% initiative)	High
23	**Storm sewer improvements**	Flood	Existing	Capital Improvement Plan	Municipal Administrator	1 year	$200,000	HMGP, PDM, FMA, Capital Improvements	High
24	**Evaluation/analysis of Detention Basin Dam**	Flood	Existing	Unknown	Township	1 Year	TBD	PDM (assuming project feasibility)	Medium
25	**Feasibility study for drainage at 9-1-1 switch for eastern seaboard)**	Flood	Existing	None	Verizon	1 year	$100,000	Private, PDM (assuming project feasibility)	Medium
26	**Dune stabilization and replenishment**	Storm Surge	Existing		Municipal OEM and Engineering Department	2 years	$500,000	PDM, FMA, local space program funds	Medium
27	**Stream bank stabilization to protect mobile home facility**	Flood	Existing	Existing	Township	2 years from plan adoption date	$500,000		High

	Mitigation action, program or project	Hazard(s) addressed	Existing or new structures	Existing implementation mechanism	Responsible Party	Target Date	Estimated cost ($)	Funding Source	Priority
28	**Construction of barrier around Water/Sewage facilities**	Flood	Existing	Floodplain Management Plan	Township	1 year	TBD	HMGP, FMA, PDM	High
29	**Floodproofing and Harden/Retrofit Shelter Elementary School**	Flood, Wind	Existing	Floodplain Management Plan	Township	2 years	TBD	HMGP, PDM	Medium
30	**Reconstruction of culvert (non-maintenance related costs only)**	Flood	Existing	Floodplain Management Plan	Township	2 years	TBD	HMGP, PDM	Medium
31	**Dredging of Smith's Creek from the Municipal Marina**	Flood	Existing	Unknown	Township	1 year	TBD	USDA	Medium
32	**Construction of berm and tide gate**	Flood	New	Unknown	Township	1 year	TBD	HMGP, PDM	High

Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan
Hazard Identification – Preliminary Hazard List
September 19, 2008

Hazard	Type (1)	Passaic County EOP	Mitigation 20/20	NJSHMPU (Draft) (2)	Include in PC HMP?
Civil Disturbance	I				No
Crime	I				No
Dam Failure	T				??
Drought	N			✓	Yes
Earthquake / Geological (3)	N			✓	Yes
Economic Crisis	T				No
Enemy Attack / Terrorism	I				No
Erosion – Hurricane / Nor'easter / Coastal Storm	N			✓	Yes
Extreme Temperature – Cold	N			✓	Yes
Extreme Temperature – Heat	N			✓	Yes
Flood (4)	N			✓	Yes
Hail	N			✓	Yes
Hazardous Materials Release – Fixed Site	T				??
Hazardous Materials Release – Transportation	T				??
High Wind – Straight-Line Winds (5)	N			✓	Yes
High Wind – Tornado	N			✓	Yes
Ice Storm	N				Yes
Landslide (non-seismic)	N				Yes
Pandemic Disease / Infestation	B				No
Radiological Incident	T				No
Severe Storm – Lightning	N				Yes
Severe Storm – Winter Weather	N			✓	Yes
Storm Surge – Hurricane / Nor'easter / Coastal Storm	N			✓	Yes
Utility Failure (gas, power, sewer, telecom, water)	T				No
Urban Fire	I				No
Wildfire	N			✓	Yes

Notes:

1. Type Legend: B = Biological; I = Intentional Acts; N = Natural; T = Technological / Manmade
2. NJSHMPU (Draft) = Draft State of New Jersey Hazard Mitigation Plan Update.
3. Earthquake / Geological includes effects of surface faulting, ground shaking, earthquake induced landslides and liquefaction.
4. Flood includes tidal, flash, sheet, and riverine flooding
5. High Wind – Straight-Line Winds includes winds due to Nor'easters, coastal storms, hurricanes, and severe storms, but not tornadoes

Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan
Data and Information "wish list"
September 19, 2008

The following is a list of data and information that would be helpful during the development of the Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan. It is important to note that James Lee Witt Associates assumes that much of this data or information either does not exist or is not available. However, anything that can be located and provided to us will assist in the process. Conversely, this list should not be considered as exhaustive; any data or information that are of a similar nature or focus as the examples shown below would likely be of interest.

This requested information would supplement and enhance the information that James Lee Witt Associates will gather from State and Federal sources. If any of this data is readily available, we will be happy to answer any questions you may have about its use and/or methods of transferring it.

A. Data regarding the community

1. Digital base maps with political boundaries (including special districts like schools, utilities, etc.), water features, roads (by use classification and ownership), topography, soils, physical geography, etc.
2. Floodplain mapping and / or studies including Digital Flood Insurance Maps (DFIRMS) if available, inundation maps from past hazard events
3. Studies, etc. (from organizations such as chamber of commerce, regional and/or local economic development authorities or councils of governments) that provide insight into development trends / patterns / rates (this could also include permit data from building departments in the various jurisdictions)
4. Any existing lists of self- or state- identified critical facilities including HSIP (Homeland Security Infrastructure Protection) lists that were developed over the past few year (which may have already been made available to JLWA as part of UASI EOP evaluation project)

B. Data regarding individual structures (public and private ownership)

1. Street address
2. Exact location (latitude/longitude and/or distinct planimetric feature in GIS)
3. Ownership
4. Age / date of construction
5. Construction type (i.e., wood frame, un-reinforced masonry, etc.)
6. Construction details (i.e., hazard specific information regarding flood proofing features, wind rating of windows)
7. First floor elevation
8. Number of floors
9. Square footage (total and floor by floor if available)
10. Assessed value
11. Market value
12. Replacement value
13. Use, e.g., in general land use categories such as "office / commercial", "single-family residential", etc. but also designating facilities that would be considered critical facilities (which may include facilities included in A.4 above) such as police stations, fire stations, EMS facilities, hospitals, communications towers, etc.)
14. Occupancy (e.g., rated capacity per Fire Marshall for public and commercial buildings, etc.)

15. Contents in terms of what, where and value (obvious things that would be good to know is the location of electrical equipment relative to flood elevations for the presence of hazardous materials, etc.)
16. Estimates of annual operating budgets of public operations / facilities
17. Current status (i.e., occupied, unoccupied, inhabitable, etc.)
18. Insurance records (private, self-insured, State compilations, etc.) and/or any other records re: damages sustained from past hazard events including date, source of damages (i.e., hazard type), description and amount of damages to structures, contents and length of time the structure was out of service
19. Any past mitigation projects completed or currently contemplated for structures (including any related engineering studies)

C. Data regarding public infrastructure

1. Utility line locations, size / capacity, and type (above and below ground including party responsible for maintenance)
2. Sewer and water systems (including pump stations and any supporting infrastructure)
3. Flood management and pumping systems
4. Insurance records (private, self-insured, State compilations, etc.) and/or any other records re: damages sustained from past hazard events including date, source of damages (i.e., hazard type), description and amount of damages to facilities, contents and length of time the facility was out of service
5. Any past mitigation projects completed or currently contemplated for facilities (including any related engineering studies)

D. Other Plans and Studies

1. Regional, County and/or Municipal Comprehensive Land Use and/or Zoning Plans and/or Maps

Note: Normally, Emergency Operations Plans, Continuity of Operations, Business Continuity Plans, Evacuation Plans etc. are requested but these will or already have been made available to JLWA as part of UASI EOP evaluation project

E. Miscellaneous information

1. Locations of facilities (and known transportation routes) that store or handle hazardous materials (some of which may show up as part of content listings for existing structures above per B.15).
2. Any demographic surveys or studies that would provide more current information about residents and/or property values than the 2000 US Census.

FOR IMMEDIATE RELEASE:

date

Passaic County communities preparing for next natural hazard
Federal emergency management grant jumpstarts initiative

DATE LINE – The Passaic County Office of Emergency Management has begun working with the 16 municipalities in the county to develop a comprehensive hazard mitigation plan. The completed plan will include a risk assessment and a hazard-mitigation strategy that will identify hazard mitigation projects that can reduce the risk of loss of life, injury and property damage from future natural and manmade disasters.

"quote re: everyone working together – all the municipalities and our partners in neighboring counties," said someone important like a county OEM director.

A primary outcome of this plan will be to identify and lay the ground work for implementing hazard mitigation projects – including projects that are eligible for federal funding and those that may not qualify for federal funds but are of clear value to local communities. Additionally, this plan will identify mechanisms for integrating hazard mitigation into other related planning efforts.

The primary natural hazard in Passaic County is flooding, but other potential hazards such as drought, extreme cold, extreme heat, snow, ice, hail, windstorms and tornadoes will be included in the planning process.
The vulnerability to various natural hazards will be determined based on existing and future buildings, infrastructure and critical facilities that might be impacted. Critical facilities include shelters and hospitals; infrastructure includes power-generation facilities, water utilities, roadways, railroads and communication systems.

"quote about what hazard mitigation planning gets you – reduced exposure, wiser use of the public's money, identification of effective projects and strategic pathways to getting them done, better integration of hazard mitigation into land use planning, etc." from a county exec or someone like that.

The Federal Emergency Management Agency (FEMA) awarded the Passaic County a grant under the Pre-Disaster Mitigation Program in the amount of $225,000. The county has contracted with James Lee Witt Associates of Washington D.C. – part of the Global Options Group – to develop the hazard mitigation plan in accordance with state and federal standards. The county and the municipalities will contribute an additional $75,000 of staff services, bringing the project total to $300,000. The creation of this plan will allow the county and the participating municipalities to be eligible for future mitigation funding from FEMA.

The risk assessment will include four phases:
1. identify hazards that may impact the county and municipalities;
2. profile the relevant hazards and their potential consequences;
3. identify assets that are subject to losses or damage, including physical structures, functions and populations; and
4. estimate the potential losses that could result from each type of hazard.

Following the risk assessment, the county will develop a hazard mitigation strategy. The strategy will include the identification of hazard mitigation goals as well as a prioritized list of actions designed to reduce losses.

A series of public meetings will be part of the plan development process, both to solicit public comment and to present the draft plan to residents and local officials.

Information about the Passaic County Multi-Jurisdictional Hazards Mitigation Plan will be posted on the county Web site at: www.website.gov.

Links

Passaic County Multi-Jurisdictional Hazard Mitigation Planning Project

General Information

Participating Jurisdictions

The Draft Plan

Contact Information

Planning Group Information

Meeting Schedule

Useful Links

General Information

Passaic County Multi-Jurisdictional Hazard Mitigation Planning Project

WHAT IS HAZARD MITIGATION?

Natural hazards have the potential to cause property loss, loss of life, economic hardship, and threats to public health and safety. While an important aspect of emergency management deals with disaster recovery – those actions that a community must take to repair damages and make itself whole in the wake of a natural disaster – an equally important aspect of emergency management involves hazard mitigation.

Hazard mitigation actions are efforts taken before a disaster happens to lessen the impact that future disasters of that type will have on people and property in the community. They are things you do today to be more protected in the future. Hazard mitigation actions taken in advance of a hazard event are essential to breaking the typical disaster cycle of damage, reconstruction, and repeated damage. With careful selection, hazard mitigation actions can be long-term, cost-effective means of reducing the risk of loss and help create a more disaster-resistant and sustainable community.

WHAT IS A HAZARD MITIGATION PLAN?

A Hazard Mitigation Plan is a well-organized and well-documented evaluation of the hazards that a jurisdiction is susceptible to, and the extent to which these events will occur. Hazard Mitigation Plans identify an area's vulnerability to the effects of the natural and manmade hazards, as well as the goals, objectives, and actions required for minimizing future loss of life, injury, property damage, and economic disruption as a result of hazard events.

PURPOSE AND NEED FOR THE PLAN

Hazard mitigation plans are developed BEFORE a disaster strikes. The plans identify community policies, actions, and tools for long-term implementation to reduce risk and potential for future losses. Adopted, implemented and maintained on an ongoing basis, these plans will gradually, but steadily, lessen the impacts associated with hazard events in Passaic County.

Under the federal Disaster Mitigation Act of 2000 (DMA 2000), as of November 1, 2004 communities that do not have a FEMA-approved hazard mitigation plan in place are no longer eligible for FEMA project grant monies under long standing programs such as the Flood Mitigation Assistance Program (FMA), Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation Grant Program (PDM) and newer grant programs such as the Severe Repetitive Loss Grant Program (SRL).

OUTCOMES: IDENTIFYING MITIGATION PROJECTS AND OTHER BENEFITS

A major focus of this Hazard Mitigation Plan will be to identify effective mitigation projects and realistic implementation strategies, including identifying potential funding streams. This includes projects that may be eligible for federal funding through FEMA grants or other federal sources, as well as to projects that may not qualify for federal funding but are still important to a community. This planning process will help lay the groundwork for implementation of both federally fundable and non-federally fundable mitigation projects.

In addition to identifying effective mitigation projects, a Hazard Mitigation Plan will also assist municipalities of Passaic County in the following ways:

- Increased understanding of natural and manmade hazards and risk the county faces;
- Eligibility for federal funds for pre-disaster mitigation planning under DMA 2000;
- Developing partnerships that support planning and mitigation efforts and may offer potential financial savings, including: reduced flood insurance premiums, broader resources for funding of mitigation projects, and enhanced benefit-cost ratios for U.S. Army Corps of Engineers projects;
- Enhanced coordination of hazard mitigation with comprehensive planning and zoning;
- Development of more sustainable and disaster-resistant communities; and
- Reduced long-term impacts and damages to human health and structures, and reduced repair costs.

Proactive mitigation leads to the development of sustainable, cost-effective projects. In contrast, reactive mitigation tends to yield "quick-fix" alternatives that may cost much and accomplish little. Proactive mitigation is also far more cost-effective than paying to clean up and rebuild after disasters happen. Danger to population and damage to property can be reduced if the region evaluates where and how disasters may occur, and takes steps to reduce those risks.

PARTICIPATION

Jurisdictions located within Passaic County who wish to be recognized by FEMA as being compliant with the federal Disaster Mitigation Act of 2000 (DMA 2000) must either: (a) participate with Passaic County in the multi-jurisdictional plan development process and formally adopt the final plan, or (b) prepare their own hazard mitigation plan.

Elected and appointed government officials, business leaders, volunteers of non-profit organizations, citizens, and other stakeholders have been invited to participate in the coordinated multi-jurisdictional plan development process. [link to Participating Jurisdictions] Citizens of Passaic County will have the opportunity to participate by attendance at the various public meetings. The dates of these meeting will be posted on this website. [link to Meeting Schedules]

Active participation in the process is the only way a jurisdiction can be seen in FEMA's eyes as a 'participating jurisdiction' that has met the requirements of DMA 2000 and is therefore eligible to apply for Federal funds for hazard mitigation projects. Participation includes attending meetings, providing feedback and reaching out to the public and other key stakeholders in the community, and adopting the final plan.

PROCESS OVERVIEW

The hazard mitigation planning processes will be conducted over the course of approximately one year, beginning in September, 2008. Key steps of the process include:

- Research a full range of natural and manmade hazards.
- Identify the most significant hazards (the ones that present the most risk to the county); these will be the focus of the plan.
- Identify the location and extent of hazard areas.
- Identify assets located within hazard areas.
- Characterize existing and potential future assets at risk by analyzing land uses and development trends
- Assess vulnerabilities to the identified hazards.
- Identify local, state, and Federal capabilities that support hazard mitigation.
- Develop a mitigation strategy by evaluating and prioritizing goals, objectives, and hazard mitigation actions.
- Adopt the plan.
- Implement the Plan and monitor its progress.

While natural disasters cannot be prevented from occurring, the continued implementation of our hazard mitigation plan over the long-term will gradually, but steadily, lessen the impacts associated with hazard events in our region.

Planning Group Information

Passaic County Multi-Jurisdictional Hazard Mitigation Planning Project

PLANNING GROUP ORGANIZATIONAL STRUCTURE

Here we can list participants of the planning committee(s) for each community.

Other NJ HMPs used the term "Jurisdictional Assessment Teams (JAT)". They can also simply be called [community] Hazard Mitigation Planning Committee (HMPC). If Passaic County wants to do something along those lines, we can leave the below text, if not, we need to describe your organization.

The HMPCs will include representatives from the individual participating jurisdictions. The HMPCs will be responsible for local community involvement in the multi-jurisdictional mitigation plan.

All participating jurisdictions must:

- Coordinate and facilitate local efforts
- Attend meetings
- Provide information and feedback
- Involve the public and community stakeholders in the planning process
- Assess mitigation alternatives
- Select a course of action to be followed for their communities
- Adopt the plan
- Implement the plan and monitor its progress

CONSULTING TEAM

James Lee Witt Associates (JLWA), part of the Global Options Inc., is the lead consultant for this project.

Founded in 2001, JLWA is a leading public safety and crisis management consulting firm based in Washington, D.C., with regional offices in Atlanta, Chicago, Little Rock, Sacramento and New Jersey. Nationwide, Global Options, Inc. has over 500 employees who are engaged on a wide range of security services and disaster-related efforts. The planners assigned to this project have extensive experience in the development of multi-jurisdictional hazard mitigation plans for counties and communities across the country. JLWA is led by James Lee Witt who has more than 25 years of leadership and experience in public service, includes eight years as the Director of the Federal Emergency Management Agency (FEMA). Joining JLWA for this project are four other firms:

Vissering Pardue and Associates, Inc. (VPA) is providing consultation regarding risk assessment processes and benefit-cost analysis for development of the mitigation strategy.

Jeffrey S. Ward & Associates, Inc. (JSW) is providing consultation regarding hazard mitigation project implementation.

Princeton Hydro, LLC (PH) will be providing locally-based technical support for geographic information systems (GIS) and data management on the project. PH has offices in Hunterdon County and Camden counties, New Jersey.

CMX, Inc. is providing locally-based technical support for civil engineering and hydrologic analyses to support the identification and documentation of flood-related hazard mitigation projects. CMX is a national engineering and consulting firm headquartered in Manalapan, New Jersey.

These firms have significant experience working together on New Jersey hazard mitigation planning projects. VPA, JSW, and Princeton Hydro are currently also teamed on hazard plans for the State of New Jersey and the City of Trenton; additionally, VPA, JSW, and Princeton Hydro are teamed with JLWA on hazard plans in Middlesex, Union, Morris, Camden, Cumberland, Gloucester and Salem counties.

Participating Jurisdictions

Passaic County Multi-Jurisdictional Hazard Mitigation Planning Project

All 16 municipalities in Passaic County are represented by one or more municipal official. [note that if not all the municipalities are participating, this number should be reduced as appropriate.]

Passaic County Municipalities

List all the participating municipalities, jurisdictions and organizations, in whatever level of detail you want (Note: Monmouth and other NJ counties have listed all contact info (jurisdiction, contact name, phone number, address, e-mail)

Meeting Schedule

Passaic County Multi-Jurisdictional Hazard Mitigation Planning Project

The following includes records for meetings that have already occurred and the current schedule for meetings related to this planning effort that are open to the public:

Insert links below and populate meeting info on landing page, including agendas, minutes, handouts, presentations, etc.:

date

date

date

The Draft Plan

Passaic County Multi-Jurisdictional Hazard Mitigation Planning Project

The Passaic County Multi-Jurisdictional Hazard Mitigation Planning processes are currently underway for the 16 participating municipalities. The Draft Plan is tentatively scheduled for release [insert date]. Upon its release, the plan will be posted here for your review and comment. We thank you for your interest, and invite you to return to this web page to review the Draft Plan when it is completed.

Useful Links

Passaic County Multi-Jurisdictional Hazard Mitigation Planning Project

Need to set up hyperlinks below

New Jersey State Police – Office of Emergency Management

- Home Page

Federal Emergency Management Agency

- Home Page
- Hazard Mitigation Division
- Disaster Mitigation Act of 2000
- Interim Final Rule, Feb. 2002
- Interim Final Rule, Oct. 2002
- Mitigation Planning Guidance
- How-To Guides & Other Publications
- FEMA Approved Mitigation Plans
- Mitigation Grant Programs
- Hazard Information

Contact Information

Passaic County Multi-Jurisdictional Hazard Mitigation Planning Project

Thank you for your interest! For questions or other feedback, please contact:

Passaic County Office of Emergency Management
address
phone number
email

Passaic Co., NJ Multi-Jurisdictional Hazard Mitigation Plan - Force Account & In-Kind Services Tracking Sheet

Grant Number:

Name:
County:
Municipality:
Reporting Period: **Sept. 2008**

Labor

	M	T	W	Th	F	M	T	W	Th	F	M	T	W	Th	F	M	T	W	Th	F	M	T	total		
Description	**1**	**2**	**3**	**4**	**5**	**8**	**9**	**10**	**11**	**12**	**15**	**16**	**17**	**18**	**19**	**22**	**23**	**24**	**25**	**26**	**29**	**30**			
Project Coordination																							0.0		
Data Collection																							0.0		
Co. Working Group Meeting(s)																							0.0		
Community Meeting(s)																							0.0		
Document Review																							0.0		
Other_____																							0.0		
Other_____																							0.0		
Other_____																							0.0		
																							Total Hours	**Rate**	**Subtotal Labor Cost**
Hours per Day	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**$23.21**	**$0.00**

Expenses (attach receipts)

Description	**Cost**
	$0.00
	$0.00
	$0.00
Subtotal Expenses	**$0.00**

Summary

Subotal Labor Cost	**$0.00**
Subtotal Expenses	**$0.00**
Total Labor Cost and Expenses	**$0.00**

Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan
Planning Committee Meeting - Agenda
October 9, 2008

1. Work Plan / General Schedule & Project Status
   a. General Schedule Update

2. Work-in-progress
   a. Participating municipalities – PC OEM participation recommendations
   b. Data requests ("wish list")
   c. Capability Assessment – On-line survey
   d. Project Identification
      - PC lists - Asset Inventories / Critical Facilities
      - Repetitive Loss / Severe Repetitive Loss Properties
      - Participating Municipalities' Assets and Problem Areas
      - Next steps
   e. Passaic County Multi-Jurisdictional Hazard Mitigation Plan – Preliminary Drafts
      - Outline
      - Section 6 - Hazard Identification and Profiling and Appendices B, D and E
      - Table 6.4-1
      - Section 7 - Risk Assessment (flood only)

4. Force Account / In-Kind Services Documentation
   a. October 2008 Form

5. Next Meeting / Action Items

PASSAIC COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLANNING COMMITTEE MEETING	THURSDAY, OCTOBER 9, 2008	LOCATION: PCOEM @PSA TIME: 10 A.M.
NAME	***AGENCY***	***E-MAIL ADDRESS***
Maryann Trommelen	PCOEM	pcoem@passaiccountynj.org
Maria Dombayci	PCOEM	pcoem@passaiccountynj.org
Jerry VOLPE	P.C.	JVOLPE@PASSAICCOUNTYNJ.ORG
ALLEN DEL VECCHIO	TOTOWA OEM	CHIEF970@AOL.COM
Michael Lysicatos	Passaic Cty Planning	mlysicatos@passaiccountynj.org
Rhonda Thompson	Paterson OEM	rthompson@patcity.com
TOM NORTON	WANAQUE PD	tnorton@wanaqueborough.com
JACK NIGRO	P.C. Roads/Buildings	Jacknepassaiccountynj.org
JAMES DUNHAM	NJSP OEM	LPP5825@GW.NJSP.ORG
AL EVANGELISTA	POMPTON LAKES OEM	AEVANGELISTA@RIH.ORG
STUART WALLACE	JLWA	swallace@wittassociates.com
JO JORDON	JLWA	jjordon@wittassociates.com

#	Description	9/5/08	9/12/08	9/19/08	9/26/08	10/3/08	10/10/08	10/17/08	10/24/08	10/31/08	11/7/08	11/14/08	11/21/08	11/28/08	12/5/08	12/12/08	12/19/08	12/26/08	1/2/09	1/9/09	1/16/09	1/23/09	1/30/09	2/6/09	2/13/09	2/20/09	2/27/09	3/6/09	3/13/09	3/20/09	3/27/09	4/3/09	4/10/09	4/17/09	4/24/09	5/1/09	5/8/09	5/15/09	5/22/09	5/29/09	6/5/09	6/12/09	6/19/09	6/26/09	7/3/09	7/10/09	7/17/09	7/24/09	7/31/09	8/7/09	8/14/09	8/21/09	8/28/09
3.1a	OEM Kick-off Meeting	✓																																																			
3.1b	LC Kick-off Meeting			✓																																																	
3.1c	HMPC Progress Meetings			✓			✓					✓				✓				✓					✓				✓				✓																				
3.1d	Interviews																																																				
3.2	Data Collection																																																				
3.3	Hazard ID and Profiling																																																				
3.1e	Public Meeting #1												✓																																								
3.4	Vulnerability Assessment																																																				
3.1e	Public Meeting #2																✓																																				
3.5	Hazard Mitigation Strategy																																																				
3.1e	Public Meeting #3																					✓																															
3.6a	HMPC Draft																																																				
	HMPC Review																																																				
3.6b	NJOEM/FEMA Draft																																																				
	NJOEM / FEMA Review																																																				
3.6c	Final Draft HMP																																																				
3.1e	Public Meeting #4																																														✓						
3.6d	Final HMP																																																				
3.1e	Final Presentation (#5)																																																		✓		
3.7	Plan Adoption and Approval																																																				
3.8	Plan Maintenance																																																				
3.9	Plan Reproduction																																																				

Notes:

(1) The process for reviewing comments from the Hazard Mitigation Steering Committee for the Committee Draft and Final Draft HMP will need to be arranged.
(2) NJOEM /FEMA Review time frame includes 30-day review period for NJOEM and 45-day statutory review period for FEMA per DMA 2000.
(3) Task 3.8 will be accomplished coincident with Tasks 3.5 and 3.6.
(4) Task 3.9 will be accomplished coincident with Tasks 3.5 and 3.6.

Legend:

OEM Passaic County Office of Emergency Management
HMPC Hazard Mitigation Planning Committee
LC Local OEM Coordinators
NJOEM New Jersey Office of Emergency Management
FEMA Federal Emergency Management Agency

Passaic County, New Jersey
Multi-Jurisdictional Hazard Mitigation Plan

Work-in-Progress Review Materials

Submitted to:

Passaic County Hazard Mitigation Planning Committee

Submitted by:

JAMES LEE WITT ASSOCIATES
Part of GlobalOptions Group

October 9, 2008

DRAFT_Local Capability Assessment Survey_Passaic County, NJ

Introduction

Thank you for taking the time to complete this survey. Your frank and honest responses will help us assess capability for hazard mitigation planning and implementation.

First, it is important to establish what we mean by “hazard mitigation.” For the purposes of this assessment, the term “hazard mitigation” refers to measures intended to reduce the effects of hazards on a place and its population. Hazards include naturally occurring events such as floods, high winds, and ice storms, as well as manmade hazards resulting from events such as industrial accidents or dam or levee failures. Hazard mitigation actions include a broad array of programs and actions, including: public education about stronger construction techniques, elevation or acquisition of repetitive loss structures, floodplain management regulations, dam construction and wetland restoration.

On the other hand, programs and projects that strictly address public safety and/or emergency management are typically not considered to be hazard mitigation.

Please keep this definition in mind as you answer the following questions.

You are now ready to begin the survey. Use the "Next" button located at the bottom of each page to navigate through the survey. Use the "Prev" button if at any point you need to go back and change an answer.

Your answers will be saved if you stop midway through the survey and you will pick up on that question when you resume. However, once you begin a survey it must be finished on the same computer, meaning you cannot start on a work computer and finish on a home computer.

Please note the progress bar at the top of your page. This shows your progress in the survey and updates every time a new page is opened.

General Information

* 1. Today's date:

	MM	DD	YYYY
Enter here:	/	/	

* 2. Respondant's Information:

Name:

Position or job title:

Agency:

Jurisdiction:

Email Address:

Phone Number:

3. What is your employment status? (Your response should be relevant to hazard mitigation work; if you are a full-time police officer and a volunteer OEM coordinator, mark "volunteer")

- ◯ Full time
- ◯ Part time
- ◯ Volunteer

Local Capability

* 4. How long have you held your current position?

DRAFT_Local Capability Assessment Survey_Passaic County, NJ

* 5. Describe the education degrees, professional certifications and/or professional experience that are most relevant in your current role:

6. Describe any other relevant expertise (finance, engineering, planning, etc.):

* 7. In regards to staffing:

	How many staff do you directly oversee?	How many of the staff whom you oversee work directly in hazard mitigation? (Includes working with FEMA grants or generally working to reduce exposure to hazards, but NOT emergency response.)
Full-time employee(s)		
Contractor(s)		
Volunteer(s) and/or student(s)		

* 8. How many of your staff have training or expertise directly relevant to hazard mitigation? (Includes working with FEMA grants or generally working to reduce exposure to hazards, but NOT emergency response.)

* 9. Do staff in other departments/agencies/offices in your municipal also work in a hazard-mitigation capacity? (Includes working with FEMA grants or generally working to reduce exposure to hazards, but NOT emergency response.)

- ◯ Yes
- ◯ No
- ◯ Don't know

Follow Up Questions-Local Capability

10. In what department(s), agency(ies), or office(s) are they located? (Check all that apply)

- ☐ Department of Environmental Protection/Quality
- ☐ Planning Department
- ☐ Department of Public Works
- ☐ Building Department
- ☐ Office of Emergency Management
- ☐ Other

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11. How many total staff are in these other offices?

12. How do you regularly communicate with the staff in these other offices?

GIS

* 13. Does your office use GIS data?

- Yes
- No
- Don't know

Follow Up Questions-GIS

14. What hazard-mitigation purposes, specifically, is the GIS data used for?

* 15. Where is this data located?

- Respondent's office
- Somewhere else

Follow Up Questions-GIS

* 16. How many staff are devoted to operating, updating and maintaining your GIS?

* 17. What is your annual budget for GIS staff and technology?

Mitigation Grants

By answering "Yes" to the following question you will be asked a series of follow up questions related to this topic. By answering "No" you will move ahead to the next section in the survey.

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* 18. Are you familiar with any of the following mitigation programs:

Public Assistance (PA) program (a/k/a Stafford Act, Sec 406)
Hazard Mitigation Grant Program (HMGP) (a/k/a Stafford Act, Sec. 404)
Pre-Disaster Mitigation (PDM) program
Flood Mitigation Assistance (FMA) program
Severe Repetitive Loss (SRL) program
Repetitive Flood Claim (RFC) program

- ◯ Yes
- ◯ No

Follow Up Questions-Mitigation Grants

* 19. Please indicate your familiarity with the following FEMA mitigation funding sources:
(1=Never heard of it, 5=Very familar)

	1	2	3	4	5
Public Assistance (PA) program (a/k/a Stafford Act, Sec 406)	◯	◯	◯	◯	◯
Hazard Mitigation Grant Program (HMGP) (a/k/a Stafford Act, Sec. 404)	◯	◯	◯	◯	◯
Pre-Disaster Mitigation (PDM) program	◯	◯	◯	◯	◯
Flood Mitigation Assistance (FMA) program	◯	◯	◯	◯	◯
Severe Repetitive Loss (SRL) program	◯	◯	◯	◯	◯
Repetitive Flood Claim (RFC) program	◯	◯	◯	◯	◯

* 20. Please indicate whether your municipality has received funding from the following FEMA mitigation funding sources:

	Yes	No	Don't know
Public Assistance (PA) program (a/k/a Stafford Act, Sec. 406)	◯	◯	◯
Hazard Mitigation Grant Program (HMGP) (a/k/a Stafford Act, Sec. 404)	◯	◯	◯
Pre-Disaster Mitigation (PDM) program	◯	◯	◯
Flood Mitigation Assistance (FMA) program	◯	◯	◯
Severe Repetitive Loss (SRL) program	◯	◯	◯
Repetitive Flood Claim (RFC) program	◯	◯	◯

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* 21. How much total federal, state, and local funding was spent in your municipality on hazard mitigation activities from 1998-2007?

Federal	
State	
Local	

* 22. Does someone in your office have experience with hazard mitigation grants:

	Yes	No
Grant writing	○	○
Grant administration	○	○

* 23. How much time (hours per week) could staff in your office devote to management of hazard mitigation grants?

* 24. Is there an office other than yours that would be a preferable location for the management of hazard mitigation grants?

○ Yes

○ No

Please specify

Fiscal Resources for Mitigation

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25. Please indicate your municipality's accessibility to the following potential funding sources for hazard mitigation projects:

	Ineligible to use	Eligible to use/ not actively used	Eligible to use/ actively used
General fund	☐	☐	☐
Development/impact fees	☐	☐	☐
Utility fees	☐	☐	☐
Community Development Block Grant (CDBG)	☐	☐	☐
Capital Improvements Project funding	☐	☐	☐
Authority to levy speciual-purpose taxes	☐	☐	☐
Hazard Mitigation Grant Program (HMGP)	☐	☐	☐
State open-space acquisition funds	☐	☐	☐
Local open-space acquisition funds	☐	☐	☐
Dedicated "Local Match" funds for federal/state grants	☐	☐	☐
Improvement Authority or other local entity with lending ability	☐	☐	☐

Other?

Hazard Mitigation Programs

By answering "Yes" to the following question you will be asked a series of follow up questions related to this topic. By answering "No" you will move ahead to the next section in the survey.

* 26. Does your municipality have an active hazard mitigation program?

- ◯ Yes
- ◯ No

Follow Up Questions-Hazard Mitigation Programs

27. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

28. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

29. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

30. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

31. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

32. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

Follow-Up Questions--Hazard Mitigation Programs

33. Please describe any plans or regulations in your municipality that may (unintentionally) hinder hazard mitigation efforts (for example: historic preservation regulations that limit mitigation of certain structures, environmental regulations that discourage mitigation actions, development incentives that encourage building along shorelines or in floodplains, etc.):

34. Of the programs, actions, or activities your municipality has participated in, which have been less effective than others at reducing losses in your municipality?

35. Why do you believe these programs have been less effective?

36. Of the mitigation programs, actions, and activities your municipality has participated in, which have been the most effective in reducing losses in your municipality?

37. What makes these programs effective?

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38. Based on the lessons you and your municipality have learned with these hazard mitigation programs, actions, or activities, what advice would you provide to other jurisdictions that may be considering implementing the same programs?

39. What types of mitigation programs, policies, or actions that are not currently being implemented in your municipality do you believe would be successful in reducing losses if they were implemented?

Interagency and Intergovernmental Coordination

* 40. Does your office work with other partners on hazard mitigation efforts?

- ◯ Yes
- ◯ No

Follow Up Questions-Interagency and Intergovernmental Coordination

41. Please list other offices/agencies within your municipality with which your office works directly in order to plan and/or implement hazard mitigation:
(Check all that apply)

- ☐ Department of Environmental Protection/Quality
- ☐ Planning Department
- ☐ Department of Public Works
- ☐ Building Department
- ☐ Office of Emergency Management
- ☐ Other

42. Please list any neighboring jurisdictions with which your office works directly in order to plan and/or implement hazard mitigation:

43. Please list any departments, agencies, or commissions at the following levels of government with which your office works directly in order to plan and/or implement hazard mitigation:

County

Regional

State

Federal

44. Of all the partners you listed above, which are the most valuable relationships in terms of effective hazard mitigation?

45. Are there potential partners with whom you do not currently work that you believe might be useful in helping your municipality effectively mitigate hazard?

- Yes
- No
- Don't know

If yes, please specify

Hazard Mitigation Planning, Implementation and Regulatory Capability

* 46. Does your municipality have a hazard mitigation or flood mitigation plan?

- Yes
- No
- Don't know

* 47. What agency oversees the capital improvement program (CIP) in your municipality?

* 48. In regards to your capital improvement program:

	Yes	No	Don't know
Are hazard mitigation projects generally considered as part of the CIP process?			
Are CIP projects systematically assessed for hazard mitigation implications?			

Please describe

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* 49. How many staff does your municipality employ for CIP implementation?

	Staff
Engineers	
Project managers	
Construction labor	
Other	

Flood Plain Management

* 50. Does your municipality have a Flood Plain Management program?

- ◯ Yes
- ◯ No
- ◯ Don't know

Follow Up Questions--Flood Plain Management

51. What department or agency administers floodplain management in your municipality?

- ☐ Department of Environmental Protection/Quality
- ☐ Planning Department
- ☐ Department of Public Works
- ☐ Building Department
- ☐ Office of Emergency Management
- ☐ Other

52. Does your municipality have a Certified Floodplain Manager (CFM)?

- ◯ Yes
- ◯ No
- ◯ Don't know

53. How many staff are involved in your flood plain managament program?

54. Does your municipality participate in the National Flood Insurance Program (NFIP)?

- ◯ Yes
- ◯ No
- ◯ Don't know

55. Does your municipality have a ranking lower than "10" in the Community Rating System (CRS) of the NFIP?

- ◯ Yes
- ◯ No
- ◯ Don't know

56. Are floodplain-related permitting decisions ever overruled/ignored in your municipality?

- ◯ Yes
- ◯ No
- ◯ Don't know

If yes, please explain

Green Acres and Blue Arces Programs

* 57. Does your municipality use funds through the Green Acres (NJSA 13:8A 19-55 and 8B 1-9, NJAC 7:36) or Blue Acres programs?

- ◯ Yes
- ◯ No
- ◯ Don't know

Follow Up Questions-Green Acres and Blue Acres Programs

58. What department or agency administers Green/Blue Acres funds in your municipality?

- ☐ Department of Environmental Protection/Quality
- ☐ Planning Department
- ☐ Department of Public Works
- ☐ Building Department
- ☐ Office of Emergency Management
- ☐ Other

DRAFT_Local Capability Assessment Survey_Passaic County, NJ

59. Are Green/Blue Acres funds used for:
(Check all that apply)

- [ ] Scenic/conservation landscape
- [ ] Hazard Mitigation
- [ ] Don't know

If Hazard Mitigation, please explain

Comprehensive Planning

* 60. Does your municipality have a comprehensive plan?

- ◯ Yes
- ◯ No
- ◯ Don't know

Follow Up Questions-Comprehensive Planning

DRAFT_Local Capability Assessment Survey_Passaic County, NJ

* 61. Does your comprehensive plan include policies that:

	Yes	No	Don't know
zone for low-intensity uses in areas of high vulnerability to hazards?	○	○	○
enforce set-backs from hazards, including flood areas, steep slopes, etc.?	○	○	○
acquire or dedicate green space in areas of high vulnerability to hazards?	○	○	○
locate capital improvements and public buildings away from areas of high vulnerability to hazards?	○	○	○
reduce vulnerability of existing structures in hazardous areas (including retrofitting or relocating)?	○	○	○
Is hazard mitigation addressed in other ways in your comprehensive plan?	○	○	○

Please explain if Hazard Mitigation is expressed in your comprehensive plan

Zoning

* 62. Does your municipality have a zoning ordinance?

- ○ Yes
- ○ No
- ○ Don't know

Follow Up Questions-Zoning

63. Does your zoning ordinance include policies that:

	Yes	No	Don't know
code for low-intensity uses in areas of high vulnerability to hazards?	○	○	○
require set-backs from hazards, including flood areas, steep slopes, etc.?	○	○	○
code allow for cluster development and/or other flexible site-planning strategies that can help reduce development in hazard areas?	○	○	○
Is hazard mitigation addressed in other ways in your zoning ordinance?	○	○	○

Please explain if Hazard Mitigation is expressed in your zoning ordinance

Subdivision Ordinance

* 64. Does your municipality have a subdivision ordinance?

- ○ Yes
- ○ No
- ○ Don't know

Follow Up Questions-Subdivision Ordinance

65. Does your subdivision ordinance include:

	Yes	No	Don't know
mechanisms to achieve low-intensity uses in areas of high vulnerability to hazards?	○	○	○
requirements for set-backs from hazards, including flood areas, steep slopes, etc.?	○	○	○
encouragement for dedication of green space in areas of high vulnerability to hazards?	○	○	○
allowance for cluster development and/or other flexible site-planning strategies that can help reduce development in hazard areas?	○	○	○
Is hazard mitigation addressed in other ways in your subdivision ordinance?	○	○	○

Please explain if Hazard Mitigation is expressed in your subdivision ordinance

Building Code Enforcement

* 66. What department in your municipality oversees building code enforcement?

- ○ Building Department
- ○ Permitting Department
- ○ Engineering Department
- ○ Other

* 67. How many staff work directly with building code enforcement?

68. What type of training does building code enforcement staff receive?

Other Capabilities and Programs

69. Please list any other plans or land development regulations in your municipality that are intended to manage risk or mitigate hazard:

70. Does your muinicipality employ any of the following:

	Staffing level	Location
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		
planner(s) or engineer(s) with an understanding of natural- and/or human-caused hazards		
surveyors		
staff with education or expertise to assess the communities vulnarability to hazards		
personnel skilled in GIS and/or HAZUS		
scientists familiar with the hazards in the community		

* 71. Does your municipality have public education programs related to hazard mitigation:

	Yes	No	Don't know
Of a general nature related to flood or other hazards?	○	○	○
That provide site-specific hazard information to property owners or prospective property owners?	○	○	○

Additional Comments or Questions

72. Do you have any other comments, questions or concerns regarding this survey or hazard mitigation?

Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan
Planning Committee Meeting - Agenda
November 13, 2008

1. Work Plan / General Schedule & Project Status
   a. General Schedule Update
   b. Comments received on previous materials

2. Work-in-progress
   a. Participating municipalities – PC OEM participation recommendations
   b. Capability Assessment – On-line survey
   c. Project Identification
      - PC lists - Asset Inventories / Critical Facilities
      - Repetitive Loss / Severe Repetitive Loss Properties
      - Participating Municipalities' Assets and Problem Areas
      - Next steps
   d. Passaic County Multi-Jurisdictional Hazard Mitigation Plan – Preliminary Drafts
      - Section 7 - Risk Assessment
   e. Public Meeting – Friday, November 14, 2008
      - Presentation materials
      - Future meeting dates

4. Force Account / In-Kind Services Documentation
   a. November 2008 Form

5. Next Meeting / Action Items

Passaic County Nov. 13. 2008

Name:	Contact #:	Municipality:
Michael La Place	(973) 569-4037	Passaic County - Planning Dept
WILLIAM BAIG	(973)835-4025/201-415-8474(c)	PAMPTON LAKES OEM
ALLEN DEL VECCHIO	973-956-8644	TOTOWA OEM PV OEM
GEORGE GALBRAITH	973-256-1261	WEST PATERSON / PV OEM
Ed Merrill	973-835-0143 x# 2327	Pompton Lakes Emer. Officer/OEM
Cal Guarnaccio	973-583-3879	Pompton Lakes OEM
WILLIAM HENN	973-296-8635	CLIFTON OEM
Edward Murphy	973-904-3625	PC OEM
Maria Dombayci	973-904-3621	PC OEM
Maryann Thomas	973-904-3621	PC OEM

Thursday, November 13				
Time	**Emergency Management Coordinator**	**Municipality Name**	**Emergency Management Coordinator**	**Municipality Name**
8:30am	Allen Del Vecchio	Totowa		
9:00am	Chief Lombardo	Ringwood		
9:30am	Al Evangelista	Pompton Lakes		
1:00pm	Ed Steines	West Milford		
1:30pm				
2:00pm	Pete Croop	Bloomingdale		
2:30pm				
3:00pm				
3:30pm				
4:00pm				
4:30pm				
Friday, November 14				
Time	**Emergency Management Coordinator**	**Municipality Name**	**Emergency Management Coordinator**	**Municipality Name**
8:30am				
9:00am				
9:30am				
10:00am	George Galbraith	(West Paterson) Woodland Park		
10:30am				
11:00am				
11:30am				
1:00pm	Lieutenant Ramirez	Passaic	Ed VanderPloeg	Prospect Park
1:30pm	Captain Henn	Clifton		
4:00pm				
4:30pm	Todd Darby	North Haledon		

#	Description	9/5/08	9/12/08	9/19/08	9/26/08	10/3/08	10/10/08	10/17/08	10/24/08	10/31/08	11/7/08	11/14/08	11/21/08	11/28/08	12/5/08	12/12/08	12/19/08	12/26/08	1/2/09	1/9/09	1/16/09	1/23/09	1/30/09	2/6/09	2/13/09	2/20/09	2/27/09	3/6/09	3/13/09	3/20/09	3/27/09	4/3/09	4/10/09	4/17/09	4/24/09	5/1/09	5/8/09	5/15/09	5/22/09	5/29/09	6/5/09	6/12/09	6/19/09	6/26/09	7/3/09	7/10/09	7/17/09	7/24/09	7/31/09	8/7/09	8/14/09	8/21/09	8/28/09
3.1a	OEM Kick-off Meeting	✓																																																			
3.1b	LC Kick-off Meeting			✓																																																	
3.1c	HMPC Progress Meetings			✓			✓					✓				✓				✓					✓				✓				✓																				
3.1d	Interviews																																																				
3.2	Data Collection																																																				
3.3	Hazard ID and Profiling																																																				
3.1e	Public Meeting #1											✓																																									
3.4	Vulnerability Assessment																																																				
3.5	Hazard Mitigation Strategy																																																				
3.1e	Public Meeting #2																✓			✓																																	
3.6a	HMPC Draft																																																				
	HMPC Review																																																				
3.6b	NJOEM / FEMA Draft																																																				
3.1e	Public Meeting #3																					✓											✓																					
	NJOEM / FEMA Review																																																				
3.6c	Final Draft HMP																																																				
3.1e	Public Meeting #4																																													✓							
3.6d	Final HMP																																																				
3.1e	Final Presentation (#5)																																																		✓		
3.7	Plan Adoption and Approval																																																				
3.8	Plan Maintenance																																																				
3.9	Plan Reproduction																																																				

Notes:

(1) The process for reviewing comments from the Hazard Mitigation Steering Committee for the Committee Draft and Final Draft HMP will need to be arranged.
(2) NJOEM /FEMA Review time frame includes 30-day review period for NJOEM and 45-day statutory review period for FEMA per DMA 2000.
(3) Task 3.8 will be accomplished coincident with Tasks 3.5 and 3.6.
(4) Task 3.9 will be accomplished coincident with Tasks 3.5 and 3.6.

Legend:

OEM Passaic County Office of Emergency Management
HMPC Hazard Mitigation Planning Committee
LC Local OEM Coordinators
NJOEM New Jersey Office of Emergency Management
FEMA Federal Emergency Management Agency

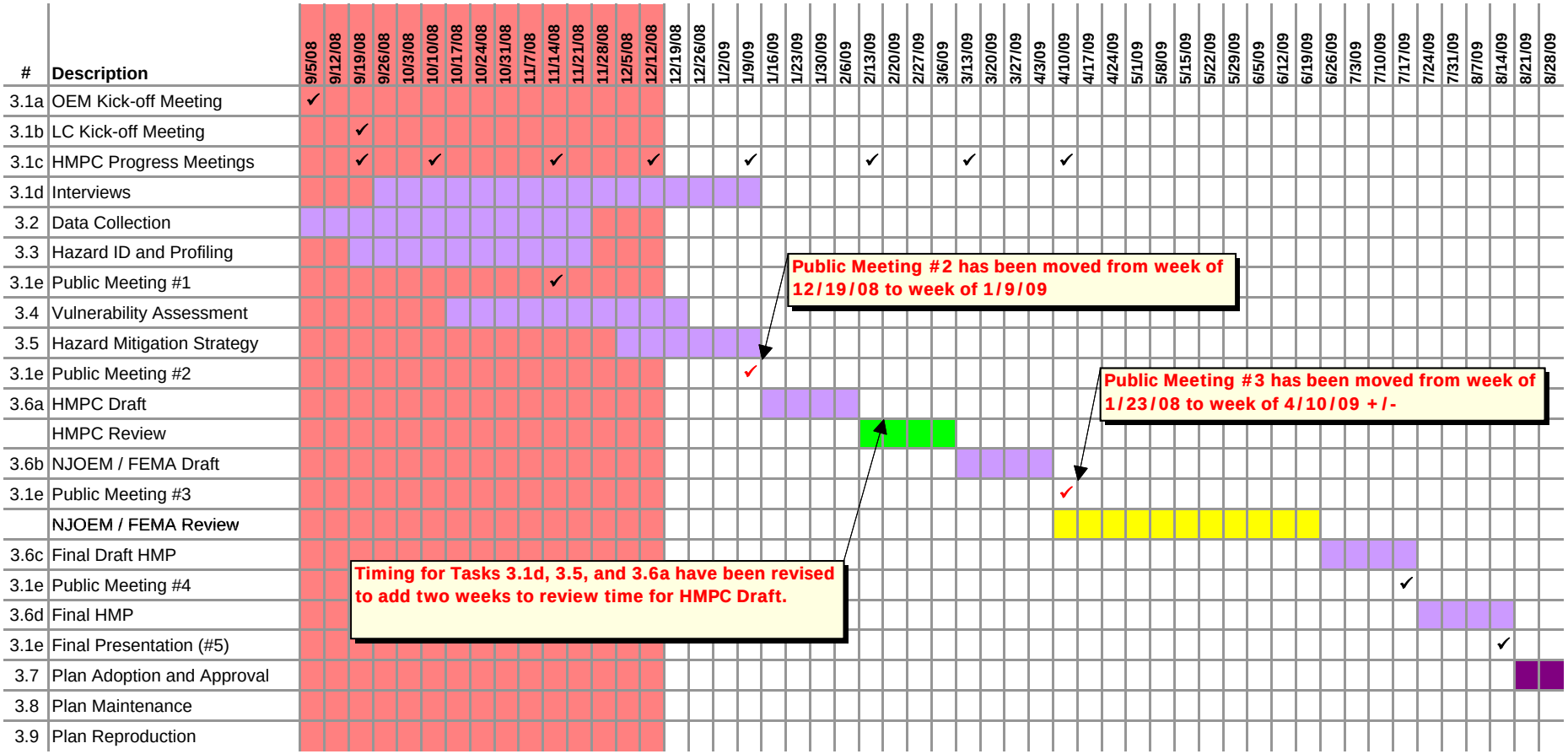
Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan
Planning Committee Meeting - Agenda
December 11, 2008

1. Work Plan / General Schedule & Project Status
   a. General Schedule Update
   b. Comments received on previous materials

2. Work-in-progress
   a. Update from JLWA meeting with NJ OEM on 12/08/08 regarding Multi-Jurisdictional HMPs
   b. Analysis of results from Capability Assessment – On-line survey
   c. Project Identification
      - PC lists - Asset Inventories / Critical Facilities
      - Repetitive Loss / Severe Repetitive Loss Properties
      - Participating Municipalities' Assets and Problem Areas
      - Next steps
   d. Passaic County Multi-Jurisdictional Hazard Mitigation Plan – Preliminary Drafts
      - Feedback for the previously supplied Sections (Sections 6 & 7) goes to PC OEM
      - Section 2 – Executive Summary
      - Section 3 – Context
      - Section 4 – Adoption and Approval
      - Section 5 – Planning Process
      - Section 10 – Plan Monitoring and Maintenance
   e. Planning Committee and Public Meetings – Thursday, January 8, 2009
      - Presentation materials
      - Future meeting dates

4. Next Meeting / Action Items

PASSAIC COUNTY OEM Hazard Mitigation Plan Monthly Meeting	Thursday December 11, 2008	LOCATION: PCOEM @PSA TIME: 10 A.M.
NAME	***AGENCY***	***E-MAIL ADDRESS***
STUART WALLACE	JLWA	swallace@wittassociates.com
FRED BATELLI	LITTLE FALLS TWSP PVOEM	ABATELLI@LITTLEFALLS P.D.ORG
CARL P PADULA	PCCC -	CPADULA@PCCC.EDU
GEORGE GALBRAITH	WEST PATERSON PVOEM	GGALBRAITH@WESTPATERSON.com
Edwin RAMIREZ	PASSAIC OEM	RICO0513@OPTONLINE.NET
William HENN	CLIFTON OEM	WHENN@CLIFTONNJ.ORG
JAMES DUNHAM	NJSP	LPP5825@GW.NJSP.ORG
Maryann Trommelen	PCOEM	pcoem@passaiccounty.org
Al Evangelista	PLOEM	AEVANGELISTA@RIN.ORG
Maria Dombayli	PCOEM	pcoem@passaiccountynj.org
Robert A Lyons	PC OEM	" " "
Edward Murphy	PCOEM	emurphy@passaccountynj.org



Notes:

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Legend:

OEM Passaic County Office of Emergency Management
HMPC Hazard Mitigation Planning Committee
LC Local OEM Coordinators
NJOEM New Jersey Office of Emergency Management
FEMA Federal Emergency Management Agency

Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan
Planning Committee Meeting - Agenda
January 8, 2009

1. Work Plan & General Schedule
   a. General Schedule Update

2. Deliverables
   a. Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan – Preliminary Draft
      - Comments re: Sections transmitted at previous HMPC meetings (Sections 2 through 7 and 10; and Appendices B, D and E)
      - Current deliverables: Section 8 / Appendix F – Capability Assessment; and Section 9 – Mitigation Action Plan
      - Review deadline – Friday, 1.30.09
   b. 1.8.09 Public Meeting #2
      - Presentation materials – Powerpoint / Project Summary
      - Public Meeting logistics
      - Public commentary deadline – Friday, 1.30.09 for inclusion in the Committee Draft; and Wednesday, 3.11.09 for inclusion in the NJOEM / FEMA Draft

3. Next Meetings / Action Items

a.	2.12.09 / 10:00 am: HMPC Meeting re:	1.) HMPC questions re: Committee Draft HMP 2.) Response to public comments
b.	3.12.09 / 10:00 am: HMPC Meeting re:	1.) HMPC comments re: Committee Draft HMP 2.) Response to public comments
c.	4.9.09 / 10:00 am: HMPC Meeting re:	1.) HMPC approval / recommendation to submit NJOEM / FEMA Draft HMP
d.	4.9.09 / TBD: Public Meeting #3 re:	1.) Review NJOEM / FEMA Draft HMP

HAZARD MITIGATION PLAN
COMMITTEE MEETING
THURSDAY - JANUARY 8, 2009
PUBLIC SAFETY ACADEMY
300 OLDHAM ROAD, WAYNE, NJ

PLEASE PRINT

	NAME	AGENCY & PHONE NO./E-MAIL
1.	FRED BATELLI	LITTLE FALLS P.V. O.EM
2.	JAMES DUNHAM	NJSP- NORTH REGION
3.	G GALBRAITH	WOODLAND PARK / PVOEM
4.	KEVIN RYAN	WEST MILFORD OEM
5.	ALLEN DELVECCHIO	TOTOWA OEM PVOEM
6.	CARL P PADULA	PCCC CPADULA@PCCC.ED
7.	Edwin RAMIREZ	CITY OF PASSAIC OEM
8.	Edward Murphy	PC OEM
9.	Maryann Trommelen	PCOEM
10.	Maria Dombayci	PCOEM
11.	JO JORDON	JLWA
12.	Fay Makinos	JLWA
13.		
14.		

#	Description	9/5/08	9/12/08	9/19/08	9/26/08	10/3/08	10/10/08	10/17/08	10/24/08	10/31/08	11/7/08	11/14/08	11/21/08	11/28/08	12/5/08	12/12/08	12/19/08	12/26/08	1/2/09	1/9/09	1/16/09	1/23/09	1/30/09	2/6/09	2/13/09	2/20/09	2/27/09	3/6/09	3/13/09	3/20/09	3/27/09	4/3/09	4/10/09	4/17/09	4/24/09	5/1/09	5/8/09	5/15/09	5/22/09	5/29/09	6/5/09	6/12/09	6/19/09	6/26/09	7/3/09	7/10/09	7/17/09	7/24/09	7/31/09	8/7/09	8/14/09	8/21/09	8/28/09
3.1a	OEM Kick-off Meeting	✓																																																			
3.1b	LC Kick-off Meeting			✓																																																	
3.1c	HMPC Progress Meetings			✓			✓					✓				✓				✓					✓				✓				✓																				
3.1d	Interviews																																																				
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3.8	Plan Maintenance																																																				
3.9	Plan Reproduction																																																				

The schedule indicates interviews, data collection and mitigation strategy activities are completed. However, JLWA can incorporate relevant information from communities into the Committee Draft HMP if received by 1.30.09.

JLWA will provide a full Committee Draft HMP for Planning Committee Review no later than the morning of 2.9.09. Review comments will be needed back no later than the 3.12.09 Planning Committee Meeting.

Notes:

(1) The process for reviewing comments from the Hazard Mitigation Steering Committee for the Committee Draft and Final Draft HMP will need to be arranged.
(2) NJOEM /FEMA Review time frame includes 30-day review period for NJOEM and 45-day statutory review period for FEMA per DMA 2000.
(3) Task 3.8 will be accomplished coincident with Tasks 3.5 and 3.6.
(4) Task 3.9 will be accomplished coincident with Tasks 3.5 and 3.6.

Legend:

OEM Passaic County Office of Emergency Management
HMPC Hazard Mitigation Planning Committee
LC Local OEM Coordinators
NJOEM New Jersey Office of Emergency Management
FEMA Federal Emergency Management Agency

Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan
Planning Committee Meeting - Agenda
February 19, 2009

1. Work Plan & General Schedule
   a. General Schedule Update

2. Deliverables
   a. Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan – Committee Draft
      - Revised delivery date (hard copy of Plan, CD with Plan and Appendices) – Thursday, 2.26.09
      - Review deadline – Thursday, 3.12.09 (next Planning Committee meeting)
   b. 4.9.09 [+/-] Public Meeting #3
   c. 4.09.09 NJOEM / FEMA Draft

3. Review Issues
   a. Yellow highlighter = new material since Committee Draft [PAGE 7]
   b. Participating municipalities (page 2-7) [PAGE 9]
   c. HMPC members (page 5-2) [PAGE 26]
   d. High hazard dams (pages 6-8 and 7-41) [PAGE 44 and PAGE 159]
   e. Updated hazard information (page 7-7) [PAGE 125]
   f. On-line Survey (Sections 5 – page 5-5 and Section 10 – page 10-3) [PAGE 29 and PAGE 259]
   g. Capability assessment information / confirmation with PC Department(s) (Section 8) [PAGE 196]
   h. County mitigation actions (page 9-9) [PAGE 223]
   i. Municipal mitigation actions (page 9-24) [PAGE 238]

4. Next Meetings / Action Items
   a. 3.12.09 / 10:00 am: HMPC Meeting re:
      1.) HMPC comments re: Committee Draft HMP
      2.) Response to public comments
   b. 4.9.09 / 10:00 am: HMPC Meeting re:
      1.) HMPC approval / recommendation to submit NJOEM / FEMA Draft HMP
   c. 4.9.09 [TBC] / TBD: Public Meeting #3 re:
      1.) Review NJOEM / FEMA Draft HMP
      - Date, time and logistics

PASSAIC COUNTY HMPC MEETNG	THURSDAY FEBRUARY 19, 2009	LOCATION: PCOEM @PSA TIME: 10:00 A.M. RM. 129
NAME	***AGENCY***	***E-MAIL ADDRESS***
CARL P PADULA	PCCC	CPADULA@PCCC.EDU
Al Evangelista	Paterson OEM	AEVANGELISTA@RIH.ORG
William D. Baig	Pompton Lks. O.E.M.	wdbaig@hotmail.com
Aaron Del Vecchio	Totowa OEM	Totowa oem@AOL.
Fred Batelli	Little Falls OEM	ABATELLIC LITTLEFALLSPD.ORG
Ed Murphy	PCOEM	
Edwin Ramirez	Passaic OEM	RicohR@AOL.com
William Henn	Clifton OEM	whenn@cliftonnj.org
Michael Lysicatos	Passaic County Planning	mlysicatos@passaiccountynj.org
Ed Merrill	P.L. Environm. Officer	EDmpLEO@optonline.net
Robert Pavlick	American Red Cross	PAVLICKR@RedCrossNNJ.org
Robert A Lyons	OEM	SAA
Steve Edmond	Passaic County Eng'r	steveee@passaiccountynj.org
Maria Rombayoi	PC OEM	pcoem@passaiccountynj.org
Maryann Thorne	PCOEM	pcoem@passaiccountynj.org

#	Description	9/5/08	9/12/08	9/19/08	9/26/08	10/3/08	10/10/08	10/17/08	10/24/08	10/31/08	11/7/08	11/14/08	11/21/08	11/28/08	12/5/08	12/12/08	12/19/08	12/26/08	1/2/09	1/9/09	1/16/09	1/23/09	1/30/09	2/6/09	2/13/09	2/20/09	2/27/09	3/6/09	3/13/09	3/20/09	3/27/09	4/3/09	4/10/09	4/17/09	4/24/09	5/1/09	5/8/09	5/15/09	5/22/09	5/29/09	6/5/09	6/12/09	6/19/09	6/26/09	7/3/09	7/10/09	7/17/09	7/24/09	7/31/09	8/7/09	8/14/09	8/21/09	8/28/09
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Review comments will be needed back no later than the 3.12.09 Planning Committee Meeting.

Notes:

(1) The process for reviewing comments from the Hazard Mitigation Steering Committee for the Committee Draft and Final Draft HMP will need to be arranged.
(2) NJOEM /FEMA Review time frame includes 30-day review period for NJOEM and 45-day statutory review period for FEMA per DMA 2000.
(3) Task 3.8 will be accomplished coincident with Tasks 3.5 and 3.6.
(4) Task 3.9 will be accomplished coincident with Tasks 3.5 and 3.6.

Legend:

OEM Passaic County Office of Emergency Management
HMPC Hazard Mitigation Planning Committee
LC Local OEM Coordinators
NJOEM New Jersey Office of Emergency Management
FEMA Federal Emergency Management Agency

Additional questions for municipal OEMs (Passaic County NJ)

1. Introduction

In order to comply with NJOEM and FEMA requirements, the following data is requested and required prior to final submission of your county's Hazard Mitigation Plan.

Please take just a few minutes to complete this very brief survey.

* 1. Municipality

* 2. Your name

* 3. Your job title/ position

2. Floodplain Administrator information

* 1. How was your municipality's Floodplan Administrator involved in development of the Hazard Mitigation Plan?

- ☐ The municipal point-of-contact for the Hazard Mitigation Plan process also serves as the Floodplain Administrator.
- ☐ The municipal point-of-contact for the Hazard Mitigation Plan had conversations with the Floodplain Administrator and/or had the Floodplain Administrator review draft materials during the development of the Hazard Mitigation Plan
- ☐ The Floodplain Administrator was not involved in the development of Hazard Mitigation Plan

* 2. Please provide the following information regarding your municipality's Floodplain Administrator:

Name

Email

3. Future updates to Master Plans, Zoning, and Capital Improvement Plans

* 1. What year is the next scheduled update of your municipality's Master Plan (Comprehensive Plan)?

- ○ My municipality does not have a Master Plan.
- ○ My municipality's Master Plan is not updated on a regular schedule
- ○ Master Plan update scheduled for 20__

Additional questions for municipal OEMs (Passaic County NJ)

* 2. What year is the next scheduled update to your municipality's zoning code:

- ◯ My municipality does not have a zoning code.
- ◯ My municipality's zoning code is not updated on a regular schedule
- ◯ Zoning update scheduled for 20__

* 3. What year is the next scheduled update of your municipality's Capital Improvement Plan (CIP)?

- ◯ My municipality does not have a CIP.
- ◯ My Municipality does not update its CIP on a regular schedule.
- ◯ CIP update scheduled for 20__

Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan
Planning Committee Meeting - Agenda
March 12, 2009

1. Work Plan & General Schedule
   a. General Schedule Update

2. Review Comments
   a. Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan – Committee Draft

3. Remaining Issues to Address
   a. High hazard dams (pages 6-8 and 7-41) – Risk assessments will be reviewed with potentially affected communities to confirm results and supplement project lists in Section 9
   b. Updated hazard information (page 7-7) – Need to establish process at county and municipal level for gathering, evaluating and updating information in the Plan (including updated information already provided by Pompton Lakes, Little Falls, etc. that has not been incorporated in the Committee Draft)
   c. On-line Survey (Sections 5 – page 5-5 and Section 10 – page 10-3) – No responses received to date; this information must be included before submittal to NJOEM / FEMA
   d. Capability assessment information / confirmation with PC Department(s) (Section 8) – JLWA to arrange interview(s) with PC OEM
   e. County mitigation actions (page 9-9) – JLWA will work with PC OEM to revise / refine list
   f. Municipal mitigation actions (page 9-24) – PC OEM and JLWA will contact municipalities re: any remaining required information and / or secure approval for final changes (including funding sources)
   g. Invitations for municipal officials for April 9, 2009 Planning Committee Meeting
   h. Content, date, time, and logistics for Public Meeting #3

4. NJOEM / FEMA Plan Review Process Update

5. Calendar Notes
   a. 3.12.09 / 10:00 am: HMPC Meeting re:
      1.) HMPC comments re: Committee Draft HMP
      2.) Response to public comments (if any)
   b. 4.9.09 / 10:00 am: HMPC Meeting re:
      1.) HMPC approval / recommendation to submit NJOEM / FEMA Draft HMP
   c. Date / Time: TBD: Public Meeting #3 re:
      1.) Review NJOEM / FEMA Draft HMP
   d. Date: TBD: NJOEM / FEMA Draft submittal to PC OEM for transmittal to NJOEM

Note: Items 5.b, 5.c and 5.d are all pending responses from all participating municipalities.

Date: Thursday, March 12, 2009 *Location:* *PCOEM, 300 Oldham Rd. Wayne, NJ 07470*

Hazard Mitigation Planning Committee Meeting

	NAME	AGENCY	E-MAIL
1.	Allen DeVecchio	Totowa	TOTOWAOEM@AOL.COM
2.	G G Albraith	WP/PVOEM	GGALBRAITH@WESTPATERSON.COM
3.	Robert A. Lyons	OEM/Pol Acad	
4.	Lt Joseph Walker	Ringwood PD	WALKER@RINGWOODPOLICE.COM
5.	Ed. Vander Ploeg	OEM. Prospect Park.	
6.	Maryann Trommelen	PCOEM	
7.	Capt. T Norton	Wanaque OEM.	
8.	William D. Baig	Pompton Lks. OEM	wdbaig@hotmail.com
9.	William Henn	Clifton OEM	
10.	Rhonda Thompson	Paterson OEM	rthompson@paterty.com
11.	Ronald Syrchek	West Milford OEM	fireoffice2@westmilford.org
12.	Ed Merrill	P.L. Boro/OEM/Env. Officer	
13.	Carl P Padula	PCCC	CPADULA@PCCC.EDU
14.	Fred Batelli	Little Falls/Passaic Valley OEM	ABATELLI@LITTLEFALLSPD.ORG
15.	Edwin Ramirez	Passaic City OEM	Ricohr@AOL.com
16.	Mark McGrath	Wayne OEM	mcgrathm@waynetownship.com
17.	Maria Comfayi	PCOEM	
18.	Stuart Wallace	JUWA	

#	Description	9/5/08	9/12/08	9/19/08	9/26/08	10/3/08	10/10/08	10/17/08	10/24/08	10/31/08	11/7/08	11/14/08	11/21/08	11/28/08	12/5/08	12/12/08	12/19/08	12/26/08	1/2/09	1/9/09	1/16/09	1/23/09	1/30/09	2/6/09	2/13/09	2/20/09	2/27/09	3/6/09	3/13/09	3/20/09	3/27/09	4/3/09	4/10/09	4/17/09	4/24/09	5/1/09	5/8/09	5/15/09	5/22/09	5/29/09	6/5/09	6/12/09	6/19/09	6/26/09	7/3/09	7/10/09	7/17/09	7/24/09	7/31/09	8/7/09	8/14/09	8/21/09	8/28/09
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Subsequent Planning Committee Meeting dates pending NJOEM / FEMA Draft submittal date.

While assembling the NJOEM / FEMA Draft, PC OEM & JLWA will contact participating municipalities re: any remaining required information and / or secure approval for final changes.

NJOEM / FEMA Draft submittal date pending responses from all participating municipalities.

Notes:

(1) The process for reviewing comments from the Hazard Mitigation Steering Committee for the Committee Draft and Final Draft HMP will need to be arranged.
(2) NJOEM /FEMA Review time frame includes 30-day review period for NJOEM and 45-day statutory review period for FEMA per DMA 2000.
(3) Task 3.8 will be accomplished coincident with Tasks 3.5 and 3.6.
(4) Task 3.9 will be accomplished coincident with Tasks 3.5 and 3.6.

Legend:

OEM Passaic County Office of Emergency Management
HMPC Hazard Mitigation Planning Committee
LC Local OEM Coordinators
NJOEM New Jersey Office of Emergency Management
FEMA Federal Emergency Management Agency

Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan
Planning Committee Meeting - Agenda
June 18, 2009

1. **Introduction & General Schedule Update**

2. **Planning Committee Reviews**
   a. Table 9.3.3-1 Entries / Revisions
   b. Public Briefing for Municipalities - Template Presentation

3. **Planning Committee Information Needs**
   a. Miscellaneous data
   b. Individual municipal data
   c. Flood project location data (FEMA required addition)

4. **Question & Answers with Attendees**

5. **Next Steps**
   a. Submit Draft Plan to NJOEM/FEMA
   b. Finalize per any comments from NJOEM/FEMA
   c. Board of Freeholders and municipalities adopt the plan
   d. Submit adoption resolutions to FEMA
   e. Receive approval letters from FEMA via NJOEM

PASSAIC COUNTY MUNICIPAL OEM COORDINATOR'S MEETNG/HAZARD MITIGATION PLANNING COMMITTEE MEETING	THURSDAY JUNE 18, 2009	LOCATION: PCOEM @PSA TIME: 10:00 A.M. RM. 127
NAME	***AGENCY***	***E-MAIL ADDRESS***
Rhonda Thompson	Paterson O.E.M	Rthompson@patcity.com
William Henn	Clifton OEM	WHenn@cliftonnj.org
Alan Lovitch	Pompton Lks OEM	alovitch@umich.edu
Richard M. McAuliffe	Hawthorne OEM	Hawthorneoem@optonline.net
Allen DeVecchio	Totowa OEM	Totowaoem@AOL
Carl P Padula	PCCC / Pompton Lks	CPADULA@PCCC.EDU
George Galbraith	WP-PVOEM	GGALBRAITH@optimum.com
Fred Batelli	L.F. P.V. OEM.	ABATELLI@LITTLEFALLSPD.org
Ronald Svrcek	West Milford OEM	fireoffice@westmilford.org
James Dunham	NJSP North Region	LPP5825@gw.NJSP.org
Stuart Wallace	JLWA	swallace@wittassociates.com
Robert A. Lyons	P.C. OEM	rlyons@pcoem.org
Sandy Galacio	Wayne	galacios@waynetownship.com
Al Guenzlub	Pompton Lakes	AEVANBELISTA@RIH.org
Bernard Lombardo	Ringwood	lombardo@ringwoodpolice.com
Maryann Trommeler	PCOEM	
Peter Dezen	JLWA	

C.2 Public Process

On the following pages are copies of documentation for public involvement during the development of the Plan including notice, agendas, sign-in sheets, and presentation materials for the following:

▪ October 2008 – February 2009	Online Citizen Questionnaire
▪ October 29, 2008	PC OEM Website Posting – Press Release re: November 14th Public Presentation
▪ November 1, 2008	Paper Notice re: November 14th Public Meeting
▪ November 14, 2008	PC OEM – Public Meeting Presentation
▪ January 7, 2009	Paper Notice re: January 8th Public Meeting
▪ January 8, 2009	PC OEM – Public Meeting Presentation
▪ March 10, 2009	PC Board of Freeholders Presentation
▪ December 2, 2009	PC OEM Website Posting – Mitigation Plan for Public Review and Comment

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DRAFT_Citizen Questionnaire_Passaic County, NJ Hazard Mitigation

NATURAL HAZARD MITIGATION QUESTIONNAIRE

This questionnaire is designed to gauge the level of knowledge local citizens have about issues related to natural disasters. The information you provide will help coordinate activities to reduce the risk of injury or property damage in the future.

A planning partnership of the county, municipalities, agencies and stakeholders is currently creating a Hazard Mitigation Plan to address natural hazards in Passaic County. In order to identify and plan for future natural disasters, we need assistance from the residents of the county.

This survey will take less than 15 minutes to complete. It consists of 27 questions designed to help identify risks from and ways best to plan for natural disasters in our communities.

The term "mitigation" means to make something less harsh or severe. Hazard mitigation activities are actions that can be taken to protect people and property from natural hazard events such as floods, severe storms and excessive temperatures.

GENERAL HOUSEHOLD INFORMATION

The following requested demographic information will aid the steering committee in determining the hazard mitigation needs of our community. The answers provided in this section will be treated as confidential and will be used solely for the preparation of this plan. They will not be provided to any other group or interest.

1. Please indicate your age range:

2. Please indicate your Gender:

3. Please indicate your highest level of education:

4. How long have you lived in Passaic County?

* 5. What municipality do you live in?

6. Do you own or rent your place of residence?

7. Do you own or live in a:

8. What is your ZIP code?

9. What is your home address (optional)?

NATURAL HAZARD INFORMATION

10. In the past 10 years, which of the following types of natural hazard events have you or someone in your household experienced within Passaic County? (Please check all that apply)

	Happened to you?	Happened to someone in your household?
Dam Failure	☐	☐
Drought	☐	☐
Earthquake	☐	☐
Coastal Erosion	☐	☐
Extreme Heat	☐	☐
Extreme Cold	☐	☐
Flood	☐	☐
Hail	☐	☐
Hazardous Materials Release	☐	☐
High Wind (hurricanes, nor'easters, windstorms)	☐	☐
High Wind (tornado)	☐	☐
Landslide	☐	☐
Levee failure	☐	☐
Crop losses	☐	☐
Fishing losses	☐	☐
Lightning	☐	☐
Severe Winter Weather	☐	☐
Storm Surge	☐	☐

NATURAL HAZARD INFORMATION (cont.)

11. How concerned are you about the following natural hazards impacting Passaic County?

	Extremely Concerned	Moderately Concerned	Slightly Concerned	Not Concerned
Dam Failure	○	○	○	○
Drought	○	○	○	○
Earthquake	○	○	○	○
Coastal Erosion	○	○	○	○
Extreme Heat	○	○	○	○
Extreme Cold	○	○	○	○
Flood	○	○	○	○
Hail	○	○	○	○
Hazardous Materials Release	○	○	○	○
High Wind (straight line)	○	○	○	○
High Wind (hurricanes, nor'easters, windstorms)	○	○	○	○
Landslide	○	○	○	○
Levee failure	○	○	○	○
Crop losses	○	○	○	○
Fishing losses	○	○	○	○
Lightning	○	○	○	○
Severe Winter Weather	○	○	○	○
Storm Surge	○	○	○	○

NATURAL HAZARD INFORMATION (cont.)

12. Have you ever received information about how to make your home safer from natural disasters?

13. If "yes" from whom did you receive information about how to make your home safer from natural disasters? (Please check all that apply)

- ☐ News media
- ☐ County Office of Emergency Management
- ☐ Local Office of Emergency Management
- ☐ Other Government agency (local or county)
- ☐ Other Government Agency (state)
- ☐ Other Government Agency (federal)
- ☐ Insurance agent or company
- ☐ Utility company
- ☐ University or college
- ☐ American Red Cross
- ☐ Not sure
- ☐ Other (please specify)

NATURAL HAZARD INFORMATION (cont.)

14. Who would you trust to provide you with information about how to make your home safer from natural disasters? (Please check all that apply)

- ☐ News media
- ☐ Government agency (local)
- ☐ Government agency (county)
- ☐ Government agency (state)
- ☐ Government agency (federal)
- ☐ Insurance agent or company
- ☐ Utility company
- ☐ University or college
- ☐ American Red Cross
- ☐ Not sure
- ☐ Other (please specify)

15. Please identify the TOP THREE that would be MOST EFFECTIVE in informing you of ways to make your home safer and stronger from natural hazard events.

- ☐ Newspaper story
- ☐ Newspaper ad
- ☐ Phone book ads
- ☐ Brochures
- ☐ Public meetings
- ☐ Workshops
- ☐ Schools
- ☐ Other (please specify)
- ☐ TV news
- ☐ TV ads
- ☐ Radio news/ talk shows
- ☐ Radio ads
- ☐ Internet
- ☐ Outdoor ads
- ☐ Chamber of Commerce
- ☐ Church/ house of worship
- ☐ Public Library
- ☐ Fire/EMS agency
- ☐ College/ University
- ☐ "Hazard awareness week" or similar public awareness campaign

16. What newspaper would be the best way to inform you?

NATURAL HAZARD MITIGATION

17. What steps, if any, have you (or someone in your household) taken to prepare for a natural disaster? (Please check all that apply)

- ☐ Prepared a disaster supply kit
- ☐ Received CPR/ First Aid training
- ☐ Made a fire escape plan
- ☐ Made a household emergency plan
- ☐ Made an evacuation/ reconnection plan
- ☐ Discussed utility shut-offs
- ☐ Designed or retrofitted a home using Hazard-resistant construction techniques or retrofits
- ☐ Insurance
- ☐ Other (please specify)

NATURAL HAZARD MITIGATION (cont.)

18. To the best of your knowledge, is your property located in a designated floodplain?

NATURAL HAZARD MITIGATION (CONT.) -- FLOOD INSURANCE

19. Do you have flood insurance?

20. If "no" what is primary reason why you do not carry flood insurance?

21. Do you or did you have problems getting homeowners insurance?

NATURAL HAZARD MITIGATION (cont.)

22. Did you consider the impact a natural disaster could have on your home before you purchased it/ moved into it?

23. How much would you be willing to spend on your current home to retrofit it to withstand the impacts of possible natural hazards (for example, elevating a flood-prone home, reinforcing a wind-prone home, using fire-proof materials on a home in a wild-fire prone area, etc.)?

24. Which of the following incentives might encourage you to spend money to retrofit your home to withstand the impacts of possible natural hazards (for example, elevating a flood-prone home, reinforcing a wind-prone home, using fire-proof materials on a home in a wild-fire prone area, etc.)?

(Please check all that apply)

- ☐ Building permit fee waiver
- ☐ Insurance premium discount
- ☐ Low interest rate loan
- ☐ Property tax break
- ☐ Mortgage discount
- ☐ Grant finding that requires a “cost share”
- ☐ State Tax Incentive
- ☐ None
- ☐ Other (please specify)

25. If your property were located in a designated "high hazard" area, or had received repeated damages from a natural hazard event, would you consider one of the following? (check all that apply)

- ☐ A buyout of your property (and relocation of your family)
- ☐ Structural elevation of your property
- ☐ Flood-proofing of your property
- ☐ None of the above

NATURAL HAZARD MITIGATION (cont.)

26. Natural Hazards can have a significant impact on a community, but planning for these events can help lessen the impacts. The following statements will help determine citizen priorities for planning for natural hazards. Read each statement and choose the level of importance it has for you.

	Extremely important	Moderately important	Somewhat important	Not important
Protect private property	○	○	○	○
Protect critical facilities (fire stations, utilities, hospitals, etc.)	○	○	○	○
Prevent new development or redevelopment in hazardous areas	○	○	○	○
Protect historical/cultural landmarks	○	○	○	○
Enhancing the function of natural processes (streams, wetlands, etc.)	○	○	○	○
Strengthening emergency services (fire, police, ambulances, etc.)	○	○	○	○
Promoting cooperation between public agencies, non-profits, citizen, and businesses	○	○	○	○

27. Other comments regarding hazard mitigation or hazard mitigation planning:

FOR IMMEDIATE RELEASE
October 29, 2008

Contact: Dolores Choteborsky
Public Information Officer
973-569-5050

PASSAIC COUNTY HAZARD MITIGATION PLAN
PUBLIC MEETING SET

WAYNE –Passaic County Office of Emergency Management will conduct a meeting of the Passaic County Hazard Mitigation Working Group.

The meeting will be held 2 p.m. Friday, November 14 in room 122 at the Passaic County Public Safety Academy, 300 Oldham Road, Wayne.

The purpose of the meeting is to review hazard identification and risk assessment draft material developed for the county's Hazard Mitigation Plan.

Members of the consultant planning team and the county's working group will answer questions, receive public input and address public commentary on the plan.

For more information, call 973-904-3621 or e-mail pcoem@passaiccountynj.org.

# # #

www.passaiccounty.org

Continued from B1

The chairman of the church's board of trustees, Roosevelt McFadden of Hackensack, was responsible for hiring Maple, according to authorities.

McFadden was indicted on Sept. 25 on charges of violating the Asbestos Control and Licensing Act and unlawful release of a toxic pollutant.

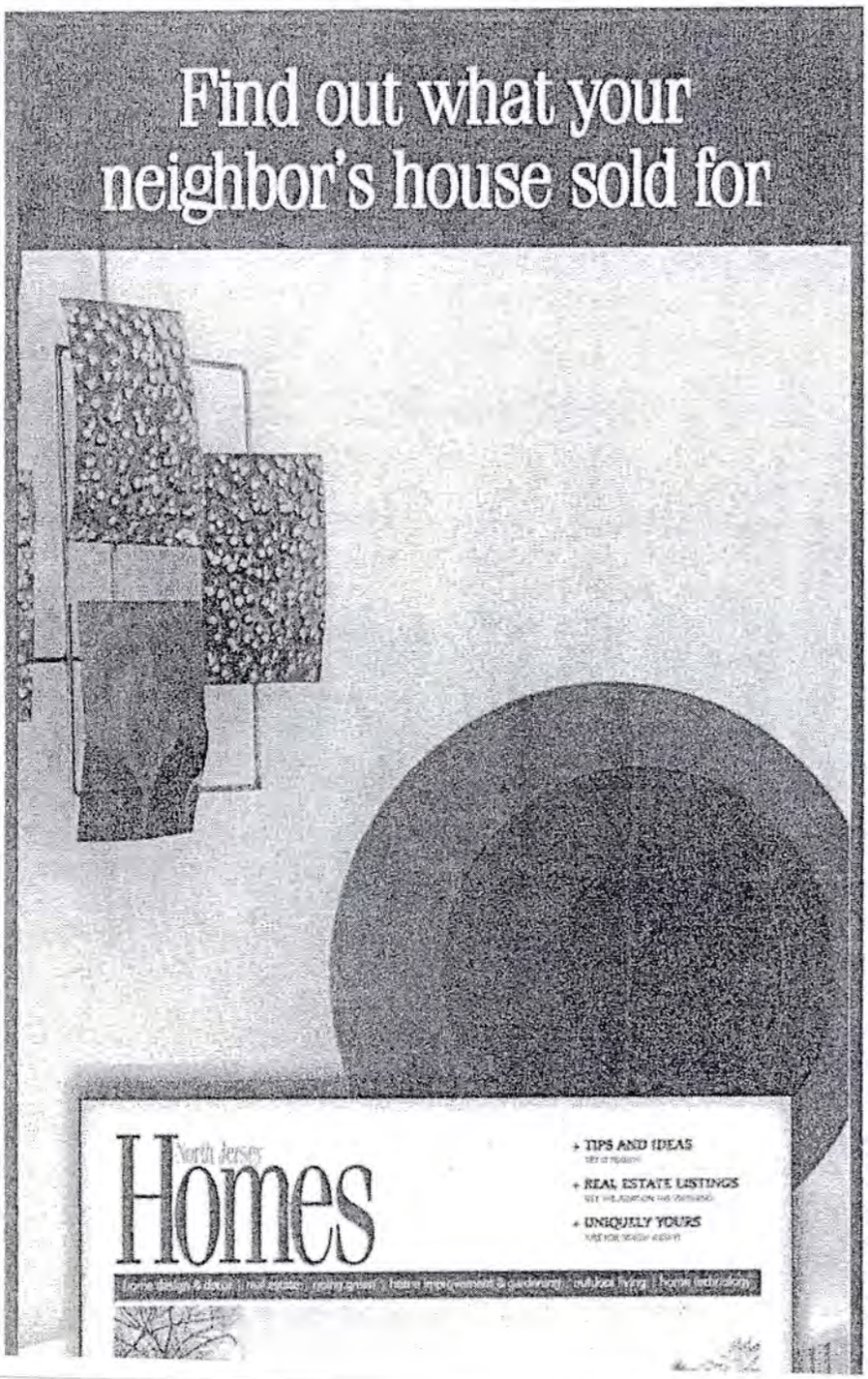
Those charges are still pending. He faces a maximum of five years in state prison and a $15,000 fine.

Complaints by a member of the congregation led to the church hiring an air monitoring firm in February 2008.

The firm discovered elevated levels of asbestos throughout the first floor of the building, including the area leased to the day care center.

The church was shut down for several days while the dust was removed by a licensed contractor.

Maple pleaded guilty on July 16 to knowingly causing the unlawful release of a toxic pollutant.



twenty days notice, plaintiff shall file copy of this Final Judgment to be published once in the Herald News; and within forty-five days after entry of Judgment, plaintiff shall file proof of publication of this Final Judgment with the Deputy Clerk of the Superior Court and a certified copy of this Final Judgment with the Department of Treasury pursuant to the provisions of the Statute and Rules in such case made and provided; and

IT IS FURTHER ORDERED that the published version of the Final Judgment shall not release the minor children's social security numbers.

Dated: 10/24/2008

Garry S. Rothstadt, J.S.C.

Herald News-2461549
Fee: $21.13
November 1, 2008

The Planning Board of the City of Passaic held a meeting on October 29, 2008 at 7:30 p.m. in the Council Chambers, City Hall, 330 Passaic Street, Passaic, New Jersey 07055 and took action on the following:

The Planning Board in accordance with Chapter 231 Public Laws of 1975 (Open Public Meeting Act) herein sets forth a schedule of the Planning Board dates for the Year 2009.

January 14, 2009
January 28, 2009
February 11, 2009
February 25, 2009
March 11, 2009
March 25, 2009
April 22, 2009
May 13, 2009
June 10, 2009
June 24, 2009
July 08, 2009
July 22, 2009
August 12, 2009
August 26, 2009
September 09, 2009
September 23, 2009
October 14, 2009
October 28, 2009
November 18, 2009
December 09, 2009

Herald News-2462537
Fee: $15.62
November 1, 2008

PUBLIC MEETING NOTICE ON PASSAIC COUNTY HAZARD MITIGATION PLAN

Please join the Passaic County Hazard Mitigation Working Group to learn about and review draft materials related to hazard identification and risk assessment, as part of the development of the County's Hazard Mitigation Plan.

The meeting will be held on November 14, 2008 at 2 p.m. at the Passaic County Public Safety Academy, 300 Oldham Rd., Wayne in Rm. 122 A & B.

Members of the consultant planning team and the County Working Group will be present to answer questions, receive public input and information and address public commentary.

For more information, please call 973-904-3621 or e-mail pcoem@passaiccountynj.org

Herald News-2462544
Fee: $11.49
November 1, 2008

City of Passaic
Planning Board
Resolved Agenda

October 30, 2008

The Planning Board of Passaic held a special meeting on Wednesday, October 29, 2008 at 7:30 PM in the Council Chambers, City Hall, 330 Passaic Street, Passaic, New

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Herald News-2462
Fee: $35.83
November 1, 2008

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Passaic County, NJ Multi-Jurisdictional Hazard Mitigation Plan

Public Meeting – November 14, 2008

prepared for:

Passaic County
Office of Emergency Management

prepared by:

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Agenda

- Participants
- Benefits & Costs of Participation
- Hazard Mitigation Planning Overview
- Municipal Participation
- General Schedule
- Work-in-Progress
- Next Steps

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Participants

- Interested Groups and Individuals
- Participating Municipalities
- Special Districts and Organizations
- Passaic County Hazard Mitigation Planning Committee
- Passaic County Office of Emergency Management
- James Lee Witt Associates

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Benefits & Costs of Participation

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Benefits of Participation

- Understanding risks to participating communities from natural hazards.
- Identifying and documenting projects to reduce identified risks.
- Describing an implementation strategy for projects including potential funding sources.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Benefits of Participation

- Every $1 spent on Mitigation saves $4 in Recovery*
- From 1955-2005, mitigation measures prevented 220 deaths and 4,700 injuries*
- For every eligible $1 spent by local communities on FEMA-funded grant projects, the Federal government contributes $3 to $9.
- Opportunities to improve local insurance ratings = lower flood insurance premiums

* Source: The Multihazard Mitigation Council, "Hazard Mitigation Saves," 2005 an independent review of FEMA mitigation activities

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Costs of Participation

- Minimal financial investment:
  - Planning process is 75% paid for by Federal funds
  - Local and County portion will be covered through "force-account" or "in-kind" services

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Costs of Not Participating

- The State Hazard Mitigation Plan MUST incorporate all information for all local hazard mitigation plans prior to a mandatory 2011 update. If not incorporated, no communities in the state will be eligible for Public Assistance (PA) Categories C through G.
- Annually:
  - Pre-Disaster Mitigation Program (PDM) Funding Not Available
  - Flood Mitigation Assistance (FMA) Program Funding Not Available
  - Severe Repetitive Loss (SRL) & Repetitive Flood Claim (RFC) Program Funding Not Available

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Hazard Mitigation Planning Overview

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is "Hazard Mitigation"?

Any measures undertaken to reduce the risks posed by natural and/or manmade hazards on a place and its population.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is "Hazard Mitigation"?

Hazard mitigation measures can include **projects that limit the extent of hazards** like levees, floodwalls, building safe rooms…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is "Hazard Mitigation"?

… **projects that move or protect assets** like elevation, or retrofit of buildings…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is “Hazard Mitigation”?

…**regulatory practices** like enacting or enforcing building codes, permits, or land use policies…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is “Hazard Mitigation”?

…**training and educational programs** for communities and local agencies…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is a “Hazard Mitigation Plan”?

- **Hazard Mitigation Plan**:
  A plan to reduce a community’s risk and exposure to disasters

… which is different from an …

- **Emergency Operations Plan** (EOP):
  A plan to guide a community’s response to an emergency or disaster

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is a “Hazard Mitigation Plan”?

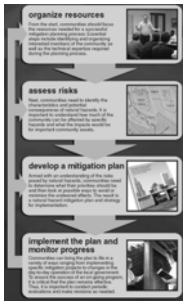
- A Hazard Mitigation Plan is typically written before hazard events occur (**pre-disaster**)
- Hazard mitigation projects can be implemented either before or after a disaster (**pre-disaster** or **post-disaster**).

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

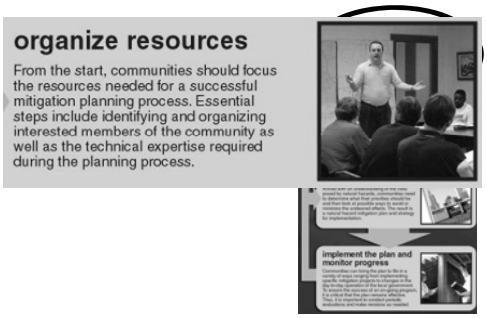
There is a lot of jargon that is used to describe the planning process.

This graphic shows the process recommended by FEMA.



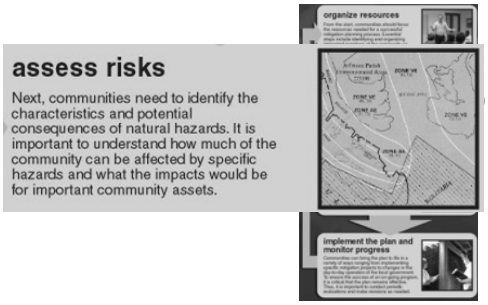
Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?



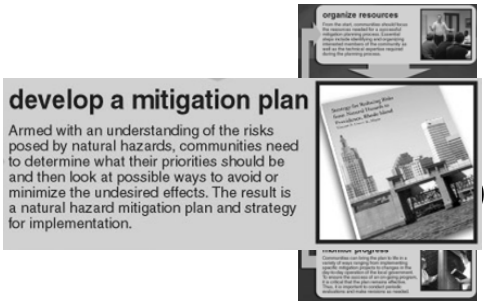
Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?



Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?



Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

It all boils down to **two basic questions**:

1. What hazards present the greatest risk to the County and its citizens?
2. What are the most effective ways to reduce those risks?

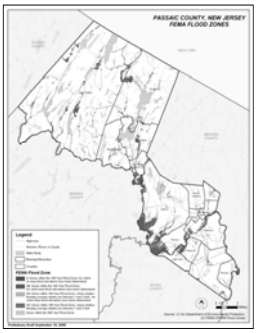
Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Risk Assessment

Risk Assessment

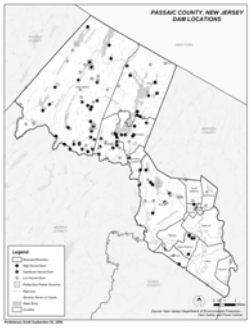
Risk is assessed in several ways:

- Exposure of assets to hazards that occur in predictable areas - such as **flood** (per FEMA FIRM maps)…



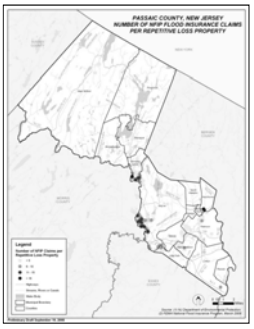
Risk Assessment

…or a manmade hazard like **dam failure**…



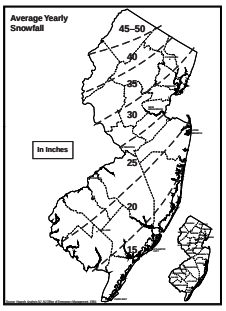
Risk Assessment

- Patterns of past damages – such as repetitive **flood** damage claims under the National Flood Insurance Program (NFIP).



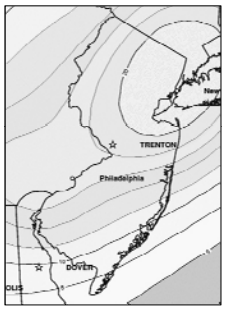
Risk Assessment

- Exposure to events of predictable magnitudes that can cause building failures – such as such as snow loads from **winter storms**…



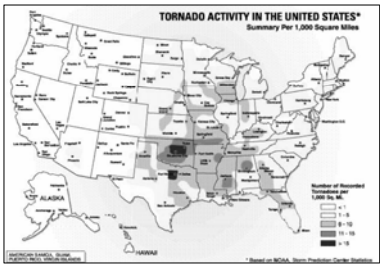
Risk Assessment

…or **earthquakes**…



Risk Assessment

…and **high winds**



Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Project Types Overview

Potential Mitigation Projects

"Soft" mitigation projects include mitigation activities such as:

- building code enforcement
- land development regulations
- public education
- studies and plans
- etc.

Potential Mitigation Projects

"Hard" mitigation projects or "property protection" construction activities:

- acquisition / elevation / mitigation reconstruction of structures
- retrofits for high wind loads such as installing hurricane shutters
- improving drainage
- etc.

Acquisition

- Most cost-effective mitigation measure.
- Permanently removes vulnerable property from the floodplain.
- The structure is demolished or relocated and the land is dedicated as open space in perpetuity.
- Requires willing sellers and communities.

Taken from *Missouri Buyout Program 2002*

Elevation

- Raising a structure above the Base Flood Elevation.
- Building size, structural integrity, and type of foundation must be considered.
- There are different types of elevation which can be used depending on the structure.

Top Picture: A house in Miami in the process of being elevated.
Bottom Picture: That same house once completed.
Taken from FEMA, *Above the Flood, 2000*

Mitigation Reconstruction

- Pilot program funded under Disaster Declarations 1603 and 1607 (Hurricanes Katrina and Rita)
- If acquisition and elevation are not feasible then a structure may be demolished and reconstructed at the same location meeting current construction codes and standards.

Hardening or Retrofitting of Critical Facilities

- Potential Projects for public buildings, hospitals and health care facilities, utilities, police stations, fire stations, emergency operations center, jails and detention centers, and schools:
  - Install shutters or impact resistant glass on windows
  - Strengthen the doors.
  - Install hurricane straps and clips to strengthen roof.
  - Bolt walls to foundation.
  - Relocate utility lines underground.
  - Elevate the heating, ventilating and cooling (HVAC) equipment, such as furnace and hot water heater.

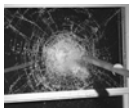
Hardening or Retrofitting of Critical Facilities

- Install shutters or impact resistant glass on windows

Accordion Shutters

Roll-Down Shutters

Colonial Shutters

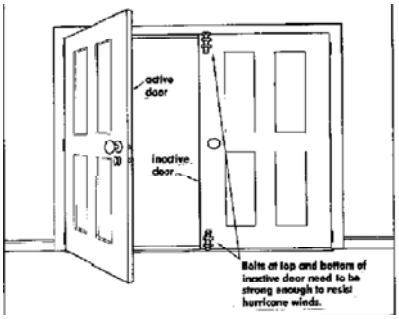


Impact Resistant Glass

Corrugated Metal Panel

Hardening or Retrofitting of Critical Facilities

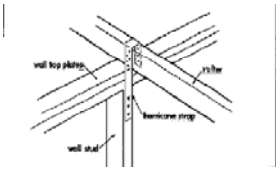
- Strengthen the doors.



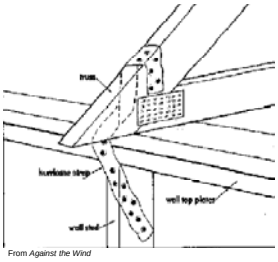
From *Against the Wind*

Hardening or Retrofitting of Critical Facilities

- Install hurricane straps and clips to strengthen roof.



From *Against the Wind*

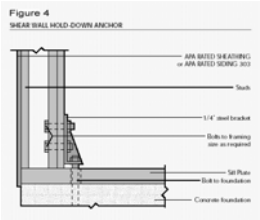


From *Against the Wind*

From *The Advocate*

Hardening or Retrofitting of Critical Facilities

- Bolt walls to foundation.



From www.townparkconstruction.com

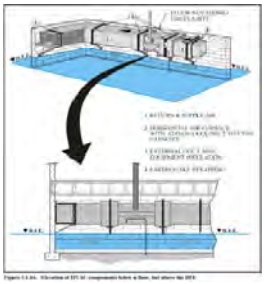
Hardening or Retrofitting of Critical Facilities

- Relocate utility lines underground.

Fallen utility lines after Wilma. From www.galtmile.com

Hardening or Retrofitting of Critical Facilities

- Elevate the heating, ventilating and cooling (HVAC) equipment, such as furnace and hot water heater.



From FEMA, *Protecting Building Utilities*

Hardening or Retrofitting of Critical Facilities

- Potential projects for pump stations, water control facilities, water treatment and delivery systems, power generation facilities, sewage collection and treatment facilities:
  - Install backflow valves.
  - Elevate the generators and pumps.
  - Anchor fuel tanks.
  - Eliminate infiltration problems with underground utility systems.

Drainage Improvements

- Creating detention/retention ponds and reservoirs.
- Building floodwalls and diversions.
- Constructing storm sewers and increasing culvert capacity.
- Maintenance is not an eligible project.

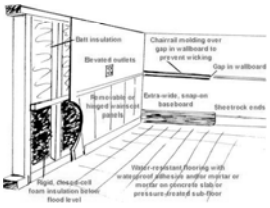
Detention Pond in North Carolina

A culvert

Wet Floodproofing

- Modifying uninhabited portions of the structure to allow floodwaters to enter without causing significant damage.
- Materials must be water resistant.
- Not practical for most slab-on-grade structures with living space near ground level.
- Does not reduce damage from high velocity floods.
- Only appropriate in limited situations.

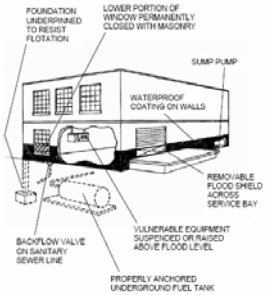
Elevated Appliances from www.louisianafloods.org



From www.louisianafloods.org

Dry Floodproofing

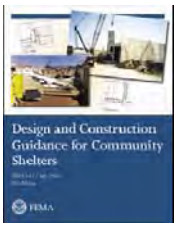
- Making the structure watertight below the level that needs flood protection.
- Requires sealing the walls and providing waterproof closures for any openings such as doors.
- Effective for low duration flooding with depths under 3 feet.
- Not effective for high velocity flooding.



From FEMA, *Protecting Your Business from Flooding*

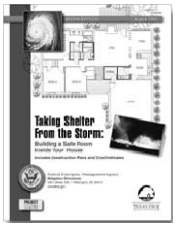
Community Shelters

- A structure built to withstand extreme winds and flying debris from tornadoes, hurricanes, and other storms that is accessible to the public.
- Guidelines can be found in FEMA 361.
- The shelter cannot be used for anything else.



Safe Rooms

- Can be built on-site, or manufactured.
- Can be installed in new or existing homes.
- Must have adequate ventilation.
- Must be securely anchored to the foundation and structurally isolated from the main structure.
- Can be on the first floor, in a basement, or outside.
- Guidelines are outlined in FEMA Publication 320



5% Initiative Mitigation Projects

5% Initiative Projects eligible for funding can include new, unproven mitigation techniques and technologies where benefits are not proven or not clearly measurable:

- Generators; or
- Disaster warning equipment and systems.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Municipal Participation

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Municipal Participation

- **Eligibility Requirements:**
  - Responding to data and document requests
  - Completing on-line capability assessment
  - Identifying and prioritizing hazard mitigation projects
  - Attending meetings
  - Plan adoption (at the end of the process)

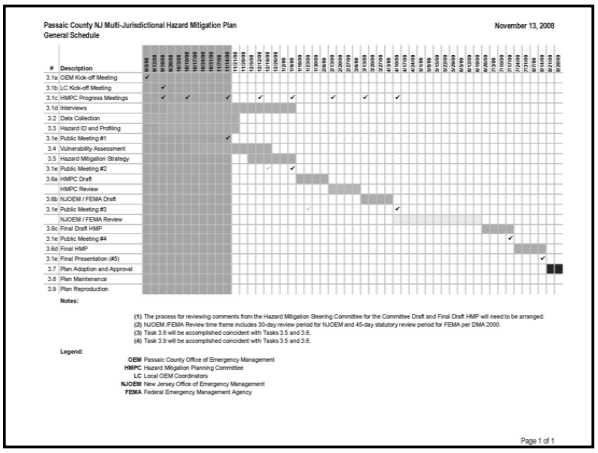
Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Municipal Participation

- **Eligibility Implications:**
  - Pre-disaster hazard mitigation grant programs
  - Post-disaster public assistance and hazard mitigation grant programs

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

General Schedule



Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Work-in-Progress

Work-in-Progress

- Hazard Identification, Profiling & Ranking
- Risk Assessment
- Capability Assessment
- Project Identification

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Hazard Identification, Profiling & Ranking

Work in Progress: Hazard Identification

Civil disturbance
Crime
Dam failure
Drought
Earthquake / Geological
Economic crisis
Enemy Attack / Terrorism
Erosion
Extreme temperatures. (cold/heat)
Flood
Hail
Hazmat (fixed/transport)
High wind (hurricanes, etc.)
High wind (tornado)
Ice storm
Landslide
Pandemic disease
Radiological incident
Severe Storm / Lightning
Severe Storm / Winter weather
Storm surge
Utility Failure
Urban Fire
Wildfire

Work in Progress: Hazard Profiling

~~Civil disturbance~~
~~Crime~~
Dam failure
Drought
Earthquake / Geological
~~Economic crisis~~
~~Enemy Attack / Terrorism~~
Erosion
Extreme temperatures (cold/heat)
Flood
Hail
Hazmat (fixed/transport)
High wind (hurricanes, etc.)
High wind (tornado)
Ice storm
Landslide
~~Pandemic disease~~
~~Radiological incident~~
Severe Storm / Lightning
Severe Storm / Winter weather
Storm Surge
~~Utility Failure~~
~~Urban Fire~~
Wildfire

Work in Progress: Hazard Ranking

~~Civil disturbance~~
~~Crime~~
Dam failure
~~Drought~~
Earthquake / Geological
~~Economic crisis~~
~~Enemy Attack / Terrorism~~
~~Erosion~~
~~Extreme temperatures (cold/heat)~~
Flood
~~Hail~~
~~Hazmat (fixed/transport)~~
High wind (hurricanes, etc.)
~~High wind (tornado)~~
~~Ice storm~~
~~Landslide~~
~~Pandemic disease~~
~~Radiological incident~~
~~Severe Storm / Lightning~~
Severe Storm / Winter weather
~~Storm Surge~~
~~Utility Failure~~
~~Urban Fire~~
~~Wildfire~~

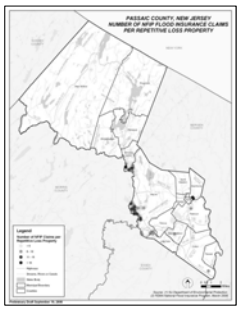
Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Risk Assessment

Work in Progress: Risk Assessment

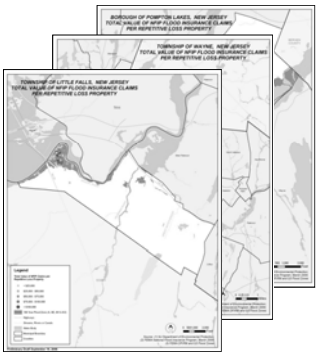
Both Repetitive Loss (**RL**) and Severe Repetitive Loss (**SRL**) claim record trends are being analyzed…

…at the county level…



Work in Progress: Risk Assessment

…and at the municipal level as well.



Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Project Identification

Project Identification

- Repetitive Loss Properties
- Dams
- Critical Facilities
- Problem Areas

Project Identification

- [insert examples from 11.13.08 and 11.14.08 working sessions with communities and/or JLWA example project list excerpts]

Next Steps

- Public Meeting #2: Preliminary Draft Hazard Mitigation Plan Recommendations – tentative date = January 8, 2009
- Hazard Mitigation Planning Committee Draft – tentative completion date = February 6, 2009
- NJOEM / FEMA Draft – tentative completion date = April 3, 2009
- Public Meeting #3: NJOEM / FEMA Draft – tentative date = April 9, 2009

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Comments and Questions

	Regular Meeting	
June 15, 2009	Workshop Meeting	M
	Regular Meeting	
July 20, 2009	Workshop Meeting	M
	Regular Meeting	
August 17, 2009	Workshop Meeting	M
	Regular Meeting	
September 21, 2009	Workshop Meeting	M
	Regular Meeting	
October 19, 2009	Workshop Meeting	M
	Regular Meeting	
November 16, 2009	Workshop Meeting	M
	Regular Meeting	
December 21, 2009	Workshop Meeting	M
	Regular Meeting	
January 19, 2009	Workshop Meeeting	T
	Regular Meeting	

Date: December 17, 2008

Equal Ho
Opportu

Herald News-2505554
Fee: $48.24
January 7, 2009

TOWNSHIP OF WEST MILFORD

NOTICE IS HEREBY GIVEN THAT THE Zoning Board of Adjustment of the Township of West Milford, County of Passaic, New Jersey adopted the following meeting schedule:

Township of West Milford
ZONING BOARD OF ADJUSTMENT

Meeting Dates for January 2009 through December 2009 all meetings commence at 7:30

	Site Regular	Inspection Meeting
January	--	27(reorg. also)
February	21	24
March	21	24
April	25	28
May	23	26
June	20	23
July	25	28
August	22	25
September	19	22
October	24	27
November	21	24
December	12	15

Denyse Todd
Secretary

Herald News-2503923
Fee: $13.32
January 7, 2009

PUBLIC MEETING NOTICE ON PASSAIC COUNTY HAZARD MITIGATION PLAN

Please join the Passaic County Hazard Mitigation Working Group to learn about and review draft materials related to hazard identification and risk assessment, as part of the development of the County's Hazard Mitigation Plan.

The meeting will be held on Thursday, January 8, 2009 at 7 p.m. at the Passaic County Public Safety Academy, 300 Oldham Rd., Wayne in Rm. 122 A & B.

Members of the consultant planning team and the County Working Group will be present to answer questions, receive public input and information and address public commentary.

For more information, please call 973-904-3621 or e-mail pcoem@passaiccountynj.org

Herald News-2505252
Fee: $11.49
January 7, 2009

LEGAL NOTICE

Please be advised that the West Milford Zoning Board of Adjustment will be discussing amendments to their by-laws at the regular meeting on January 27, 2009. This is a public meeting and will commence at 7:30

Passaic County, NJ Multi-Jurisdictional Hazard Mitigation Plan

Public Meeting – January 8, 2009

prepared for:

Passaic County
Office of Emergency Management

prepared by:

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Agenda

- Participants
- Benefits & Costs of Participation
- Hazard Mitigation Planning Overview
- Municipal Participation
- Preliminary Draft Hazard Mitigation Plan
- General Schedule
- Next Steps

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Participants

- Interested Groups and Individuals
- Participating Municipalities
- Special Districts and Organizations
- Passaic County Hazard Mitigation Planning Committee
- Passaic County Office of Emergency Management
- James Lee Witt Associates

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Benefits & Costs of Participation

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Benefits of Participation

- Understanding risks to participating communities from natural hazards.
- Identifying and documenting projects to reduce identified risks.
- Describing an implementation strategy for projects including potential funding sources.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Benefits of Participation

- Every $1 spent on Mitigation saves $4 in Recovery*
- From 1955-2005, mitigation measures prevented 220 deaths and 4,700 injuries*
- For every eligible $1 spent by local communities on FEMA-funded grant projects, the Federal government contributes $3 to $9.
- Opportunities to improve local insurance ratings = lower flood insurance premiums

* Source: The Multihazard Mitigation Council, "Hazard Mitigation Saves," 2005 an independent review of FEMA mitigation activities

Costs of Participation

- Minimal financial investment:
  - Planning process is 75% paid for by Federal funds
  - Local and County portion will be covered through "force-account" or "in-kind" services

Costs of Not Participating

- The State of New Jersey Hazard Mitigation Plan MUST incorporate all information for all local hazard mitigation plans (such as the *Passaic County Multi-Jurisdictional Hazard Mitigation Plan*) prior to a mandatory 2011 update.
- If not incorporated, no communities in the state will be eligible for Public Assistance (PA) Categories C through G. These categories of assistance provide invaluable aid during the recovery process.

Costs of Not Participating

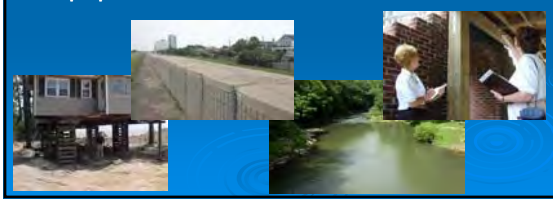
- Post-disaster:
  - Hazard Mitigation Grant Program (HMGP) Funding Not Available
- Annually:
  - Pre-Disaster Mitigation Program (PDM) Funding Not Available
  - Flood Mitigation Assistance (FMA) Program Funding Not Available
  - Severe Repetitive Loss (SRL) & Repetitive Flood Claim (RFC) Program Funding Not Available

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

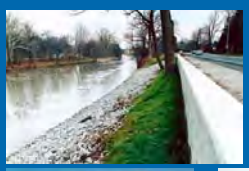
Hazard Mitigation Planning Overview

What is "Hazard Mitigation"?

Any measures undertaken to reduce the risks posed by natural and/or manmade hazards on a place and its population.



What is "Hazard Mitigation"?



Hazard mitigation measures can include **projects that limit the extent of hazards** like levees, floodwalls, building safe rooms…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is "Hazard Mitigation"?

… **projects that move or protect assets** like elevation, or retrofit of buildings…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is "Hazard Mitigation"?

…**regulatory practices** like enacting or enforcing building codes, permits, or land use policies…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is "Hazard Mitigation"?

…**training and educational programs** for communities and local agencies…

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is a "Hazard Mitigation Plan"?

- **Hazard Mitigation Plan**:
  A plan to reduce a community's risk and exposure to disasters

… which is different from an …

- **Emergency Operations Plan** (EOP):
  A plan to guide a community's response to an emergency or disaster

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is a "Hazard Mitigation Plan"?

- A Hazard Mitigation Plan is typically written before hazard events occur (**pre-disaster**)
- Hazard mitigation projects can be implemented either before or after a disaster (**pre-disaster** or **post-disaster**).

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

There is a lot of jargon that is used to describe the planning process.

This graphic shows the process recommended by FEMA.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

organize resources

From the start, communities should focus the resources needed for a successful mitigation planning process. Essential steps include identifying and organizing interested members of the community as well as the technical expertise required during the planning process.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

assess risks

Next, communities need to identify the characteristics and potential consequences of natural hazards. It is important to understand how much of the community can be affected by specific hazards and what the impacts would be for important community assets.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

develop a mitigation plan

Armed with an understanding of the risks posed by natural hazards, communities need to determine what their priorities should be and then look at possible ways to avoid or minimize the undesired effects. The result is a natural hazard mitigation plan and strategy for implementation.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

implement the plan and monitor progress

Communities can bring the plan to life in a variety of ways ranging from implementing specific mitigation projects to changes in the day-to-day operation of the local government. To ensure the success of an on-going program, it is critical that the plan remains effective. Thus, it is important to conduct periodic evaluations and make revisions as needed.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How is the Plan Developed?

It all boils down to **two basic questions**:

1. What hazards present the greatest risk to the County and its citizens?
2. What are the most effective ways to reduce those risks?

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Risk Assessment

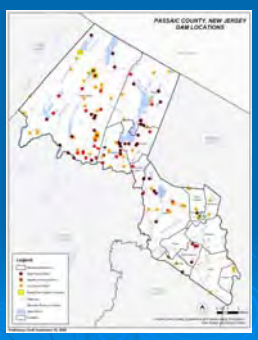
Risk Assessment

Risk is assessed in several ways:

- Exposure of assets to hazards that occur in predictable areas - such as **flood** (per FEMA FIRM maps)…

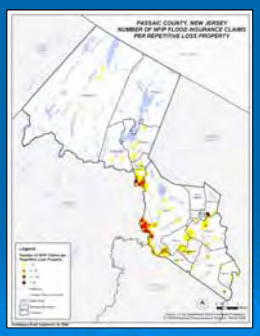
Risk Assessment

…or a manmade hazard like **dam failure**…



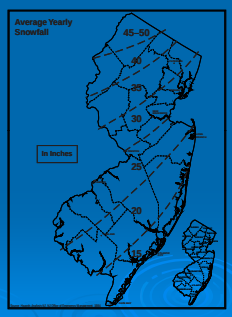
Risk Assessment

- Patterns of past damages – such as repetitive **flood** damage claims under the National Flood Insurance Program (NFIP).



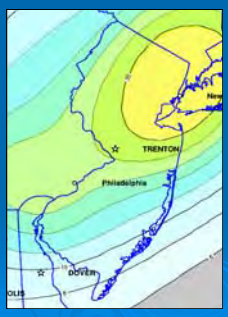
Risk Assessment

- Exposure to events of predictable magnitudes that can cause building failures – such as such as snow loads from **winter storms**…



Risk Assessment

…or **earthquakes**…



Risk Assessment

…and **high winds**

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Project Types Overview

Potential Mitigation Projects

"Soft" mitigation projects include mitigation activities such as:

- building code enforcement
- land development regulations
- public education
- studies and plans
- etc.

Potential Mitigation Projects

"Hard" mitigation projects or "property protection" construction activities:

- acquisition / elevation / mitigation reconstruction of structures
- retrofits for high wind loads such as installing hurricane shutters
- improving drainage
- etc.

Acquisition

- Most cost-effective mitigation measure.
- Permanently removes vulnerable property from the floodplain.
- The structure is demolished or relocated and the land is dedicated as open space in perpetuity.
- Requires willing sellers and communities.

Taken from *Missouri Buyout Program 2002*

Elevation

- Raising a structure above the Base Flood Elevation.
- Building size, structural integrity, and type of foundation must be considered.
- There are different types of elevation which can be used depending on the structure.

Top Picture: A house in Miami in the process of being elevated.
Bottom Picture: That same house once completed.
Taken from FEMA, *Above the Flood*, 2000

Mitigation Reconstruction

- Pilot program funded under Disaster Declarations 1603 and 1607 (Hurricanes Katrina and Rita)
- If acquisition and elevation are not feasible then a structure may be demolished and reconstructed at the same location meeting current construction codes and standards.

Hardening or Retrofitting of Critical Facilities

- Potential Projects for public buildings, hospitals and health care facilities, utilities, police stations, fire stations, emergency operations center, jails and detention centers, and schools:
  - Install shutters or impact resistant glass on windows
  - Strengthen the doors.
  - Install hurricane straps and clips to strengthen roof.
  - Bolt walls to foundation.
  - Relocate utility lines underground.
  - Elevate the heating, ventilating and cooling (HVAC) equipment, such as furnace and hot water heater.

Hardening or Retrofitting of Critical Facilities

- Install shutters or impact resistant glass on windows

Accordion Shutters

Roll-Down Shutters

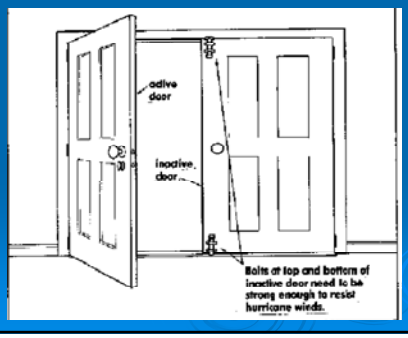
Impact Resistant Glass

Colonial Shutters

Corrugated Metal Panel

Hardening or Retrofitting of Critical Facilities

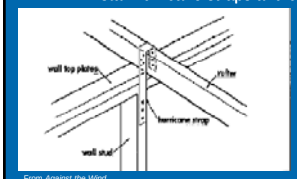
- Strengthen the doors.



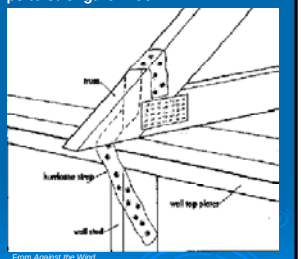
From *Against the Wind*

Hardening or Retrofitting of Critical Facilities

- Install hurricane straps and clips to strengthen roof.



From *Against the Wind*

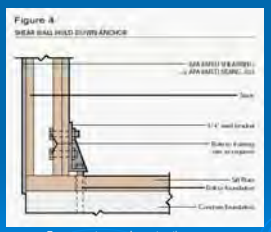


From *Against the Wind*

From *The Advocate*

Hardening or Retrofitting of Critical Facilities

- Bolt walls to foundation.



From www.townparkconstruction.com

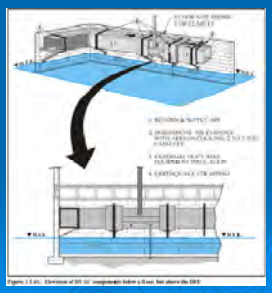
Hardening or Retrofitting of Critical Facilities

- Relocate utility lines underground.

Fallen utility lines after Wilma. From www.galtmile.com

Hardening or Retrofitting of Critical Facilities

- Elevate the heating, ventilating and cooling (HVAC) equipment, such as furnace and hot water heater.



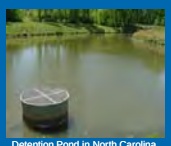
From FEMA, *Protecting Building Utilities*

Hardening or Retrofitting of Critical Facilities

- Potential projects for pump stations, water control facilities, water treatment and delivery systems, power generation facilities, sewage collection and treatment facilities:
  - Install backflow valves.
  - Elevate the generators and pumps.
  - Anchor fuel tanks.
  - Eliminate infiltration problems with underground utility systems.

Drainage Improvements

- Creating detention/retention ponds and reservoirs.
- Building floodwalls and diversions.
- Constructing storm sewers and increasing culvert capacity.
- Maintenance is not an eligible project.

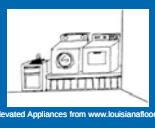


Detention Pond in North Carolina

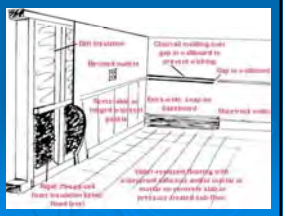
A culvert

Wet Floodproofing

- Modifying uninhabited portions of the structure to allow floodwaters to enter without causing significant damage.
- Materials must be water resistant.
- Not practical for most slab-on-grade structures with living space near ground level.
- Does not reduce damage from high velocity floods.
- Only appropriate in limited situations.



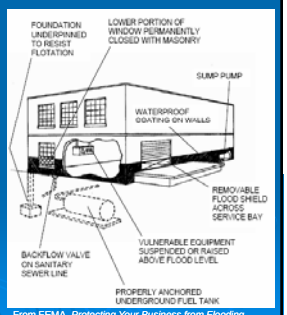
Elevated Appliances from www.louisianafloods.org



From www.louisianafloods.org

Dry Floodproofing

- Making the structure watertight below the level that needs flood protection.
- Requires sealing the walls and providing waterproof closures for any openings such as doors.
- Effective for low duration flooding with depths under 3 feet.
- Not effective for high velocity flooding.



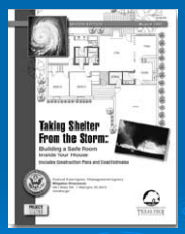
From FEMA, *Protecting Your Business from Flooding*

Community Shelters

- A structure built to withstand extreme winds and flying debris from tornadoes, hurricanes, and other storms that is accessible to the public.
- Guidelines can be found in FEMA 361.
- The shelter cannot be used for anything else.

Safe Rooms

- Can be built on-site, or manufactured.
- Can be installed in new or existing homes.
- Must have adequate ventilation.
- Must be securely anchored to the foundation and structurally isolated from the main structure.
- Can be on the first floor, in a basement, or outside.
- Guidelines are outlined in FEMA Publication 320



5% Set-aside Mitigation Projects

5% Set-aside (or Initiative) Projects eligible for funding can include new, unproven mitigation techniques and technologies where benefits are not proven or not clearly measurable:

- Generators; or
- Disaster warning equipment and systems.

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Municipal Participation

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Municipal Participation

- **Eligibility Requirements:**
  - Responding to data and document requests
  - Completing on-line capability assessment
  - Identifying and prioritizing hazard mitigation projects
  - Attending meetings
  - Plan adoption (at the end of the process)

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Municipal Participation

- **Eligibility Implications:**
  - Pre-disaster hazard mitigation grant programs
  - Post-disaster public assistance and hazard mitigation grant programs

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

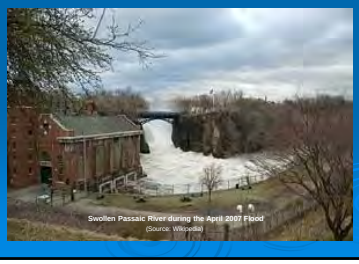
Preliminary Draft

Preliminary Draft

- Hazard Identification, Profiling & Ranking
- Risk Assessment
- Capability Assessment
- Project Identification

Passaic County Multi-Jurisdictional Preliminary Draft Hazard Mitigation Plan

Hazard Identification, Profiling & Ranking



Hazard Identification

Civil disturbance
Crime
Dam failure
Drought
Earthquake / Geological
Economic crisis
Enemy Attack / Terrorism
Erosion
Extreme temperatures. (cold/heat)

Flood
Hail
Hazmat (fixed/transport)
High wind (hurricanes, etc.)
High wind (tornado)
Ice storm
Landslide

Pandemic disease
Radiological incident
Severe Storm / Lightning
Severe Storm / Winter weather
Storm surge
Utility Failure
Urban Fire
Wildfire

Hazard Profiling

~~Civil disturbance~~
~~Crime~~
Dam failure
Drought
Earthquake / Geological
~~Economic crisis~~
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Erosion
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Hazard Ranking

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Severe Storm / Winter weather
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~~Urban Fire~~
~~Wildfire~~

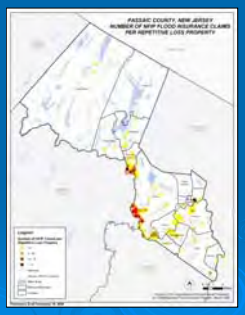
Passaic County Multi-Jurisdictional Preliminary Draft Hazard Mitigation Plan

Risk Assessment

Risk Assessment

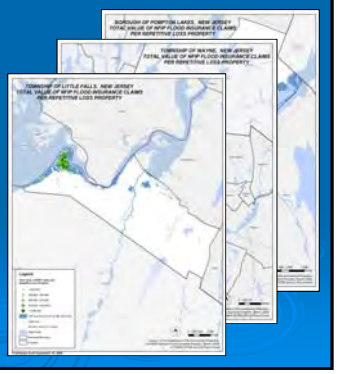
Both Repetitive Loss (RL) and Severe Repetitive Loss (SRL) claim record trends are being analyzed…

…at the county level…



Risk Assessment

…and at the municipal level as well.



Passaic County Multi-Jurisdictional Preliminary Draft Hazard Mitigation Plan

Project Identification

Project Identification

- Problem Areas, including as indicated in the Risk Assessment and identified by participating communities
- Repetitive Loss Properties
- Dams
- Critical Facilities

Project Identification

- Representative hazard mitigation projects and activities that have been identified for Passaic County OEM to implement include:
  - Conduct yearly workshops related to FEMA hazard mitigation grant programs
  - Develop and maintain relationships with organizations that can provide technical information and/or assistance in the areas of hazard identification and risk assessment

Project Identification

- Representative hazard mitigation projects and activities that have been identified for Passaic County OEM to implement include:
  - Develop a database inventory of critical facilities countywide (county-, local-, and privately-owned), including fire and police stations, medical facilities, major public buildings important for emergency response and recovery, and critical lifeline transportation and utility nodes such as bridges, water treatment plants, wastewater treatment plants, high voltage electric substations, and hazardous materials facilities

Project Identification

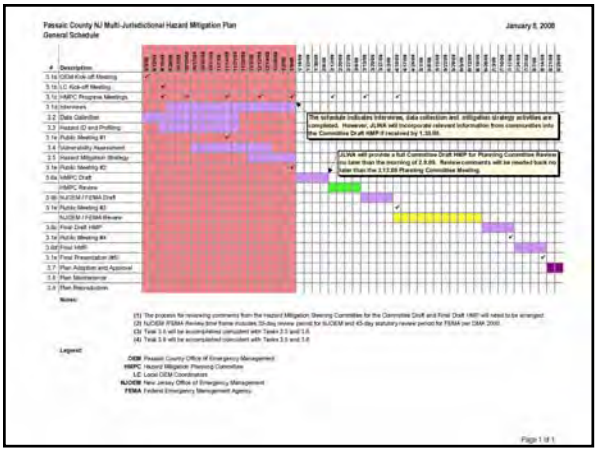
- Representative hazard mitigation projects and activities that have been identified for Participating Municipalities to implement include:
  - Property Acquisitions
  - Elevate or Relocate Critical Facilities
  - Drainage Improvements
  - Bridge Replacement
  - Burying Power Lines

Project Identification

- Representative hazard mitigation projects and activities that have been identified for Participating Municipalities to implement include:
  - Engineering studies to determine appropriate actions for specific problems (flooding, dams, high winds)
  - Provide back-up power generation
  - Provide early warning systems
  - Update Building Code and Enforcement Training

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

General Schedule



Next Steps

- Initial Public Comments due: January 30th to include in "Committee Draft" (*not last chance!*)
- Tentative completion date for Committee Draft: February 6th
- Planning Committee Meetings: February 12th and March 12th
- NJOEM / FEMA Draft – tentative completion date: April 3rd
- Public Meeting #3: NJOEM / FEMA Draft – tentative date: April 9th

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Comments and Questions

Passaic County, New Jersey Multi-Jurisdictional Hazard Mitigation Plan

Project Briefing – March 10, 2009

prepared for:

Passaic County, NJ
Board of Freeholders

prepared by:

Robert A. Lyons, Director
Passaic County Office of Emergency Management

Passaic County is working on a Plan to reduce risks from natural hazards. This briefing contains:

- What is a hazard mitigation plan?
- What are the benefits and costs?
- How was the Plan developed?
- What does the Plan recommend?
- Who participated?
- What is left to accomplish?

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is a Hazard Mitigation Plan?

What is “Hazard Mitigation”?

Any measures undertaken to reduce risks posed by natural hazards on a place and its population.

What is “Hazard Mitigation”?

Hazard mitigation includes **projects that limit the area hazards can impact** like floodwalls, window shutters, or safe rooms, …

What is “Hazard Mitigation”?

… **projects that move assets out of harm’s way** like elevating structures, or burying utilities…

What is “Hazard Mitigation”?

…**regulatory practices** like enacting or enforcing building codes, permits, or land use policies...

What is “Hazard Mitigation”?

… and **training / educational programs** for communities and local agencies.

What is a "Hazard Mitigation Plan"?

A plan that identifies projects to reduce a community's risk before disasters occur

… which is different from an "Emergency Operations Plan" or "EOP"; a plan that identifies procedures to guide a community's response to an emergency or disaster after it happens

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What are the Benefits and Costs of the Plan?

Benefits of Participating

- Every $1 spent on mitigation projects saves $4 in recovery costs*
- From 1955-2005, mitigation measures prevented 220 deaths and 4,700 injuries*
- For every eligible $1 spent by local communities on FEMA-funded grant projects, the Federal government contributes $3 to $9.
- Opportunities to improve local insurance ratings = lower flood insurance premiums

* Source: The Multihazard Mitigation Council, "Hazard Mitigation Saves," 2005 an independent review of FEMA mitigation activities

Costs of Not Participating

- Pre-disaster hazard mitigation grant programs (PDM, FMA, SRL, RFC) – Not Eligible
- Post-disaster mitigation grant programs (PA, HMGP) – Not Eligible
- Continuing a cycle of destruction and increasingly costly recovery

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

How was the Plan developed?

How was the Plan Developed?

The total project cost is $300,000. Passaic County OEM secured a grant from FEMA for $225,000 to help fund the planning process and hired JLWA as the project technical consultant.

The remaining $75,000 in project cost will be covered by PC OEM and participating municipalities as force account / in-kind services for their work efforts.

How was the Plan Developed?

Passaic County OEM also solicited participation of all 16 municipalities in the County and organized a Hazard Mitigation Planning Committee

How was the Plan Developed?

The Plan answered two questions:

- What hazards pose the greatest risk to the County and its citizens?
- What are the most effective measures to reduce those risks?

Hazard Identification

- Civil disturbance
- Crime
- Dam failure
- Drought
- Earthquake / Geological
- Economic crisis
- Enemy Attack / Terrorism
- Erosion
- Extreme temperatures. (cold/heat)
- Flood
- Hail
- Hazmat (fixed/transport)
- High wind (hurricanes, etc.)
- High wind (tornado)
- Ice storm
- Landslide
- Pandemic disease
- Radiological incident
- Severe Storm / Lightning
- Severe Storm / Winter weather
- Storm surge
- Utility Failure
- Urban Fire
- Wildfire

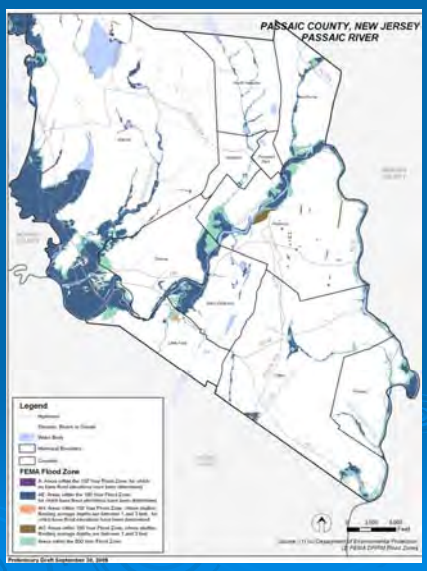
Hazard Profiling

- ~~Civil disturbance~~
- ~~Crime~~
- Dam failure
- ~~Drought~~
- Earthquake / Geological
- ~~Economic crisis~~
- ~~Enemy Attack / Terrorism~~
- ~~Erosion~~
- ~~Extreme temperatures (cold/heat)~~
- Flood
- ~~Hail~~
- ~~Hazmat (fixed/transport)~~
- High wind (hurricanes, etc.)
- ~~High wind (tornado)~~
- ~~Ice storm~~
- ~~Landslide~~
- ~~Pandemic disease~~
- ~~Radiological incident~~
- ~~Severe Storm / Lightning~~
- Severe Storm / Winter weather
- ~~Storm Surge~~
- ~~Utility Failure~~
- ~~Urban Fire~~
- ~~Wildfire~~

Hazard Risk Assessment

Risk was assessed in several ways:

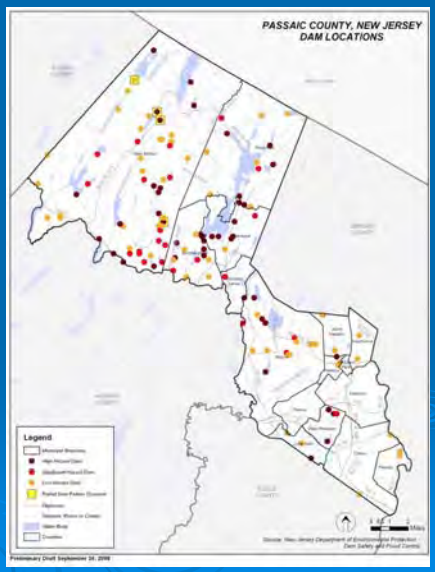
- Exposure of assets to hazards that occur in predictable areas - such as **flood** (per FEMA FIRM maps)…



Hazard Risk Assessment

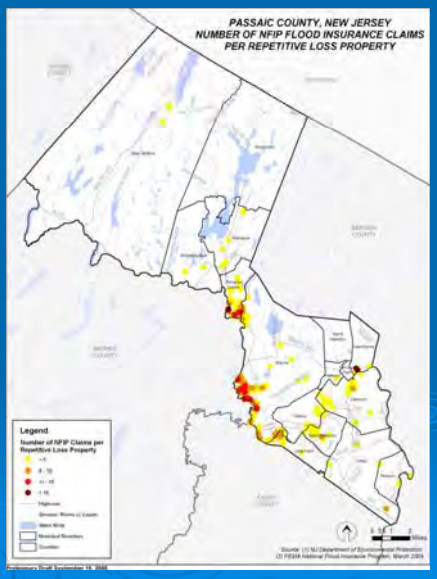
…or

dam failure (per NJ DEP maps and data)…



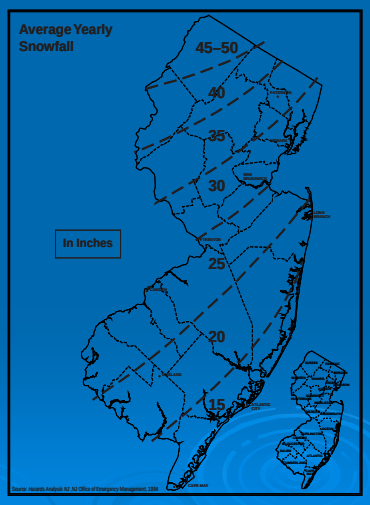
Hazard Risk Assessment

Patterns of past damages – such as repetitive **flood** damage claims under the National Flood Insurance Program (NFIP).



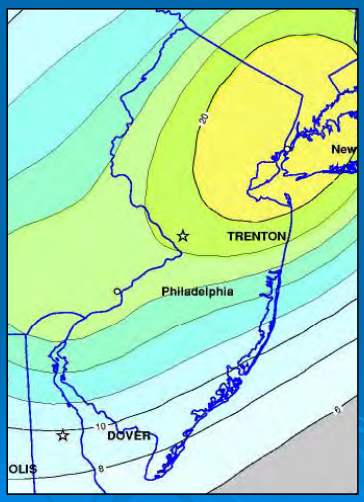
Hazard Risk Assessment

- Exposure to predictable events that can cause building failures – such as snow loads from **winter storms**…



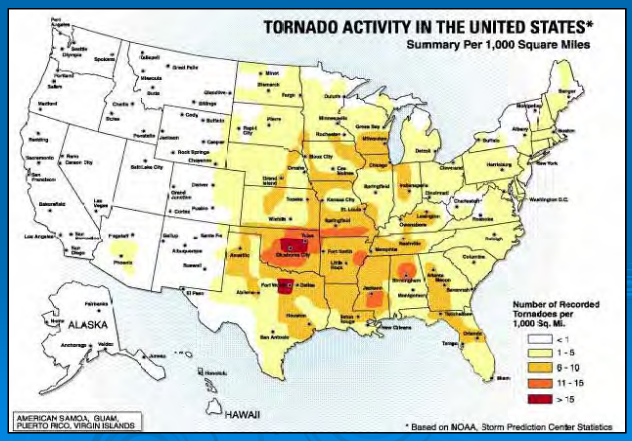
Hazard Risk Assessment

…or
earthquakes…



Hazard Risk Assessment

…and **high winds**



Project Identification

Projects were identified per:

- Problem Areas from the Risk Assessment and as indicated by participating communities
- Repetitive Flood Loss Properties
- Critical Facilities

Passaic County Multi-Jurisdictional Preliminary Draft Hazard Mitigation Plan

What does the Plan recommend?

Project Identification

- Hazard mitigation measures identified for Passaic County OEM to implement include:
  - Conduct yearly workshops about FEMA hazard mitigation grant programs
  - Improve information available to participating municipalities regarding hazards and risk, especially for critical and sensitive facilities

Project Identification

- Hazard mitigation measures identified for Participating Municipalities to implement include:
  - Property Acquisitions
  - Elevation or Relocation of Critical Facilities
  - Drainage Improvements
  - Bridge and Culvert Replacements
  - Debris Removal
  - Upgrading Utilities

Project Identification

- Hazard mitigation measures identified for Participating Municipalities to implement also include:
  - Engineering studies to determine appropriate actions for specific problems (flood, dam failure, high wind, mine capping)
  - Provision of back-up power generation
  - Provision of early warning systems
  - Building code updates
  - Public awareness programs

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Who participated in the planning process?

Invitees / Participants

- Municipalities (16 out of 16)
- Special Districts and Organizations
- Interested Groups and Individuals
- Passaic County Hazard Mitigation Planning Committee
- Passaic County Office of Emergency Management
- James Lee Witt Associates

Passaic County Multi-Jurisdictional Hazard Mitigation Plan

What is left to accomplish?

Next Steps

The Plan should be completed by August / September of 2009. The next steps include:

- Submit Draft Plan to the NJ Office of Emergency Management and FEMA and revise per comments
- Adoption by Board of Freeholders and participating municipalities after FEMA review
- Implement recommendations and monitor progress
- Update as necessary over the next five (5) years

Departments - Windows Internet Explorer

http://www.passaiccountynj.org/Departments/departments.htm

Wednesday, December 2, 2009

Home | Index A-Z | Contact Us | Search

Departments

Departments and Affiliated Offices

Passaic County General Information - (973) 881-4000

- Freeholders
- Press Releases
- County Parks
- Historical Attractions
- Elected Officials
- Municipalities
- Departments
- Links
- History Hangout
- Cross Acceptance
- County Fair
- County Clerk
- County Surrogate
- Sheriff's Department
- Board of Taxation
- Preakness Healthcare

Administrator	Human Resources	Planning Department	Superintendent of Schools
Camp Hope	Human Services	Police Academy	Superior Court
Clerk - Freeholders	Improvement Authority	Preakness Healthcare	Treasurer
County Counsel	Natural Resources	Prosecutors Office	Workforce Development Center
Economic Development	Office of Emergency Mgmt.	Public Works Dept.	Workforce Investment Board
Elections	Parks Department	Purchasing Department	Youth Reception & Rehab.
Finance Department	PC Community College	Rutgers Cooperative Ext.	
Health Department	PC Technical Institute	Senior, Disability Svcs. & Vets.	

Office of Emergency Management

Driving Directions

The Office of Emergency Management acts as a coordinating agency among local, state, and federal agencies. The Office of Emergency Management works in conjunction with county and municipal health agencies and healthcare providers, and emergency service personnel including police, fire, EMS, and the Sheriff to coordinate responses in the event of an emergency. The office assists local agencies in the establishment of their Emergency Operations Plan, which it then sends on to the NJ State Police Office of Emergency Management for final approval. The office also files all Municipal applications for state and/ or federal disaster relief funding.

- Passaic County Hazard Mitigation Plan - Final Draft
- Passaic County Hazard Mitigation Plan - Final Draft Appendices

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C.3 Correspondence

- November 12, 2006 Freeholder Resolution Authorizing PDM Grant
- September 19, 2007 Letter to Mayor Announcing PDM Grant And Asking Intent
- September 24, 2007 Letter Invitation to Join Hazard Mitigation Planning Team
- October 8, 2008 E-mail Listing Minimum Requirements For Participation
- October 8, 2008 E-mail Providing Local Capability Survey Link For Websites
- October 23, 2008 E-mail Providing Citizen Questionnaire Link For Websites
- December 18, 2008 E-mail Requesting Plan Information to be Posted on Municipal Websites
- December 18, 2008 E-mail Requesting Plan Information to be Posted on County Website
- January 6, 2009 E-mail Invitation to County Freeholders For Public Meeting
- November 10, 2009 E-mail Announcing Posting of Mitigation Plan on OEM Website for Review and Comment

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R-06-766
12/12/06

RESOLUTION

WHEREAS the Passaic County Office of Emergency Management has just been made aware that the County of Passaic may be eligible for a grant through the State of New Jersey from the United States Federal Management Emergency Agency under the Pre-Disaster Mitigation Program; and

WHEREAS this proposed planning grant would allow the said Office of Emergency Management working closely with the municipalities in Passaic County to develop an All-Hazards Mitigation Plan that entails putting strategies in place to reduce losses from identified hazards that could occur to the population and structures throughout Passaic County; and

WHEREAS the New Jersey State Police Office of Emergency Management would be the grant applicant with each New Jersey County being a sub-grantee; and

WHEREAS the total grant that the County of Passaic is eligible to receive an amount not to exceed three hundred thousand dollars ($300,000.00), in which case the federal government providing $225,000.00 and the County of Passaic providing $75,000.00, of which $25,000.00 would be an in-kind match for management activities and another $50,000.00 would be an in-kind match or cash to be determined upon submission of the grant application; and

WHEREAS the Board of Chosen Freeholders of the County of Passaic is desirous of having the Passaic County Office of

R-06-766
12/12/06

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WHEREAS the Board of Chosen Freeholders of the County of Passaic is desirous of having the Passaic County Office of

County of Passaic
Office of Emergency Management
300 Oldham Road, Wayne, NJ 07470

Tel: 973 -904-3621
Fax: 973-904-3842

Robert A. Lyons, Passaic County Coordinator

Sent to all Mayors + OEM Coord.

September 19, 2007

Mayor James Anzaaldi
City of Clifton
900 Clifton Avenue
Clifton, NJ 07013

Re: Pre-Disaster Mitigation Grant Award

Dear Mayor:

Enclosed is a copy of the Pre-Disaster Mitigation Grant Award for Passaic County. As stated, this is a planning grant and in order for it to be completed, we will require important input from your municipality.

Over the next several months, Passaic County will be posting a "Request for Proposal" in order for interested contractors to bid on this project. The awarded contractor will be compiling pertinent information regarding your municipality. We strongly urge your cooperation in providing this information, thereby assisting in completing this County-wide plan.

Also enclosed is an acceptance form for your signature which must be returned to the Passaic County Office of Emergency Management. If your municipality chooses **"NOT"** to participate, please be aware that **"NO"** federal funding for any natural disaster recovery and/or mitigation projects will be awarded to your municipality in the future.

A copy of this letter is being forwarded to your local Office of Emergency Management Coordinator. We request you to coordinate your municipality's mitigation information through the Local Emergency Planning Committee (LEPC).

If you have any questions, please contact this office at 973-904-3621.

Thank you in advance for your time and consideration.

Very truly yours,

Robert A. Lyons,
County Emergency Mgmt. Coordinator

cc: Capt. Joseph Verderosa, OEM Coordinator

County of Passaic
Office of Emergency Management
300 Oldham Road, Wayne, NJ 07470

Tel: 973 -904-3621
Fax: 973-904-3842

Robert A. Lyons, Passaic County Coordinator

September 24, 2007

To: All OEM Coordinators
Kevin O'Brien, PSE&G Liaison
Laura Cummings, P. E. - PV Water Commission
Michael Barnes, P.E. – North Jersey District Water Supply

From: Robert A. Lyons, County Emergency Management Coordinator

Re: Hazard Mitigation Planning Committee

The Passaic County Office of Emergency Management was awarded the 2007 Pre-Disaster Mitigation Plan Grant. This planning grant will allow us to work closely with the municipalities in Passaic County to develop an All-Hazards Mitigation Plan. The planning process will entail putting strategies in place to reduce losses from identified hazards as well as reducing the overall risk to the population and structures. This will also reduce the reliance on Federal funding from actual disaster declarations which are very costly to all levels of government.

The Pre-Disaster Mitigation Program was authorized by the Robert T. Stafford Disaster Assistance & Emergency Relief Act to assist States and Communities to implement a sustained pre-disaster natural hazard mitigation program. As such, FEMA's PDM program provides funds and a significant opportunity to raise risk awareness and reduce the nation's disaster losses through pre-disaster mitigation planning and the implementation of feasible, effective, and cost-efficient mitigation measures.

I would like to extend an invitation to you to be a member of the Hazard Mitigation Planning Committee. Passaic County will contract for mitigation planning with an appropriate vendor to address all goals and objectives for a mitigation plan. As a member of the committee you will assist in the planning process. The costs of this project will be managed by Passaic County OEM. We will be holding our first planning meeting on Friday, October 5, 2007 at 10 a.m. at the Passaic County Office of Emergency Management, 300 Oldham Rd., Wayne. Please contact our office if you are able to attend the meeting and wish to be a member of the planning committee. Thank you for your continued cooperation and support.

From: Office of Emergency Management
Sent: Wednesday, October 08, 2008 1:47 PM
To: Albert Evangelista (E-mail); Alfred Batelli (E-mail); Allen Delvecchio (E-mail); Bernard Lombardo (E-mail 2); Bernard Lombardo (E-mail); Capt. William Henn (E-mail); Cas Jasonek (E-mail); Dombayci, Maria; Ed VanderPloeg (E-mail); Edward Murphy (E-mail 2); Edward Murphy (E-mail); Edward Steines (E-mail); Edwin Ramirez (E-mail 2); Edwin Ramirez (E-mail); Evert Witte (E-mail); George Galbraith (E-mail 2); Glenn L. Brown (E-mail); Hearney, Capt. James; Jaye Carpenter; John Krieger (E-mail); Lt. Richard McAuliffe (E-mail 2); Lt. Todd Darby (E-mail); Lyons, Robert; Michael Moscatello (E-mail); Mike Onder (E-mail); Pete Croop (E-mail); Rhonda Thompson (E-mail); Robb Rehberg (E-mail 3); Ron Surchek (E-mail); Sandy Galacio (E-mail); Scott Wilson (E-mail 2); Scott Wilson (E-mail); Sgt. Richard McAuliffe (E-mail); Thomas Norton (E-mail); Trommelen, Maryann; Trooper Jim Dunham (E-mail); Volpe, Jerry; West Milford OEm (E-mail)
Subject: Passaic Co. Multi-Jurisdictional Hazard Mitigation Plan

To All OEM Coordinators:

Listed below are the Minimum Requirements for Participating Jurisdictions Soliciting Involvement within the Jurisdiction.

When completed, the Passaic County Multi-Jurisdictional Hazard Mitigation Plan will be submitted to the New Jersey Office of Emergency Management (NJOEM) and the Federal Emergency Management Agency (FEMA) for approval. One of the criteria these agencies use to evaluate the plan is participation by local municipalities. Also, for your community to receive approval from FEMA and thereby gain eligibility for certain types of federal hazard mitigation project funds, the following are minimum requirements for your community's participation:

1. Provide response to requested data and information provided to you at the meeting on September 19, 2008. The list is also referred to as the "wish list". I would appreciate a response to this request by **October 15, 2008.** (See attachment)

   09 Passaic Co NJ HMP wish list...

2. Complete Capability Assessment on-line survey. A separate e-mail regarding this survey will be sent to you. This survey must be completed by at least one representative of your community by **October 19, 2008**.

3. Provide data regarding Asset Inventories - Critical Facilities and other important facilities in your community. A separate e-mail will be sent to you.

4. Attend at least two meetings during the planning process. It is anticipated that the planning process will be underway until August 2009. However, the meetings where your participation will be the most productive are in the next three to four months.

5. Adopt the plan by formal resolution of your local elected officials at the end of the planning process.

In addition, to make sure the planning process is as effective as possible, I am recommending you solicit involvement of anyone else in your community who might have information to contribute about potential problems with natural hazards or could be involved in the implementation of projects. For example: public works staff often know where drainage or recurrent flooding problems occur in the community; and facility managers for local schools and hospitals will have information about their facilities that may be useful during the development of the plan. Additionally, some recommendations might involve land use planning or building permitting so involving the folks in your community who are responsible for these activities would also be important.

One way to include these folks in the process is the Capability Assessment on-line survey in item 2 above. In some cases it may also be worth inviting them to attend the Local Coordinators meetings to better understand the planning process and how they might benefit from a better understanding of the risks they face.

If you have questions about any of these requirements, please do not hesitate to contact our office.

From: Office of Emergency Management
Sent: Wednesday, October 08, 2008 2:37 PM
To: Albert Evangelista (E-mail); Alfred Batelli (E-mail); Allen Delvecchio (E-mail); Bernard Lombardo (E-mail 2); Bernard Lombardo (E-mail); Capt. William Henn (E-mail); Cas Jasonek (E-mail); Dombayci, Maria; Ed VanderPloeg (E-mail); Edward Murphy (E-mail 2); Edward Murphy (E-mail); Edward Steines (E-mail); Edwin Ramirez (E-mail 2); Edwin Ramirez (E-mail); Evert Witte (E-mail); George Galbraith (E-mail 2); Glenn L. Brown (E-mail); Hearney, Capt. James; Jaye Carpenter; John Krieger (E-mail); Lt. Richard McAuliffe (E-mail 2); Lt. Todd Darby (E-mail); Lyons, Robert; Michael Moscatello (E-mail); Mike Onder (E-mail); Pete Croop (E-mail); Rhonda Thompson (E-mail); Robb Rehberg (E-mail 3); Ron Surchek (E-mail); Sandy Galacio (E-mail); Scott Wilson (E-mail 2); Scott Wilson (E-mail); Sgt. Richard McAuliffe (E-mail); Thomas Norton (E-mail); Trommelen, Maryann; Trooper Jim Dunham (E-mail); Volpe, Jerry; West Milford OEm (E-mail)
Subject: Local Capability Survey-Witt Associates

To All Municipal OEM Coordinators:

Attached is the link for the Local Capability Survey mentioned in the previous e-mail that Witt Associates has requested that we have completed by October 15, 2008. As discussed at the Coordinators meeting the survey should take approximately 15 minutes to complete. Thank you for your assistance in this matter.

http://www.surveymonkey.com/s.aspx?sm=mbjct0gi95hd_2fqVf3n5HBA_3d_3d

Also attached below is the SharePoint site that Witt Associates discussed at our Coordinator's Meeing. Listed below is the site link and the user name and password for the municipalities. On this site you can utilize the forms to track your time spent on the project. Each month you are required to submit to the County the monthly report listing the hours devoted to this project.

http://sharepoint.jlwitt.com/passaiccounty/default.aspx

User name: passaicmunicipaluser
Password: muni2008hmp

Witt Associates advised our office that they will be reaching out to each of the Municipal OEM Coordinators in order to gather additional information.

If you have any questions or need additional information please contact the office. Thank you.

From: Trommelen, Maryann
Sent: Thursday, October 23, 2008 4:01 PM
To: Choteborsky, Dolores
Cc: Lyons, Robert; Dombayci, Maria; Murphy, Edward
Subject: Citizens Questionnaire for OEM Web site

Dolores:

Listed below is a citizen questionnaire link that I spoke to you about. We need to have this site linked to the OEM site on the County Website.

This questionnaire is for the Passaic County Hazard Mitigation Plan that we received a grant to put together and we are looking for citizen input through this questionnaire.

For the county residents (to be posted on the County OEM website) -

Citizen Questionnaire:
http://www.surveymonkey.com/s.aspx?sm=LrKie2zp3x1oIFxVpz7B6g_3d_3d
<https://mail.wittassociates.com/exchweb/bin/redir.asp?URL=http://www.surveymonkey.com/s.aspx?sm=LrKie2zp3x1oIFxVpz7B6g_3d_3d>

Thanks for your assistance if you need any further information please call the office. Thank you. s/maryann

Passaic County Office of Emergency Management
300 Oldham Road
Wayne, NJ 07470
973-904-3621 (Office)
973-904-3842 (Fax)

From: Office of Emergency Management
Sent: Thursday, December 18, 2008 4:17 PM
To: Albert Evangelista (E-mail); Alfred Batelli (E-mail); Allen Delvecchio (E-mail); 'Bernard Lombardo (E-mail 2)'; Bernard Lombardo (E-mail); Capt. William Henn (E-mail); Cas Jasonek (E-mail); Dombayci, Maria; Ed VanderPloeg (E-mail); Edward Murphy (E-mail 2); Murphy, Edward; Edward Steines (E-mail); Edwin Ramirez (E-mail 2); Edwin Ramirez (E-mail); Evert Witte (E-mail); George Galbraith (E-mail 2); Glenn L. Brown (E-mail); Hearney, Capt. James; 'Jaye Carpenter'; Lt. Richard McAuliffe (E-mail 2); Lt. Todd Darby (E-mail); Lyons PolAcad/OEM, Robert; Michael Moscatello (E-mail); Mike Onder (E-mail); Pete Croop (E-mail); Rhonda Thompson (E-mail); Robb Rehberg (E-mail 3); Ron Surchek (E-mail); Ryan McNamee (E-mail); Sandy Galacio (E-mail); Scott Wilson (E-mail 2); Scott Wilson (E-mail); 'Sgt. Richard McAuliffe (E-mail)'; Thomas Norton (E-mail); Trommelen, Maryann; Trooper Jim Dunham (E-mail); Volpe, Jerry; West Milford OEm (E-mail)
Subject: Passaic County Hazard Mitigation Plan - Public Meeting

To All:

We would appreciate if you could place the following information on your local municipal web site so that your residents and any local officials who are interested in attending this meeting would be aware of the date and time.

The Passaic County Hazard Mitigation Working Group and the consulatant planning team will be conducting a Public Meeting on Thursday, January 8, 2009 at 7 p.m. at the Passaic County Public Safety Academy, 300 Oldham Road, Wayne, NJ. The purpose of the meeting is for all interested parties to attend and learn about and review the draft materials that are a part of the development of the County's Hazard Mitigation Plan. All 16 municipalities in the County are participating in this plan. The intent of the Hazard Mitigation Plan is to reduce the impact of natural disasters. The meeting is open to all government officials, business leaders, volunteers of non-profit organizations and citizens. If you have any questions please contact the Passaic County Office of Emergency Management at 973-904-3621 or e-mail pcoem@passaiccountynj.org.

Tracking:

Recipient	Delivery	Read
Albert Evangelista (E-mail)		
Alfred Batelli (E-mail)		
Allen Delvecchio (E-mail)		
'Bernard Lombardo (E-mail 2)'		
Bernard Lombardo (E-mail)		
Capt. William Henn (E-mail)		
Cas Jasonek (E-mail)		
Dombayci, Maria	Delivered: 12/18/2008 4:17 PM	Read: 12/19/2008 8:30 AM
Ed VanderPloeg (E-mail)		
Edward Murphy (E-mail 2)		
Murphy, Edward	Delivered: 12/18/2008 4:17 PM	Read: 12/18/2008 4:17 PM
Edward Steines (E-mail)		
Edwin Ramirez (E-mail 2)		
Edwin Ramirez (E-mail)		
Evert Witte (E-mail)		
George Galbraith (E-mail 2)		
Glenn L. Brown (E-mail)		
Hearney, Capt. James	Delivered: 12/18/2008 4:17 PM	Read: 12/18/2008 4:33 PM
'Jaye Carpenter'		
Lt. Richard McAuliffe (E-mail 2)		
Lt. Todd Darby (E-mail)		
Lyons PolAcad/OEM, Robert	Delivered: 12/18/2008 4:17 PM	Read: 12/18/2008 5:44 PM

Recipient	Delivery	Read
Michael Moscatello (E-mail)		
Mike Onder (E-mail)		
Pete Croop (E-mail)		
Rhonda Thompson (E-mail)		
Robb Rehberg (E-mail 3)		
Ron Surchek (E-mail)		
Ryan McNamee (E-mail)		
Sandy Galacio (E-mail)		
Scott Wilson (E-mail 2)		
Scott Wilson (E-mail)		
'Sgt. Richard McAuliffe (E-mail)'		
Thomas Norton (E-mail)		
Trommelen, Maryann	Delivered: 12/18/2008 4:17 PM	Read: 12/18/2008 4:18 PM
Trooper Jim Dunham (E-mail)		
Volpe, Jerry	Delivered: 12/18/2008 4:17 PM	
West Milford OEm (E-mail)		
Hearney, James		Read: 12/18/2008 4:34 PM

From: Lyons PolAcad/OEM, Robert
Sent: Thursday, December 18, 2008 8:57 AM
To: Choteborsky, Dolores
Cc: Trommelen, Maryann; Dombayci, Maria; Murphy, Edward
Subject: County Web Site - Public Meeting

Dolores:

The Passaic County Office of Emergency Management will be conducting a Public Meeting on Thursday, Janaury 8, 2009 at 7 p.m. at the Passaic County Public Safety Academy, 300 Oldham Road, Wayne. The purpose of the meeting is to review draft materials as part of the development of the County's Hazard Mitigation Plan. I would appreciate if you could post this on the County Web Site so that any interested citizens who visit the site would be aware of the meeting and if interested could attend. If you have any questions or need further information please contact my office at 973-904-3621 and speak with Maryann, Maria or Ed. Thank you for your assistance in this matter.

Robert A. Lyons, Director/Coordinator
Passaic County Office of Emergency Management
300 Oldham Road
Wayne, NJ 07470
973-904-3621 (Office)
973-904-3843 (Fax)

From: Lyons PolAcad/OEM, Robert
Sent: Tuesday, January 06, 2009 8:37 AM
To: Way, Freeholder Tahesha; Hannigan, Freeholder Greyson P.
Subject: Passaic County Multi-Jurisdictional Hazard Mitigation Plan

Freeholder Director Way and Freeholder Hannigan:

The Passaic County Offce of Emergency Management has embarked on an important planning process. We are in the process of developing a Multi-Jurisdictional Hazard Mitigation Plan that is intended to help the communities understand the risks they face from natural and manmade disasters and identify projects and activities that will help to reduce the risk of loss of life, injury and/or property damage. In addition, the plan will improve the eligibility of participating jurisdictions to apply for and receive certain types of federal grant funding. All 16 municipalities in Passaic County are participating in the process and the County has hired a consultant with funding received from the Federal Emergency Management Agency to assist in developing this plan.

You are cordially invited to attend this public meeting on Thursday, January 8, 2009 at 7 pm at the Passaic County Public Safety Complex, 300 Oldham Rd., Wayne, NJ. As part of this planning process we are required to conduct public meetings. The meeting is open to all residents, municipal and county government as well as nonprofit organizations, universities, utility providers, and entities that are not directly part of the municipal or county government.

If you have any questions or would like any additional information please contact my office at 973-904-362. Thank you for your support and never ending cooperation.

Robert A. Lyons, Director
Passaic County Office of Emegency Management
Division of Passaic Coutny Police Academy
300 Oldham Road
Wayne, NJ 07470

Passaic County Multi-Jurisdictional Hazard Mitigation Plan - Final Draft

Office of Emergency Management [pcoem@passaiccountynj.org]

Sent: Tuesday, November 10, 2009 3:37 PM

To: Carl Padula (E-mail) [CarlPAD@aol.com]; Nigro, Jack [Jackn@passaiccountynj.org]; La Place, Michael [mlaplace@passaiccountynj.org]; Lysicatos, Michael [mlysicatos@passaiccountynj.org]; Kevin O'Brien (E-mail) [kevin.obrien@pseg.com]; Laura Cummings (E-mail) [lcummings@pvwc.com]; Mark Veenema (E-mail) [veenemam@sjhmc.org]; Bill Pomeroy (E-mail) [william.pomeroy@pseg.com]; leventhal@bcoem.org; rcolabelli@essexsheriff.com; rloock@co.morris.nj.us; edanielson@sussexcountysheriff.com; Albert Evangelista (E-mail) [aevangelista@rih.org]; Alfred Batelli (E-mail) [abatelli@littlefallspd.org]; Allen Delvecchio (E-mail) [totowaoem@aol.com]; Bernard Lombardo (E-mail 2) [bernielombardo@optonline.net]; Bernard Lombardo (E-mail) [lombardo@ringwoodpolice.com]; Capt. William Henn (E-mail) [whenn@cliftonnj.org]; Cas Jasonek (E-mail) [jason181@aol.com]; Craig Bailey (E-mail) [craig.bailey@judiciary.state.nj.us]; Dombayci, Maria [Mariado@passaiccountynj.org]; Ed VanderPloeg (E-mail) [vanderploege@prospectpark.net]; Edward Murphy (E-mail 2) [edm427@yahoo.com]; Murphy, Edward [EMurphy@passaiccountynj.org]; Edward Steines (E-mail) [firecomm@westmilford.org]; Edwin Ramirez (E-mail 2) [rico0513@optonline.net]; Edwin Ramirez (E-mail) [ricohr@aol.com]; George Galbraith (E-mail 2) [ggalbraith@westpaterson.com]; Glenn L. Brown (E-mail) [gbrown@patcity.com]; Hearney, Capt. James [jhearney@passaiccountynj.org]; Jaye Carpenter [jcarpenter@patcity.com]; Lt. Richard McAuliffe (E-mail 2) [hawthorneoem@optonline.net]; Lt. Todd Darby (E-mail) [darbytodd@aol.com]; Lyons PolAcad/OEM, Robert [robertl@passaiccountynj.org]; Michael Moscatello (E-mail) [HaledonOEM412@optonline.net]; Mike Onder (E-mail) [monder@cliftonnj.org]; Paterson OEM (E-mail) [patersonoem@patcity.com]; Pete Croop (E-mail) [jcroop@optonline.net]; Rhonda Thompson (E-mail) [rthompson@patcity.com]; Robb Rehberg (E-mail 3) [rehbergr@montclair.edu]; Ron Surchek (E-mail) [fireoffice2@westmilford.org]; Ryan McNamee (E-mail) [ryan.mcnamee@judiciary.state.nj.us]; Sandy Galacio (E-mail) [galacios@waynetownship.com]; Scott Wilson (E-mail 2) [firechief507@haledonboronj.com]; Scott Wilson (E-mail) [pfd498@aol.com]; Sgt. Richard McAuliffe (E-mail) [rmcauliffe@hawthornenj.org]; Thomas Norton (E-mail) [tnorton@wanaqueborough.com]; Trommelen, Maryann [Maryannt@passaiccountynj.org]; Trooper Jim Dunham (E-mail) [lpp5825@gw.njsp.org]; West Milford OEm (E-mail) [fireoffice@westmilford.org]; William Mullanaphy (E-mail 2) [bmullanaphy@njdwsc.com]; William Mullanaphy (E-mail) [capt506@0ptonline.net]

Cc: Pete Dennen

To All:

Please be advised that the Passaic County Hazard Mitigation Planning Committee's final draft of the County Multi-Jurisdictional Hazard Mitigation Plan is now available from our Passaic County Web Site at www.passaiccountynj.org under Departments-Office of Emergency Management. We invite your review and comments on this document. These comments should be submitted to me via e-mail or regular mail. Comments will be accepted until November 30, 2009.

Review and comments have been solicited from all neighboring counties, governments and government agencies impacted or affected by recommended hazard mitigation actions contained in the plan, and special districts such as schools, utilities, etc.

Thank you for your attention and contribution to this important effort.

Yours truly,

Robert A. Lyons, Director
Passaic County OEM Coordinator
Passaic County Office of Emergency Management
300 Oldham Road
Wayne, NJ 07470
973-904-3621 (Office)
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Appendix D
General Hazard Descriptions

The following is a general description for each of the hazards listed below. The complete profile for each hazard can be found in Section 6.3 of the Passaic County Multi-Jurisdictional Hazard Mitigation Plan.

General descriptions completed for the following hazards.

1. Dam Failure
2. Drought
3. Earthquake/Geological
4. Erosion–Hurricane/Nor'easter/Tropical Storm
5. Extreme Temperature–Cold
6. Extreme Temperature–Heat
7. Flood
8. Hail
9. Hazardous Materials Release–Fixed Site
10. Hazardous Materials Release–Transportation
11. High Wind–Straight-Line Winds
12. High Wind–Tornado
13. Ice Storm
14. Landslide (non-seismic)
15. Severe Storm–Lightning
16. Severe Storm–Winter Weather
17. Storm Surge−Hurricane/Nor'easter/Tropical Storm
18. Wildfire

D-1 Dam Failure

D-1.1 Definition of Dam Failure Hazard

A dam is defined by the New Jersey Department of Environmental Protection (NJDEP) as any artificial dike, levee, or other barrier, which is constructed for the purpose of impounding water on a permanent or temporary basis, that raises the water level five feet or more above the usual, mean, low water height when measured from the downstream toe-of-dam to the emergency spillway crest or, in the absence of an emergency spillway, the top-of-dam.[1]

A dam failure can be defined as the unintended release or surge of impounded water. A failure can cause significant property damage, injury, and in some cases death downstream of where the dam failed. The severity of a dam failure can also vary widely. There is the potential for total collapse of a dam, but less significant failures are more likely as a result of a overtopping (inadequate spillway design, debris blockage), foundation defects, or seepage. Overtopping of a dam during a flood event due to clogged debris has the potential to be catastrophic. In 1972 the Dam Failure in Rapid, South Dakota occurred after the Canyon Lake Dam became clogged with debris and the dam was overtopped.[2]

Figure D-1.1-1
Canyon Lake Dam Failure in 1972
(Source: USGS)

[1] NJDEP. Retrieved from http://www.nj.gov/dep/
[2] USGS. Retrieved from http://www.usgs.gov/

D-1.2 Characteristics of Dam Failure

Dam failures can result from a variety of causes including lack of maintenance, seismic activity, improper design or construction, or during large storm events. Significant rainfall can quickly inundate an area and cause floodwaters to overwhelm a reservoir. If the spillway of the dam cannot safely pass the resulting flows, water will begin flowing in areas not designed for such flows and failure may occur.[3]

Intense storms may produce a flood in a few hours or even minutes for upstream locations. Flash floods can occur within several hours of the beginning of heavy rainfall, and dam failure may occur within hours of the first signs of breaching. Other failures can take much longer to occur, from days to weeks, as a result of debris jams or the accumulation of melting snow.[4]

[3] NJDEP. Retrieved from http://www.nj.gov/dep/
[4] FEMA. Retrieved from http://www.fema.gov/

D-2 Drought

D-2.1 Definition of Drought Hazard

A drought is an extended dry climate condition when there is not enough water to support urban, agricultural, human, or environmental water needs. It usually refers to a period of below-normal rainfall, but can also be caused by drying bores or lakes, or anything that reduces the amount of liquid water available. Drought is a recurring feature of nearly all the world's climatic regions.

Drought is the result of a decline in the expected precipitation over an extended period of time, typically one or more seasons in length. Meteorological drought is defined solely on the degree of dryness, expressed as a departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales. Hydrological drought is related to the effects of precipitation shortfalls on streamflows and reservoir, lake, and groundwater levels. Agricultural drought is defined principally in terms of soil moisture deficiencies relative to water demands of plant life, usually crops. Socioeconomic drought associates the supply and demand of economic goods or services with elements of meteorological, hydrologic, and agricultural drought. Socioeconomic drought occurs when the demand for water exceeds the supply as a result of weather-related supply shortfall. This may also be called a water management drought.

Figure D-2.1-1
Boy Wheeling Water During Drought
(Source: FEMA)

D-2.2 Characteristics of Drought

Drought produces a complex web of impacts that spans many sectors of the economy and reaches well beyond the area experiencing physical drought. This complexity exists because water is integral to our ability to produce goods and provide services. Impacts are commonly referred to as direct or indirect. Reduced crop, rangeland, and forest productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality rates; and damage to wildlife and fish habitat are a few examples of direct impacts. The consequences of these impacts illustrate indirect impacts. For example, a reduction in crop, rangeland, and forest productivity may result in reduced income for farmers and agribusiness, increased prices for food and timber, unemployment, reduced tax revenues because of reduced expenditures, increased crime, foreclosures on bank loans to farmers and businesses, migration, and disaster relief programs.

Drought differs from other natural hazards in three ways. First, the onset and end of a drought are difficult to determine due to the slow accumulation and lingering effects of an event. Second, the lack of an exact and universally accepted definition adds to the confusion of its existence and severity. Third, in contrast with other natural hazards, the impact of drought is less obvious and may be spread over a larger geographic area. These characteristics have hindered the preparation of drought contingency or mitigation plans by many governments.

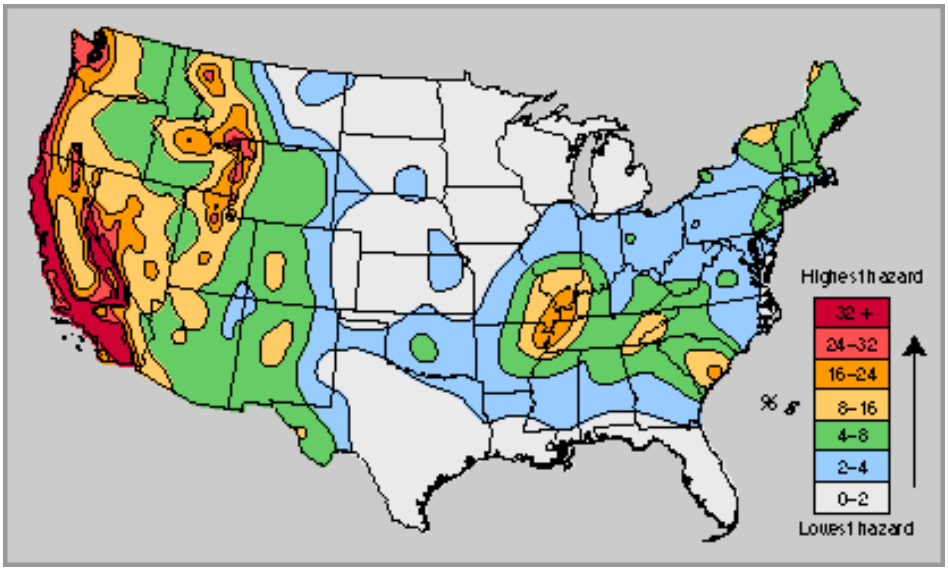
Droughts may cause a shortage of water for human and industrial consumption and cause a decrease in hydroelectric power. Water quality may also decline while the number and severity of wildfires may increase. Severe droughts may result in the loss of agricultural crops and forest products, undernourished wildlife and livestock, lower land values, and higher unemployment.

D-3 Earthquake/Geological

D-3.1 Definition of Earthquake Hazard

An earthquake is "…a sudden motion or trembling caused by an abrupt release of accumulated strain in the tectonic plates that comprise the earth's crust." These rigid plates, known as tectonic plates, are some 50 to 60 miles in thickness and move slowly and continuously over the earth's interior. The plates meet along their edges, where they move away from or pass under each other at rates varying from less than a fraction of 1" up to 5" per year. While this sounds small, at a rate of 2" per year, a distance of 30 miles would be covered in approximately 1 million years.[5] Figure D-3.1-1 shows a US Geological Survey (USGS) seismic probability map for the continental United States.

Figure D-3.1-1
United States Earthquake Zones
(Source: USGS)



D-3.2 Characteristics of Earthquakes

The vibration or shaking of the ground during an earthquake is described by ground motion. Severity of ground motion generally increases with the amount of energy released and decreases with distance from the fault or epicenter of the earthquake. Ground motion causes waves in the earth's interior, also known as seismic waves, and along the earth's surface, known as surface waves. The following are the two kinds of seismic waves:

- P (primary) waves are longitudinal or compressional waves similar in character to sound waves that cause back-and-forth oscillation along the direction of travel (vertical motion), with particle motion in the same direction as wave travel. They move through the earth at approximately 15,000 mph.
- S (secondary) waves, also known as shear waves, are slower than P waves and cause structures to vibrate from side-to-side (horizontal motion) due to particle motion at right-angles to the direction of wave travel. Unreinforced buildings are more easily damaged by S waves.

[5] FEMA, 1997.

- Earthquakes are often relatively short duration, but there may be aftershocks and other effects (such as liquefaction) that prolong and exacerbate their effects. The potential for either of these effects depends on local conditions and other technical factors that are not discussed in this Plan.

There is some potential for seismic activity virtually anywhere on the earth. Locations that are close to tectonic faults, however, are much more likely to be impacted by earthquakes than other places. The USGS and other organizations develop maps to indicate the relative probability of earthquakes in particular areas.

Figure D-3.2-1
Earthquake Damage
(Source: FEMA)

D-4 Erosion

(Including Hurricane/Nor'easter/Coastal Storm)

D- 4.1 Definition of Erosion

Coastal erosion is the wearing away of land or the removal of beach or dune sediments by wave action, tidal currents, wave currents, wind, or drainage. Coastal erosion is a dynamic process that is constantly occurring at varying rates along the coasts and shorelines of the United States. Numerous factors can influence the severity and rate of coastal erosion including human activities, tides, the possibility of rising sea levels, and the frequency and intensity of hurricanes. Strong storms and hurricanes can erode large sections of coastline with a single event. The process of coastal erosion results in permanent changes to the shape and structure of the coastline. Human activities such as poor land use practices and boating activities can also accelerate the process of coastal erosion.

D-4.2 Characteristics of Erosion

Coastal erosion is a dynamic process that is constantly occurring at varying rates along the coasts and shorelines of the United States. Numerous factors can influence the severity and rate of coastal erosion including human activities, tides, the possibility of rising sea levels, and the frequency and intensity of hurricanes. Strong storms and hurricanes can erode large sections of coastline with a single event. The process of coastal erosion results in permanent changes to the shape and structure of the coastline. Human activities such as poor land use practices and boating activities can also accelerate the process of coastal erosion.

Billions of dollars of economic development are potentially threatened by the impacts of coastal erosion. In a report to Congress in the year 2000, the Federal Emergency Management Agency (FEMA) estimated that erosion may cost property owners along the coast $500 million a year in structural damages and loss of land. The report also stated as many as 87,000 residential homes may be at risk of eroding into the oceans or Great Lakes over the next 60 years.

Coastal erosion is a significant problem along the entire Louisiana Gulf Coast. On the west coast, powerful winter storms during El Nino years can cause considerable erosion along sections of the Pacific coastline. El Nino winters can include more frequent storms, large waves, and extreme high tides. Along the pacific coastline, erosion can lead to flooding, collapsed bluffs, destroyed houses and closed roads.

Figure D-4.2-1
Coastal Erosion in Pacifica, California During El Nino Year in 1998
(Source: USGS)

D-5 Extreme Temperature−Cold

D- 5.1 Definition of Extreme Temperature (Cold)

The extreme cold hazard can be defined as temperatures that are significantly below normal. The severity of extreme temperature events is measured by temperature, duration and humidity. Most events are less than a week in duration but can occasionally last for longer periods up to several weeks.

A cold wave is classified as a rapid drop of 20˚F, to below between 28˚F and 10˚F, depending on the time of year and whether the drop occurs in the southern or northern half of the state, within a 24-hour period. When this occurs, outdoor industrial, commercial, agricultural and social activity must be curtailed or additional precautions taken.

D-5.2 Characteristics of Extreme Temperature (Cold)

The consequences of extreme cold on humans are intensified by high winds, which increase the rate of heat loss and have the effect of making it feel colder than the actual air temperature. Wind chills can make extreme cold temperatures even more dangerous. Very strong winds combined with temperatures slightly below freezing can have the same chilling effect as a temperature nearly 50˚F lower in a calm atmosphere. Arctic explorers and military experts have developed the *wind-chill factor*, which calculates an equivalent calm-air temperature for the combined effects of wind and temperature. In effect, the index describes the cooling power of air on exposed flesh and to a lesser extent a clothed person. Wind-chill temperatures throughout New Jersey annually fall below 0˚F a number of times each winter.

At very cold temperatures, the most serious concern is the risk of hypothermia or dangerous overcooling of the body. Extreme cold temperatures combined with high winds can lead to frostbite or freezing of the exposed extremities such as fingers, toes, nose and ear lobes. Hypothermia could be fatal in absence of immediate medical attention.

Cold weather injuries are summarized as follows:

- Frostnip: The freezing of the top layers of skin tissue and normally reversible. It mostly affects the cheeks, earlobes, fingers, and toes. Symptoms include numbness, top layer of skin feeling hard and rubbery, but deeper tissue is soft. Skin becomes waxy.
- Frostbite: The actual freezing of the tissue and/or body part. Ice crystals form inside the skin that can destroy the tissues, which lead to the potential for losing skin or part of a finger, toe, or foot. Frostbite affects the ears, nose, fingers, and toes most often. Superficial frostbite includes all layers of skin, and deep frostbite can include freezing of muscle and/or bone. Symptoms include skin that is white and has a wooden feel all the way through.
- Hypothermia: The general cooling of the body. When the body drops much below the normal temperature of 98.6˚F, serious problems can arise. Severe hypothermia can lead to death. Symptoms of mild hypothermia include uncontrolled shivering, numbness of hands, and the inability to complete tasks with hands. At the point of severe hypothermia shivering stops, a person is unable to walk, and pulse and respiration rates decrease.

D-6 Extreme Temperature−Heat

D- 6.1 Definition of Extreme Temperature (Heat)

Extreme summer heat is the combination of very high temperatures and exceptionally humid conditions. If such conditions persist for an extended period of time, it is called a heat wave.[6] Heat stress can be indexed by combining the effects of temperature and humidity, as shown in Table D-6.1-1. The index estimates the relationship between dry bulb temperatures (at different humidity) and the skin's resistance to heat and moisture transfer. The higher the temperature or humidity, the higher the apparent temperature.

Table D-6.1-1
Heat Index and Disorders
(Sources: FEMA, 1997; NWS, 1997)

Danger Category		Heat Disorders	Apparent Temperatures (°F)
IV	Extreme Danger	Heatstroke or sunstroke imminent.	>130
III	Danger	Sunstroke, heat cramps, or heat exhaustion likely; heat stroke possible with prolonged exposure and physical activity.	105-130
II	Extreme Caution	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and physical activity.	90-105
I	Caution	Fatigue possible with prolonged exposure and physical activity.	89-90

In the northeastern United States periods of warmer than normal temperatures typically occur several times a summer. Extreme heat waves may occur about once every five years or so where maximum daily temperatures exceed 100˚F for an extended period of time. The passing of a cold front usually moderates temperatures after a few days to a week.

D-6.2 Characteristics of Extreme Temperature (Heat)

The main impact of extreme heat is its affect on the human body. In a very hot environment, the most serious concern is heat stroke. In absence of immediate medical attention, heat stroke could be fatal. Heat stroke fatalities occur every summer. Heat exhaustion and fainting (syncope) are less serious types of illnesses which are not fatal but interfere with a person's ability to work.

[6] FEMA, 1997.

The major human risks associated with extreme heat can be summarized as follows:

- Heatstroke: Considered a medical emergency, heatstroke is often fatal. It occurs when the body's responses to heat stress are insufficient to prevent a substantial rise in the body's core temperature. While no standard diagnosis exists, a medical heatstroke condition is usually diagnosed when the body's temperature exceeds 105°F due to environmental temperatures. Rapid cooling is necessary to prevent death, with an average fatality rate of 15% even with treatment.
- Heat Exhaustion: While much less serious than heatstroke, heat exhaustion victims may complain of dizziness, weakness, or fatigue. Body temperatures may be normal or slightly to moderately elevated. The prognosis is usually good with fluid treatment.
- Heat Syncope: This refers to sudden loss of consciousness and is typically associated with people exercising who are not acclimated to warm temperatures. Causes little or no harm to the individual.
- Heat Cramps: May occur in people unaccustomed to exercising in the heat and generally ceases to be a problem after acclimatization.

D-7 Flood

D-7.1 Definition of Flood Hazard

Flooding is the accumulation of water within a water body (e.g., stream, river, lake, or reservoir) and the overflow of excess water onto adjacent floodplains. As illustrated in Figure D-7.2-1, floodplains are usually lowlands adjacent to water bodies that are subject to recurring floods. Floods are natural events that are considered hazards only when people and property are affected. Nationwide, hundreds of floods occur each year, making them one of the most common hazards in the United States.[7] There are a number of categories of floods in the United States, including the following:

- Riverine flooding, (river channel, flash floods, alluvial fan floods, ice jam floods, dam breaks)
- Local drainage or high groundwater levels
- Fluctuating lake levels
- Coastal flooding, including storm surges
- Debris flows
- Subsidence

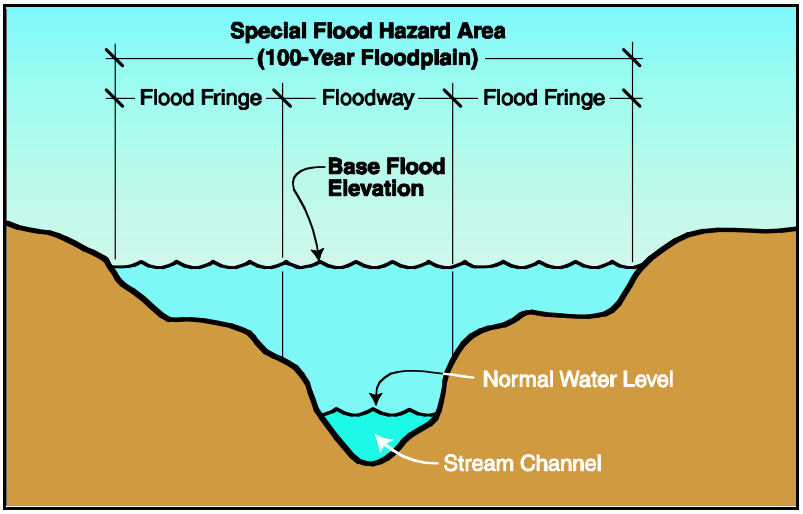
D-7.2 Characteristics of Floods

While there is no sharp distinction between riverine floods, flash floods, alluvial fan floods, ice jam floods, and dam breaks, these types of floods are widely recognized and may be helpful in considering the range of flood risk and appropriate responses. The most common kind of flooding event is riverine flooding, also known as overbank flooding. Riverine flooding occurs as a result of excess rainfall or rapid snowmelt causing the overflow of rivers, streams, and lakes. This type of flooding occurs when the flow of rainwater runoff is greater than the carrying capacities of the natural drainage systems. There are several types of riverine floods, including headwater, backwater, interior drainage, and flash flooding.

Riverine floodplains range from narrow, confined channels in the steep valleys of mountainous and hilly regions, to wide, flat areas in plains and coastal regions. The amount of water in the floodplain is a function of the size and topography of the contributing watershed, the regional and local climate, and land use characteristics. In steep valleys, flooding is usually rapid and deep, but short duration, while flooding in flat areas is typically slow, relatively shallow, and may last for long periods of time.

[7] (FEMA, 1997)

Figure D-7.2-1
Floodplain Definition
(Source: FEMA, August 2001)



Flash floods involve a rapid rise in water level, high velocity, and large amounts of debris, which can lead to significant damage that includes the tearing out of trees, undermining of buildings and bridges, and scouring new channels. The intensity of flash flooding is a function of the intensity and duration of rainfall, steepness of the watershed, stream gradients, watershed vegetation, natural and artificial flood storage areas, and configuration of the streambed and floodplain. Dam failure and ice jams may also lead to flash flooding.

Alluvial fan floods occur in the deposits of rock and soil that have eroded from mountainsides and accumulated on valley floors in the pattern of a fan. Alluvial fan floods often cause greater damage than overbank flooding due to the high velocity of the flow, amount of debris, and broad area affected. Human activities may exacerbate flooding and erosion on alluvial fans via increased velocity along roadways acting as temporary drainage channels or changes to natural drainage channels from fill, grading, and structures.

Ice jam flood occur when an upstream part of a river thaws first (possibly because it flows away from the equator), and the ice gets carried downstream into the still-frozen part. Masses of ice can become lodged under bridges and other weirs, causing an ice dam, flooding areas upstream of the jam. After the ice dam breaks apart, the sudden surge of water that breaks through the dam can then flood areas downstream of the jam. While this usually occurs in spring, it can happen as winter sets in when the downstream part becomes frozen first. Dam break floods may occur due to structural failures (e.g., progressive erosion), overtopping or breach from flooding, or earthquakes.

Local drainage floods may occur outside of recognized drainage channels or delineated floodplains for a variety of reasons, including concentrated local precipitation, a lack of infiltration, inadequate facilities for drainage and stormwater conveyance, and/or increased surface runoff. Such events often occur in flat areas, particularly during winter and spring where the ground is frozen. Drainage floods are also found in urbanized areas with large impermeable surfaces. High groundwater flooding is a seasonal occurrence in some areas, but may occur in other areas after prolonged periods of above-average precipitation.

D-8 Hail

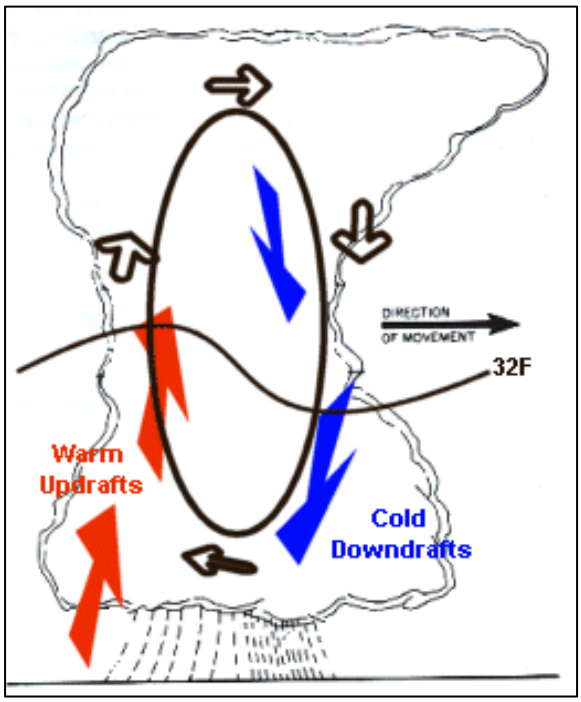
D-8.1 Definition of Hailstorm Hazard

Hail is defined as balls or pieces of ice falling as precipitation from a thunderstorm. Known as hailstones, these ice balls typically range from 5 mm to 50 mm in diameter on average, with much larger hailstones forming in severe thunderstorms. The size of hailstones is a direct function of the severity and size of the storm.

D-8.2 Characteristics of Hail

Hail is an outgrowth of severe thunderstorms and develops within a low-pressure front as warm air rises rapidly in to the upper atmosphere and is subsequently cooled, as shown in Figure D-8.2-1, leading to the formation of ice crystals. These are bounced about by high-velocity updraft winds and accumulate into frozen droplets, falling as precipitation after developing enough weight.[8] The National Weather Service (NWS) defines severe thunderstorms as those with downdraft winds in excess of 58 mph and/or hail at least .75" in diameter. While only about 10% of thunderstorms are classified as severe, all thunderstorms are dangerous because they produce numerous dangerous conditions, including one or more of the following: hail, strong winds, lightning, tornadoes, and flash flooding.

Figure D-8.2-1
How Hail Is Formed
(Source: NOAA)



Hailstorms occur most frequently during the late spring and early summer. During this period, extreme temperature changes occur from the surface up to the jet stream, resulting in the strong updrafts required for hail formation.

[8] FEMA, 1997.

The size of hailstones varies and is related to the severity and size of the thunderstorm that produced it. The higher the temperatures at the earth's surface, the greater the strength of the updrafts, and the greater the amount of time the hailstones are suspended, giving the hailstones more time to increase in size. Hailstones vary widely in size, as shown in Table D-8.2-1. Note that penny size (.75" in diameter) or larger hail is considered severe.

Table D-8.2-1
Estimating Hail Size
(Source: NOAA)

Size	Inches in Diameter
Pea	.25 inch
Marble/mothball	.50 inch
Dime/Penny	.75 inch
Nickel	.875 inch
Quarter	1 inch
Ping-Pong Ball	1.5 inches
Golf Ball	1.75 inches
Tennis Ball	2.5 inches
Baseball	2.75 inches
Tea Cup	3 inches
Grapefruit	4 inches
Softball	4.5 inches

Figure D-8.2-2
Large Hailstone
(Source: NOAA)

D-9 Hazardous Materials Release–Fixed Site

D-9.1 Definition of the Hazardous Materials Release–Fixed Site Hazard

Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. These substances are most often released as a result of transportation accidents or because of chemical accidents in plants. Hazardous materials in various forms can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Many products containing hazardous chemicals are routinely used and stored in homes. These products are also shipped daily on the nation's highways, railroads, waterways, and pipelines. This section deals with hazardous materials at facilities (fixed site). The next section, D-10 deals with hazardous materials as they relate to transportation routes (off-site).

D-9.2 Characteristics of Hazardous Materials Release–Fixed Site

Varying quantities of hazardous materials are manufactured, used, or stored at an estimated 4.5 million facilities in the United States, from major industrial plants to local dry cleaning establishments or gardening supply stores. Although there are a number of federal laws that regulate hazardous materials, including: the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Resource Conservation and Recovery Act of 1976, the Hazardous Materials Transportation Act, the Occupational Safety and Health Act, the Toxic Substances Control Act, and the Clean Air Act, accidents happen.

Incidents related to the release of hazardous materials can occur as a result of human carelessness, technological failure, intentional acts, and natural hazards. When caused by natural hazards, these incidents are known as secondary hazards, whereas intentional acts are terrorism. Hazardous materials releases, depending on the substance involved and type of release, can directly cause injuries and death and contaminate air, water, and soils. While the probability of a major release at any particular facility or at any point along a known transportation corridor is relatively low, the consequences of releases of these materials can be very serious.

In 1986, Congress passed the SARA of 1986. Title III of this legislation requires that each community establish a Local Emergency Planning Committee (LEPC) to be responsible for developing an emergency plan for preparing for and responding to chemical emergencies in that community. This emergency plan must include the following: an identification of local facilities and transportation routes where hazardous material are present; the procedures for immediate response in case of an accident (this must include a community-wide evacuation plan); a plan for notifying the community that an incident has occurred; the names of response coordinators at local facilities; and a plan for conducting exercises to test the plan. The plan is reviewed by the State Emergency Response Commission and publicized throughout the community. The LEPC is required to review, test, and update the plan each year.

D-10 Hazardous Materials Release–Transportation

D-10.1 Definition of the Hazardous Materials Release–Transportation Hazard

Hazardous materials release-transportation incidents refer to uncontrollable releases of hazardous materials during transport, which pose a risk to the health, safety, property, and the environment. Small-scale incidents–those that require a response and implementation of evacuation procedures or other protective actions−are somewhat common along major US highways, but can also occur through other modes of transportation including rail, water transport (shipping and ferries), air, and pipelines.

D-10.2 Characteristics of Hazardous Materials Release–Transportation

As described in section D-9, hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. These substances are most often released as a result of transportation accidents or because of chemical accidents in plants. Hazardous materials in various forms can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Many products containing hazardous chemicals are routinely used and stored in homes. These products are also shipped daily on the nation's highways, railroads, waterways, and pipelines.

Data collected by the United States Department of Transportation (USDOT) in Table D-10.2-1 below shows that transportation related hazardous materials incidents are much more likely to occur on highways than through any other mode of transportation.

Table D-10.2-1
Hazardous Material Incidents by Transportation Mode Totals, 1998-2007
(Source: Hazardous Materials Information System, USDOT)

Mode of Transportation	Number of Incidents	Associated Deaths	Associated Injuries	Damages
Air	13,558	0	152	$2,486,833
Highway	146,425	124	1,542	$446,482,507
Railway	8,633	17	1,101	$176,044,545
Water	280	0	20	$3,862,240
Total	**168,896**	**141**	**2,815**	**$628,876,125**

A one-mile radius around major transportation routes is often delineated as an area of risk if a hazardous materials incident occurs on a roadway. This demonstrates that residents and businesses near these roadways are also at risk, as chemical spills on transportation routes can impact the immediate vicinity via land, water, or air. However, incidents are not contained to these areas. There are often secondary impacts on the community following such an incident, including significant traffic congestion due to closed roadways.

D-11 High Winds–Straight-Line Winds

(Includes Hurricane/Nor'easter/Tropical Storm/and Other Severe Storm)

D-11.1 Definition of the Wind Hazard

Wind is the uneven horizontal movement of air resulting from the irregular heating of the earth's surface. It can range from local breezes produced by heat from land surfaces and lasting tens of minutes to powerful global winds resulting from solar heating of the earth. Severe winds typically result from hurricanes, nor'easters, tropical storms, tornadoes, thunderstorms, or winter storms.

Hurricanes, tropical storms, and typhoons, collectively known as tropical cyclones, are among the most devastating naturally occurring hazards in the United States. They present flooding, storm surge, and high wind hazards to the communities that they impact. A hurricane is defined as a low-pressure area of closed circulation winds that originates over tropical waters. A hurricane begins as a tropical depression with wind speeds below 39 mph. As it intensifies, it may develop into a tropical storm, with further development producing a hurricane. Table D-11.1-1 below identifies the criteria for each stage of development.

Table D-11.1-1
Hurricane Development
(NOAA-Hurricane Basics)

Stage of Development	Criteria
Tropical Depression (development)	Maximum sustained surface wind speed is < 39 mph
Tropical Storm	Maximum sustained surface wind speed ranges from 39 mph-<74 mph
Hurricane	Maximum sustained surface wind speed is at least 74 mph
Tropical Depression (dissipation)	Decaying stages of a cyclone in which maximum sustained surface wind speed has dropped below 39 mph

Hurricanes develop from tropical cyclones, which are any type of tropical system that achieves a rotation to it. Three types of tropical cyclones that increase in intensity follow:

1. Tropical Depression. A tropical system that is made up of a large cluster of thunderstorms and has wind speeds between 23 mph and 39 mph. If a tropical depression gathers strength, it can become a tropical storm.
2. Tropical Storm. Any type of tropical system with a notable rotation and wind speeds between 39 mph and 74 mph. When a tropical storm forms, the National Hurricane Center (NHC) assigns it a predetermined name. If a tropical storm continues to gather strength, it will become a hurricane.
3. Hurricane. When a tropical cyclone gains winds in excess of 74 mph, the storm is considered a hurricane. Hurricanes are made up of different sections, all with different wind intensity.

A nor'easter is an intense low pressure system that typically occurs during the winter months and affects the coastal areas of the northeast United States and Atlantic Canada. More specifically, it describes a low pressure area, where the center of rotation is just off the coast and whose leading winds in the left forward quadrant rotate onto land from the northeast. The precipitation pattern is similar to other extra-tropical storms. These events can also cause coastal flooding, coastal erosion, and gale force winds.

D-11.2 Characteristics of Wind

Hurricanes and tropical storms are categorized based on their wind speed. Both bring strong winds and are characterized by torrential rain that often results in widespread damage. Hurricanes can produce both extreme high winds and heavy rains. Tropical storms are most often associated with heavy rains that have the potential to produce severe flooding.

As shown in Table D-11.2-1, the Saffir/Simpson Hurricane Scale is used to classify storms by numbered categories. Hurricanes are classified as Categories 1 through 5 based on central pressure, wind speed, storm surge height, and damage potential.

Table D-11.2-1
Saffir/Simpson Hurricane Scale
(Source: NOAA)

Storm Category	Central Pressure	Sustained Winds	Storm Surge	Potential Damage
1	> 980 mbar	74 mph-95 mph	4 ft-5 ft	Minimal
2	965 mbar-979 mbar	96 mph-110 mph	6 ft-8 ft	Moderate
3	945 mbar-964 mbar	111 mph-130 mph	9 ft-12 ft	Extensive
4	920 mbar-944 mbar	131 mph-155 mph	13 ft-18 ft	Extreme
5	< 920 mbar	> 155 mph	> 18 ft	Catastrophic

Hurricane winds blow in a large spiral around a relatively calm center known as the *eye*. The eye is generally 20 to 30 miles wide, and the storm may extend outward 400 miles. As a hurricane approaches, the skies will begin to darken and winds will grow in strength. As a hurricane nears land, it can bring torrential rains, high winds, storm surges, and severe flooding. A single hurricane can last for more than two weeks over open waters and can run a path across the entire length of the eastern seaboard. August and September are peak months during the hurricane season that lasts from June 1 through November 30.

High winds from hurricanes and tropical storms are capable of imposing large lateral (horizontal) and uplift (vertical) forces on buildings. Residential buildings can suffer extensive wind damage when they are improperly designed and constructed and when wind speeds exceed design levels. The effects of high winds on a building will depend on several factors:

- Wind speed (sustained and gusts) and duration of high winds
- Height of building above the ground
- Exposure or shielding of the building (by topography, vegetation, or other buildings) relative to wind direction
- Strength of the structural frame, connections, and envelope (walls and roof)
- Shape of building and building components
- Number, size, location, and strength of openings (windows, doors, vents)
- Presence and strength of shutters or opening protection
- Type, quantity, velocity of windborne debris

Proper design and construction of residential structures, particularly those close to water or near the coast, demand that every factor mentioned above be addressed. Failure to do so may result in building damage or destruction by wind.

Figure D-11.1-1
Strong Wind Effects
(Source: FEMA)

D-12 High Wind−Tornado

D-12.1 Definition of Tornado Hazard

A tornado is a rapidly rotating funnel (or vortex) of air that extends toward the ground from a cumulonimbus cloud. Most tornadoes do not touch the ground, but when the lower tip of a tornado touches the earth, it can cause extensive damage. Tornadoes often form in convective cells such as thunderstorms or at the front of hurricanes. Tornadoes may also result from earthquake induced fires, wildfires, or atomic bombs.[9] The formation of tornadoes from thunderstorms is explained in Figure D-12.2-2.

D-12.2 Characteristics of Tornadoes

Tornadoes in the dissipating stage can appear like narrow tubes, or ropes, twisting into all manner of curls, twists, and s-shapes. These tornadoes, such as the one pictured in Figure D-12.2-2, are *roping out*, or becoming a *rope tornado*. Multiple-vortex tornadoes can appear as a family of swirls circling a common center, or may be completely obscured by condensation, dust, and debris, appearing to be a single funnel. In addition to these appearances, tornadoes may be obscured completely by rain or dust. These tornadoes are especially dangerous, as even experienced meteorologists might not spot them.

As shown in the following table, tornadoes are measured by the Fujita Scale, an empirical system that determines the severity by observed damages (last column).

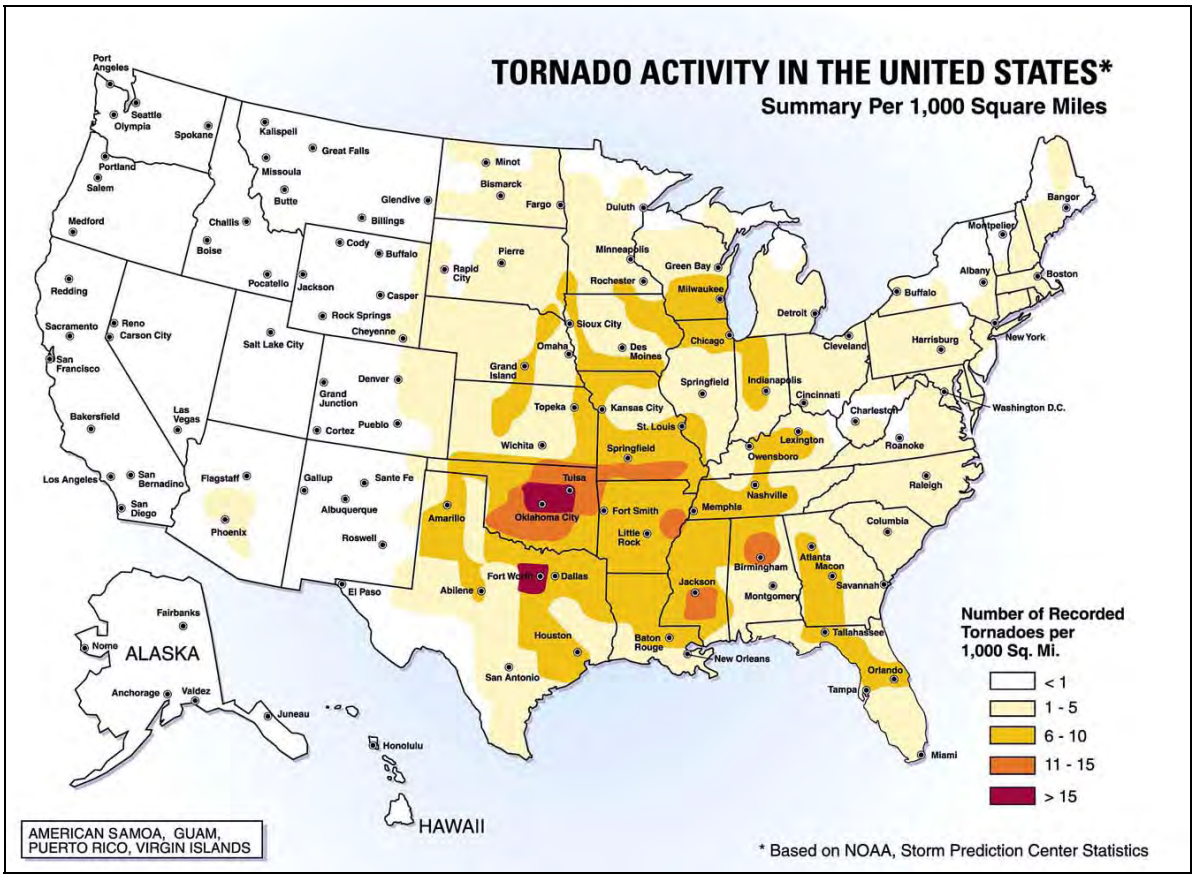
Table D-12.2-1
The Fujita Tornado Scale
(Source: FEMA 1997)

Category	Wind Speed	Description of Damage
F0	40 mph-72 mph	Light damage. Some damage to chimneys; break branches off trees; push over shallow-rooted trees; damage to sign boards.
F1	73 mph-112 mph	Moderate damage. The lower limit is the beginning of hurricane speed. Roof surfaces peeled off; mobile homes pushed off foundations or overturned; moving autos pushed off roads.
F2	113 mph-157 mph	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.
F3	158 mph-206 mph	Severe damage. Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; cars lifted off ground and thrown.
F4	207 mph-260 mph	Devastating damage. Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.
F5	261-318 mph	Incredible damage. Strong frame houses lifted off foundations and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100-yards; trees debarked.

[9] FEMA, 1997.

Figure D-12.2-1 illustrates the frequency of tornado strikes in the United States per 1,000 square miles. While tornadoes can occur in any month and at all hours of the day or night, they occur with greatest frequency during the late spring and early summer months during late afternoon and early evening hours.

Figure D-12.2-1
Historic Tornado Activity in the United States,
Summary per 1,000 Square Miles
(Source: NOAA)

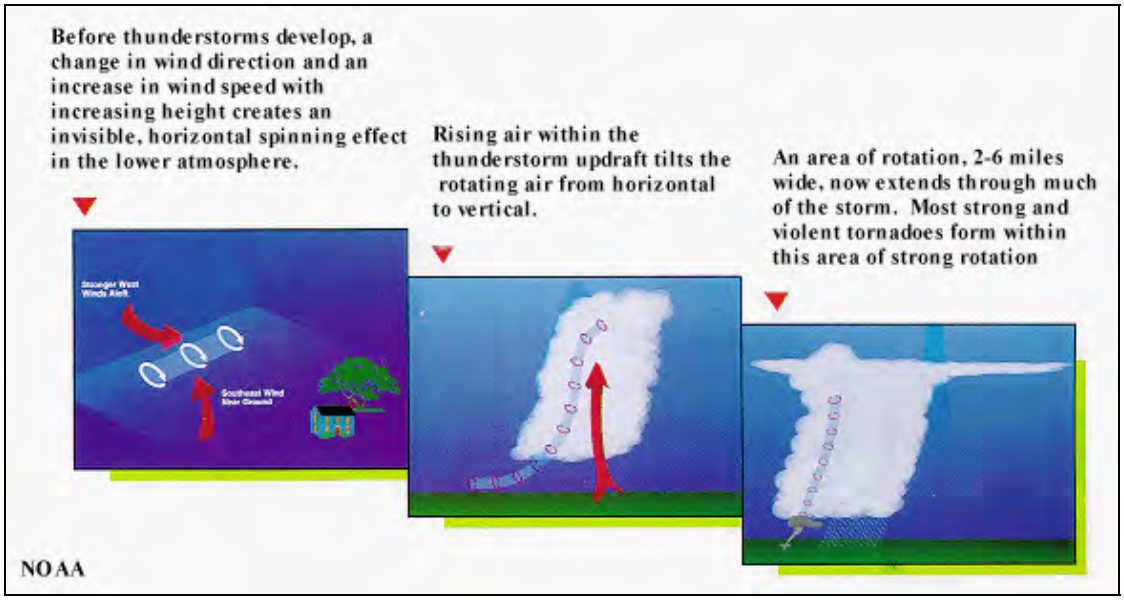


The severity and duration of tornadoes is a function of several factors, including weather conditions, topography and the F class of the event. As noted earlier, tornado severity is measured with the Fujita scale, an empirical system that classifies events after they occur. In some cases there are anomalous patterns for various reasons (including the reliability and completeness of reporting), but generally speaking smaller events are more probable, larger (more severe) ones are less likely.

Tornado duration is usually relatively short, varying from a matter of seconds to several minutes on the ground, although in rare cases they can last significantly longer. The path width of a single tornado generally is less than 0.6 miles. The path length of a single tornado can range from a few hundred yards to miles. A tornado typically moves at speeds between 30 and 125 mph and can generate internal winds exceeding 300 mph.

Most tornadoes take on the traditional appearance of a narrow funnel, a few hundred yards across, with a small cloud of debris near the ground. Tornadoes can appear, however, in all manner of shapes and sizes.

Figure D-12.2-2
Formation of Tornadoes
(Source: NOAA)



Small, relatively weak landspouts might only be visible as a small swirl of dust on the ground. While the condensation funnel may not extend all the way to the ground, if associated surface winds are greater than 40 mph (64 km/h), it is considered a tornado. Large single-vortex twisters, often violent, can look like a large wedge stuck into the ground, and are known as *wedge tornadoes* or *wedges*. Wedges can be so wide that they appear to be a block of dark clouds. Even experienced storm observers may not be able to tell the difference between a low-hanging cloud and a wedge tornado from a distance.

D-13 Ice Storm

D-13.1 Definition of Ice Storm Hazard

An ice storm is defined as a storm characterized by falling freezing liquid precipitation. The term ice storm is used to describe occasions when damaging accumulations of ice are expected during freezing rain situations. The frozen precipitation falls as freezing rain and forms ice accumulations usually greater than .25" thick that potentially cause extremely dangerous driving conditions and significant damage. Significant accumulations of ice can pull down trees and utility lines resulting in loss of power and communication.

When ice accumulations are anticipated to exceed .50" to .25" (depending on the state) the NWS will issue an ice storm warning.

Figure D-13.1-1
Split Tree Caused by Ice Storm
(Source: FEMA)

D-13.2 Characteristics of Ice Storms

Although snow is the weather phenomenon most commonly associated with winter, ice storms are a much greater winter menace. The freezing rain that coats all objects in a sheath of ice can cause power outages, structural damage, damaging tree falls. Ice storms occur when rain droplets fall through freezing air and do not freeze until they touch objects such as trees, roads, or structures. A clear icy sheath, known as a glaze, forms around branches, structures and wires and has been known to bring down high-tension utility, radio, and television transmission towers. Communications and power can be disrupted for days while utility companies work to repair the extensive damage. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians.[10]

[10] NWS. Retrieved from http://www.nws.noaa.gov/

When air temperatures are only slightly below freezing at the surface, elevated structures such as bridges and overpasses will freeze first. This can make driving conditions extremely hazardous. As the surface temperature lowers to around 30˚F or lower, the freezing rain will begin coating all objects.

D-14 Landslide (non-seismic)

D-14.1 Definition of Landslide Hazard

A landslide is a natural geologic process involving the movement of earth materials down a slope, including rock, earth, debris, or a combination of these, under the influence of gravity. However, there are a variety of triggers for landslides such as: a heavy rainfall event, earthquakes, or human activity. The rate of landslide movement ranges from rapid to very slow. A landslide can involve large or small volumes of material. Material can move in nearly intact blocks or be greatly deformed and rearranged. The slope may be nearly vertical or fairly gentle.[11]

D-14.2 Characteristics of landslides

Landslides are usually associated with mountainous areas but can also occur in areas of generally low relief. In low-relief areas, landslides occur due to steepening of slopes: as cut and fill failures (roadway and building excavations), river bluff failures, collapse of mine waste piles, and a wide variety of slope failures associated with quarries and open-pit mines.[12]

Figure D-14.2-1
Small Landslide In a Residential Area In New Jersey

[11] Delano and Wilshusen, 2001.
[12] USGS, Landslide Types and Process, 2004.

D-15 Severe Storm−Lightning

D-15.1 Definition of Lightning

Lightning is a powerful natural electrostatic discharge produced during a thunderstorm. This abrupt electric discharge is accompanied by the emission of visible light and other forms of electromagnetic radiation. The electric current passing through the discharge channels rapidly heats and expands the air into plasma producing acoustic shock waves (thunder) in the atmosphere.

Lightning, which occurs during all thunderstorms, can strike anywhere. Generated by the buildup of charged ions in a thundercloud, the discharge of a lightning bolt interacts with the best conducting object or surface on the ground. The air in the channel of a lightning strike reaches temperatures higher than 50,000˚F. The rapid heating and cooling of the air near the channel causes a shock wave, which produces thunder.

D-15.2 Characteristics of Lightning

Lightning typically occurs as a by-product of a thunderstorm. The action of rising and descending air in a thunderstorm separates positive and negative charges, with lightning the result of the buildup and discharge of energy between positive and negative charge areas. Water and ice particles may also affect the distribution of the electrical charge. In only a few millionths of a second, the air near a lightning strike is heated to 50,000°F, a temperature hotter than the surface of the sun. Thunder is the result of the very rapid heating and cooling of air near the lightning that causes a shock wave.

Figure D-15.2-1
Formation of Lightning
(Source: University Corporation for Atmospheric Research)

The hazard posed by lightning is significantly underrated. High winds, rainfall, and a darkening cloud cover are the warning signs for possible cloud-to-ground lightning strikes. While many lightning casualties happen at the beginning of an approaching storm, more than half of lightning deaths occur after a thunderstorm has passed. The lightning threat diminishes after the last sound of thunder, but may persist for more than 30 minutes.

When thunderstorms are in the area, but not overhead, the lightning threat continues to exist. Lightning has been known to strike more than 10 miles from the storm in an area with clear sky above.

Lightning is the most dangerous and frequently encountered weather hazard that most people in the United States experience annually. Lightning is the second most frequent killer in the United States, behind floods and flash floods, with nearly 100 deaths and 500 injuries annually. These numbers are likely to underestimate the actual number of casualties because of the under reporting of suspected lightning deaths and injuries. Cloud-to-ground lightning can kill or injure people by either direct or indirect means.

According to the National Oceanic and Atmospheric Administration (NOAA), an average of 20 million cloud-to-ground flashes has been detected every year in the continental United States. About half of all flashes have more than one ground strike point, so at least 30 million points on the ground are struck on average each year. In addition, there are roughly five to 10 times as many cloud-to-cloud flashes as there are to cloud-to-ground flashes.[13]

Figure D-15.2-2
Lightning Bolt in Night Sky
(Source: FEMA)

Cloud-to-ground lightning is nearly always associated with thunderstorms and related weather phenomena. Thunderstorms occur in most warm and hot months, and occasionally at other times. The entire planning area is subject to the lightning hazard. While the duration of individual lightning strikes is only milliseconds, the duration of thunderstorms that create the lightning ranges from very short periods (15 minutes or less) to long periods when the storms are relatively stationary.

Damages from lightning hazards are generally limited to those related to power surges and contact with electrical equipment. In some cases ungrounded structures are hit by lightning and experience damage, either as a direct result of the lightning or via fires secondary to the hazard. There are also reports of brushfires being started by lightning, although these are usually relatively small and quickly contained. No reliable database or information exists to determine the cost of recovery from lightning.

[13] NOAA. July 7, 2003.

D-16 Severe Storms−Winter Weather

D-16.1 Definition of the Winter Weather Hazard

Winter weather can produce storm events where the dominant type of precipitation only occurs at cold temperatures, such as snow or sleet, or a rainstorm where ground temperatures are cold enough to allow ice to form (i.e. freezing rain). In temperate continental climates, these storms are not restricted to the winter season, and may occur in the late autumn and early spring. Also, there are very rare occasions when they form in summer, although it would have to be an abnormally cold summer, such as the summer of 1816 in the northeast United States. In many locations in the northern hemisphere, the most powerful winter storms usually occur in March and, in regions where temperatures are cold enough, April.

The following descriptions provide the commonly used definitions of winter storms:

- Winter storm. A storm with significant snowfall, ice, and/or freezing rain; the quantity of precipitation varies by elevation.
    - Non-mountainous areas - heavy snowfall is 4" or more in a 12-hour period, or 6" or more in a 24-hour period
    - Mountainous areas-12" or more in a 12-hour period or 18" or more in a 24-hour period
- Blizzard. A storm with considerable falling and/or blowing snow combined with sustained winds or frequent gusts of 35 mph or greater that frequently reduces visibility to less than one-quarter mile.

D-16.2 Characteristics of Winter Weather

Winter weather typically forms along a front generally following the meandering path of the jet stream. These storms, called mid-latitude cyclones or extra-tropical cyclones, differ from hurricanes, in that they move from west to east as opposed to east to west. These weather patterns carry cold air from Canada and the Rockies into the southern United States. The origins of the weather patterns that cause winter storms in Louisiana are affected by differences in temperature and pressure, moisture availability, and wind direction as well as weather systems in the Atlantic Ocean and Gulf of Mexico.

Winter storms vary in size and strength and include heavy snowstorms, blizzards, freezing rain, sleet, ice storms and blowing and drifting snow conditions. Extremely cold temperatures accompanied by strong winds can result in wind chills that cause bodily injury such as frostbite and death. Severe winter and ice storms can cause unusually heavy rain or snowfall, high winds, extreme cold, and ice storms throughout the continental United States.

NOAA describes the jet streams that carry storm systems across the United States as narrow bands of strong wind in the upper atmosphere that follow the boundaries between hot and cold air masses. These boundaries are most pronounced during the winter months, when the jet streams travel to their southernmost position over the United States and surrounding water.

The trajectory of the storm center, whether it passes close to the New Jersey coast or at a distance, largely determines both the intensity and the duration of the snowfall over the state. The zone of heaviest snowfall across New Jersey usually occurs in the southwest-to-northeast strip about 150 miles wide, approximately parallel to the path of the storm center, and about 125 and 175 miles northwest of it. If the center passes well offshore, only the southern part of New Jersey receives substantial snowfall. When the track passes close to shore, warm air from the ocean is drawn into the surface circulation, resulting in rain falling over southern New Jersey and snow over the rest of the state. Often, a passing storm center brings rain to the south, mixed precipitation to central sections and snow to the north.

Winter storm occurrences tend to be very disruptive to transportation and commerce. Trees, cars, roads, and other surfaces develop a coating or glaze of ice, making even small accumulations of ice extremely hazardous to motorists and pedestrians. The most prevalent impacts of heavy accumulations of ice are slippery roads and walkways that lead to vehicle and pedestrian accidents; collapsed roofs from fallen trees and limbs and heavy ice and snow loads; and felled trees, telephone poles and lines, electrical wires, and communication towers. As a result of severe ice storms, telecommunications and power can be disrupted for days. Such storms can also cause exceptionally high rainfall that persists for days, resulting in heavy flooding.

D-17 Storm Surge

(Including Hurricane/Nor'easter/Coastal Storm)

D-17.1 Definition of Storm Surge Hazard

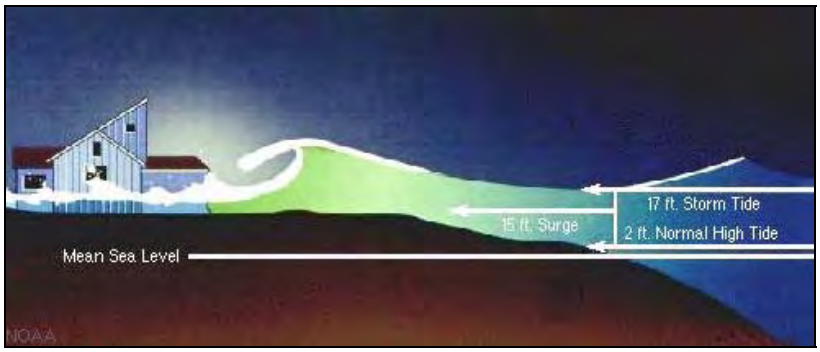
Storm surge is defined as the onshore rush of sea or lake water caused primarily by the high winds that are associated with a landfalling hurricane, typhoon, or tropical cyclone and secondarily by the low pressure of the storm. Storm surge is simply water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level 15 feet or more. In addition, wind driven waves are superimposed on the storm tide. This rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides.[14]

D-17.2 Characteristics of Storm Surge

Storm surges are characterized by several factors that allow the displacement of water from oceans, bays or rivers to travel so far inland. Much of the coastlines along the Atlantic and Gulf Coast lie less than 10' above mean sea level. These coastal areas are also densely populated making the danger from storm tides a major concern to life and property. As shown in Figure D-17.2-1, the level of surge in a particular area is also determined by the slope of the continental shelf. A shallow slope off the coast will allow a greater surge to inundate coastal municipalities.

Municipalities with a steeper continental shelf will not see as much surge inundation, although large breaking waves can still present major problems. Storm tides, waves, and currents in confined harbors have the potential to severely damage ships, marinas, and pleasure boats.[15]

Figure D-17.2-1
Storm Surge
(Source: NOAA)



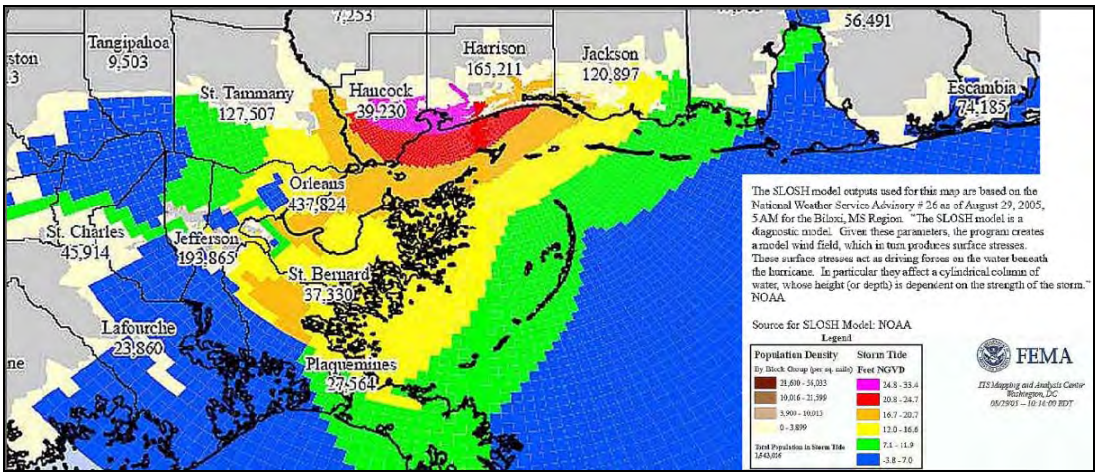
[14] NOAA. Retrieved from http://www.noaa.gov/
[15] NOAA. Retrieved from http://www.noaa.gov/

One tool used to evaluate the threat from storm surge is the Sea, Lake and Overland Surges from Hurricanes (SLOSH) Model. SLOSH is a computerized model run by the NHC to estimate storm surge heights and winds resulting from historical, hypothetical, or predicted hurricanes by taking into account:

- Pressure
- Size
- Forward speed
- Track
- Winds

Graphical output from the model displays color coded storm surge heights for a particular area in feet above the model's reference level, the National Geodetic Vertical Datum, which is the elevation reference for most maps. Emergency managers often use the data produced from the SLOSH model to assist with determining which areas must be evacuated in advance of an approaching hurricane.

Figure D-17.2-2
Hurricane Katrina SLOSH Model
(Source: NOAA-National Hurricane Center)



D-18 Wildfire

D-18.1 Definition of Wildfire Hazard

A wildfire, also known as a forest fire, vegetation fire, grass fire, brush fire, or hill fire, is an uncontrolled fire often occurring in wildland areas, which can also consume houses or agricultural resources. Common causes include lightning, human carelessness, and arson. Wildfires are fueled by naturally occurring or non-native species of trees, brush, and grasses. Topography, fuel, and weather are the three principal factors that impact wildfire hazards and behavior.

Figure D-18.1-1
Urban Interface Fire
(Source: NOAA)

D-18.2 Characteristics of Wildfires

Wildfires often begin unnoticed, spread quickly, and are usually signaled by dense smoke that may fill the area for miles around. As mentioned, wildfires can be human-caused through acts such as arson or campfires, or can be caused by natural events such as lightning. Wildfires can be categorized into three types:

1. Wildland fires occur in very rural areas and are fueled primarily by natural vegetation.
2. Interface fires occur in areas where homes or other structures are endangered by the wildfires. The fires are fueled by both natural vegetation and man-made structures. These are often referred to as Wildland Urban Interface fires.
3. Firestorms occur during extreme weather (e.g., high temperatures, low humidity, and high winds) with such intensity that fire suppression is virtually impossible. These events typically burn until the conditions change or the fuel is exhausted.

The following three factors contribute significantly to wildfire behavior:

Fuel: The type of fuel and the fuel loading (measured in tons of vegetative matter per acre) have a direct impact on fire behavior. Fuel types vary from light fuels (grass) to moderate fuels (southern rough) to heavy fuels (slash). The type of fuel and the fuel load determines the potential intensity of the wildfire and how much effort must be expended to contain and control it.

Weather: The most variable factor affecting wildfire behavior is weather. Important weather variables are precipitation, humidity, and wind. Weather events ranging in scale from localized thunderstorms to large cold fronts can have major effects on wildfire occurrence and behavior. Extreme weather, such as extended drought and low humidity can lead to extreme wildfire activity.

Topography; Topography can have a powerful influence on wildfire behavior. The movement of air over the terrain tends to direct a fire's course.

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Appendix E
Risk Assessment

Contents of this Appendix

E.1 Environmental Protection Agency (EPA) Toxic Release Inventory (TRI) Query Results – 2006
E.2 Critical Facilities

E.1 Environmental Protection Agency (EPA) Toxic Release Inventory (TRI), Query Results - 2006

The detailed tabular data regarding the Environmental Protection Agency's (EPA) Toxic Release Inventory (TRI) database queried as part of the fixed-site hazardous materials in Passaic County is presented below, to augment the information contained in Section 6.

Beginning in 1986, as part of the Emergency Planning and Community Right-to-Know Act (EPCRA), certain industries as well as federal facilities have been required to report the locations and quantities of chemicals stored on-site to state and local governments in order to help communities prepare to respond to chemical spills and similar emergencies. EPCRA Section 313 requires the EPA and the States to annually collect data on releases and transfers of certain toxic chemicals from industrial facilities, and make the data available to the public as part of the TRI (Source: EPA – TRI Program). In 1990 Congress passed the Pollution Prevention Act which required that additional data on waste management and source reduction activities be reported under the TRI program.

For Passaic County, the TRI database was queried for the years 2000 through 2006, the most recent year available. For years 2000 – 2006, the results of the query are summarized in Table 6.3.9-6. The total onsite and off-site disposal or releases is reported in pounds, and includes facilities for all industries and chemicals in Passaic County.

The details of the TRI database query for 2006 are provided below in Table E.1-1. The table includes the facility address, type of chemical disposed or released, and the quantity of on and off-site releases. The Passaic County results for 2006 have been included as sample, the details for other years can be found by querying the TRI Explorer database within the EPA's website. To query the database, navigate to the EPA -TRI home page located at http://www.epa.gov/tri and select "Get TRI Data" from the menu on the left side of the page. Then select the link "TRI Explorer", and "Facility" from the reports menu.

Table E.1-1
Passaic County Toxic Release Inventory for 2006
On-site and Off-site Reported Disposed of or Otherwise Released (in pounds)
(Source: US EPA – Toxic Release Inventory Database)

Facility Address	Chemical Name	Total On-site Disposal or Other Releases	Total Off-site Disposal or Other Releases	Total On- and Off-site Disposal or Other Releases
5 WELLINGTON ST, CLIFTON, NJ	AMMONIA	25	0	25
	CHROMIUM COMPOUNDS(EXCEPT CHROMITE ORE MINED IN THE TRANSVAAL REGION)	0	827	827
	METHANOL	250	0	250
	NITRATE COMPOUNDS	0	0	0

Facility Address	Chemical Name	Total On-site Disposal or Other Releases	Total Off-site Disposal or Other Releases	Total On- and Off-site Disposal or Other Releases
	SODIUM NITRITE	0	0	0
	ZINC COMPOUNDS	0	34,852	34,852
	TOTAL	**275**	**35,679**	**35,954**
1 THIRD AVE HASKELL, NJ	1,2,4-TRIMETHYLBENZENE	1,378	1,069	2,447
	CERTAIN GLYCOL ETHERS	1,297	1,342	2,639
	CHROMIUM COMPOUNDS(EXCEPT CHROMITE ORE MINED IN THE TRANSVAAL REGION)	0	1,186	1,186
	LEAD COMPOUNDS	0	43.5	43.5
	NAPHTHALENE	1,222	954	2,176
	TOLUENE	179	82	261
	XYLENE (MIXED ISOMERS)	720	552	1272
	TOTAL	**4,796**	**5,228**	**10,024**
90 MALTESE DR, TOTOWA, NJ	ACRYLIC ACID	. 0	. 0	0
	BUTYL ACRYLATE	218	0	218
	METHYL ACRYLATE	. 0	. 0	0
	TOLUENE	1,037	0	1037
	VINYL ACETATE	. 0	. 0	0
	XYLENE (MIXED ISOMERS)	. 0	. 0	0
	TOTAL	1,255	0	1255
1065 MARKET ST, PATERSON, NJ	LEAD	10	0	10
	TOTAL	10	0	10
150 PARISH DR, WAYNE, NJ	LEAD	0	8	8
	TOTAL	0	8	8
787 E 27TH ST, PATERSON, NJ	METHANOL	389,400	0	389,400
	TOTAL	**389,400**	**0**	**389,400**
4-22 ERIE ST, PATERSON, NJ	TOLUENE	1755	0	1755
48 BURGESS PL, WAYNE, NJ	N-HEXANE	. 0	0	0
	TOLUENE	372	0	372
	XYLENE (MIXED ISOMERS)	. 0	0.	0
	TOTAL	372	0	372
454 ALWOOD RD, CLIFTON, NJ	MERCURY	0.5	0	0.5
	METHANOL	1,447	0	1,447
	TOTAL	**1,447.5**	**0**	**1,447.5**
91 ILLINOIS AVE, PATERSON, NJ	METHYL ISOBUTYL KETONE	6,210	0	6,210
	TOLUENE	755	0	755
	TOTAL	6,965	0	6,965
125 CLIFTON BLVD, CLIFTON, NJ	LEAD COMPOUNDS	20	4,783	4,803
	TOTAL	**20**	**4,783**	**4,803**
932 MARKET ST, PATERSON, NJ	TOLUENE	4,386	0	4,386
	TOTAL	**4,386**	**0**	**4,386**
181 SARGENT AVE, CLIFTON, NJ	TOLUENE	691	0	691
	TOTAL	**691**	**0**	**691**
10 THOMAS RD,	AMMONIA	5	0	5

Facility Address	Chemical Name	Total On-site Disposal or Other Releases	Total Off-site Disposal or Other Releases	Total On- and Off-site Disposal or Other Releases
HAWTHORNE, NJ	COPPER COMPOUNDS	0	. 0	0
	TOTAL	**5**	**0**	**5**
65 INDUSTRIAL S, CLIFTON, NJ	NITRATE COMPOUNDS	0	6364	6364
	TOTAL	**0**	**6364**	**6364**
111 S ST PASSAIC, NJ	COPPER COMPOUNDS	50	0	50
	ZINC COMPOUNDS	255	0	255
	TOTAL	**305**	**0**	**305**
77 RIVER RD, CLIFTON, NJ	LEAD COMPOUNDS	0.06	263.2	263.26
	TOTAL	**0.06**	**263.2**	**263.26**
1 E 11TH ST, PATERSON, NJ	DIBUTYL PHTHALATE	0	0	0
	N-BUTYL ALCOHOL	4	0	4
	TOLUENE	254	0	254
	XYLENE (MIXED ISOMERS)	20	0	20
	TOTAL	**279**	**0**	**279**
16 RICHMOND ST, CLIFTON, NJ	LEAD	0	0	0
	N-HEXANE	502	0	502
	TOLUENE	9,545	0	9,545
	TOTAL	**10,047**	**0**	**10,047**
171-191 CALDWELL AVE, PATERSON, NJ	AMMONIA	1	0	1
	COPPER	0	273	273
	LEAD COMPOUNDS	0	48	48
	TOTAL	**1**	**321**	**322**
959 MARKET ST, PATERSON, NJ	COPPER	368	273	641
	LEAD COMPOUNDS	0.4	15	15.4
	TOTAL	**368.4**	**288**	**656.4**
41 BROOK AVE, PASSAIC, NJ	COPPER COMPOUNDS	3	0.1	3.1
	LEAD COMPOUNDS	0.86	0.02	0.886
	TOTAL	**3.86**	**0.12**	**3.986**
1065 MARKET ST, PATERSON, NJ	LEAD	10	5	15
	TOTAL	**10**	**5**	**15**
2 ACKERMAN AVE, CLIFTON, NJ	METHYL METHACRYLATE	45	0	45
	STYRENE	398	0	398
	TOTAL	**443**	**0**	**443**
150 DEY RD, WAYNE, NJ	AMMONIA	0	0	0
	NITRATE COMPOUNDS	0	0	0
	NITRIC ACID	5	0	5
	TOTAL	**5**	**0**	**5**
1 CLIFTON BLVD, CLIFTON, NJ	CHROMIUM	0	1145	1145
	HYDROGEN FLUORIDE	141	0	141
	MANGANESE	0	0	0
	NICKEL	0	2513	2,513
	NITRATE COMPOUNDS	0	0	0
	NITRIC ACID	2,024	0	2,024
	TOTAL	**2,165**	**3,658**	**5,823**
	GRAND TOTAL	**425,006**	**56,598**	**481,604**

Notes:

"NA" in a cell denotes that the facility has submitted only Form A and thus the data for release, waste transfers or quantities of TRI chemicals in waste are not applicable. By submitting a Form A the facility has certified that its total annual reportable amount is less than 500 pounds, and that the facility does not manufacture, process, or otherwise use more than 1 million pounds of the toxic chemical (Source: EPA - TRI database).

It should be noted that this data changes very often because spills and air releases occur almost constantly. In some cases the information on the EPA TRI web site will be reasonably current, and in others it is advisable to consult with local officials to obtain the best available information. In New Jersey, the Right to Know Hazardous Substance List developed under the New Jersey Worker and Right to Know Act may vary from the materials identified by the EPA – TRI database.

E.2 Critical Facilities

In order to develop mitigation actions and risk assessments for critical facilities, a complete geo-referenced Critical Facilities Inventory was developed. The listing was initially built upon several sources:

- HAZUS critical facility lists
- Mitigation 20/20 worksheets
- County OEM critical facilities lists
- Other inputs from county and municipal sources

Then, PCOEM and the local coordinators examined the Critical Facilities Inventory and made necessary changes, including: deleting outdated entries, correcting or completing certain data fields, and adding in additional critical facilities, using FEMA's e-grant critical facilities typology as a guide.

The final step in this process was for the local coordinators to examine their comprehensive Critical Facilities Inventory and prioritize their top mitigation candidates, based upon life-safety functions, hazard history, non-redundant function, and other criteria.

Table E.2-1 presents the Passaic County Critical Facilities Inventory as of February 19, 2009.

Table E.2-1
Passaic County Critical Facilities Inventory
(Sources: HAZUS-mh; Passaic County OEM; Municipal input)

NAME	MUNICIPALITY	SOURCE	USE	ADDRESS
Bloomingdale Police Department	Bloomingdale	HAZUS	POLICE	101 Hamburg Turnpike
Bloomingdale Fire Department	Bloomingdale	Bloomingdale	FIRE	190 Union Avenue
Salvation Army Star Lake Camp	Bloomingdale	PCOEM	Shelter Site	268 Macopin Road
Municipal Building	Bloomingdale	Bloomingdale	Government	101 Hamburg Turnpike
Fireman's Hall	Bloomingdale	Bloomingdale	FIRE	101 Hamburg Turnpike
Cold Spring Lake Dam	Bloomingdale	NID / Bloomingdale	Dam	41.017N, -74.352W
Glen Wild Lake Dam	Bloomingdale	NID / Bloomingdale	Dam	41.017N, -74.327W
Irish Brook Dam	Bloomingdale	NID / Bloomingdale	Dam	41.033N, -74.32W
Kampfe Lake Dam	Bloomingdale	NID / Bloomingdale	Dam	41.033N, -74.348W
Post Brook Dam	Bloomingdale	NID / Bloomingdale	Dam	41.033N, -74.32W
Star Lake Upper Dam	Bloomingdale	NID / Bloomingdale	Dam	41.017N, -74.35W
Alfred Heller Heat Treating Co.	Clifton	HAZUS	HAZMAT	5 Wellington St.
Alpha Processing Co. Inc.	Clifton	HAZUS	HAZMAT	210 Delawanna Ave.
Athenia Rail Station	Clifton	HAZUS	Transportation	Clifton Boulevard
Clifton City Hall/Police/Fire	Clifton	HAZUS	Municipal Services / Police / Fire	900 Clifton Ave.
Delatex Corp.	Clifton	HAZUS	HAZMAT	210 Delawanna Ave.
Delawanna Rail Station	Clifton	HAZUS	Transportation	Oak Street
Dikeman Laminating Corp.	Clifton	HAZUS	HAZMAT	181 Sargeant Ave.
Dundee Dam	Clifton	NID / Clifton	Dam	40.883N - 74.127W……
Lamart Corp.	Clifton	PCOEM	HAZMAT	16 Richmond St.
Rempac Foam Corp.	Clifton	HAZUS	HAZMAT	61 Kuller Rd.
Rite Inds. Inc. (Idc Division)	Clifton	HAZUS	HAZMAT	50 Page Rd.
Rycoline Prods. Inc.	Clifton	HAZUS	HAZMAT	10 Robert St.
Safas Corp.	Clifton	HAZUS	HAZMAT	2 Ackerman Ave.
Scher Chemicals Inc.	Clifton	HAZUS	HAZMAT	Industrial W.
Smithkline Beecham	Clifton	HAZUS	HAZMAT	65 Industrial S.
Swepco Tube Corp.	Clifton	HAZUS	HAZMAT	1 Clifton Blvd.
U.S. Post Office	Clifton	HAZUS	Government Services	Main Avenue
U.S. Post Office	Clifton	HAZUS	Government Services	Paulison Avenue
Yogi Berra Stadium	Clifton	PCOEM	Historical	Valley Road
Williams Gas Pipeline, Transcontinental Co.	Clifton	PCOEM	Utilities	various
IT&T (defense contracting)	Clifton	PCOEM	Business	100 River Road
Haledon Fire Department	Haledon	HAZUS	Fire	522 W Broadway

NAME	MUNICIPALITY	SOURCE	USE	ADDRESS
Haledon Police Department	Haledon	HAZUS	Police	510 Belmont Ave.
Manner Textile Processing	Haledon	HAZUS	HAZMAT	293 Morrissee Ave.
Haledon Fire Dept. Company # 1	Haledon	Haledon	Fire	21 West Broadway
Grant Chemical	Haledon	Haledon	HAZMAT	255 Belmont Ave.
Congress Inds. Inc.	Hawthorne	HAZUS	HAZMAT	179 Goffle Rd.
Fisk Alloy Wire Inc.	Hawthorne	HAZUS	HAZMAT	10 Thomas Rd.
Hawthorne Municipal Building	Hawthorne	HAZUS	Municipal services	445 Lafayette Ave……
Hawthorne Police Dept/Fire Prevention	Hawthorne	HAZUS	Police / Fire	445 Lafayette Ave.
Hawthorne Fire Chief	Hawthorne	HAZUS	Fire	828 Lafayette Ave.
Hawthorne Fire Co	Hawthorne	HAZUS	Fire	66 Lincoln Ave.
Pan Tech.	Hawthorne	HAZUS	HAZMAT	1 Washington Ave.
Williams Gas Pipeline, Transcontinental Co.	Hawthorne	PCOEM	Utilities	various
Williams Gas Pipeline, Transcontinental Co.	Little Falls	PCOEM	Utilities	various
Little Falls Police Dept	Little Falls	HAZUS	Police	35 Steven Avenue
Little Falls Fire Dept	Little Falls	HAZUS	Fire	17 Paterson Ave.
Little Falls Fire Dept	Little Falls	HAZUS	Fire	170 Long Hill Rd.
Little Falls Fire Dept	Little Falls	HAZUS	Fire	Wilmore Rd.
Little Falls Municipal Building	Little Falls	PCOEM	Municipal Services	225 Main Street
NJ State Police Regional Lab	Little Falls	PCOEM	Police	Rt. 46 East
Sinagic Falls Fire Dept	Little Falls	HAZUS	Fire	517 Main St.
Department of Public Works	Little Falls	Little Falls	Public Works	Sindal Ave
Passaic Valley Regional High School	Little Falls	Little Falls	Shelter	160 East Main Street
Little Falls Public School Number 1	Little Falls	Little Falls	Shelter	Steven Avenue
Little Falls Public School Number 2	Little Falls	Little Falls	Shelter	Long Hill Road
Little Falls Public School Number 3	Little Falls	Little Falls	Shelter	Main Street
Beatties Mill Dam	Little Falls	Little Falls	Dam	41.885N, -74.235W
North Haledon Emergency Mgmt/Police/Fire	North Haledon	HAZUS	Emergency / Police / Fire	103 Overlook Ave.
North Haledon Municipal Building	North Haledon	HAZUS	Municipal Services	103 Overlook Ave.
Haledon Reservoir Dam	North Haledon	NID / North Haledon	Dam	41.968N, -74.208W
Oldham Pond Dam	North Haledon	NID / North Haledon	Dam	41.945N, -74.183W
Lotz Pond Dam	North Haledon	North Haledon	Dam	40.949N – 74.184W……
Bridge Pond Dam	North Haledon	North Haledon	Dam	40.939N – 74.184W……
Haledon Reservoir Lower Basin Dam	North Haledon	North Haledon	Dam	40.978N – 74.196W……
Baltic Dye & Finishing Co. Inc.	Passaic	HAZUS	HAZMAT	35 Eighth St.
Bartlo Packaging Inc.	Passaic	HAZUS	HAZMAT	61 Willett St.

NAME	MUNICIPALITY	SOURCE	USE	ADDRESS
Beth Israel Hospital	Passaic	HAZUS	Hospital	70 Parker Avenue
Ethan Allen Mfg. Co.	Passaic	HAZUS	HAZMAT	1 Market St.
Hercules Chemical Co. Inc.	Passaic	HAZUS	HAZMAT	111 South St.
Passaic City Emergency Mgmt/Police Dept	Passaic	HAZUS	Emergency / Police Services	330 Passaic St
Passaic Fire Dept	Passaic	HAZUS	Fire	11 Hope Ave.
St Mary's Hospital	Passaic	HAZUS	Hospital	211 Pennington Avenue
Sunbrite Dye Co. Inc.	Passaic	HAZUS	HAZMAT	35 8th St.
Unifoil Corp.	Passaic	HAZUS	HAZMAT	217 Brook Ave.
Brown Chemical	Paterson	HAZUS	HAZMAT	195 Keen St.
Calcine Chemical	Paterson	HAZUS	HAZMAT	38 Branch St.
Cardinal Color Inc.	Paterson	HAZUS	HAZMAT	50-56 1St Ave.
Crown Roll Leaf Inc.	Paterson	HAZUS	HAZMAT	91 Illinois Ave.
Galaxie Chemical Corp.	Paterson	HAZUS	HAZMAT	26 Piercy St.
Grand Street Reservoir	Paterson	PCOEM	Water Source	Various
Jersey Chemical	Paterson	Paterson	HAZMAT	775 River St.
Kirker Enterprises Inc.	Paterson	HAZUS	HAZMAT	1 E. 11th St.
Kramer Chemicals Inc.	Paterson	HAZUS	HAZMAT	109 Fifth Ave.
Lipo Chemicals Inc.	Paterson	HAZUS	HAZMAT	207 19th Ave.
Little Falls Alloys Inc.	Paterson	HAZUS	HAZMAT	171-191 Caldwell Ave.
Okonite Co.	Paterson	HAZUS	HAZMAT	959 Market St.
Pariser Industries	Paterson	Paterson	HAZMAT	88-90 Grove St.
Passaic County Administration Annex	Paterson	PCOEM	Government Services	317 Pennsylvania Ave.
Passaic County Administration Building	Paterson	PCOEM	Government Services	401 Grand St.
Passaic County Board of Social Services	Paterson	Paterson	Major Employer	80 Hamilton St.
Passaic County Community College	Paterson	PCOEM	University	1 College Blvd.
Passaic County Court House	Paterson	PCOEM	Government Services	77 Hamilton St.
Passaic County Jail	Paterson	PCOEM	Government Services	11 Marshall Street
Paterson Emergency Management	Paterson	HAZUS	Government Services	60 Temple Street
Paterson City Hall	Paterson	Paterson	Government Services	155 Market St.
Paterson Emergency Management/ Fire HQ	Paterson	HAZUS	Emergency Management / Fire	850 Madison Ave.
Paterson Police Dept	Paterson	HAZUS	Police	111 Broadway
Paterson Public Safety Department	Paterson	HAZUS	Government Services	111 Broadway
Robert A. Roe Federal Building	Paterson	PCOEM	Government Services	200 Federal Plaza
Royce Associates L.P. Passaic Color & Ch	Paterson	HAZUS	HAZMAT	28-36 Paterson St.
St Joseph's Regional Med Ctr	Paterson	PCOEM	Hospital	703 Main Street
U.S. Post Office	Paterson	PCOEM	Government Services	194 Ward St.
Visiting Homemaker Service of Passaic County, Inc.	Paterson	Paterson	Major Employer	2 Market St.
Williams Gas Pipeline, Transcontinental Co.	Paterson	PCOEM	Utilities	Various

NAME	MUNICIPALITY	SOURCE	USE	ADDRESS
Pompton Lakes Police Dept	Pompton Lakes	HAZUS	Police	25 Lenox
Pompton Lakes First Aid Squad	Pompton Lakes	HAZUS	EMS	400 Ramapo Ave.
Pompton Lakes Emergency Management	Pompton Lakes	HAZUS	Emergency Management	25 Lenox Ave.
Pompton Lakes Fire Dept	Pompton Lakes	HAZUS	Fire	1 Passaic Ave.
Pompton Lakes Municipal Building	Pompton Lakes	HAZUS	Government Services	25 Lenox Ave.
Pompton Lakes Municipal Utilities Authority	Pompton Lakes	Pompton Lakes	Utilities	2000 Lincoln Ave.
Pompton Dam	Pompton Lakes	NID / Pompton Lakes	Dam	Ramapo River/Hamburg Tpk.
Pompton Lakes Dam	Pompton Lakes	NID / Pompton Lakes	Dam	Ramapo River/Hamburg Tpk.
MUA Water Tank	Pompton Lakes	Pompton Lakes	Utilities	Tower Road
North Jersey Police Radio Tower	Pompton Lakes	Pompton Lakes	Communications	Tower Road
Prospect Police Dept/Fire Prevention	Prospect Park	HAZUS	Police / Fire	106 Brown Ave.
Prospect Park Municipal Building	Prospect Park	Prospect Park	Government Services	106 Brown Ave.
Algonquin Gas & Texas Eastern Transmission	Ringwood	PCOEM	Utilities	Various
Monksville Reservoir	Ringwood	PCOEM	Water supply	41.122N – 74.299W
Ringwood Police Dept/ Fire Prevention	Ringwood	HAZUS	Police / Fire	60 Margaret King Ave.
Ringwood Fire Dept	Ringwood	HAZUS	Fire	169 Stonetown Road
Ringwood Municipal Building	Ringwood	Ringwood	Government Services	60 Margaret King Ave.
Ringwood State Park	Ringwood	PCOEM	…Recreation……	1304 Sloatsburg Rd.
Cupsaw Lake Dam	Ringwood	NID / Ringwood	Dam	41.117N, -74.252W
Erskine Upper Lake Dam	Ringwood	NID / Ringwood	Dam	41.1N, -74.248W
Harrison Mountain Lake Dam	Ringwood	NID / Ringwood	Dam	41.1N, -74.317W
Lake Erskine Dam	Ringwood	NID / Ringwood	Dam	41.1N, -74.263W
Monksville Dam	Ringwood	NID / Ringwood	Dam	41.133N, -74.292W
New Jersey No Name # 25 Dam	Ringwood	NID / Ringwood	Dam	41.067N, -74.303W
Sallys Pond Dam	Ringwood	NID / Ringwood	Dam	41.133N, -74.26W
Shepherd Lake Dam	Ringwood	NID / Ringwood	Dam	41.133N, -74.233W
Skyline Lake #1 Dam	Ringwood	NID / Ringwood	Dam	41.067N, -74.278W
Skyline Lake #2 Dam	Ringwood	NID / Ringwood	Dam	41.067N, -74.283W
NJ State Police Troop B Hqtrs	Totowa	PCOEM	Police	250 Minnisink Rd.

NAME	MUNICIPALITY	SOURCE	USE	ADDRESS
Passaic Valley Water Commission (Pumping Station)	Totowa	PCOEM	Water Supply	800 Union Blvd.
Riverview Park Fire Co	Totowa	HAZUS	Fire	438 Riverview Dr.
Sandvik Process Sys. Inc.	Totowa	HAZUS	HAZMAT	21 Campus Rd.
Totowa Fire Dept	Totowa	HAZUS	Fire	22 Mitchell Ave.
Totowa Municipal Building	Totowa	Totowa	Government Services	537 Totowa Rd.
Totowa Police Dept	Totowa	HAZUS	Police	537 Totowa
Volunteer Fire Co	Totowa	HAZUS	Fire	11 Mitchell Ave.
Algonquin Gas & Texas Eastern Transmission	Wanaque	PCOEM	Utilities	various
Passaic County Community College	Wanaque	PCOEM	University	500 Union Ave.
PSE&G Metering & Regulation Station	Wanaque	PCOEM	Utilities	Ackerman Pl.
Wanaque Police/OEM Dept	Wanaque	HAZUS	Police / Emergency Management	579 Ringwood Ave.
Wanaque Reservoir	Wanaque	PCOEM	Water Supply	
Green Swamp #2 Dam	Wanaque	NID / Wanaque	Dam	North of Dupont Avenue
Green Swamp #2A Dam	Wanaque	NID / Wanaque	Dam	North East of Lake Iosco
Green Swamp #3 Dam	Wanaque	NID / Wanaque	Dam	North East of Lake Iosco
Green Swamp #4 Dam	Wanaque	NID / Wanaque	Dam	North of Dupont Avenue
Midvale Dam	Wanaque	NID / Wanaque	Dam	Furnace Avenue
Overflow Weir Dam	Wanaque	NID / Wanaque	Dam	Ringwood Ave.
Raymond Dam	Wanaque	NID / Wanaque	Dam	Ringwood Ave.
Wolfe Den Dam	Wanaque	NID / Wanaque	Dam	West of Orechio Dr.
NJDWSC Filtration Plant	Wanaque	PCOEM	Utilities	Orechio Dr.
NJDWSC Treatment Plant	Wanaque	PCOEM	Utilities	Storms Ave.
Duke Energy Gas Pipeline (Algonquin Main)	Wanaque	PCOEM	Utilities	various
Duke Energy Gas Pipeline (Algonquin Loop)	Wanaque	PCOEM	Utilities	various
Duke Energy Gas Pipeline (Texas Eastern)	Wanaque	PCOEM	Utilities	various
Wanaque Valley Regional Sewerage Authority	Wanaque	PCOEM	Utilities	101 Highland Avenue
Wanaque Fire Dept. Co. 1	Wanaque	Wanaque	Fire	608 Ringwood Ave.
Wanaque Fire Dept. Co. 2	Wanaque	Wanaque	Fire	Fourth Avenue
Wanaque First Aid Squad	Wanaque	Wanaque	EMS	1 Melrose Ave.
Lakeland Regional High School	Wanaque	Wanaque	School	205 Conklintown Rd.
Wanaque Elementary School	Wanaque	Wanaque	School	First St.
Haskell Elementary School	Wanaque	Wanaque	School	973 Ringwood Ave.
St. Francis Elementary School	Wanaque	Wanaque	School	1 Father Hayes Dr.

NAME	MUNICIPALITY	SOURCE	USE	ADDRESS
Alternate County Rt. 511	Wanaque	Wanaque	Transportation	Ringwood Ave.
MM 55.31 County Rt. 511 Bridge	Wanaque	Wanaque	Transportation	Route 287
MM56.22 Wanaque River Bridge	Wanaque	Wanaque	Transportation	Route 287
MM56.90 Cannonball Rd. Bridge	Wanaque	Wanaque	Transportation	Route 287
Wanaque Center	Wanaque	Wanaque	Healthcare	1433 Ringwood Ave.
Lakeland Health Care	Wanaque	Wanaque	Healthcare	25 Fifth Avenue
Lakeland Hills Jewish Center	Wanaque	Wanaque	Religious Center	7 Conklintown Rd.
St. Francis of Assisi Church	Wanaque	Wanaque	Religious Center	868 Ringwood Ave.
Wanaque Reformed Church	Wanaque	Wanaque	Religious Center	672 Ringwood Ave.
Midvale Methodist Church	Wanaque	Wanaque	Religious Center	490 Ringwood Ave.
Church of the Valley	Wanaque	Wanaque	Religious Center	451 Ringwood Ave.
His Word Ministries Church	Wanaque	Wanaque	Religious Center	593 Ringwood Ave.
Addice Park	Wanaque	Wanaque	Park	Meadowbrook Ave.
Memorial Field	Wanaque	Wanaque	Park	War Veterals Pl.
Lorrie Field	Wanaque	Wanaque	Park	Lorrie Lane
Back Beach Park	Wanaque	Wanaque	Park	Lions Beach Rd.
Wayne Township Police	Wayne	HAZUS	Police	475 Valley Rd.
William Paterson University	Wayne	PCOEM	University	300 Pompton Rd.
Willowbrook Mall	Wayne	PCOEM	Commercial	1400 Willowbrook Mall.
Barbour Mill Dam	Wayne	NID / Wayne	Dam	40.96N, -74.227W
Beatties Mill Dam	Wayne	NID / Wayne	Dam	40.885N, -74.235W
Lionshead Lake Dam	Wayne	NID / Wayne	Dam	40.975N, -74.26W
Packanack Lake Dam	Wayne	NID / Wayne	Dam	40.933N, -74.257W
Pines Lake Dam	Wayne	NID / Wayne	Dam	40.992N, -74.268W
Point View Dam	Wayne	NID / Wayne	Dam	40.972N, -74.257W
Pompton Dam	Wayne	NID / Wayne	Dam	40.972N, -74.28W
Brower Dam	Wayne	Wayne	Dam	……
Hinchman Pond Dam	Wayne	Wayne	Dam	……
Preakness Hills C.C. Dam No. 1	Wayne	Wayne	Dam	……
Oak Ridge #2 Dam	Wayne	Wayne	Dam	41.040N – 74.502W
West Milford Police Dept	West Milford	HAZUS	Police	1480 Union
Apshawa Volunteer Fire CO	West Milford	HAZUS	Fire	666 Macopin Rd.
Oakridge Reservoir - Newark Watershed	West Milford	PCOEM	Utilities	41*02’00N – 74*30’00W
West Milford Fire Dept	West Milford	HAZUS	Fire	1480 Union Valley Rd.
Apshawa Auxiliary Dam	West Milford	NID / West Milford	Dam	41.033N, -74.387W
Apshawa Main Dam	West Milford	NID / West Milford	Dam	41.033N, -74.387W
Carpi Lake Dam	West Milford	NID / West Milford	Dam	41.117N, -74.355W
Cedar Pond Dam	West Milford	NID / West Milford	Dam	41.1N, -74.43W

NAME	MUNICIPALITY	SOURCE	USE	ADDRESS
Charlotteburg Dam	West Milford	NID / West Milford	Dam	41.033N, -74.413W
Clinton Reservoir Dam	West Milford	NID / West Milford	Dam	41.067N, -74.452W
Echo Lake Intake Dam	West Milford	NID / West Milford	Dam	41.05N, -74.407W
Echo Lake Spillway Dam	West Milford	NID / West Milford	Dam	41.05N, -74.407W
Forest Hill Park Dam	West Milford	NID / West Milford	Dam	41.033N, -74.397W
Gordon Lakes Dam	West Milford	NID / West Milford	Dam	41.05N, -74.362W
Greenwood Lake Dam	West Milford	NID / West Milford	Dam	41.162N, -74.333W
Hanks Pond Dam	West Milford	NID / West Milford	Dam	41.083N, -74.44W
High Crest Lake Dam	West Milford	NID / West Milford	Dam	41.17N, -74.372W
Kitchell Lake Dam	West Milford	NID / West Milford	Dam	41.083N, -74.355W
Lake Arcadia Dam #1	West Milford	NID / West Milford	Dam	41.033N, -74.367W
Lake Arcadia Dam #2	West Milford	NID / West Milford	Dam	41.033N, -74.36W
Lake Sonoma Dam	West Milford	NID / West Milford	Dam	41.1N, -74.337W
Lindy's Lake Dam	West Milford	NID / West Milford	Dam	41.083N, -74.372W
Lookover Lake Dam	West Milford	NID / West Milford	Dam	41.228N, -74.483W
Macopin Reservoir Dam	West Milford	NID / West Milford	Dam	41.017N, -74.403W
Morse Lake Dam	West Milford	NID / West Milford	Dam	41.017N, -74.315W
Mount Laurel Lake Dam	West Milford	NID / West Milford	Dam	41.163N, -74.392W
New Jersey No Name # 40 Dam	West Milford	NID / West Milford	Dam	41.067N, -74.367W
Nosenzo Pond Dam	West Milford	NID / West Milford	Dam	41.083N, -74.382W
Pinecliff Lake Dam	West Milford	NID / West Milford	Dam	41.133N, -74.368W
River Wall Dam	West Milford	NID / West Milford	Dam	41.033N, -74.428W
Upper Greenwood Lake Dam	West Milford	NID / West Milford	Dam	41.187N, -74.372W
Upper Mount Glen Lake Dam	West Milford	NID / West Milford	Dam	41.083N, -74.367W
West Milford Lake Dam	West Milford	NID / West Milford	Dam	41.133N, -74.365W
Zeliff Pond Dam	West Milford	NID / West Milford	Dam	41.05N, -74.365W
West Paterson Municipal Building/EOC	Woodland Park	PCOEM	Government Services	2 Brophy Lane
West Paterson Police Dept	Woodland Park	HAZUS	Police	5 Brophy Lane
Barbours Pond Dam	Woodland Park	NID / Woodland Park	Dam	40.89608N, -74.20056W

NAME	MUNICIPALITY	SOURCE	USE	ADDRESS
Great Notch Reservoir Dam	Woodland Park	NID / Woodland Park	Dam	40.878N, -74.193W
Highland Lake Dam	Woodland Park	NID / Woodland Park	Dam	40.903N, -74.192W
New Street Reservoir Dam	Woodland Park	NID / Woodland Park	Dam	40.9N, -74.187W
Fire Company 1	Woodland Park	Woodland Park	Fire	One West 35th Street
Fire Company 2	Woodland Park	Woodland Park	Fire	1070 McBride Avenue
Fire Company 3	Woodland Park	Woodland Park	Fire	Rifle Camp Road/Overmonth Avenue
Washington Drive Elevated Water Tank 1mg	Woodland Park	Woodland Park	Water Supply	Washington Drive

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Appendix F
Capability Assessment

Contents of this Appendix

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F.4 Municipal Capability Assessment Survey
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F.1 Federal Capabilities

This section describes federal laws and regulations that provide the guidance and requirements necessary for Passaic County and its constituent municipalities to follow in order to be in compliance with federal law and to receive federal support in the planning stages of mitigation as well as during and after a disaster occurs in the county.

Table F.1-1 Federal Laws which Impact Hazard Mitigation
(Source: New Jersey State Hazard Mitigation Plan Update, 2008)

LAWS AND REGULATIONS	DESCRIPTION
Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004	The Flood Insurance Reform Act of 2004 amended the 1994 National Flood Insurance Reform Act of 1968 to reduce losses to properties for which repetitive flood insurance claim payments have been made. The Act established the pilot program for mitigation of severe repetitive loss properties. It gave the Federal Emergency Management Agency (FEMA) the authority to fund mitigation activities for individual repetitive loss claims properties. The Act provides additional coverage for compliance with land use and control measures.
Disaster Mitigation Act of 2000	The Disaster Mitigation Act of 2000 (DMA 2000) (P.L. 106-390) provides an opportunity for states, tribes and local governments to take a new and revitalized approach to mitigation planning. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Act) by repealing the previous mitigation planning provisions (Section 409) and replacing them with a new set of mitigation plan requirements (Section 322). This new section emphasizes the need for state, tribal, and local entities to closely coordinate mitigation planning and implementation efforts. The requirement for a state mitigation plan is continued as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans: “Standard” and “Enhanced.” States that demonstrate an increased commitment to comprehensive mitigation planning and implementation through the development of an approved Enhanced State Plan can increase the amount of funding available through the Hazard Mitigation Grant Program (HMGP). DMA 2000 also established a new requirement for local mitigation plans and authorized up to 7% of HMGP funds available to a state to be used for development of state, tribal, and local mitigation plans.
National Flood Insurance Reform Act (NFIRA) of 1994 (42 USC 4101)	This act resulted in major changes to the National Flood Insurance Program (NFIP). The law amended the Flood Disaster Protection Act of 1973. It provides tools to make the NFIP more effective in achieving its goals of reducing the risk of flood damage to properties and reducing Federal expenditures for uninsured properties that are damaged by floods.

LAWS AND REGULATIONS	DESCRIPTION
Robert T. Stafford Disaster Relief and Emergency Assistance Act	The Act provides an orderly and continuing means of assistance by the federal government to state and local governments in carrying out their responsibilities to alleviate the suffering and damage which result from such disasters by: 1. revising and broadening the scope of existing disaster relief programs; 2. encouraging the development of comprehensive disaster preparedness and assistance plans, programs, capabilities, and organizations by the states and by local governments; 3. achieving greater coordination and responsiveness of disaster preparedness and relief programs; 4. encouraging individuals, states, and local governments to protect themselves by obtaining insurance coverage to supplement or replace governmental assistance; 5. encouraging hazard mitigation measures to reduce losses from disasters, including development of land use and construction regulations; and 6. providing federal assistance programs for both public and private losses sustained in disasters.
Federal Civil Defense Act of 1950	Establishes the federal framework for providing fiscal assistance to the state's emergency management activities.
PL-99-400 Superfund Reauthorization Act	Requires chemical handling facilities to prepare annual chemical inventories and maintain emergency response plans. It also requires an emergency planning structure be instituted for the state and local emergency planning committees.
Federal Property Administration Services Act	Establishes the procedures for the transfer of excess and surplus federal property to the states

F.2 State Capabilities

This section and the tables contained therein describe state laws and regulations that provide the guidance and requirements necessary for Passaic County and its constituent municipalities to follow in order to be in compliance with federal law and to receive federal support in the planning stages of mitigation as well as during and after a disaster occurs in the county. It also describes and evaluates state capabilities for hazard mitigation.

For additional information regarding important updates and changes to state rules and regulations, including the Flood Hazard Control Act, water quality planning rules, efforts related to storms and flooding, forest fire, and dam failures, please refer to New Jersey State Hazard Mitigation Plan Update (SHMPU) (2008), Section 5.7. For further evaluation of federal and state capabilities, see New Jersey SHMPU, Section 5.7. For further information on State Pre- and Post-Disaster Hazard Management Organization, Policies, Programs and Capabilities, see New Jersey SHMPU, Section 5.6.

Table F.2-1: State Laws and Regulations that Impact Hazard Mitigation
(Source: New Jersey SHMU, 2008)

LAWS AND REGULATIONS	DESCRIPTION
Freshwater Wetland Protection Act (NJSA 13 B:1)	New Jersey enacted this law to support development and enhancement of state, local, and tribal wetland protection programs. Projects must clearly demonstrate a direct link to increasing a state's ability to protect wetland resources. Grants are federally funded and administered by the New Jersey Department of Environmental Protection (NJDEP).
Flood Hazard Area Control Act (NJSA 58:16A-52)	New Jersey enacted this law in the interest of the safety, health, and general welfare of the people of the state that legislative action be taken to empower the NJDEP to delineate and mark flood hazard areas, to authorize the NJDEP to adopt land use regulations for the flood hazard area, to control stream encroachments, to coordinate effectively the development, dissemination, and use of information on floods and flood damages that may be available, to authorize the delegation of certain administrative and enforcement functions to county governing bodies and to integrate the flood control activities of the municipal, county, state, and federal governments.
Waterfront Development Statutes (NSA 12:5-1)	New Jersey enacted this law to ensure that all plans for the development of any waterfront upon any navigable water or stream of this state or bounding thereon, which is contemplated by any person or municipality, in the nature of individual improvement or development or as a part of a general plan which involves the construction or alteration of a dock, wharf, pier, bulkhead, bridge, pipeline, cable, or any other similar or dissimilar waterfront development shall be first submitted to the NJDEP. No such development or improvement shall be commenced or executed without the approval of the NJDEP first had and received, or as hereinafter in this § provided.
Freshwater Wetland Protection Act (NJAC 7:71)	Regulations to support the New Jersey freshwater wetlands program which protects freshwater wetlands, and upland areas within 150' of wetlands (sometimes called "buffers"), from development which will impair the wetlands.
Flood Hazard Area Control Act (NJAC 7:13)	The specific intent of the regulations is to minimize potential on and off site damage to public or private property caused by development which, at times of flood, subject structures to flooding and increase flood heights and/or velocities both upstream and downstream. These rules are also intended to safeguard the public from the dangers and damages caused by materials being swept onto nearby or downstream lands, to protect and enhance the public's health and welfare by minimizing the degradation of water quality from point and non point pollution sources and to protect wildlife and fisheries by preserving and enhancing water quality and the environment associated with the floodplain and the watercourses that create them. Without proper controls, development in the floodplain and the watercourses that create them may adversely affect the flood carrying capacity of these areas, subject new facilities to flooding, reduce natural flood storage that the floodplain provides, increase the volume of storm water runoff, degrade the water quality of the receiving water body, and result in increased sedimentation, erosion or other environmental damage. Any development in areas regulated by this § must conform to criteria which depend upon the characteristics of the area and the type of activity involved.
NJSA 2A:53A-13.1	No volunteer fire company, volunteer first aid, rescue or emergency squad, civil defense unit, which provides services for the control and extinguishment of fires or emergency public first aid and rescue services shall be liable in any civil action to respond in damages as a result of any commission arising out of the rendition in good faith of any such services.
NJSA 2A:62A-7	No individual, partnership, corporation, association, or other entity shall be liable for civil damages as a result of acts taken in the course of rendering care, assistance, or advise with respect to an incident creating a danger to persons or property.
NJSA 2C:17-2	A person who purposely or knowingly, unlawfully causes an explosion, flood, collapse of a building, release or abandonment of poison gas, radioactive materials or any other harmful substance will be charged with a crime in the second degree.

LAWS AND REGULATIONS	DESCRIPTION
NJSA 13:1E-80	All major hazardous waste facilities shall, for the purpose of local property taxation, be assessed and taxed in the same manner as other property.
NJSA 13:IK-17	When the NJDEP obtains information which leads it to suspect that hazardous discharge has occurred, they shall immediately notify the governing body and local Board of Health of the municipality in which the hazardous discharge has occurred and shall take appropriate act verify that discharge has occurred.
NJSA 26:2D-37-et seq.	The Division of State Police and the NJDEP shall prepare or cause to be prepared and adopt a State Radiation Emergency Response Plan. This statute covers local response plans, county response plans, the powers and duties of DEP and the powers and duties of the Division of State Police. The statute also provides guidelines for other relevant agencies needed for radiation response.
NJSA 38A: 2-3 et seq.	Whenever the militia, or any part thereof, is employed in aid of civil authority, the Governor, if in his/her judgment the maintenance of law and order will thereby be promoted, may by proclamation, declare any county or municipality, or part thereof, which the troops are serving to be subject to martial law.
NJSA 38A: 3-6.1	The Governor shall have the authority to order to active duty, with or without pay, in state service, such members of the New Jersey National Guard that in their judgment are necessary to provide aid in circumstances which threaten or are a danger to the public health, safety, or welfare.
NJSA 38A: 20-3	The purpose of this law is to provide mutual aid among the states in meeting any emergency or disaster from enemy attack or other cause (natural or otherwise) including sabotage and subversive acts and direct attacks by bombs, shellfire, and atomic, radiological, chemical, bacteriological means, and other weapons. The prompt, full and effective utilization of resources of respective states, including such resources as may be available from the United States Government or any other source, are essential to the safety, care and welfare of the people.
NJSA 39:4-213	The Attorney General is authorized to erect directional signals or signs, and assign such police personnel as may be necessary for the manual direction of traffic during an emergency.
NJSA 40A: 14-156.4	The county emergency management coordinator may by express order suspend operation of the provisions upon declaration of a State of Emergency.
NJSA 52:27D-222	This law directs certain entities which store, manufacture, distribute or warehouse unusually hazardous substances to develop an emergency response plan along with the county or municipal fire officials.
NJSA 55:13C-1	Need for emergency shelters for victims of fire, natural disasters, domestic violence and other causes of homelessness. Directs the Department of Community Affairs and Human Services to develop regulations for implementation of the Rooming and Boarding Housing Act of 1979.
NJSA 58:16A-66 et seq.	The Commissioner of the NJDEP shall in consultation with the United States Army Corps of Engineers and in coordination with the Office of Emergency Management in the Division of State Police, develop a flood early warning system.
NJSA 58:16a-101	The Office of Emergency Management (OEM) shall notify the emergency management organization in the counties, which shall then notify the local police departments in the event of a flood situation.
NJAC § 17	The Governor is authorized to enter into agreements with the governors of any of the states bordering on New Jersey for the protection in the event of emergency of any or all interstate bridges, tunnels, ferries, and other communications facilities.

Table F.2-2: Summary of New Jersey State Mitigation Policies, Programs, and Capabilities
(Source: New Jersey SHMPU, 2008)

Agency	New Jersey Office of Emergency Management (NJOEM) is responsible for the oversight and management of state and local hazard mitigation plan preparation process; identification and evaluation of mitigation planning programs and opportunities; coordination of mitigation planning with preparedness, response and recovery planning and event management; and coordination of natural hazard.
Program	Planning Grant Program: Helps counties compete for federal funding to pursue Hazard Mitigation Plans
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	Nineteen counties in New Jersey have been awarded federal grants, matched with local funds to prepare All Hazard Mitigation Plans. Because plans are a requirement for accessing FEMA grants, this program supports pre- and post-disaster hazard mitigation.
Program	The Preparedness/Mitigation Unit, Emergency Management Section, New Jersey State Police: Provides technical resources, contacts to other expert agencies, and guidance for county mitigation plans and projects.
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	The Preparedness/Mitigation Unit, with a full time staff of four employees, have been working to offer workshops and provide technical expertise, either by them or with an expert agency. It would be most effective to have more expertise on staff, or to procure expert support, however it is not feasible due to budget cuts at the state level. This group manages both pre- and post-disaster hazard mitigation projects.
Program	Mitigation Grant Administration Program (Managed by the Preparedness/Mitigation Unit): The unit administers and assists in the implementation of all federal mitigation grants awarded to counties and municipalities.
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	Thirteen projects have been federally funded since the original plan was approved. This group manages both pre- and post-disaster hazard mitigation projects.
Program	Public Assistance (PA): This program, available after a Presidential disaster declaration, allows mitigation measures to be designed into projects to repair or restore public facilities damaged by the disaster event.
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	PA grants have been awarded to multiple jurisdictions throughout the state following every disaster declaration. This program supports post-disaster hazard mitigation.
Program	Pre-Disaster Mitigation Program (PDM): This annual nationally competitive program funds hazard mitigation plans and cost-effective projects that reduce or eliminate the effects of hazards and/or vulnerability to future disaster damage.
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	Two projects awarded and 10 planning grants awarded in 2005-2007. This program supports pre-disaster hazard mitigation.
Program	Flood Mitigation Assistance Program (FMA): This program funds flood mitigation plans, provides technical assistance, and funds construction projects that reduce flood risk to insured, repetitive loss properties.

Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	Four projects awarded in 2006-2007 and three planning grants awarded in 2005-2007. This program supports pre-disaster hazard mitigation.
Program	Hazard Mitigation Grant Program (HMGP): This program, available after a Presidential disaster declaration, funds hazard mitigation plans and cost-effective projects that reduce or eliminate the effects of hazards and/or vulnerability to future disaster damage. Typically, the state provides a portion of the required non-federal match.
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	Five projects awarded in 2005-2007 and three planning grants awarded in 2005-2007. This program supports post-disaster mitigation.
Program	Severe Repetitive Loss Programs (SRL): Program provides funds to assist states, tribal, and local governments participating in the NFIP in reducing or eliminating the long-term flood risks to severe repetitive loss properties, thus reducing outlays from the NFIF.
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	New program–effectiveness is to be determined. Would support pre-disaster hazard mitigation.
Program	Repetitive Flood Claims (RFC): The Repetitive Flood Claims (RFC) grant program provides mitigation funding for structures insured under the National Flood Insurance Program (NFIP) located in a State or community that cannot meet the requirements of the Flood Mitigation Assistance (FMA) program. The long-term goal of the RFC program is to reduce or eliminate claims under the NFIP through mitigation activities that are in the best interest of the NFIP.
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	Three projects awarded in 2007. This program supports pre-disaster hazard mitigation.
Program	New Jersey Emergency Operations Plan (EOP): Through the Emergency Support Function (ESF) 14- Long term Recovery Plan, NJOEM will work with Office of Homeland Security to have a plan for long term planning and recovery prior to a disaster or emergency. One of the areas of planning includes mitigation. This coordination will allow for another statewide plan to incorporate mitigation principles and planning for New Jersey.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	At the time of plan update, this ESF has not formally met and, therefore, it is difficult to provide an assessment of effectiveness. The program would support pre-disaster hazard mitigation.

Agency	New Jersey Department of Environmental Protection (NJDEP) supports mitigation efforts through analysis of assessment of natural hazards, identification and management of grant programs; leads state coordination for the National Flood Insurance Program, the Office of Land Use Regulation, New Jersey Forest Fire Service, Geologic Survey and coordination with state and federal programs affecting natural hazard mitigation including open space conservation, historic preservation, water resources management, dam safety, and shore protection.
Program	Bureau of Land Use Compliance and Enforcement: Responds to reports and/or complaints of possible land use violations received from municipal and county officials, private citizens, and other public and private organizations. It conducts education and outreach programs to educate all levels of government, organizations, and citizens on the technical aspects of the rules regulating development in areas under the Municipal Land Use Law (MLUL) jurisdiction and the importance of complying with them. In addition, the bureau conducts inspections of Land Use Permits to ensure compliance with the permit conditions, requirements, and limitations and issues enforcement documents compelling compliance.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	The Bureau monitors enforcement cases to ensure compliance by the respondent either securing appropriate Land Use permits or by removing the violation by restoration and/or mitigation. Compliance and Enforcement-Activity Output Summaries These reports show the total number of various activities over time and by program. A graph is followed by the data in tabular format for each year. http://datamine2.state.nj.us/dep/DEP_OPRA/EnfSummaries.htm Site Inspections - 2002 2003 2004 2005 2006 Investigations 2004 2005 2006 Submittal Reviews - 2002 2003 2004 2005 2006 Enforcement Actions - 2002 2003 2004 2005 2006 Compliance Rates Outcomes - The data in these reports are based on the number of discrete facilities or entities inspected by the programs and reflect the percentage of those facilities or entities found in compliance during site inspections only. These figures exclude observations based solely on submittals of self-reported information, monitoring and investigations (such as those stemming from hot-line calls or complaints). Facilities or entities are only counted once even if inspected multiple times within a given period. One or more violations at any inspection in the period counts as non-compliance. The entities counted here are only where routine or pre-planned inspections occurred and are primarily where permits, licenses, or other departmental approvals exist. Charts and tables with monthly breakdowns 2002 2003 2004 2005 2006 2007.
Program	Division of Land Use Regulation (DLUR): Reviews applications for permits to build on, or modify, environmentally sensitive land such as freshwater wetlands, freshwater wetlands transition areas, coastal wetlands, floodplains, or to conduct regulated activities in the Highlands Preservation Area or Coastal Zone. Also, the DLUR issues grants, leases and licenses for use or occupation of state owned tidelands. Furthermore, the DLUR reviews certain applications for compliance with portions of the department's stormwater management rules.
Effect on Loss Reduction	Help
Funding Available	No

Effectiveness	Since July of 1992, pursuant to NJSA 13:1D-115 the NJDEP submits to the Senate Environmental Quality Committee and the Assembly Energy and Environment Committee a semi-annual report. That report includes the type of permits issued by the department during the reporting period, summaries of the records required to be maintained pursuant to this act, and any other statistical or other type of information deemed pertinent by the department to evaluate the various division, bureaus, agencies, office and other administrative units. Since 2007 DLUR permit reports are available on the internet. 2007 Land Use Dashboard Reports and January and February 2008 Land Use Dashboard Reports that tracks numbers of permits received and issued are available at http://datamine2.state.nj.us/dep/DEP_OPRA/dashboard.html#2008land The November 5, 2007 adoption of the new Flood Hazard Area Protection Act rules created new permits-by-rule for specific activities such as elevating an existing home or reconstructing a home outside the floodway. These permits-by-rule require notice to the Department for compliance and enforcement purposes. Since these activities are no longer grouped in the former Major or Minor permit types we expect to be able to report on the number of notices received for these specific mitigation activities in the future. The Division maintains two reports that are used to report to the United States Environmental Protection Agency (EPA) wetland impacts associated with the issuance of Freshwater Wetlands (FWW) general permits. One tracks the specific FWW permit types and amount of wetlands disturbance for the years starting in 2000. The second more general report tracks the number of approved permits and the acres of wetlands affected every year from 1988 to present, which covers the entire program's life. This Division supports pre-disaster hazard mitigation.
Program	New Jersey's Shore Protection Program: Created to provide for the protection of life and property along the coast, preserve the vital coastal resources, and maintain safe and navigable waterways throughout the state. Operating under the Office of Engineering and Construction, the Bureau of Coastal Engineering is responsible for administering beach nourishment, shore protection, and coastal dredging projects throughout the state. Additionally, the Bureau maintains the state's aids to navigation, provides 24-hour operation of the Raritan Bayshore Floodgate and is responsible for conducting storm surveys, damage assessments and emergency repairs for coastal storms.
Effect on Loss Reduction	Help
Funding Available	Yes, Shore protection projects are funded through the Shore Protection Fund (NJSA 13:19-16 et seq.), either through a federal-state-local cost share or a state-local cost share, depending on the size and scope of the project. Twenty-five million in annual stable funds have been appropriated through the Shore Protection Fund of 1992. Additional funds have been provided by Shore Protection Bonds issued in 1977 and 1983 and by state appropriation in 1988.
Effectiveness	Eligible projects must be associated with the protection, stabilization, restoration, or maintenance of the shore, including monitoring studies and land acquisition and must be consistent with the current Shore Protection Master Plan and Coastal Zone Management Program. Such projects must be tidally influenced during normal tide cycles and be located on public land or property which has legal, perpetual easements for public access and use. This program supports both pre- and post-disaster hazard mitigation.

Program	Water Quality-Municipal Finance and Construction Division: Administers the Environmental Infrastructure Financing. The New Jersey Environmental Infrastructure Financing Program (Financing Program) is a revolving loan program administered by the Municipal Finance and Construction Element, and the New Jersey Environmental Infrastructure Trust (Trust), an independent state financing authority. The Financing Program provides loans to local government units for the construction of wastewater treatment facilities, sludge management systems for wastewater and water treatment systems, combined sewer overflow abatement, stormwater, and other non-point source management projects. The Financing Program also provides loans to both publicly and privately owned drinking water systems for the construction or upgrade of drinking water facilities, transmission and distribution systems, storage facilities, and source development. Funds are made available under the federal Clean Water and Safe Drinking Water Acts and various state bond acts.
Effect on Loss Reduction	Help
Funding Available	Yes through loans
Effectiveness	Since the enactment of the loan program, more than $1.5 billion in state and federal funds have been awarded. This program supports both pre- and post-disaster hazard mitigation.
Program	Geographic Information System (GIS) Bureau: Provides technical review of land survey plans needed for Green Acres applications. The Bureau also provides preliminary assessment if land can be used without risk to public health.
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	This Bureau supports pre-disaster hazard mitigation.
Program	Municipal Stormwater Regulation Water Quality Division: Watershed Permitting program implements stormwater rules for permitting stormwater discharges from Tier A and Tier B municipalities, as well as public complexes, and highway agencies that discharge stormwater from municipal separate storm sewers (MS4s). There are 462 Tier A municipalities and 100 Tier B municipalities. The general permits address stormwater quality issues related to new development, redevelopment and existing development by requiring municipalities to implement a number of Statewide Basic Requirements.
Effect on Loss Reduction	Facilitate
Funding Available	The amount of monetary assistance provided varies upon need. Grantee must provide 25% of the construction cost, provide engineering design and specifications, and provide perpetual easements and parking to ensure public access. Applications will be considered year-round; however, to be considered for an upcoming fiscal year that begins July 1, applications must be received by May 1.
Effectiveness	New Jersey's commitment to restoring its watersheds and water quality include the issuance of New Jersey Pollutant Discharge Elimination Systems permits including effluent limits for point sources and requiring stormwater best management practice implementation for nonpoint source pollution control, the development of Total Maximum Daily Loads and restoration plans for impaired water bodies, and the implementation of these plans including on-the-ground projects funded through the federal 319(h) and 604(b) Grant Programs and State Corporate Business Tax Watershed Funds. This year they have resulted in enormous pollutant loading reductions in the Grants Reporting and Tracking System (GRTS). New Jersey published the *State of Nonpoint Source Report 2007* Update (April, 2007) that provides an assessment of how the state is improving water quality and many examples of projects implemented (http://www.nj.gov/dep/watershedmgt/DOCS/NPSReport2007.pdf).

Program	New Jersey Forest Fire Service: Responsible for protecting life, property and the state's natural resources from wildfire. They offer various activities directed at reducing the number of incidences of wildfire, including; public education and awareness, law enforcement, and engineering practices such as the reduction of fuel hazards (fuels management) or community planning. These efforts include community outreach with Smokey Bear, posters, signs, and public service advertisements, recreational and agricultural open burning permitting and enforcement, hazardous fuel reduction planning and implementation using prescribed burning and mechanical thinning, road and firebreak maintenance programs, wildfire training to cooperating agencies, wildfire prevention education programs to the public, and a Community Wildfire Hazard Mitigation Assistance Grant Program for local communities. Additionally, the New Jersey Forest Fire Service maintains agreements with other federal, state, county, and municipal agencies regarding all facets of wildfire management. The program will assist in improving wildfire protection and preparedness capabilities, increasing community wildfire awareness and education, and provide assistance to local fire agencies. In addition, the program will assist in reestablishing ecosystems after wildfires, reducing excessive fuel accumulations in and around communities and provide economic development opportunities. Members of the New Jersey Forest Fire Service also serve on the State Hazard Mitigation Team (SHMT). Due to budget restraints, the New Jersey Forest Fire Service is not fully staffed (there are 69 positions, fully staffed would be 89 positions), yet the New Jersey Forest Fire Service is responsible to handling all of the state's wildfires.
Effect on Loss Reduction	Help
Funding Available	The New Jersey Forest Fire Service administers the Community Wildfire Hazard Mitigation Assistance Grant Program, a United States Department of Agriculture (USDA) Forest Service funded grant program that provides reimbursement of up to $5,000 on New Jersey Forest Fire Service's approved projects that help meet the state fire prevention objectives through a 50/50 cost share program.
Effectiveness	In 2006 and 2007, 33 Community Wildfire Hazard Grants were awarded with the grant expenditure totaling $106,008.31. By requiring the 50% match, nearly a quarter million dollars of hazard reduction was accomplished while obtaining grass-roots support and education to the problem of wildfire fuel hazards. With regard to staffing, the New Jersey Forest Fire Service is not fully staffed and must focus on core activities.
Program	New Jersey Forest Fire Service: Provides various educational awareness programs to inform and educated the public on ways to prevent or mitigate wild fires. The New Jersey Forest Fire Service also provides information to counties and municipalities as they draft their fire plans and all hazard plans.
Effect on Loss Reduction	Facilitates
Funding Available	No
Effectiveness	While general education is helpful for individuals to understand and prepare for wildfires, the New Jersey Forest Fire Service would like to see more communities have wildfire preparedness plans and encourage communities participate in the Firewise Organization. However, there is little funding support to help communities draft plans. As of 2007, there are nine townships and one community association who are recognized as Firewise communities. The New Jersey Forest Fire Service cannot meet many of the informational requests from the counties and municipalities as they draft these plans because there is limited staff to help develop databases to maintain historical data, mapping and State Hazard Plan files. This program supports pre-disaster hazard mitigation.
Program	New Jersey Forest Fire Service: Provides various engineering practices to mitigate wildfires including prescribed burning and mechanical thinning.
Effect on Loss Reduction	Help
Funding Available	No. Only with USDA Forest Service grants are these projects funded.

Effectiveness	Planned burning, especially for the Pine Barren region, is a highly effective mitigation tool that also supports this unique fire-based ecosystem. However, there is a very limited window for burning (between February and mid-March) and depending on wind and smoke issues, there are usually only a couple of weeks when burning can be used. The alternative, mechanical thinning is not a form of mitigation that is automatically approved by the Pinelands Commission. Therefore, the New Jersey Fire Service must receive permits from the Commission before thinning and there is limited funding available and currently no sustainable forestry use companies available to utilize the resulting products and help reduce the costs.
Program	New Jersey Forest Fire Service: Provides enforcement of state wildfire laws for fire prevention.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	While there is a law that allows hazardous fuels reduction, there are no regulations or updated fire codes that address vegetation clearance or defensible space around structures. Therefore the state has no ability to force fuel reductions on private property. Clear regulations, guidelines and codes would help address these issues.
Program	New Jersey Forest Fire Service: Provides structural assessments to help prevent or mitigate damage to structures.
Effect on Loss Reduction	Help
Funding Available	No. Each year the there have been budget cuts and the budget of $300,000 will not allow the department to provide this service to assess structures for fire survivability.
Effectiveness	Structural assessments are highly valuable to educate homeowners on how to improve their home's survivability. They also educate the public on the hazard, provides guidance on where to direct mitigation to reduce the threats, and provides information (and maps) on hidden home and allow a more organized response because both the wildland firefighters and the municipal departments have knowledge as to where protection priorities area. This work support pre-disaster hazard mitigation.
Program	The Wetlands Mitigation Council: Serves as a repository for land donations and monetary contributions collected as a result of freshwater wetland/state open water impacts that cannot be mitigated for on-site, off-site, or at a wetland mitigation bank. The Council also reviews and approves freshwater wetland mitigation banks. The collected monetary contribution dollars are deposited into the Wetland Mitigation Fund. The Council is responsible for the management and disbursement of dollars from the Wetland Mitigation Fund to finance mitigation projects.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	The Council has the power to purchase land to provide areas for enhancement or restoration of degraded freshwater wetlands, to engage in the enhancement or restoration of degraded freshwater wetlands on any public lands, including public lands other than those acquired by the Council, and to preserve freshwater wetlands and transition areas determined to be of critical importance in protecting freshwater wetlands. All mitigation sites must be monitored starting the first full growing season after the construction/planting of the mitigation project is completed. Depending on the type of wetlands being created, restored and/or enhanced, the mitigation project must be monitored for three to five full growing seasons. Monitoring information must be collected twice a year in the early spring and the fall. Below is the web link for the submission requirements for both tidal and freshwater mitigation projects pdf documents. http://www.nj.gov/dep/landuse/mmonitoring.html Wetland Mitigation Monitoring Project Checklist pdf Tidal Wetland Mitigation Monitoring Checklist pdf This Council supports pre-disaster hazard mitigation.

Program	The New Jersey Geological Survey (NJGS): Evaluates geologic, hydrogeologic and water quality data to manage and protect water resources, to identify natural hazards and contaminants, and to provide mineral resources including offshore sands for beach nourishment. Information provided by the survey includes GIS data and maps of geology, topography, groundwater, and aquifer recharge. In addition the data tracks wellhead protection areas, aquifer thicknesses, properties and depths, groundwater quality, drought, as geologic resources, and hazards such as earthquakes, abandoned mines, karst and landslides.
Effect on Loss Reduction	Help
Funding Available	No direct monetary assistance is provided. However, an equivalent of three work days is available to counties and/or municipalities upon written or electronic request to the State Geologist.
Effectiveness	The earthquakes module for Hazards-US has been updated for seven counties under grants from NJOEM. Pilot project underway with NJDEP Parks and Forests to identify abandoned mines in state parks and forests. A Pre-Disaster Mitigation Planning Subapplication to prioritize abandoned mine hazards has been submitted. Annual offshore investigation to identify sand and gravel resources for beach and dune replenishment. The NJGS supports pre-disaster hazard mitigation.
Program	The NJDEP, Flood Control Section: Leads the state's efforts as the state NFIP Coordinator and Community Rating System (CRS) support. In addition, the Section's responsibilities include the funding of construction and operation of federal-state-local flood control mitigation projects throughout the state, including the 24-hour operation of the Pompton Lakes Dam Flood Gates. The Section has also taken a lead role on the development and adoption of New Jersey Flood Hazard Area mapping, as well as an active partnership with FEMA on their FEMA Map Modernization Program efforts.
Effect on Loss Reduction	Help
Funding Available	Yes. Large scale flood control projects are cost-shared with the US Army Corps of Engineers through an annual state appropriation under the HR-6 Flood Control project budget. Also, $25 million was appropriated from the "Dam, Lake, Stream, Flood Control, Water Resources Project Bond Act 2003" to finance the costs of state-local flood control projects.
Effectiveness	Five hundred forty-four of the 566 total municipalities in New Jersey participate in the NFIP program of which 45 also participate in the CRS program. Nine municipalities with a class nine rating (5% premium reduction); 23 with a class eight rating (10% premium reduction); 11 with a class eight rating (15% premium reduction) and two with a class six rating (20% premium reduction). The average savings per policy holder is about $87.00 per year or a total community savings of about $9,384,397 per year. The New Jersey Dam Safety program, new state stormwater management requirements, and the development of all hazard mitigation plans, are some of the efforts at the state level that are available to provide CRS credits for all New Jersey municipalities. Municipalities are encouraged to adopt freeboard elevation requirements, which also provide CRS credits. Many municipalities in New Jersey are small and lack the professional support to fill out a CRS application, or do not have the flood insurance policy base to make it worth their while. However, NJDEP does reach out to communities during Community Assistance Visits, Community Assistance Contacts, technical assistance contacts and workshops to promote the CRS program.
Program	The Bureau of Planning and Information Management: Administers open space and recreational use guidance and offers local communities technical assistance for open space development and acquisition. The Bureau also administers the Land and Water Conservation fund, a federal fund to preserve open space.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	This Bureau supports pre-disaster hazard mitigation.

Program	The Green Acres Program works with landowners, municipal governments, county governments, nonprofit organizations, and other conservation partnerships to protect land of statewide significance. This is done through direct purchase or conservation easements. The program also awards matching grants and loans to municipal and county governments, and matching grants to nonprofit conservation organizations, to acquire open space and develop outdoor recreation facilities.
Effect on Loss Reduction	Help
Funding Available	The Green Acres Program assists municipalities, counties, and nonprofit conservation organizations in the acquisition of open space for recreation and conservation purposes, and the development of outdoor recreational facilities. Each year, Green Acres provides matching grant and low-interest loan funding from the Garden State Preservation Trust.
Effectiveness	Potential Funding Sources for Acquisition and Other Projects. All 21 New Jersey counties and 234 municipalities have passed a tax rate to support Green Acres program. This program supports pre- and post-disaster hazard mitigation.
Program	Tidal Gauge Monitoring: The program has moved from New Jersey Department of Transportation (NJDOT) responsibility to NJDEP and NJOEM responsibility. The program funds gauges to monitor the tides as critical areas to warn about potential flooding.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	There is no permanent source of funding for this program. The New Jersey Association for Floodplain Management, League of Municipalities and United States Geological Survey-New Jersey are working with the State Legislature to earmark a permanent funding source for this program. Temporary funding is being provided by the NJOEM. This program supports pre-disaster hazard mitigation.

Agency	New Jersey Department of Banking and Insurance regulates the banking, insurance and real estate industries to ensure a viable, competitive, and solvent marketplace that is fair to New Jersey consumers. Pre-disaster hazard mitigation is a major public policy for the Insurance Division
Program	The Insurance Division: Works with the insurance industry to encourage companies to use mitigation as a factor when they determine who they will insure. The Management, Property and Casualty, Enforcement, Solvency Regulation and Public Relations Divisions all promote mitigation efforts (e.g. hardening of structures to lesson or avoid potential damages) when they work with industry in their respective section of insurance. The marketplace is a tool to encourage homeowners, business-owners and property owners to consider mitigation options for more attractive insurance options or qualifying to be insured.
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	This program supports pre-disaster hazard mitigation.
Program	The Insurance Division: Also works with industry to promote insurance in all areas of New Jersey. When an area is difficult to insure because the risk is too great, the Division works with insurance companies who need to balance the risk with mitigation policies when reviewing their plans or if there is a request for a change in policies.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	There are at least two insurance carriers that residents can choose from in every municipality of New Jersey. This Insurance Division supports pre-disaster hazard mitigation.
Program	Regulation: The Insurance Commission recently issued an Order (A07-126) mandating companies which are authorized to sell homeowner insurance to have a prepared Business Continuity Plan.

Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	This order sets forth guidelines to ensure consistent industry practice is maintained in the event of a disaster or emergency and has not been tested since released. This regulation supports pre-disaster hazard mitigation.

Agency	New Jersey Department of Community Affairs (NJDCA) is responsible to provide administrative guidance, financial, support, and technical assistance to local governments, community development organizations, businesses, and individuals to improve the quality of life in New Jersey. NJDCA offers a wide range of programs and services that respond to issues of public concern including fire and building safety, housing production, community planning and development, and local government management, and finance.
Program	Office of Smart Growth (OSG): Coordinates planning throughout New Jersey to protect the environment, mitigate development hazards, and guide future growth into compact, mixed use development and redevelopment. OSG implements the goals of the State Development and Redevelopment Plan to achieve comprehensive, long term planning; and integrates that planning with programmatic and regulatory land use decisions at all levels of government and the private sector.
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	New Jersey Development and Redevelopment Plan is a plan that has cross acceptance from all of the New Jersey departments and agencies, as well as counties, municipalities and New Jersey Citizens. It is a comprehensive plan for the development and redevelopment of the most densely populated state in the nation. While each department and agency is represented and must review and accept the plan, there is no member of the SHMT on the Smart Growth planning team. The SHMT will work with its counterparts in NJDEP and NJDCA to help bring attention to mitigation planning in the Plan and to utilize the State Hazard Mitigation Plan as reference. This Plan supports pre-disaster hazard mitigation planning.
Program	The Division of Codes: Establishes and enforces building codes, in partnership with the state's municipalities, to protect the health and safety of residents. Responsibilities of the Division include: implementing construction codes; implementing residential site improvement standards; and performing damage assessments. The Division also coordinates the code enforcement community response to an all hazard disaster and works closely with New Jersey State Police, NJOEM, and New Jersey Human Services in developing emergency shelter guidelines.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	Through the enforcement of the model codes, buildings are built to withstand wind damage. This Division supports pre- and post-disaster hazard mitigation.
Program	The Fire Safety Division: Responsible for the development and enforcement of the State Uniform Fire Code as well as for implementing public education, firefighter training and fire hazard mitigation programs. Specifically, it provides regulations, policies, training and education, and fire code responsibility. The Division is responsible to adopt implement and monitor The Fire Deployment Act. This Act enables the Division to coordinate first response assets out of harm's way or to a specified location in advance of a disaster. The fire assets are located at a pre-designated location to be in close proximity in the event of disaster/emergency. The Division utilizes the National Incident Management System and Incident Command System for coordinating fire suppression assets throughout the state.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	When the April 2007 nor'easter was moving up the coast towards New Jersey, the Division of Fire Safety assisted in allocating assets to minimize damage. This Division supports pre- and post-

	disaster hazard mitigation.
Program	The Office of Regulatory Affairs: Reports to the Division of Codes and Standards, provides educational materials for the public in all areas that it supports (e.g. flood safety, fire safety, building code etc.). This Office is also responsible for the implementation of the new mutual aid regulations for construction code personnel (state coordinate responsibility for UCC code enforcement support for the counties and municipalities).
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	NJSA 52.27D-126.3 Emergency Building Inspection Program (1-17-07) was passed to ensure that there are ample building codes officials deployed from throughout the state to a disaster and to expedite damage assessment and ensures that compensation will occur. This is a key mitigation success because it resulted in a coordinated, larger pool of trained, licensed code officials to be utilization during a disaster. This regulation supports pre- and post-disaster hazard mitigation.

Agency	New Jersey Department of Transportation (NJDOT) plans, manages and integrates all transportation facilities to ensure the safe, efficient and effective movement of people and goods; planning and project implementation to reduce vulnerabilities to natural hazards and to mitigate potential impacts of natural hazards on critical transportation infrastructure; and identify and reduce vulnerabilities of people and materials to natural hazards through emergency evacuation or other needs and initiatives.
Program	State's Transportation Trust Fund: For road construction, maintenance, improvement projects. Each municipality works with a regional coordinator to submit application requests up to a certain allocation per municipality and county.
Effect on Loss Reduction	Facilitate
Funding Available	Yes
Effectiveness	The Division of Local Aid and Economic Development District Offices administer the programs and are strategically located close to their customers to build a better partnership with local government officials and engineers. The District Managers and their staff are available to assist with every phase of the process. Ongoing communication helps provide quality services and to ensure improved delivery of local transportation projects. This Fund supports pre- and post-disaster hazard mitigation.
Program	State Hazard Mitigation Team (SHMT): As a member of the SHMT, NJDOT provides a hazard mitigation perspective to the NJDOT capital improvement program.
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	Funding is allocated through the Statewide Transportation Improvement Program (STIP) and the Transportation Improvement Program (TIP) which make up the capital improvement program. This work supports pre- and post-disaster hazard mitigation.
Program	County Route Diversion Plans: NJDOT Division of Traffic Operations partners with county governments to plan and implement county route diversion plans in an emergency. All of the 21 counties have established Diversion Plans to date, except Camden, Cape May, Cumberland, Hunterdon, Gloucester, and Union. Of the aforementioned, NJDOT, in coordination with New Jersey State Police has plans in place to work with these counties.
Effect on Loss Reduction	Facilitate
Funding Available	No

Effectiveness	These Diversion Plans are a compilation of predetermined diversion routes developed to improve coordination between State and local agencies when incidents occur. These Diversion Plans offer the Incident Commanders viable alternate routes to utilize during incidents. NJDOT/New Jersey State Police can provide assistance to the Incident Commander in establishing these designated diversions for the movement of traffic around an incident, thus avoiding region-wide gridlock. These plans support pre-disaster hazard mitigation.
Program	Reverse Lane Strategies (or contra flow operations): Developed as a measure of last resort for evacuation populations in harm's way. NJDOT has four contra flow plans in place: I95- Route 72, Atlantic City Expressway and Route 47/347. These plans are exercised each year in coordination with the state policy and affected counties. These exercises help with the overall improvement of the contra flow plans as well as alerting staff to construction that plans would have to be updated to reflect. The Turnpike/Parkway Authority is working with NJDOT and the State Police on a Hurricane Evacuation Plan to use these roads in the event of a mass evacuation of the Coastal areas and the metropolitan New York area.
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	Plans are continually exercised and recommendations documented in After Action Reports. These strategies support pre-disaster hazard mitigation.
Program	NJDOT Division of Local Aid: Provides a competitive grant process for local governments to compete for funds for projects that include mitigation for flooding and other hazards.
Effect on Loss Reduction	Facilitate
Funding Available	Yes
Effectiveness	Administer the Municipal Aid Program for transportation improvements under municipal jurisdiction. Grants are funded by the Transportation Trust Fund through a competitive application based process administered by the Local Aid District Offices. $78.75M in TTF funding was available in the FY 2008 Municipal Aid Program. Administer the County Aid Program for road and bridge infrastructure improvements under county jurisdiction. Each County receives an annual formula-based allotment that takes into consideration county road lane mileage and population. The County Aid Program is funded through the Transportation Trust Fund and provides funding for eligible costs of projects included in the County's approved Annual Transportation Program. $78. 75M in TTF funding was available in the FY 2008 County Aid Program. This program support pre- and post-disaster hazard mitigation.
Program	Metropolitan Planning Organizations (MPOs): Work with Delaware Valley Regional Planning Commission (greater Philadelphia, Camden, and Trenton areas); North Jersey Transportation Authority (federally authorized planning organization for the 13 counties in the northern region of the state); South Jersey Transportation Organization (serves Atlantic, Cape May, Cumberland, and Salem counties) on mitigating hazards.
Effect on Loss Reduction	Facilitate
Funding Available	Yes
Effectiveness	MPO's are composed of locally elected officials and representatives of transportation and other state agencies and are federally mandated and designated by the Governor in each urban area. Each is a forum for continuing coordinated transportation planning and programs for its portion of the federal funds in a document called a Transportation Improvement Program (TIP). The MPO's formulate a long-range transportation plan, set short-term priorities, allocate funds and involve the public. NJDOT is a voting member of each of the State's three regional MPO's and helps coordinates their TIP's. These organizations support pre-disaster hazard mitigation.

Agency	New Jersey Department of Treasury insures the state's physical assets against the impact of accidental loss and to mitigate the adverse effect of accidental loss of the State's revenues. Also, Treasury can help identify potential resources available for program implementation through oversight of state agency budgets. Also, identifies leased or state owned facilities potentially vulnerable to natural hazards. New Jersey Department of Treasury is represented on the State Hazard Mitigation Team.
Program	Division of Risk Management (DRM): Responsible for all state-leased properties and a majority of state-owned properties and facilities. Many state agencies run the day to day operation and maintenance for the buildings, properties and facilities they occupy. Treasury coordinates with NJDEP, NJDOT, Human Services, Corrections, and State Police to ensure proper management and maintenance of their buildings. In addition, DRM is responsible for insuring all of these properties and facilities. To help mitigate as quickly as possible when an emergency occurs or a disaster strikes one of the buildings, DRM has instituted the First Responder Network within Treasury to help in emergencies. When a state agency contacts the State Police about a disaster/emergency, State Police has a point of contact in DRM to notify them of the disaster/emergency. DRM has an emergency responder team comprised of employees from Administration and Property Management that are detailed to them in support of expediting insurance claims or support with other mitigation efforts.
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	DRM supports pre- and post-disaster hazard mitigation.
Program	New Jersey Board of Public Utilities (NJBPU): An independent agency that coordinates closely with Treasury. NJBPU works with private utility companies to provide analysis of natural hazard information affecting the provision of electric power, telecommunications, public water, sewage collection and treatment, and other regulated public utilities. The data is used during response and recovery efforts in the event of emergency or disaster and is also used to analyze impact of mitigation plans and projects.
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	This agency supports pre- and post-disaster hazard mitigation.
Program	Office of Management and Budget (OMB) maintains and updates the state critical facilities list. OMB works with NJOEM and SHMT to ensure that all parties have an updated list and have easy access to the list in the event of an emergency/disaster.
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	OMB supports pre-disaster hazard mitigation.
Program	State OMB and Administration Division: Audit all state grants to ensure that the grants are utilized appropriately per the requirements of the grant.
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	These Divisions indirectly support pre- and post-disaster hazard mitigation.

Agency	New Jersey Department of Agriculture oversees programs that protect and serve the state's diverse agriculture and agribusiness industries.
Program	New Jersey Department of Agriculture, Division of Agriculture, and Natural Resources: The Division deals with soil, water and land use issues, as well as agriculture, food and natural resources education, conservation education, and fish and seafood development. It also administers the Farm Bill Conservation Program for the USDA Natural Resources Conservation Service. State Agriculture Development Committee: Administers the Farmland Preservation Program which provides grants to communities to fund the purchase of development easements on farmland; directly purchasing farms and development easements from landowners; and offering grants to landowners in the program to fund of to 50% of the cost of soil and water conservation projects.
Effect on Loss Reduction	Facilitate–Help
Funding Available	Technical assistance is available for engineering, biology, soils, hydrology and other areas. Grants are available through the Farm Bill Conservation Program.
Effectiveness	Farm and Ranch Lands Protection Program (FRPP) provides matching funds to help purchase development rights to keep productive farmland in agricultural uses. New Jersey received $3,973,785 in FY 2006, which was passed on to three cooperating entities through Cooperative Agreements. The funding will allow nearly 2,500 acres to be protected from development which preserves the natural land and support mitigation efforts.

Agency	Office of Information Technology (OIT) delivers valuable Internet development, GIS, and data management services. To prepare for the possibility of any type of disaster, OIT has taken significant steps over the past three years to secure the state's computer systems and ensure continuity of operations in the case of a tragedy. Office of Information Technology provisions digital data and identification of opportunities for establishing, organizing and enhancing data necessary to improve identification and mitigation of natural hazards
Program	Office of GIS consults with other state agencies to help them integrate GIS technology into their agency operations. GIS technology not only enhances an agency's decision-making abilities, but also helps it deliver services to the public more efficiently and effectively. The following applications were cooperatively developed and are available over the Internet: Business Location Assessment Tool: iMap Delaware River Basin; iMap New Jersey Geology; iMap NJDEP; iMap NJEMS; New Jersey Image Warehouse; New Jersey Geographic Information Network (NJGIN) Explorer; New Jersey HMFA Locator; New Jersey Traffic Counts; Travel Guide; and Uniform Construction Code (UCC) Target Cities/Municipalities.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	The New Jersey Office of GIS developed NJMapp to help county and municipal governments expand their own GIS capabilities through an incentive program that creates local data nodes on the NJGIN. To date, there are six counties (representing 167 municipalities) and two municipalities that are partners, have provided local data node information. This work supports pre-disaster hazard mitigation.

Agency	The Office of the New Jersey State Climatologist serves as the state focal point for activities pertaining to the climate of New Jersey. The Office resides in the Center for Environmental Prediction in the New Jersey Agricultural Experiment Station at Cook College, Rutgers University. The responsibilities of the Office are to collect and archive climate data, maintain an active research program pertaining to New Jersey climate and, through various outreach programs, provide climate education and information to the citizens of New Jersey.
Program	Research Program: Undertake basic or applied research within the Office of the State Climatologist. Examples of basic research range from developing thunderstorm climatology to investigating past and potential future climate change across New Jersey. Applied research deals with the impact or importance of the climate as it pertains to a specific activity in New Jersey, such as agriculture or tourism. Rutgers graduate and undergraduate students play active roles in this research. Education and Awareness Program: Promote climate awareness by educating the public through publications, correspondence, personal contact, attendance at conferences, lectures to schools and other organizations (as time and resources permit) and interviews with the print, radio and TV media.
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	The State Climatologist provides a New Jersey Weather and Climate Network which has received positive feedback with regard to providing valuable information in times of imminent and active flooding and forest fire. The Office of the New Jersey State Climatologist through its website and outreach programs also helps inform stakeholders as to risks associated with various events that may impact the state. These may include natural and human-induced events. The State Climatologist supports pre-disaster hazard mitigation.

Agency	Meadowlands Commission (NJMC) is a regional zoning and planning agency established by an act of New Jersey State Legislature in 1969. Its founding mandates are to protect the delicate balance of nature, to provide for orderly development, and to manage solid waste activities.
Program	Flood Control Plan: Through the development of the Hackensack Meadowlands Floodplain Management Plan, in cooperation with Meadowlands District municipalities and county governments, the NJMC staff prioritizes flood control initiatives, develops mitigation strategies, and applies for flood mitigation funding through the NJOEM and FEMA. The NJMC participates in the Community Rating System with FEMA to pursue reductions of insurance rates for Meadowlands District property owners.
Effect on Loss Reduction	Help
Funding Available	Allocation of up to $25,000 to each municipality to prepare a Stormwater Pollution Prevention Plan as required by the NJDEP.
Effectiveness	The NJMC supports pre-disaster hazard mitigation.
Program	Special Incentives Program: The NJMC provides businesses with information regarding assistance from state and local governments. The NJMC staff also provides information on land use regulations, roads, and utilities.
Effect on Loss Reduction	Facilitate
Funding Available	No
Effectiveness	This program supports pre-disaster hazard mitigation.
Program	Municipal Assistance Program (MAP): MAP grants provide funding to the 14 Meadowlands District municipalities through the Meadowlands Area Grants for Natural and Economic Transformation (MAGNET) program.
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	To participate in NJMapp, local governments enter into formal partnership agreements with the state and are encouraged to initiate similar partnerships with municipalities within their jurisdictions. This program supports pre-disaster hazard mitigation.
Program	The Inter-municipal Tax Sharing Program: Established to create a fair and equitable method of distributing the benefit and costs of economic development and land use decisions made by the NJMC amongst the 14 Meadowlands District municipalities. The legal basis for the Inter-municipal Tax Sharing Program is contained in Chapter 9 of the New Jersey Meadowlands Commission and Redevelopment Act as amended by Chapter 103, Public Law, 1972. The NJMC receives no money for monies distributed to Meadowlands District from the fund and serves as the routing agent municipalities.
Effect on Loss Reduction	Help
Funding Available	Yes, as a routing agent.
Effectiveness	This program supports pre-disaster hazard mitigation.
Program	Meadowlands Environmental Research Institute (MERI): Develops and maintains specific digital mapping systems for the Meadowlands District municipalities. The NJMC has allocated $25,000 for each of the 14 municipalities to come online with GIS technology, as well as $25,000 to provide each with a tablet PC. GIS maps include data on the following: lot information; owner information; zoning information; building locations and footprints; sewer line locations; utility locations; fire hydrant locations; wetlands locations; flood hazard areas; right-to-know information; hazardous materials locations; MERI trains municipalities in the use of technology with customized manuals, tests, fieldwork, and refresher courses.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	MERI supports pre-disaster hazard mitigation.

Program	NJMC Design: Staff design parks, trails, greenways and outdoor facilities for public access, environmental education, and the conservation and enhancement of wildlife habitats. The NJMC has overseen the construction of more than 100 acres of park lands and eight miles of trails in the Meadowlands District utilizing low-impact construction techniques, native plantings, and recycled materials. The NJMC staff is also available to provide advice and consultation regarding municipal park planning, design, management, and grounds keeping both inside and outside of the Meadowlands District boundaries.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	This Commission supports pre-disaster hazard mitigation.

Agency	New Jersey Office of Homeland Security and Preparedness: Coordinates emergency response efforts across all levels of government, law enforcement, the emergency management and response community, nonprofit organizations, the private sector and other jurisdictions as necessary, to protect the people of New Jersey. The new office now comprises the state Office of Counter-Terrorism and the New Jersey Domestic Security Preparedness Task Force.
Program	Emergency Operations Plan (EOP): Provides for the States Basic EOP Plan including 15 ESFs. Both the Basic Plan and the ESF plan for all phases of emergency management and one of those phases is mitigation.
Effect on Loss Reduction	Help
Funding Available	No, grants are available more for preparedness rather than mitigation
Effectiveness	The EOP provides for coordinated planning efforts for Local and State Emergency Management following prescribed emergency Support Functions. Mitigation is a section that is reviewed by each organization and once they begin the work, will draw attention to potential mitigation measures. This Office supports pre-disaster hazard mitigation.

Agency	The New Jersey Pinelands Commission: Preserves, protects, and enhances the natural and cultural resources of the Pinelands National Reserve, and to encourage compatible economic and other human activities consistent with that purpose. Today, the Pinelands is protected and its future development guided by the Pinelands Comprehensive Management Plan. The plan is administered by the New Jersey Pinelands Commission in cooperation with units of local, state and federal governments.
Program	Policy and Implementation Committee: Reviews the following: determination of consistency of municipal and county ordinances, master plans and land use proposals with the Comprehensive Management Plan (CMP); proposal and adoption of the CMP amendments (both those proposed by the Commission and those resulting from external petitions for amendment); CMP five-year review; planning issues (infrastructure, watersheds (water quality/use), map/zoning/density changes); oversight of Long Term Economic and Environmental Monitoring Programs, Rural Economic Development Program, Pinelands Excellence Program and Limited Practical Use land acquisition program; nomination of historic districts; determination of cultural resources; and coordination with the Pinelands Development Credit (PDC) Bank of the PDC program.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	This committee supports pre-disaster hazard mitigation.
Program	The Permanent Land Protection Committee: Examines one of the most critical aspects of ecological preservation within the Pinelands, the long-term protection of environmentally, historically, or agriculturally significant tracts of land through fee simple purchase, deed restriction or a variety of other means. In the 1980's, the Commission identified target acquisition areas of roughly 100,000 acres, much of which have been protected. The Committee supports the preservation of remaining target areas and works to identify new areas for protection.
Effect on Loss Reduction	Help

Funding Available	No
Effectiveness	This committee supports pre-disaster hazard mitigation.
Program	The Public and Governmental Programs Committee: Considers actions by federal, state and local governments that may affect the objectives and/or implementation of the Pinelands Comprehensive Management Plan (CMP). The Committee also considers memoranda of agreement with other public agencies to address unique challenges to implementation of the CMP and to serve the greater good of the Pinelands. The Committee tracks and evaluates legislation that may impact the Pinelands program and works on a variety of other legislative matters including development of legislation. The Committee also provides guidance on the Commission's public communications, outreach, education and interpretation functions and oversees the activities of the Pinelands Education Advisory Council.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	This committee supports pre-disaster hazard mitigation.
Program	Geographic Information Systems Laboratory: Provides the spatial information needed to preserve, protect, and enhance the natural and cultural resources of the Pinelands National Reserve, and to encourage compatible economic and other human activities consistent with that purpose.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	This group supports pre-disaster hazard mitigation.
Program	The Pinelands Development Credit (PDC) Bank: Protects environmentally sensitive areas while working with property owners to promote desirable economic development. The PDC Bank's staff works hard to help landowners and developers benefit from a transferable development rights program that has served as a worldwide model. The PDC has assisted Pinelands property owners who wish to harvest (or "sever") the credits for their land and preserve it in perpetuity. Also, developers are using Pinelands Development Credits (PDCs) to increase building densities in the designated regional growth areas, thus achieving efficient use of land and preventing sprawl. Even during times of reduced real estate market activity, residential construction with the use of PDCs flourishes in the Pinelands growth areas, and land values have held better than in other parts of the state.
Effect on Loss Reduction	Help
Funding Available	Yes
Effectiveness	As a result of the PDC program, 50,000 acres of environmentally sensitive forest and farmland in the Pinelands are now permanently protected. This Bank supports pre-disaster hazard mitigation.

Agency	New Jersey Highlands Council represents a 1,250 square mile area in the northwest part of the State and lies within portions of seven counties and includes 88 municipalities. The Highlands is increasingly at risk of being overdeveloped. Within a five year period, the Highlands lost 17,000 acres of forests and 8,000 acres of farmland. Development is threatening the region's significant natural resources and the state's drinking water supply. While growth management efforts by individual municipalities continue under the Municipal Land Use Law, the state legislature determined that a coordinated regional effort is necessary.
Program	Delaware River Basin Interstate Flood Mitigation Task Force: Assembled in October 2006. It is comprised of 32 members from a geographically diverse array of government agencies (legislative, executive, federal, state and local), private businesses and not-for-profit Organizations. The group has identified a total of 44 consensus recommendations for a proactive, sustainable, and systematic approach to flood damage reduction. The recommendations are based upon a set of six guiding principles concerning floodplain restoration, floodplain protection, institutional and individual preparedness, local stormwater management and engineering standards, and the use of structural and non-structural measures.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	Because the plan has not been implemented, it is difficult to assess effectiveness or to demonstrate effect on loss reduction. This committee supports pre-disaster hazard mitigation.

Agency	The Delaware River Basin Commission (DRBC) was formed in 1954 with a consent decree signed between New York, New Jersey, Pennsylvania and Delaware. The Commission plans, regulates and analyses the 330 miles of the Delaware River that winds through these states.
Program	The Delaware River Basin Interstate Flood Mitigation Task Force was assembled in October 2006. It is comprised of 32 members from a geographically diverse array of government agencies (legislative, executive, federal, state and local), private businesses and not-for-profit Organizations. The group has identified a total of 44 consensus recommendations for a proactive, sustainable, and systematic approach to flood damage reduction. The recommendations are based upon a set of six guiding principles concerning floodplain restoration, floodplain protection, institutional and individual preparedness, local stormwater management and engineering standards, and the use of structural and non-structural measures.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	Because the plan has not been implemented, it is difficult to assess effectiveness or to demonstrate effect on loss reduction. This commission supports pre- and-post disaster hazard mitigation.

Agency	The New Jersey Flood Task Force provided statewide recommendations to improve and strengthen regulatory protections of floodplains and homes; to aggressively pursue mitigation and control measures through improved studies, forecasting and flood warning systems; to request funding for planning and additional resources dedicated to reduce flood risk in New Jersey; and to improve assistance for New Jersey residents before and after a flooding event takes place.
Program	As a result of the multiple flooding events that occurred on the Delaware River in 2004-2006, The Task Force was called to analyze state flooding issues. The Task Force has three subcommittees, financial, public awareness, and technical.
Effect on Loss Reduction	Help
Funding Available	No
Effectiveness	The Task Force was instrumental in reviewing and providing comments for the new Flood Control Act regulations and supports pre- and post-disaster hazard mitigation. The Governor relies on the Task Force as an Advisory body for flooding issues.

Agency	The New Jersey Environmental Infrastructure Trust provides low-cost financing for the construction of environmental infrastructure projects that enhance and protect ground and surface water resources, ensure the safety of drinking water supplies, and make possible responsible and sustainable economic development.
Program	The Financing Program: Provides loans to local government units for the construction of wastewater treatment facilities, sludge management systems for wastewater and water treatment systems, combined sewer overflow abatement, stormwater, and other non-point source management projects. The Financing Program also provides loans to both publicly and privately owned drinking water systems for the construction or upgrade of drinking water facilities, transmission and distribution systems, storage facilities, and source development.
Effect on Loss Reduction	Facilitates
Funding Available	Yes
Effectiveness	This program supports pre-disaster hazard mitigation.

Agency	The Garden State Preservation Trust is the financing authority that provides the funds to preserve forests and meadows, watersheds and wildlife habitats, parks and sports fields, working farms, agricultural landscapes, and historic structures.
Program	Garden State Preservation Trust: Leverages $98 million in constitutionally dedicated funds to issue bonds and to make the maximum dollars available. Today, New Jersey has the largest preservation program in the nation for a geographic area of this size. It is financed with Garden State Preservation Trust funds through three partnering agencies: The Green Acres Program, a division of the Department of Environmental Protection to preserve natural lands and recreational parks. The Farmland Preservation Program, administered by the independent State Agriculture Development Committee to acquire the development rights on privately owned farmland. Historic Preservation, administered by the independent New Jersey Historic Trust to provide matching grants to save important historic buildings.
Effect on Loss Reduction	Help
Funding Available	Yes, provides funds to help develop area for revitalization which may be in conflict with mitigation.
Effectiveness	By providing a source of matching funds in acquisition programs in both pre-disaster prevention and post-disaster recovery. Since the 2005 State Plan, three communities involving six-nine residences have utilized Green Acres funds as the local match. This Trust Fund supports pre-disaster hazard mitigation.

F.3 Funding Sources Available for Mitigation Activities

In addition to identifying and evaluating the state's capabilities to address mitigation, another key component to mitigation is funding. Table F.3-1 summarizes funding sources available through state and federal sources, potential availability, applicability of pre- or post-disaster requirements, and the type of funding that is available.

Table F.3-1: Funding Sources Available for Mitigation Activities
(Source: New Jersey SHMPU, 2008)

Funding Source	Description
FMA	See Table F.3-2
HMGP	See Table F.3-2
PDM	See Table F.3-2
SRL	See Table F.3-2
RFC	See Table F.3-2
Fire Management Assistance Grant Program	Availability: Post-Disaster Description: Assistance for the mitigation, management, and control of fires on publicly or privately owned forests or grasslands, which threaten such destruction as would constitute a major disaster. Funding:
Community Development Block Grant (CDBG) Program	Availability: Pre- or Post-Disaster Description: Federal grant provided to CDBG "entitlement communities" (typically municipalities with populations over 50,000 and urban counties with populations over 200,000) and to all states. Funding: Varies
Reimbursement for Firefighting on Federal Property	Availability: Post-Disaster Description: Provides reimbursement only for direct costs and losses over and above normal operating costs. Funding:
National Dam Safety Program (NDSP)	Availability: Pre-Disaster Description: The NDSP, led by FEMA, is a partnership of the states, federal agencies, and other stakeholders to encourage individual and community responsibility for dam safety. Funding: Grant Assistance to the states: Provides vital support for the improvement of the state dam safety programs that regulate most of the 79,500 dams in the United States.
Land and Water Conservation Fund (LWCF)	Availability: To states, local and conservation organizations Description: Funding to States for outdoor recreational development, renovation, land acquisition and planning. Funding: LWCF is authorized at $900 million annually, a level that has been met only twice during the program's 40-year history. The program is divided into two distinct funding pots: state grants and federal acquisition funds. In FY 2005, the federal acquisition pot received $166 million and the state grants program received $92.5 million for a total of $258.5 million. In FY 2006 the federal pot received $114.5 and the state grants received $30 million. FY 2007 was similar to the year before receiving $113 million for federal acquisition and $30 million for state grants.

Funding Source	Description
The Forest Legacy Program (FLP)	Availability: Participation in Forest Legacy is limited to private forest landowners. Description: Federal program in partnership with states supports state efforts to protect environmentally sensitive forest lands. Designed to encourage the protection of privately owned forest lands, FLP is an entirely voluntary program. To maximize the public benefits it achieves, the program focuses on the acquisition of partial interests in privately owned forest lands. FLP helps the states develop and carry out their forest conservation plans. It encourages and supports acquisition of conservation easements, legally binding agreements transferring a negotiated set of property rights from one party to another, without removing the property from private ownership. Most FLP conservation easements restrict development, require sustainable forestry practices, and protect other values. Funding: To qualify, landowners are required to prepare a multiple resource management plan as part of the conservation easement acquisition. The federal government may fund up to 75% of project costs, with at least 25% coming from private, state, or local sources. In addition to gains associated with the sale or donation of property rights, many landowners also benefit from reduced taxes associated with limits placed on land use. In 2008, New Jersey has one project funded: Sparta Mountain South $2,474,000.
Transportation Trust Fund (TTF)	Availability: Pre- and Post-Disaster Description: Grants are funded by the TTF through a competitive application based process administered by the Local Aid District Offices. Funding: $78.75M in TTF funding was available in the FY 2008 Municipal Aid Program. Description: County Aid Program- Administer the County Aid Program for road and bridge infrastructure improvements under county jurisdiction. Each County receives an annual formula based allotment that takes into consideration county road lane mileage and population. The County Aid Program is funded through the TTF and provides funding for eligible costs of projects included in the county's approved Annual Transportation Program. Funding: $78. 75M in TTF funding was available in the FY 2008 County Aid Program.
Environmental Infrastructure Financing Program	Availability: Pre- or Post-Disaster Description: Borrowers receive loans in two equal parts: Approximately one half to three quarters comes from a zero interest State Revolving Fund maintained by the NJDEP. The other portion comes from proceeds of highly rated tax-exempt revenue bonds sold by the Trust. Combining these two funds results in a loan that is 50% to 75% lower than traditional loan rates. Funding: Is available for qualified borrowers.
Pinelands Infrastructure Trust Fund	Availability: Pre- or Post-Disaster Description: This program provides funding for infrastructure projects needed to accommodate existing and future needs in the 23 designated Pinelands Regional Growth Areas. Funding: Funding is available for the construction of new collection systems, interceptors, and the expansion/upgrade of wastewater treatment facilities. Projects certified under this program generally receive a grant for 40% of the allowable project costs and a loan for 20% of the allowable project costs from the Department. Loans for the remaining project costs may also be received from the Trust.

Funding Source	Description
Meadowlands Infrastructure Trust Fund	Availability: Pre- or Post-Disaster Description: A regional zoning and planning agency established by an act of New Jersey State Legislature in 1969. Its founding mandates are to protect the delicate balance of nature, to provide for orderly development, and to manage solid waste activities. Funding: Grants available for stormwater management, updating GIS systems, affordable housing planning, and solid waste disposal for the counties and municipalities that are under this Commission.
Green Acres Program	Availability: Pre- or Post-Disaster Description: The Garden State Preservation Trust leverages $98 million in constitutionally dedicated funds to issue bonds and to make the maximum dollars available. Today, New Jersey has the largest preservation program in the nation for a geographic area of this size. It is financed with Garden State Preservation Trust funds through three partnering agencies: The Green Acres Program, a division of the NJDEP to preserve natural lands and recreational parks. The Farmland Preservation Program, administered by the independent State Agriculture Development Committee to acquire the development rights on privately owned farmland. Historic Preservation, administered by the independent New Jersey Historic Trust to provide matching grants to save important historic buildings. Funding: Garden State Preservation Trust Fund Account (Trust Fund) which will receive $98 million annually for 10 years. From FY 2010 through and including FY 2029, debt service on the bonds shall be satisfied by funds deposited into the trust fund from the general fund. These funds will not exceed $98 million during a Fiscal Year. The bill will allow projects funded under the Trust Fund to begin immediately by allowing $90 million to be appropriated through the appropriations act for FY 2000.
NJ Small Communities Development Block Grants	Availability: Pre- or Post-Disaster Description: Provide funds for economic development, housing rehabilitation, community revitalization and public facilities designated to benefit people of low and moderate-income or to address recent local needs for which no other source of funding is available to non-entitlement Counties and Municipalities. Funding: Varies
NJ Open Space Program	Availability: To counties and municipalities that have passed a tax assessment on property owners to help purchase land in their community. Description: 53 towns and 13 counties collect one to five cents on each $100 of assessed property value. State law requires that the money go to a dedicated trust fund for open space and parks, farmland development easements and historic preservation. Funding: Varies based on county tax amount and assessments of property.
New Jersey Conservation Foundation (NJCF)	Availability: Description: NJCF is a private, not-for-profit organization. Through acquisition and stewardship NJCF protects strategic lands, promotes strong land use policies, and forges partnerships to achieve conservation goals. Since 1960, NJCF has protected over 100,000 acres of natural areas and farmland in New Jersey–from the Highlands to the Pine Barrens to the Delaware Bay, from farms to forests to urban and suburban parks. Funding: Provides support through knowing and understanding the many type of grants and programs that exist to help fund land preservation activities.

FEMA currently offers five hazard mitigation assistance programs: the Hazard Mitigation Grant Program (HMGP), the Pre-Disaster Mitigation (PDM) program, the Flood Mitigation Assistance (FMA) program, the Severe Repetitive Loss (SRL) pilot program and the Repetitive Flood Claims (RFC) program. Although all five programs have unique statutory authorities, program requirements and triggers for funding, all of the programs also have the common goal of providing funds to states and local communities to reduce the loss of life and property from future natural hazard events. Tables F.3-2 and F.3-3 illustrate the similarities and differences among the grant programs.

Table F.3-2: Comparison of Section 404 (HMGP) to Section 406 (PA) Hazard Mitigation Grants
(Sources: FEMA, James Lee Witt Associates)

	Section 404	Section 406
Administration	State	FEMA
Funding source	Hazard Mitigation Grant Program (HMGP)	Public Assistance (PA) grant program
Application process	Application must go through HMGP review process	Application is part of PA review process
Funding uses	Usable on any facility	Limited to damaged facilities
	Usable for structural and non-structural measures	Limited to structural measures
	Usable for any mitigation purpose	Usable only for repair of immediate damages to a facility or element
	Usable anywhere in the state	Limited to declared disaster areas
Benefit Cost Analysis (BCA) criteria	Entire project must be cost-effective per FEMA BCA module	If <15% of the total project cost are mitigation measures under PA, a project may be given administrative approval by the FEMA project officer
Linkage to hazard mitigation benefits	Cost-effectiveness can be linked to any hazard mitigation benefit	Cost effectiveness (if mitigation is >15% of project cost) must be linked to mitigating the damages actually being repaired
Total award	Total award limited by a formula based on total eligible disaster-related Public Assistance and Individual Assistance grant programs	No limit to total award

Table F.3-3: Comparison of FEMA Mitigation Grants
(Source: FEMA Mitigation Division, March 2007)

(See table on following 10 pages.)

FEMA

GRANT PROGRAM COMPARISON

Mitigation Directorate Grant Programs

During FY09, FEMA will offer five Hazard Mitigation Assistance (HMA) programs – the Hazard Mitigation Grant Program, the Pre-Disaster Mitigation program, the Flood Mitigation Assistance program, the Repetitive Flood Claims program and the Severe Repetitive Loss program. Although all five programs have unique statutory authorities, program requirements, and triggers for funding, all of the programs also have the common goal of providing funds to States and local communities to reduce the loss of life and property from natural hazard events.

This chart will help illustrate the similarities and differences among the grant programs.

NOTE: For the purposes of HMGP, Applicants will be referred to as subapplicants and applications will be referred to as subapplications.

Program Element	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)	Repetitive Flood Claims (RFC)	Severe Repetitive Loss (SRL)
Authorities	Section 404 of the Robert T. Stafford Disaster Assistance and Emergency Relief Act (Stafford Act), 42 U.S. Code (U.S.C.) 5170c.	Section 203 of the Stafford Act, 42 U.S.C. 5133.	Section 1366 of the National Flood Insurance Act of 1968 (NFIA); 42 U.S.C. 4101c, as amended by the National Flood Insurance Reform Act of 1994 (NFIRA), Public Law 103-325; and the Flood Insurance Reform Act of 2004 (FIRA), Public Law 108-264.	Section 1323 of the NFIA, 42 U.S.C. 4030, as amended by the FIRA 2004, Public Law 108-264.	Section 1361A of the NFIA, 42 U.S.C. 4102a, as amended by the FIRA 2004, Public Law 108-264.
Purpose	To significantly reduce or permanently eliminate future risk to lives and property from natural hazards. HMGP funds projects in accordance with priorities identified in State, Tribal, or local hazard mitigation plans, and enables mitigation measures to be implemented during the recovery from a disaster.	To provide funds for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. Funding these plans and projects reduces overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations.	To reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insured under the National Flood Insurance Program (NFIP).	To reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP that have had one or more claim payments for flood damages.	To reduce or eliminate the long-term risk of flood damage to severe repetitive loss residential structures insured under the NFIP.

Program Element	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)	Repetitive Flood Claims (RFC)	Severe Repetitive Loss (SRL)
Program Priorities	Priorities are set by the State under each disaster declaration that includes authorized HMGP assistance.	Provide funds for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event.	Mitigation activities that reduce or eliminate the long-term risk of flood damage to insured properties.	Funding mitigation activities that are in the best interest of the National Flood Insurance Fund (NFIF).	Funding mitigation activities that are in the best interest of the NFIF.
Applicant Eligibility	State emergency management agencies or a similar State office (i.e., the office that has primary emergency management or as designated by the Governor), the District of Columbia, the U.S. Virgin Islands, American Samoa, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, and federally recognized Indian Tribal governments. Each State, Territory, or Tribal government shall designate one agency to serve as the Grantee for the program.	State emergency management agencies or a similar State office (i.e., the office that has primary emergency management or floodplain management responsibility), the District of Columbia, the U.S. Virgin Islands, American Samoa, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, and federally recognized Indian Tribal governments. Each State, Territory, or Tribal government shall designate one agency to serve as the Applicant for the program.	State emergency management agencies or a similar State office (i.e., the office that has primary emergency management or floodplain management responsibility), the District of Columbia, the U.S. Virgin Islands, American Samoa, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, and federally recognized Indian Tribal governments. Each State, Territory, or Tribal government shall designate one agency to serve as the Applicant for the program.	State emergency management agencies or a similar State office (i.e., the office that has primary emergency management or floodplain management responsibility), the District of Columbia, the U.S. Virgin Islands, American Samoa, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, and federally recognized Indian Tribal governments. Each State, Territory, or Tribal government shall designate one agency to serve as the Applicant for the program. **RFC funds are only available to those States or communities that cannot meet the requirements of the FMA program for either cost share or capacity to manage the activities.**	State emergency management agencies or a similar State office (i.e., the office that has primary emergency management or floodplain management responsibility), the District of Columbia, the U.S. Virgin Islands, American Samoa, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, and federally recognized Indian Tribal governments. Each State, Territory, or Tribal government shall designate one agency to serve as the Applicant for the program.
Subapplicant Eligibility	• State-level agencies; • Federally recognized Indian Tribal	• State-level agencies including State institutions (e.g., State hospital or university);	• State-level agencies; • Federally recognized Indian Tribal	• State-level agencies; • Federally recognized Indian Tribal	• State-level agencies; • Federally recognized Indian Tribal

Program Element	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)	Repetitive Flood Claims (RFC)	Severe Repetitive Loss (SRL)
Subapplicant Eligibility (continued)	governments; • Local governments (to include State-recognized Indian Tribes, authorized Indian Tribal organizations, and Alaska Native villages); and • Certain private nonprofit (PNP) organizations or institutions. Private individuals or businesses may not apply directly to the State or FEMA, but eligible local governments or PNP organizations may apply to benefit the private entity.	• Federally recognized Indian Tribal governments; • Local governments (to include State-recognized Indian Tribes, authorized Indian Tribal organizations, and Alaska Native villages); • Public colleges and universities; and • Indian Tribal colleges and universities. Private individuals, PNP organizations, and private colleges and universities are not eligible subapplicants; however, an eligible, relevant State agency or local government may apply to the Applicant as the subapplicant for assistance to benefit the private entity.	governments; and • Local governments (to include State-recognized Indian Tribes, authorized Indian Tribal organizations, and Alaska Native villages). Private individuals and PNP organizations are not eligible subapplicants. However, an eligible, relevant State agency or local government may apply to the Applicant as the subapplicant for assistance to benefit the private entity.	governments; and • Local governments (to include State-recognized Indian Tribes, authorized Indian Tribal organizations, and Alaska Native villages). Private individuals and PNP organizations are not eligible subapplicants. However, an eligible, relevant State agency or local government may apply to the Applicant as the subapplicant for assistance to benefit the private entity. **RFC funds are only available to those States or communities that cannot meet the requirements of the FMA program for either cost share or capacity to manage the activities.**	governments; and • Local governments (to include State-recognized Indian Tribes, authorized Indian Tribal organizations, and Alaska Native villages). Private individuals and PNP organizations are not eligible subapplicants. However, an eligible, relevant State agency or local government may apply to the Applicant as the subapplicant for assistance to benefit the private entity.
Eligible Project Grants	Projects to protect either public or private property, as long as the project fits within State and local government mitigation strategies to address areas of risk, and complies with program guidelines. Examples of projects include: • Acquisition and demolition or relocation	Examples of projects include: • Acquisition and demolition or relocation of structures, with conversion of the underlying property to deed-restricted open space; • Elevation of existing structures to at least the BFE or an ABFE or	Examples of projects include: • Acquisition and demolition or relocation of structures, with conversion of the underlying property to deed-restricted open space; • Elevation of existing structures to at least the BFE or an ABFE or	Examples of projects include: • Acquisition and demolition or relocation of structures, with conversion of the underlying property to deed-restricted open space; • Elevation of existing structures to at least the BFE or an ABFE or	Examples of projects include: • Acquisition and demolition or relocation of structures, with conversion of the underlying property to deed-restricted open space; • Elevation of existing structures to at least the BFE or an ABFE or

Program Element	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)	Repetitive Flood Claims (RFC)	Severe Repetitive Loss (SRL)
Eligible Project Grants (continued)	of structures, with conversion of the underlying property to deed-restricted open space; • Elevation of existing structures to at least the base flood elevation (BFE) or an advisory base flood elevation (ABFE) or higher; • Structural and non-structural retrofitting of existing public or private structures; • Dry floodproofing of non-residential structures; • Minor and localized flood reduction projects; and • Construction of safe rooms (tornado and severe wind) for public and private structures.	higher; • Structural and non-structural retrofitting of existing public or private structures; • Construction of safe rooms (tornado and severe wind) for public and private structures; • Hydrologic and Hydraulic studies/analyses, engineering studies and drainage studies for the purpose of project design and feasibility determination directly related to the proposed project; • Vegetation management for natural dune restoration, wildfire, or snow avalanche; • Storm water management projects to reduce or eliminate long-term risk from flood hazards; and • Localized flood reduction projects that are designed specifically to protect critical facilities and that do not constitute a section of a larger flood control system.	higher; • Dry floodproofing of non-residential structures; and • Minor and localized flood reduction projects. All properties must be NFIP insured at the time of application.	higher; • Dry floodproofing of non-residential structures; and • Minor and localized flood reduction projects (funding limited to $1 million per project). All properties must be NFIP insured at the time of application.	higher. Mitigation reconstruction is permitted when traditional elevation cannot be implemented; • Dry floodproofing (historic properties only); and • Minor and localized flood reduction projects. All properties must be NFIP insured at the time of application.

Program Element	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)	Repetitive Flood Claims (RFC)	Severe Repetitive Loss (SRL)
Eligible Planning Grants	Planning grants are available for developing State, local, or Tribal mitigation plans. **Funding is available for up to 7 percent of total HMGP grant amount.**	Planning grants are available for: • New plan development • Plan updates	Planning grants are available for planning activities that support the flood hazard component of a State, Indian Tribal, or local mitigation plan that meets the planning criteria outlined in 44 Code of Federal Regulations (CFR) Part 201.	**Planning grants are not available.**	**Planning grants are not available.**
Eligible Management Costs	**For disasters declared prior to November 13, 2007:** The HMGP provides three categories of "direct administrative costs": • State management; • Grantee administrative; and • Subgrantee administrative. **For disasters declared after November 13, 2007:** Administrative costs, management costs, and indirect costs are included in a single Management Cost rate. The amount of Management Cost available to the Grantee is based on a flat rate of 4.89 percent of the projected Federal funding for HMGP. Grantees determine the percentage or amount to pass through to subgrantees.	Management costs are available to support the planning and project subapplications: • Applicants/Grantees up to 10 percent of total funds requested; and • Subapplicants/subgrantees up to 5 percent of total funds requested.	Management costs are available to support the planning and project subapplications: • Applicants/Grantees up to 10 percent of total funds requested; and • Subapplicants/subgrantees up to 5 percent of total funds requested.	Management costs are available to support the project subapplications: • Applicants/Grantees up to 10 percent of total funds requested; and • Subapplicants/subgrantees up to 5 percent of total funds requested.	Management costs are available to support the project subapplications: • Applicants/Grantees up to 10 percent of total funds requested; and • Subapplicants/subgrantees up to 5 percent of total funds requested.

Program Element	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)	Repetitive Flood Claims (RFC)	Severe Repetitive Loss (SRL)
Planning Requirements	All States/Tribes/Territories must have a FEMA-approved and adopted State/Tribal Standard or Enhanced Mitigation Plan to receive HMGP funds. In addition, all subapplicants must have a FEMA-approved local mitigation plan in accordance with 44 CFR Parts 201.6 and 206.434(b) to be eligible to receive project grant funding under the HMGP. All activities submitted for consideration must be consistent with the Grantee's State/Tribal standard or enhanced hazard mitigation plan and the subapplicant's Tribal/local/university hazard mitigation plan for the local jurisdiction in which the activity is located.	All Applicants must have a FEMA-approved State Mitigation Plan (Standard or Enhanced) or Tribal Mitigation Plan by the application deadline to be eligible to apply for project grant funding under the PDM program in accordance with 44 CFR Part 201. In addition, all subapplicants must have a FEMA-approved mitigation plan by the application deadline to be eligible to apply for project grant funding under the PDM program. Projects submitted for consideration must be consistent with the goals and objectives identified in the current FEMA-approved State/Tribal Mitigation Plan and the Tribal/local/university mitigation plan for the jurisdiction in which the activity is located. If any plan is due to lapse soon after application, the project award may be held pending approval of a new or updated plan.	All Applicants must have a FEMA-approved State Mitigation Plan (Standard or Enhanced) or Tribal Mitigation Plan by the application deadline to be eligible to receive project grant funding under the FMA program, in accordance with 44 CFR Part 201. In addition, all subapplicants must have a FEMA-approved mitigation plan by the application deadline to be eligible to receive project grant funding under the FMA program. In order to be eligible for an increased Federal cost share of up to 90 percent for severe repetitive loss properties, the FEMA-approved State or Tribal Standard Mitigation Plan in effect at the time of grant award must address repetitive loss properties. If any plan is due to lapse soon after application, the project award may be held pending approval of a new or updated plan.	All Applicants must have a FEMA-approved State Mitigation Plan (Standard or Enhanced) or Tribal Mitigation Plan by the application deadline to be eligible to receive project grant funding under the RFC program, in accordance with 44 CFR Part 201. If any plan is due to lapse soon after application, the project award may be held pending approval of a new or updated plan. **No local plan requirement.**	All Applicants must have a FEMA-approved State Mitigation Plan (Standard or Enhanced) or Tribal Mitigation Plan by the application deadline to be eligible to receive project grant funding under the SRL program, in accordance with 44 CFR Part 201. In addition, all subapplicants must have a FEMA-approved mitigation plan by the application deadline to be eligible to receive project grant funding under the SRL program. In order to be eligible for an increased cost share of up to 90 percent, the FEMA-approved State or Tribal Mitigation Plan in effect at the time of grant award must address repetitive loss properties. If any plan is due to lapse soon after application, the project award may be held pending approval of a new or updated plan.
Application Process	The primary responsibility for selecting and administering mitigation activities resides with the	Applicants must apply electronically via FEMA's *e*Grants application, available at	Applicants must apply electronically via FEMA's *e*Grants application, available at	Applicants must apply electronically via FEMA's *e*Grants application, available at	Applicants must apply electronically via FEMA's *e*Grants application, available at

Program Element	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)	Repetitive Flood Claims (RFC)	Severe Repetitive Loss (SRL)
Application Process (continued)	State. The State sets mitigation priorities and selects project subapplications that are developed and submitted by local jurisdictions. Although individuals may not apply directly to the State for assistance, local governments may sponsor an application on their behalf. After its eligibility review, the State forwards subapplications consistent with State mitigation planning objectives to FEMA for review and approval.	https://portal.fema.gov. Subapplicants apply directly to the Applicant, who reviews and prioritizes the subapplications. The Applicant submits the Grant application with subapplications to FEMA for review and approval.	https://portal.fema.gov. Subapplicants apply directly to the Applicant, who reviews and prioritizes the subapplications. The Applicant submits the Grant application with subapplications to FEMA for review and approval.	https://portal.fema.gov. Subapplicants apply directly to the Applicant, who reviews and prioritizes the subapplications. The Applicant submits the Grant application with subapplications to FEMA for review and approval.	https://portal.fema.gov. Subapplicants apply directly to the Applicant, who reviews and prioritizes the subapplications. The Applicant submits the Grant application with subapplications to FEMA for review and approval.
Available Funds	Federal funding under the HMGP is available following a major disaster declaration, if requested by the Governor. As of October 4, 2006, if a State has a FEMA-approved Standard State Mitigation plan, HMGP funds are available based on up to 15 percent for amounts not more than $2 billion of the total of Public and Individual Assistance funds authorized for the disaster; up to 10 percent for amounts of $2 billion to not more than $10 billion; 7.5 percent for amounts of $10 billion to not more than $35.333 billion. If a State	Pending Appropriation.	Pending Appropriation.	Pending Appropriation.	Pending Appropriation.
Available Funds					

Program Element	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)	Repetitive Flood Claims (RFC)	Severe Repetitive Loss (SRL)
(continued)	has a FEMA-approved Enhanced Mitigation plan, HMGP funds are available based on up to 20 percent of the total of Public and Individual Assistance funds authorized for the disaster.				
Cost-Share Requirements	HMGP grant funds may be used to pay up to 75 percent of the eligible project costs. The non-Federal match does not need to be cash; in-kind services or materials may be used.	FEMA may contribute up to 75 percent Federal funding for the amount approved under the grant award to implement approved activities. Small and impoverished communities may be eligible for up to a 90 percent Federal cost share.	FEMA may contribute up to 75 percent Federal funding for the amount approved under the grant award to implement approved activities. An increased Federal cost share of up to 90 percent is available for the mitigation of severe repetitive loss properties for any Applicant that has taken actions to reduce the number of repetitive loss properties, including severe repetitive loss properties, and has a FEMA-approved State or Tribal Mitigation Plan that specifies how it has reduced, and how it intends to reduce, the number of such repetitive loss properties.	FEMA may contribute up to 100 percent Federal funding for the amount approved under the grant award to implement approved activities.	FEMA may contribute up to 75 percent Federal funding for the amount approved under the grant award to implement approved activities. An increased Federal cost share of up to 90 percent is available for any Applicant that has taken actions to reduce the number of repetitive loss properties, including severe repetitive loss properties, and has a FEMA-approved State or Tribal Mitigation Plan that specifies how it has reduced, and how it intends to reduce, the number of such repetitive loss properties.
Distribution of Funds **Distribution of**	The HMGP is administered by the State. The mitigation planning and application development process begins at the local level. States prioritize local subapplications and select projects for funding.	Grants are awarded on a competitive basis. Eligible subapplications will compete nationally for grant funds.	Applicants may receive a FMA project and planning target allocation based on the national percentage of NFIP policies present within the jurisdiction. An Applicant may apply for funding up to or exceeding	Grants are awarded on a competitive basis. Eligible subapplications will compete nationally for grant funds.	Applicants may receive a target allocation based on the national percentage of severe repetitive loss properties present within the jurisdiction. An Applicant may apply for funding up to or exceeding its target

Program Element	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)	Repetitive Flood Claims (RFC)	Severe Repetitive Loss (SRL)
Funds (continued)			its target allocation.		allocation. Applicants that do not meet the minimum threshold to receive a target allocation will be eligible to apply for a 10 percent set-aside of the SRL funds.
Application Deadline	Generally, subapplications must be submitted to the State for consideration within 12 months following a disaster declaration.	Applicants must submit an FY09 grant application through the *e*Grants system to the appropriate FEMA Regional Office by December 19, 2008, at 11:59:59 p.m. Eastern Standard Time. All supporting documentation that cannot be attached to the *e*Grants system must be received by the FEMA Regional Office by the application deadline.	Applicants must submit an FY09 grant application through the *e*Grants system to the appropriate FEMA Regional Office by December 19, 2008, at 11:59:59 p.m. Eastern Standard Time. All supporting documentation that cannot be attached to the *e*Grants system must be received by the FEMA Regional Office by the application deadline.	Applicants must submit an FY09 grant application through the *e*Grants system to the appropriate FEMA Regional Office by December 19, 2008, at 11:59:59 p.m. Eastern Standard Time. All supporting documentation that cannot be attached to the *e*Grants system must be received by the FEMA Regional Office by the application deadline.	Applicants must submit an FY09 grant application through the *e*Grants system to the appropriate FEMA Regional Office by December 19, 2008, at 11:59:59 p.m. Eastern Standard Time. All supporting documentation that cannot be attached to the *e*Grants system must be received by the FEMA Regional Office by the application deadline.
Application Review **Application**	Project subapplications are reviewed by the State to ensure all program requirements are met. States should submit eligible subapplications for funding. There are five minimum criteria that all projects must meet in order to be considered for funding: • Conforms with the State Hazard Mitigation Plan; • Provides beneficial impact upon the designated disaster area;	Project subapplications are reviewed by the Applicant to ensure all program requirements are met. Applicants should submit eligible subapplications for funding. Applications and subapplications are reviewed by FEMA for: • Eligibility and completeness; • Cost effectiveness; • Engineering feasibility	Project subapplications are reviewed by the Applicant to ensure all program requirements are met. Applicants should submit eligible subapplications for funding. Applications and subapplications are reviewed by FEMA for: • Eligibility and completeness; • Cost effectiveness; • Engineering feasibility	Project subapplications are reviewed by the Applicant to ensure all program requirements are met. Applicants should submit eligible mitigation project subapplications for funding. Project applications and subapplications are reviewed by FEMA for: • Eligibility and completeness; • Cost effectiveness; • Engineering feasibility	Project subapplications are reviewed by the Applicant to ensure all program requirements are met. Applicants should submit eligible mitigation project subapplications for funding. Project applications and subapplications are reviewed by FEMA for: • Eligibility and completeness; • Cost effectiveness; • Engineering feasibility

Program Element	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)	Repetitive Flood Claims (RFC)	Severe Repetitive Loss (SRL)
Review (continued)	• Conforms with environmental laws and regulations; • Solves a problem independently or constitutes a function portion of a solution; and • Is cost-effective.	and effectiveness; and • Environmental/Historic Preservation compliance. National Ranking - FEMA will score all eligible planning and project subapplications on the basis of predetermined, objective, quantitative factors to calculate a National Ranking Score. National Evaluation - National panels chaired by FEMA and composed of representatives from FEMA Headquarters and Regions, other Federal agencies, States, federally-recognized Indian Tribal governments, Territories, and local governments convene to evaluate planning and project subapplications on the basis of additional pre-determined qualitative factors. Technical Review - FEMA conducts technical reviews for Benefit Cost and Engineering Feasibility on the highest scoring project subapplications representing approximately 150 percent of available funding.	and effectiveness; and • Environmental/Historic Preservation compliance.	and effectiveness; and • Environmental/Historic Preservation compliance.	and effectiveness; and • Environmental/Historic Preservation compliance.

F.4 Municipal Capability Assessment Survey

As described in Section 8, a survey was administered to the municipalities in the course of this planning process. The survey questions and summary survey results follow.

Local Capability Assessment Survey_Passaic County, NJ Hazard

Introduction

Thank you for taking the time to complete this survey. Your frank and honest responses will help us assess capability for hazard mitigation planning and implementation.

First, it is important to establish what we mean by "hazard mitigation." For the purposes of this assessment, the term "hazard mitigation" refers to measures intended to reduce the effects of hazards on a place and its population. Hazards include naturally occurring events such as floods, high winds, and ice storms, as well as manmade hazards resulting from events such as industrial accidents or dam or levee failures. Hazard mitigation actions include a broad array of programs and actions, including: public education about stronger construction techniques, elevation or acquisition of repetitive loss structures, floodplain management regulations, dam construction and wetland restoration.

On the other hand, programs and projects that strictly address public safety and/or emergency management are typically not considered to be hazard mitigation.

Please keep this definition in mind as you answer the following questions.

You are now ready to begin the survey. Use the "Next" button located at the bottom of each page to navigate through the survey. Use the "Prev" button if at any point you need to go back and change an answer.

Your answers will be saved if you stop midway through the survey and you will pick up on that question when you resume. However, once you begin a survey it must be finished on the same computer, meaning you cannot start on a work computer and finish on a home computer.

Please note the progress bar at the top of your page. This shows your progress in the survey and updates every time a new page is opened.

Local Capability Assessment Survey_Passaic County, NJ Hazard

General Information

*** 1. Today's date:**

MM DD YYYY

Enter here: ___ / ___ / _____

*** 2. Respondant's Information:**

Name:

Position or job title:

Agency:

Jurisdiction:

Email Address:

Phone Number:

3. What is your employment status? (Your response should be relevant to hazard mitigation work; if you are a full-time police officer and a volunteer OEM coordinator, mark "volunteer")

- ◯ Full time
- ◯ Part time
- ◯ Volunteer

Local Capability Assessment Survey_Passaic County, NJ Hazard

Local Capability

*** 4. How long have you held your current position?**

*** 5. Describe the education degrees, professional certifications and/or professional experience that are most relevant in your current role:**

6. Describe any other relevant expertise (finance, engineering, planning, etc.):

*** 7. In regards to staffing:**

	How many staff do you directly oversee?	How many of the staff whom you oversee work directly in hazard mitigation? (Includes working with FEMA grants or generally working to reduce exposure to hazards, but NOT emergency response.)
Full-time employee(s)		
Contractor(s)		
Volunteer(s) and/or student(s)		

*** 8. How many of your staff have training or expertise directly relevant to hazard mitigation? (Includes working with FEMA grants or generally working to reduce exposure to hazards, but NOT emergency response.)**

*** 9. Do staff in other departments/agencies/offices in your municipal also work in a hazard-mitigation capacity? (Includes working with FEMA grants or generally working to reduce exposure to hazards, but NOT emergency response.)**

- Yes
- No
- Don't know

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions-Local Capability

10. In what department(s), agency(ies), or office(s) are they located? (Check all that apply)

- [ ] Department of Environmental Protection/Quality
- [ ] Planning Department
- [ ] Department of Public Works
- [ ] Building Department
- [ ] Office of Emergency Management
- [ ] Other

11. How many total staff are in these other offices?

12. How do you regularly communicate with the staff in these other offices?

Local Capability Assessment Survey_Passaic County, NJ Hazard

GIS

*** 13. Does your office use GIS data?**

- ◯ Yes
- ◯ No
- ◯ Don't know

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions-GIS

14. What hazard-mitigation purposes, specifically, is the GIS data used for?

*** 15. Where is this data located?**

- ◯ Respondent's office
- ◯ Somewhere else

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions-GIS

*** 16. How many staff are devoted to operating, updating and maintaining your GIS?**

*** 17. What is your annual budget for GIS staff and technology?**

Local Capability Assessment Survey_Passaic County, NJ Hazard

Mitigation Grants

By answering "Yes" to the following question you will be asked a series of follow up questions related to this topic. By answering "No" you will move ahead to the next section in the survey.

*** 18. Are you familiar with any of the following mitigation programs:**

Public Assistance (PA) program (a/k/a Stafford Act, Sec 406)
Hazard Mitigation Grant Program (HMGP) (a/k/a Stafford Act, Sec. 404)
Pre-Disaster Mitigation (PDM) program
Flood Mitigation Assistance (FMA) program
Severe Repetitive Loss (SRL) program
Repetitive Flood Claim (RFC) program

- ◯ Yes
- ◯ No

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions-Mitigation Grants

*** 19. Please indicate your familiarity with the following FEMA mitigation funding sources:**
(1=Never heard of it, 5=Very familar)

	1	2	3	4	5
Public Assistance (PA) program (a/k/a Stafford Act, Sec 406)	○	○	○	○	○
Hazard Mitigation Grant Program (HMGP) (a/k/a Stafford Act, Sec. 404)	○	○	○	○	○
Pre-Disaster Mitigation (PDM) program	○	○	○	○	○
Flood Mitigation Assistance (FMA) program	○	○	○	○	○
Severe Repetitive Loss (SRL) program	○	○	○	○	○
Repetitive Flood Claim (RFC) program	○	○	○	○	○

*** 20. Please indicate whether your municipality has received funding from the following FEMA mitigation funding sources:**

	Yes	No	Don't know
Public Assistance (PA) program (a/k/a Stafford Act, Sec. 406)	○	○	○
Hazard Mitigation Grant Program (HMGP) (a/k/a Stafford Act, Sec. 404)	○	○	○
Pre-Disaster Mitigation (PDM) program	○	○	○
Flood Mitigation Assistance (FMA) program	○	○	○
Severe Repetitive Loss (SRL) program	○	○	○
Repetitive Flood Claim (RFC) program	○	○	○

*** 21. How much total federal, state, and local funding was spent in your municipality on hazard mitigation activities from 1998-2007?**

Federal	
State	
Local	

*** 22. Does someone in your office have experience with hazard mitigation grants:**

	Yes	No
Grant writing	○	○
Grant administration	○	○

Local Capability Assessment Survey_Passaic County, NJ Hazard

*** 23. How much time (hours per week) could staff in your office devote to management of hazard mitigation grants?**

*** 24. Is there an office other than yours that would be a preferable location for the management of hazard mitigation grants?**

- ◯ Yes
- ◯ No

Please specify

Local Capability Assessment Survey_Passaic County, NJ Hazard

Fiscal Resources for Mitigation

25. Please indicate your municipality's accessibility to the following potential funding sources for hazard mitigation projects:

	Ineligible to use	Eligible to use/ not actively used	Eligible to use/ actively used
General fund	☐	☐	☐
Development/impact fees	☐	☐	☐
Utility fees	☐	☐	☐
Community Development Block Grant (CDBG)	☐	☐	☐
Capital Improvements Project funding	☐	☐	☐
Authority to levy speciual-purpose taxes	☐	☐	☐
Hazard Mitigation Grant Program (HMGP)	☐	☐	☐
State open-space acquisition funds	☐	☐	☐
Local open-space acquisition funds	☐	☐	☐
Dedicated "Local Match" funds for federal/state grants	☐	☐	☐
Improvement Authority or other local entity with lending ability	☐	☐	☐

Other?

Local Capability Assessment Survey_Passaic County, NJ Hazard

Hazard Mitigation Programs

By answering "Yes" to the following question you will be asked a series of follow up questions related to this topic. By answering "No" you will move ahead to the next section in the survey.

*** 26. Does your municipality have an active hazard mitigation program?**

- ◯ Yes
- ◯ No

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions-Hazard Mitigation Programs

27. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

28. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

29. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

30. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

31. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

32. Please list any completed or current mitigation projects in your municipality:

Program or project

Description

Implementing Agency

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow-Up Questions--Hazard Mitigation Programs

33. Please describe any plans or regulations in your municipality that may (unintentionally) hinder hazard mitigation efforts (for example: historic preservation regulations that limit mitigation of certain structures, environmental regulations that discourage mitigation actions, development incentives that encourage building along shorelines or in floodplains, etc.):

34. Of the programs, actions, or activities your municipality has participated in, which have been less effective than others at reducing losses in your municipality?

35. Why do you believe these programs have been less effective?

36. Of the mitigation programs, actions, and activities your municipality has participated in, which have been the most effective in reducing losses in your municipality?

37. What makes these programs effective?

38. Based on the lessons you and your municipality have learned with these hazard mitigation programs, actions, or activities, what advice would you provide to other jurisdictions that may be considering implementing the same programs?

39. What types of mitigation programs, policies, or actions that are not currently being implemented in your municipality do you believe would be successful in reducing losses if they were implemented?

Local Capability Assessment Survey_Passaic County, NJ Hazard

Interagency and Intergovernmental Coordination

*** 40. Does your office work with other partners on hazard mitigation efforts?**

- ◯ Yes
- ◯ No

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions-Interagency and Intergovernmental Coordination

41. Please list other offices/agencies within your municipality with which your office works directly in order to plan and/or implement hazard mitigation:
(Check all that apply)

- [ ] Department of Environmental Protection/Quality
- [ ] Planning Department
- [ ] Department of Public Works
- [ ] Building Department
- [ ] Office of Emergency Management
- [ ] Other

42. Please list any neighboring jurisdictions with which your office works directly in order to plan and/or implement hazard mitigation:

43. Please list any departments, agencies, or commissions at the following levels of government with which your office works directly in order to plan and/or implement hazard mitigation:

County
Regional
State
Federal

44. Of all the partners you listed above, which are the most valuable relationships in terms of effective hazard mitigation?

45. Are there potential partners with whom you do not currently work that you believe might be useful in helping your municipality effectively mitigate hazard?

- ( ) Yes
- ( ) No
- ( ) Don't know

If yes, please specify

Local Capability Assessment Survey_Passaic County, NJ Hazard

Hazard Mitigation Planning, Implementation and Regulatory Capability

*** 46. Does your municipality have a hazard mitigation or flood mitigation plan?**

- ◯ Yes
- ◯ No
- ◯ Don't know

*** 47. What agency oversees the capital improvement program (CIP) in your municipality?**

*** 48. In regards to your capital improvement program:**

	Yes	No	Don't know
Are hazard mitigation projects generally considered as part of the CIP process?	◯	◯	◯
Are CIP projects systematically assessed for hazard mitigation implications?	◯	◯	◯

Please describe

*** 49. How many staff does your municipality employ for CIP implementation?**

	Staff
Engineers	
Project managers	
Construction labor	
Other	

Local Capability Assessment Survey_Passaic County, NJ Hazard

Flood Plain Management

*** 50. Does your municipality have a Flood Plain Management program?**

- ◯ Yes
- ◯ No
- ◯ Don't know

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions--Flood Plain Management

51. What department or agency administers floodplain management in your municipality?

- [ ] Department of Environmental Protection/Quality
- [ ] Planning Department
- [ ] Department of Public Works
- [ ] Building Department
- [ ] Office of Emergency Management
- [ ] Other

52. Does your municipality have a Certified Floodplain Manager (CFM)?

- ( ) Yes
- ( ) No
- ( ) Don't know

53. How many staff are involved in your flood plain managament program?

54. Does your municipality participate in the National Flood Insurance Program (NFIP)?

- ( ) Yes
- ( ) No
- ( ) Don't know

55. Does your municipality have a ranking lower than "10" in the Community Rating System (CRS) of the NFIP?

- ( ) Yes
- ( ) No
- ( ) Don't know

Local Capability Assessment Survey_Passaic County, NJ Hazard

56. Are floodplain-related permitting decisions ever overruled/ignored in your municipality?

- ◯ Yes
- ◯ No
- ◯ Don't know

If yes, please explain

Local Capability Assessment Survey_Passaic County, NJ Hazard

Green Acres and Blue Arces Programs

*** 57. Does your municipality use funds through the Green Acres (NJSA 13:8A 19-55 and 8B 1-9, NJAC 7:36) or Blue Acres programs?**

- ◯ Yes
- ◯ No
- ◯ Don't know

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions-Green Acres and Blue Acres Programs

58. What department or agency administers Green/Blue Acres funds in your municipality?

- [ ] Department of Environmental Protection/Quality
- [ ] Planning Department
- [ ] Department of Public Works
- [ ] Building Department
- [ ] Office of Emergency Management
- [ ] Other

59. Are Green/Blue Acres funds used for: (Check all that apply)

- [ ] Scenic/conservation landscape
- [ ] Hazard Mitigation
- [ ] Don't know

If Hazard Mitigation, please explain

Local Capability Assessment Survey_Passaic County, NJ Hazard

Comprehensive Planning

*** 60. Does your municipality have a comprehensive plan?**

- ◯ Yes
- ◯ No
- ◯ Don't know

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions-Comprehensive Planning

*** 61. Does your comprehensive plan include policies that:**

	Yes	No	Don't know
zone for low-intensity uses in areas of high vulnerability to hazards?	○	○	○
enforce set-backs from hazards, including flood areas, steep slopes, etc.?	○	○	○
acquire or dedicate green space in areas of high vulnerability to hazards?	○	○	○
locate capital improvements and public buildings away from areas of high vulnerability to hazards?	○	○	○
reduce vulnerability of existing structures in hazardous areas (including retrofitting or relocating)?	○	○	○
Is hazard mitigation addressed in other ways in your comprehensive plan?	○	○	○

Please explain if Hazard Mitigation is expressed in your comprehensive plan

Local Capability Assessment Survey_Passaic County, NJ Hazard

Zoning

*** 62. Does your municipality have a zoning ordinance?**

- ◯ Yes
- ◯ No
- ◯ Don't know

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions-Zoning

63. Does your zoning ordinance include policies that:

	Yes	No	Don't know
code for low-intensity uses in areas of high vulnerability to hazards?	○	○	○
require set-backs from hazards, including flood areas, steep slopes, etc.?	○	○	○
code allow for cluster development and/or other flexible site-planning strategies that can help reduce development in hazard areas?	○	○	○
Is hazard mitigation addressed in other ways in your zoning ordinance?	○	○	○

Please explain if Hazard Mitigation is expressed in your zoning ordinance

Local Capability Assessment Survey_Passaic County, NJ Hazard

Subdivision Ordinance

*** 64. Does your municipality have a subdivision ordinance?**

- ◯ Yes
- ◯ No
- ◯ Don't know

Local Capability Assessment Survey_Passaic County, NJ Hazard

Follow Up Questions-Subdivision Ordinance

65. Does your subdivision ordinance include:

	Yes	No	Don't know
mechanisms to achieve low-intensity uses in areas of high vulnerability to hazards?	○	○	○
requirements for set-backs from hazards, including flood areas, steep slopes, etc.?	○	○	○
encouragement for dedication of green space in areas of high vulnerability to hazards?	○	○	○
allowance for cluster development and/or other flexible site-planning strategies that can help reduce development in hazard areas?	○	○	○
Is hazard mitigation addressed in other ways in your subdivision ordinance?	○	○	○

Please explain if Hazard Mitigation is expressed in your subdivision ordinance

Local Capability Assessment Survey_Passaic County, NJ Hazard

Building Code Enforcement

*** 66. What department in your municipality oversees building code enforcement?**

- ◯ Building Department
- ◯ Permitting Department
- ◯ Engineering Department
- ◯ Other

*** 67. How many staff work directly with building code enforcement?**

68. What type of training does building code enforcement staff receive?

Local Capability Assessment Survey_Passaic County, NJ Hazard

Other Capabilities and Programs

69. Please list any other plans or land development regulations in your municipality that are intended to manage risk or mitigate hazard:

70. Does your muinicipality employ any of the following:

	Staffing level	Location
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		
planner(s) or engineer(s) with an understanding of natural- and/or human-caused hazards		
surveyors		
staff with education or expertise to assess the communities vulnarability to hazards		
personnel skilled in GIS and/or HAZUS		
scientists familiar with the hazards in the community		

*** 71. Does your municipality have public education programs related to hazard mitigation:**

	Yes	No	Don't know
Of a general nature related to flood or other hazards?	○	○	○
That provide site-specific hazard information to property owners or prospective property owners?	○	○	○

Local Capability Assessment Survey_Passaic County, NJ Hazard

Additional Comments or Questions

72. Do you have any other comments, questions or concerns regarding this survey or hazard mitigation?

Q4. How long have you held your current position?

Answer Options	Response Percent
Less than 6 months	8.3%
Between 6 months and 1 year	8.3%
Between 1 year and 3 years	25.0%
Between 3 years and 5 years	8.3%
Between 5 years and 10 years	8.3%
Between 10 years and 15 years	0.0%
Between 15 years and 20 years	8.3%
More than 20 years	33.3%

Answered question 12
Skipped question 2

Q5. Describe the education degrees, professional certifications and/or professional experience that are most relevant in your current role:

Open-Ended Response
Respondents provided a wide array of responses mentioned in the following categories: College, Fire, Law Enforcement, EMT, FEMA/ICS Training, Engineer/Surveyor, CPWM, NJDEP-T2, W3M, C2, Disaster Basics

Answered question 12
Skipped question 2

Q6. Describe any other relevant expertise (finance, engineering, planning, etc.):

Open-Ended Response
Respondents provided a wide array of responses mentioned in the following categories: Fire Prevention, County Working Group overseeing Homeland Security grants. NJ State supervisory experience in motor vehicle safety, Local Zoning Board, Rescue Squad

Answered question 9
Skipped question 5

Q7. In regards to staffing:

How many staff do you directly oversee?

Answer Options	0	1	2	3	4	5	6-10	11-15	16-20	21-30	31-50	More than 50	Don't know
Full-time employee(s)	33.3%	8.3%	33.3%	0.0%	8.3%	0.0%	0.0%	0.0%	8.3%	0.0%	8.3%	0.0%	0.0%
Contractor(s)	83.3%	0.0%	8.3%	8.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Volunteer(s) and/or student(s)	33.3%	16.7%	8.3%	0.0%	0.0%	0.0%	8.3%	0.0%	8.3%	8.3%	25.0%	0.0%	0.0%

How many of the staff whom you oversee works directly in hazard mitigation? (Includes working with FEMA grants or generally working to reduce exposure to hazards, but NOT emergency response.)

Answer Options	0	1	2	3	4	5	6-10	11-15	16-20	21-30	31-50	More than 50	Don't know
Full-time employee(s)	41.7%	0.0%	33.3%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Contractor(s)	91.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%	0.0%
Volunteer(s) and/or student(s)	50.0%	8.3%	0.0%	16.7%	0.0%	8.3%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%

Answered question	12
Skipped question	2

Q8. How many of your staff has training or expertise directly relevant to hazard mitigation? (Includes working with FEMA grants or generally working to reduce exposure to hazards, but NOT emergency response.)

Answer Options	Response Percent
0	33.3%
1	25.0%
2	8.3%
3	8.3%
4	0.0%
5	8.3%
6-10	16.7%
11-15	0.0%
16-20	0.0%
21-30	0.0%
31-50	0.0%
More than 50	0.0%
Don't know	0.0%

Answered question	12
Skipped question	2

Q9. Does staff in other departments/agencies/offices in your municipal also work in a hazard-mitigation capacity?

Answer Options	Response Percent
Yes	75.0%
No	8.3%
Don't know	16.7%

Answered question	12
Skipped question	2

Q10. In what department(s), agency(ies), or office(s) are they located?

Answer Options	Response Percent
Department of Environmental Protection/Quality	0.0%
Planning Department	55.6%
Department of Public Works	88.9%
Building Department	77.8%
Office of Emergency Management	77.8%
Other	44.4%

Answered question 9
Skipped question 5

Q11. How many total staff are in these other offices?

Answer Options	Response Percent
0	0.0%
1	0.0%
2	11.1%
3	11.1%
4	0.0%
5	22.2%
6-10	22.2%
11-15	11.1%
16-20	0.0%
21-30	0.0%
31-50	0.0%
More than 50	11.1%
Don't know	11.1%

Answered question 9
Skipped question 5

Q12. How do you regularly communicate with the staff in these other offices?

Open-Ended Response
Respondents provided a wide array of responses mentioned in the following categories: Phone, email, face to face

Answered question 9
Skipped question 5

Q13. Does your office use GIS data?

Answer Options	Response Percent
Yes	8.3%
No	50.0%
Don't know	41.7%

Answered question 12
Skipped question 2

Q14. What hazard-mitigation purposes, specifically, is the GIS data used for?

Open-Ended Response
Respondents provided a wide array of responses mentioned in the following categories:
Flood mapping

Answered question 1
Skipped question 13

Q15. Where is this data located?

Answer Options	Response Percent
Respondent's office	0.0%
Somewhere else	100.0%

Answered question 1
Skipped question 13

Q16. How many staff are devoted to operating, updating and maintaining your GIS?

Answer Options	Response Percent
0	0.0%
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6-10	0.0%
11-15	0.0%
16-20	0.0%
21-30	0.0%
31-50	0.0%
More than 50	0.0%
Don't know	0.0%

Answered question 0
Skipped question 14

Q17. What is your annual budget for GIS staff and technology?

Answer Options	Response Percent
Less than $1,000	0.0%
$1,000-$5,000	0.0%
$5,001-$10,000	0.0%
$10,001-$20,000	0.0%
$20,001-$30,000	0.0%
$31,000-$40,000	0.0%
$41,000-$50,000	0.0%
$51,000-$100,000	0.0%
More than $100,000	0.0%
Don't know	0.0%

Answered question 0
Skipped question 14

Q18. Please indicate your familiarity with the following FEMA mitigation funding sources:

(1=Never heard of it - 5=Very familiar)

Answer Options	1	2	3	4	5
Public Assistance (PA) program (a/k/a Stafford Act, Sec 406)	0.0%	28.6%	0.0%	57.1%	14.3%
Hazard Mitigation Grant Program (HMGP) (a/k/a Stafford Act, Sec. 404)	0.0%	28.6%	28.6%	42.9%	14.3%
Pre-Disaster Mitigation (PDM) program	0.0%	14.3%	28.6%	42.9%	14.3%
Flood Mitigation Assistance (FMA) program	0.0%	14.3%	28.6%	28.6%	28.6%
Severe Repetitive Loss (SRL) program	0.0%	42.9%	0.0%	28.6%	28.6%
Repetitive Flood Claim (RFC) program	0.0%	42.9%	0.0%	28.6%	28.6%

Answered question 7
Skipped question 7

Q20. Please indicate whether your municipality has received funding from the following FEMA mitigation funding sources:

Answer Options	Yes	No	Don't know
Public Assistance (PA) program (a/k/a Stafford Act, Sec. 406)	42.9%	14.3%	42.9%
Hazard Mitigation Grant Program (HMGP) (a/k/a Stafford Act, Sec. 404)	14.3%	28.6%	57.1%
Pre-Disaster Mitigation (PDM) program	0.0%	57.1%	42.9%
Flood Mitigation Assistance (FMA) program	0.0%	28.6%	71.4%
Severe Repetitive Loss (SRL) program	14.3%	28.6%	57.1%
Repetitive Flood Claim (RFC) program	28.6%	42.9%	28.6%

Answered question 7
Skipped question 7

Q21. How much total federal, state, and local funding was spent in your municipality on hazard mitigation activities from 1998-2007?

Answer Options	Less than $1,000	$1,000-$5,000	$5,001-$10,000	$10,001-$50,000	$50,001-$100,000	More than $100,000	Don't know
Federal	1	0	0	1	0	1	4
State	1	0	0	0	0	1	5
Local	1	0	1	1	0	1	3

Answered question 7
Skipped question 7

Q22. Does someone in your office have experience with hazard mitigation grants?

Answer Options	Yes	No
Grant writing	42.9%	57.1%
Grant administration	28.6%	71.4%

Answered question 7
Skipped question 7

Q23. How much time (hours per week) could staff in your office devote to management of hazard mitigation grants?

Answer Options	Response Percent
0-5	71.4%
6-10	28.6%
11-20	0.0%
21-30	0.0%
31-40	0.0%
41-80	0.0%
More than 80	0.0%

Answered question 7
Skipped question 7

Q24. Is there an office other than yours that would be a preferable location for the management of hazard mitigation grants?

Answer Options	Response Percent
Yes	42.9%
No	57.1%

Answered question 7
Skipped question 7

Q25. Please indicate your municipality's accessibility to the following potential funding sources for hazard mitigation projects:

Answer Options	Ineligible to use	Eligible to use/ not actively used	Eligible to use/ actively used
General fund	20.0%	40.0%	40.0%
Development/impact fees	50.0%	50.0%	0.0%
Utility fees	25.0%	75.0%	0.0%
Community Development Block Grant (CDBG)	25.0%	50.0%	25.0%
Capital Improvements Project funding	25.0%	75.0%	0.0%
Authority to levy special-purpose taxes	25.0%	75.0%	0.0%
Hazard Mitigation Grant Program (HMGP)	0.0%	75.0%	25.0%
State open-space acquisition funds	0.0%	80.0%	20.0%
Local open-space acquisition funds	0.0%	80.0%	20.0%
Dedicated Local Match "funds for federal/state grants"	0.0%	80.0%	75.0%
Improvement Authority or other local entity with lending ability	75.0%	25.0%	0.0%

Answered question 5
Skipped question 9

Q26. Does your municipality have an active hazard mitigation program?

Answer Options	Response Percent
Yes	27.3%
No	72.7%

Answered question 11
Skipped question 3

Q27-32. Please list any completed or current mitigation projects in your municipality:

Open-Ended Response
Only one municipality responded and reported acquisition/open space preservation projects.

Answered question 1
Skipped question 13

Q33. Please describe any plans or regulations in your municipality that may (unintentionally) hinder hazard mitigation efforts

Open-Ended Response
Two municipalities responded and reported stream/river encroachment.

Answered question 2
Skipped question 12

Q34. Of the programs, actions, or activities your municipality has participated in, which have been less effective than others at reducing losses in your municipality?

Open-Ended Response
Two municipalities responded citing acquisition as not being helpful to the municipality in terms of funding.

Answered question 2
Skipped question 12

Q35. Why do you believe these programs have been less effective?

Open-Ended Response
Two municipalities responded stating the taking homes off of the tax rolls which could not be replaced was a less effective program in reducing losses within the municipality.

Answered question 2
Skipped question 12

Q36. Of the mitigation programs, actions, and activities your municipality has participated in, which have been the most effective in reducing losses in your municipality?

Open-Ended Response
Two municipalities responded citing flood mitigation activity.

Answered question	2
Skipped question	12

Q37. What makes these programs effective?

Open-Ended Response
Only one municipality citing that effective use of resources makes programs effective.

Answered question	1
Skipped question	13

Q38. Based on the lessons you and your municipality have learned with these hazard mitigation programs, actions, or activities, what advice would you provide to other jurisdictions that may be considering implementing the same programs?

Open-Ended Response
Two municipalities responded stating that retrofitting homes instead of buyouts, including coming up with better building codes and maintain coordination between resources were some of the lessons municipalities have learned with hazard mitigation programs, actions, or activities.

Answered question	2
Skipped question	12

Q39. What types of mitigation programs, policies, or actions that are not currently being implemented in your municipality do you believe would be successful in reducing losses if they were implemented?

Open-Ended Response
Two municipalities stated that dredging Passaic River, desnagging dredging, and desnagging Peckman River were among mitigation programs that are not currently being implemented in municipalities which would be successful in reducing losses if they were implemented.

Answered question 2
Skipped question 12

Q40. Does your office work with other partners on hazard mitigation efforts?

Answer Options	Response Percent
Yes	63.6%
No	36.4%

Answered question 11
Skipped question 3

Q41. Please list other offices/agencies within your municipality with which your office works directly in order to plan and/or implement hazard mitigation:

Answer Options	Response Percent
Department of Environmental Protection/Quality	0.0%
Planning Department	57.1%
Department of Public Works	100.0%
Building Department	100.0%
Office of Emergency Management	85.7%
Other	42.9%

Answered question 7
Skipped question 7

Q42. Please list any neighboring jurisdictions with which your office works directly in order to plan and/or implement hazard mitigation:

Open-Ended Response
Respondents listed the following jurisdictions with which offices worked together on hazard mitigation planning: Borough of Prospect Park, Little Falls, Totowa, City of Passaic, and Woodland Park.

Answered question 6
Skipped question 8

Q43. Please list any departments, agencies, or commissions at the following levels of government with which your office works directly in order to plan and/or implement hazard mitigation:

Answer Options	Response Percent
County	100.0%
Regional	16.7%
State	50.0%
Federal	33.3%

Answered question 6
Skipped question 8

Q44. Of all the partners you listed above, which are the most valuable relationships in terms of effective hazard mitigation?

Open-Ended Response
Respondents included answer such as the Passaic County OEM, NJOEM, State Police OEM, Planning Department and Public Works.

Answered question 7
Skipped question 7

Q45. Are there potential partners with whom you do not currently work that you believe might be useful in helping your municipality effectively mitigate hazard?

Answer Options	Response Percent
Yes	14.3%
No	28.6%
Don't know	57.1%

Answered question 7
Skipped question 7

Q46. Does your municipality have a hazard mitigation or flood mitigation plan?

Answer Options	Response Percent
Yes	36.4%
No	54.5%
Don't know	9.1%

Answered question 11
Skipped question 3

Q47. What agency oversees the capital improvement program (CIP) in your municipality?

Open-Ended Response
Respondents provided a wide array of responses, however consistent responses were mentioned in the following categories:
Finance, Municipal Clerk, Administration and Finance, Engineering, and Mayor/City Council.

Answered question 11
Skipped question 3

Q48. In regards to your capital improvement program:

Answer Options	Yes	No	Don't know
Are hazard mitigation projects generally considered as part of the CIP process?	18.2%	18.2%	63.4%
Are CIP projects systematically assessed for hazard mitigation implications?	36.4%	0.%	64.4%

Answered question 11
Skipped question 3

Q49. How many staff does your municipality employ for CIP implementation?

Answer Options	0	1	2	3	4	5	6-10	11-15	16-20	21-30	31-50	More than 50	Don't know
Engineers	9.1%	45.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	45.5%
Project managers	36.4%	18.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	45.5%
Construction labor	27.3%	0.0%	0.0%	0.0%	0.0%	0.0%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	63.6%
Other	27.3%	0.0%	0.0%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	63.6%

Answered question 11
Skipped question 3

Q50. Does your municipality have a Flood Plain Management program?

Answer Options	Response Percent
Yes	27.3%
No	27.3%
Don't know	45.5%

Answered question 11
Skipped question 3

Q51. What department or agency administers floodplain management in your municipality?

Answer Options	Response Percent
Department of Environmental Protection/Quality	0.0%
Planning Department	66.7%
Department of Public Works	33.3%
Building Department	66.7%
Office of Emergency Management	66.7%
Other	0.0%

Answered question 3
Skipped question 11

Q52. Does your municipality have a Certified Floodplain Management (CFM)?

Answer Options	Response Percent
Yes	0.0%
No	100.0%
Don't know	0.0%
Comments	

Answered question 3
Skipped question 11

Q54. Does your municipality participate in the National Flood Insurance Program (NFIP)?

Answer Options	Response Percent
Yes	66.7%
No	33.3%
Don't know	0.0%

Answered question 3
Skipped question 11

Q55. How many staff are involved in your flood plain management program?

Answer Options	Response Percent
0	33.3%
1	33.3%
2	0.0%
3	33.3%
4	0.0%
5	0.0%
6-10	0.0%
11-15	0.0%
16-20	0.0%
21-30	0.0%
31-50	0.0%
More than 50	0.0%
Don't know	0.0%

Answered question 3
Skipped question 11

Q56. Are the floodplain-related permitting decisions ever overruled/ignored in your municipality?

Answer Options	Response Percent
Yes	33.3%
No	33.3%
Don't know	33.3%

Answered question 4
Skipped question 8

Q57. Does your municipality use funds through the Green Acres (NJSA 12:8a 19-55 and 8B 1-9, NJAC 7:36) or Blue Acres programs?

Answer Options	Response Percent
Yes	54.5%
No	9.1%
Don't know	36.4%

Answered question 11
Skipped question 3

Q58. What department or agency administers Green/Blue Acres funds in your municipality?

Answer Options	Response Percent
Department of Environmental Protection/Quality	0.0%
Planning Department	16.7%
Department of Public Works	0.0%
Building Department	0.0%
Office of Emergency Management	0.0%
Other	83.3%

Answered question 6
Skipped question 8

Q59. Are Green/Blue Acres funds used for:

Answer Options	Response Percent
Scenic/conservation landscape	66.7%
Hazard Mitigation	0.0%
Don't know	33.3%

Answered question 6
Skipped question 8

Q60. Does your municipality have a comprehensive plan?

Answer Options	Response Percent
Yes	18.2%
No	18.2%
Don't know	63.6%

Answered question 11
Skipped question 3

Q61. Does your comprehensive plan include policies that:

Answer Options	Yes	No	Don't know
zone for low-intensity uses in areas of high vulnerability to hazards?	50.5%	50.%	0.0%
enforce set-backs from hazards, including flood areas, steep slopes, etc.?	50.0%	0.0%	50.0%
acquire or dedicate green space in areas of high vulnerability to hazards?	50.0%	0.0%	50.0%
locate capital improvements and public buildings away from areas of high vulnerability to hazards?	100.0%	0.0%	0.0%
reduce vulnerability of existing structures in hazardous areas (including retrofitting or relocating)?	100.0%	0.0%	0.0%
Is hazard mitigation addressed in other ways in your comprehensive plan?	100.0%	0.0%	0.0%

Answered question 2
Skipped question 12

Q62. Does your municipality have a zoning ordinance?

Answer Options	Response Percent
Yes	90.9%
No	0.0%
Don't know	9.1%

Answered question 11
Skipped question 3

Q63. Does your zoning ordinance include policies that:

Answer Options	Yes	No	Don't know
code for low-intensity uses in areas of high vulnerability to hazards?	40.0%	10.0%	50.0%
require set-backs from hazards, including flood areas, steep slopes, etc.?	80.0%	0.0%	20.0%
code allow for cluster development and/or other flexible site-planning strategies that can help reduce development in hazard areas?	60.0%	10.0%	30.0%
Is hazard mitigation addressed in other ways in your zoning ordinance?	0.0%	10.0%	90.0%

Answered question 10
Skipped question 4

Q64. Does your municipality have a subdivision ordinance?

Answer Options	Response Percent
Yes	36.4%
No	0.0%
Don't know	63.6%

Answered question 11
Skipped question 3

Q65. Does your subdivision ordinance include:

Answer Options	Yes	No	Don't know
mechanisms to achieve low-intensity uses in areas of high vulnerability to hazards?	25.0%	0.0%	75.0%
requirements for set-backs from hazards, including flood areas, steep slopes, etc.?	100.0%	0.0%	0.0%
encouragement for dedication of green space in areas of high vulnerability to hazards?	25.0%	0.0%	75.0%
allowance for cluster development and/or other flexible site-planning strategies that can help reduce development in hazard areas?	25.0%	0.0%	75.0%
Is hazard mitigation addressed in other ways in your subdivision ordinance?	0.0%	33.4%	66.7%

Answered question 4
Skipped question 10

Q66. What department in your municipality oversees building code enforcement?

Answer Options	Response Percent
Building Department	90.9%
Permitting Department	0.0%
Engineering Department	0.0%
Other	9.1%

Answered question 11
Skipped question 3

Q67. How many staff work directly with building code enforcement?

Answer Options	Response Percent
0	0.0%
1	9.1%
2	27.3%
3	18.2%
4	9.1%
5	9.1%
6-10	9.1%
11-15	0.0%
16-20	0.0%
21-30	0.0%
31-50	0.0%
More than 50	0.0%
Don't know	18.2%

Answered question 11
Skipped question 3

Q68. What type of training does building code enforcement staff receive?

Open-Ended Response
Respondents stated training that building code enforcement staff received included: zoning officer training and state licensing courses.

Answered question	7
Skipped question	7

Q69. Please list any other plans or land development regulations in your municipality that are intended to manage risk or mitigate hazard:

Open-Ended Response
Respondents did not provide answers to this question that indicated any type of trend nor warranted further investigation.

Answered question	5
Skipped question	9

Q70. Does your municipality employ any of the following?

Staffing level													
Answer Options	0	1	2	3	4	5	6-10	11-15	16-20	21-30	31-50	More than 50	Don't know
planner(s) or engineer(s) with knowledge of land development and land management practices	9.1%	27.3%	45.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.2%
engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	9.1%	63.6%	9.1%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.1%
planner(s) or engineer(s) with an understanding of natural- and/or human-caused hazards	18.2%	27.3%	18.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	36.4%
surveyors	54.5%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	36.4%
staff with education or expertise to assess the communities vulnerability to hazards	36.5%	36.5%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.3%
personnel skilled in GIS and/or HAZUS	45.5%	27.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.3%
scientists familiar with the hazards in the community	81.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.2%

Location						
Answer Options	Department of Environmental Protection/Quality	Planning Department	Department of Public Works	Building Department	Office of Emergency Management	Other
planner(s) or engineer(s) with knowledge of land development and land management practices	0.0%	57.1%	0.0%	14.3%	0.0%	28.6%
engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	0.0%	0.0%	0.0%	85.7%	0.0%	14.3%
planner(s) or engineer(s) with an understanding of natural- and/or human-caused hazards	0.0%	50.0%	0.0%	25.0%	0.0%	25.0%
surveyors	0.0%	0.0%	0.0%	50.0%	0.0%	50.0%
staff with education or expertise to assess the communities vulnerability to hazards	0.0%	33.4%	0.0%	33.4%	33.4%	0.0%
personnel skilled in GIS and/or HAZUS	0.0%	33.4%	0.0%	33.4%	33.4%	0.0%
scientists familiar with the hazards in the community	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Answered question 11
Skipped question 3

Q71. Does your municipality have public education programs related to hazard mitigation?

Answer Options	Yes	No	Don't know
Of a general nature related to flood or other hazards	54.5%	27.3%	18.2%
That provides site-specific hazard information to property owners or prospective property owners	18.2%	63.6%	18.2%

Answered question 11
Skipped question 3

Q72. Do you have any other comments, questions or concerns regarding this survey or hazard mitigation?

Open-Ended Response
There was only one response regarding using this hazard mitigation process for the next steps to take through the local OEM Office.

Answered question 2
Skipped question 12

F.5 Citizen Survey

As described in Section 8, a survey was administered to county citizens in the course of this planning process. The survey questions follow.

Citizen Questionnaire_Passaic County, NJ Hazard Mitigation Plan

NATURAL HAZARD MITIGATION QUESTIONNAIRE

This questionnaire is designed to gauge the level of knowledge local citizens have about issues related to natural disasters. The information you provide will help coordinate activities to reduce the risk of injury or property damage in the future.

A planning partnership of the county, municipalities, agencies and stakeholders is currently creating a Hazard Mitigation Plan to address natural hazards in Passaic County. In order to identify and plan for future natural disasters, we need assistance from the residents of the county.

This survey will take less than 15 minutes to complete. It consists of 27 questions designed to help identify risks from and ways best to plan for natural disasters in our communities.

The term "mitigation" means to make something less harsh or severe. Hazard mitigation activities are actions that can be taken to protect people and property from natural hazard events such as floods, severe storms and excessive temperatures.

Citizen Questionnaire_Passaic County, NJ Hazard Mitigation Plan

GENERAL HOUSEHOLD INFORMATION

The following requested demographic information will aid the steering committee in determining the hazard mitigation needs of our community. The answers provided in this section will be treated as confidential and will be used solely for the preparation of this plan. They will not be provided to any other group or interest.

1. Please indicate your age range:

2. Please indicate your Gender:

3. Please indicate your highest level of education:

4. How long have you lived in Passaic County?

* **5. What municipality do you live in?**

6. Do you own or rent your place of residence?

7. Do you own or live in a:

8. What is your ZIP code?

9. What is your home address (optional)?

Citizen Questionnaire_Passaic County, NJ Hazard Mitigation Plan

NATURAL HAZARD INFORMATION

10. In the past 10 years, which of the following types of natural hazard events have you or someone in your household experienced within Passaic County? (Please check all that apply)

	Happened to you?	Happened to someone in your household?
Dam Failure	☐	☐
Drought	☐	☐
Earthquake	☐	☐
Coastal Erosion	☐	☐
Extreme Heat	☐	☐
Extreme Cold	☐	☐
Flood	☐	☐
Hail	☐	☐
Hazardous Materials Release	☐	☐
High Wind (hurricanes, nor'easters, windstorms)	☐	☐
High Wind (tornado)	☐	☐
Landslide	☐	☐
Levee failure	☐	☐
Crop losses	☐	☐
Fishing losses	☐	☐
Lightning	☐	☐
Severe Winter Weather	☐	☐
Storm Surge	☐	☐

Citizen Questionnaire_Passaic County, NJ Hazard Mitigation Plan

NATURAL HAZARD MITIGATION (CONT.) -- FLOOD INSURANCE

19. Do you have flood insurance?

20. If "no" what is primary reason why you do not carry flood insurance?

21. Do you or did you have problems getting homeowners insurance?

Citizen Questionnaire_Passaic County, NJ Hazard Mitigation Plan

NATURAL HAZARD MITIGATION (cont.)

22. Did you consider the impact a natural disaster could have on your home before you purchased it/ moved into it?

23. How much would you be willing to spend on your current home to retrofit it to withstand the impacts of possible natural hazards (for example, elevating a flood-prone home, reinforcing a wind-prone home, using fire-proof materials on a home in a wild-fire prone area, etc.)?

24. Which of the following incentives might encourage you to spend money to retrofit your home to withstand the impacts of possible natural hazards (for example, elevating a flood-prone home, reinforcing a wind-prone home, using fire-proof materials on a home in a wild-fire prone area, etc.)?

(Please check all that apply)

- ☐ Building permit fee waiver
- ☐ Insurance premium discount
- ☐ Low interest rate loan
- ☐ Property tax break
- ☐ Mortgage discount
- ☐ Grant finding that requires a "cost share"
- ☐ State Tax Incentive
- ☐ None
- ☐ Other (please specify)

25. If your property were located in a designated "high hazard" area, or had received repeated damages from a natural hazard event, would you consider one of the following? (check all that apply)

- ☐ A buyout of your property (and relocation of your family)
- ☐ Structural elevation of your property
- ☐ Flood-proofing of your property
- ☐ None of the above

Citizen Questionnaire_Passaic County, NJ Hazard Mitigation Plan

NATURAL HAZARD MITIGATION (cont.)

26. Natural Hazards can have a significant impact on a community, but planning for these events can help lessen the impacts. The following statements will help determine citizen priorities for planning for natural hazards. Read each statement and choose the level of importance it has for you.

	Extremely important	Moderately important	Somewhat important	Not important
Protect private property	○	○	○	○
Protect critical facilities (fire stations, utilities, hospitals, etc.)	○	○	○	○
Prevent new development or redevelopment in hazardous areas	○	○	○	○
Protect historical/cultural landmarks	○	○	○	○
Enhancing the function of natural processes (streams, wetlands, etc.)	○	○	○	○
Strengthening emergency services (fire, police, ambulances, etc.)	○	○	○	○
Promoting cooperation between public agencies, non-profits, citizen, and businesses	○	○	○	○

27. Other comments regarding hazard mitigation or hazard mitigation planning:

Q1. Please indicate your age range:

Answer Options	Response Percent
18 to 30	7.7%
31 to 40	19.2%
41 to 50	19.2%
51 to 60	26.9%
60 or over	23.1%
decline to answer	3.8%

Answered question 26
Skipped question 5

Q2. Please indicate your Gender:

Answer Options	Response Percent
Male	73.1%
Female	23.1%
decline to answer	3.8%

Answered question 26
Skipped question 5

Q3. Please indicate your highest level of education:

Answer Options	Response Percent
Grade school/no schooling	0.0%
Some High School	0.0%
High School Graduate/GED	11.5%
Some College/Trade School	53.8%
College Degree	26.9%
Post-College Degree	7.7%
decline to answer	0.0%

Answered question 26
Skipped question 5

Q4. How long have you lived in Passaic County?

Answer Options	Response Percent
Less than 1 year	0.0%
1 to 5 years	11.5%
6 to 10 years	0.0%
11 to 20 years	3.8%
More than 20 years	80.8%
decline to answer	3.8%

Answered question 26
Skipped question 5

Q5. What municipality do you live in?

Answer Options	Response Percent
Bloomingdale	3.2%
Clifton	6.5%
Haledon	16.1%
Hawthorne	0.0%
Little Falls	6.5%
North Haledon	3.2%
Passaic	3.2%
Paterson	0.0%
Pompton Lakes	48.4%
Prospect Park	0.0%
Ringwood	3.2%
Totowa	0.0%
Wanaque	0.0%
Wayne	6.5%
West Milford	3.2%
Woodland Park	0.0%

Answered question 31
Skipped question 0

Q6. Do you own or rent your place of residence?

Answer Options	Response Percent
Own	88.5%
Rent	11.5%
decline to answer	0.0%

Answered question 26
Skipped question 5

Q7. Do you own or live in a:

Answer Options	Response Percent
Single-family house	84.6%
Duplex	3.8%
Apartment building	0.0%
Condo/townhouse	11.5%
Manufactured home	0.0%
decline to answer	0.0%
Other (please specify)	0.0%

Answered question 26
Skipped question 5

Q8. What is your ZIP code?

Confidential Information

Answered question 26
Skipped question 5

Q9. What is your home address (optional)?

Confidential Information

Answered question 6
Skipped question 25

Q10. In the past 10 years, which of the following types of natural hazard events have you or someone in your household experienced within Passaic County? (Please check all that apply)

Answer Options	Happened to you?	Happened to someone in your household?
Dam Failure	100.0%	0.0%
Drought	100.0%	50.0%
Earthquake	100.0%	50.0%
Coastal Erosion	0.0%	0.0%
Extreme Heat	100.%	41.7%
Extreme Cold	100.0%	36.4%
Flood	92.9%	42.9%
Hail	100.%	22.2%
Hazardous Materials Release	100.0%	0.0%
High Wind (hurricanes, nor'easters, windstorms)	100.0%	35.0%
High Wind (tornado)	100.0%	20.0%
Landslide	0.0%	0.0%
Levee failure	0.0%	0.0%
Crop losses	0.0%	0.0%
Fishing losses	100.0%	0.0%
Lightning	91.7%	33.3%
Severe Winter Weather	100.0%	35.3%
Storm Surge	100.0%	0.0%

Answered question 25
Skipped question 6

Q11. How concerned are you about the following natural hazards impacting Passaic County?

Answer Options	Extremely Concerned	Moderately Concerned	Slightly Concerned	Not Concerned	Rating Average
Dam Failure	33.3%	33.3%	23.8%	9.5%	2.1
Drought	0.0%	45.0%	25.0%	24.0%	2.85
Earthquake	5.0%	25.0%	35.0%	35.0%	3.0
Coastal Erosion	0.0%	5.3%	15.8%	78.9%	3.74
Extreme Heat	14.3%	52.4%	9.5%	23.8%	2.43
Extreme Cold	15.0%	50.0%	15.0%	20.0%	2.4
Flood	54.5%	22.7%	13.6%	9.1%	1.77
Hail	9.1%	18.2%	54.5%	18.2%	2.82
Hazardous Materials Release	27.3%	45.5%	22.7%	4.55%	2.05
High Wind (straight line)	27.3%	40.9%	27.3%	4.55%	2.09
High Wind (hurricanes, nor'easters, windstorms)	40.9%	40.9%	13.6%	4.5%	1.82
Landslide	0.0%	0.0%	42.1%	57.9%	3.58
Levee failure	0.0%	0.0%	26.3%	73.7%	3.74
Crop losses	0.0%	0.0%	21.5%	78.9%	3.79
Fishing losses	0.0%	5.3%	15.8%	78.9%	3.74
Lightning	14.3%	33.3%	28.6%	23.8%	2.62
Severe Winter Weather	34.8%	39.1%	21.7%	4.3%	1.96
Storm Surge	9.5%	2.38%	14.3%	52.4%	3.1

Answered question 24
Skipped question 7

Q12. Have you ever received information about how to make your home safer from natural disasters?

Answer Options	Response Percent
Yes	69.6%
No	26.1%
Don't Know	4.3%

Answered question 23
Skipped question 8

Q13. If "yes" from whom did you receive information about how to make your home safer from natural disasters? (Please check all that apply)

Answer Options	Response Percent
News media	41.2%
County Office of Emergency Management	29.4%
Local Office of Emergency Management	82.4%
Other Government agency (local or county)	29.4%
Other Government Agency (state)	17.6%
Other Government Agency (federal)	29.4%
Insurance agent or company	11.8%
Utility company	35.3%
University or college	11.8%
American Red Cross	35.3%
Not sure	5.9%
Other (please specify)	17.6%

Answered question 17
Skipped question 14

Q14. Who would you trust to provide you with information about how to make your home safer from natural disasters? (Please check all that apply)

Answer Options	Response Percent
News media	25.0%
Government agency (local)	83.3%
Government agency (county)	66.7%
Government agency (state)	70.8%
Government agency (federal)	45.8%
Insurance agent or company	20.8%
Utility company	41.7%
University or college	12.5%
American Red Cross	50.0%
Not sure	12.5%
Other (please specify)	4.2%

Answered question 24
Skipped question 7

Q15. Please identify the TOP THREE that would be MOST EFFECTIVE in informing you of ways to make your home safer and stronger from natural hazard events.

Answer Options	Response Percent
Newspaper story	28.0%
Newspaper ad	12.0%
Phone book ads	0.0%
Brochures	28.0%
Public meetings	28.0%
Workshops	20.0%
Schools	4.0%
TV news	44.0%
TV ads	8.0%
Radio news/ talk shows	16.0%
Radio ads	0.0%
Internet	28.0%
Outdoor ads	0.0%
Chamber of Commerce	4.0%
Church/ house of worship	0.0%
Public Library	8.0%
Fire/EMS agency	64.0%
College/ University	0.0%
"Hazard awareness week" or similar public awareness campaign	36.0%
Other (please specify)	4.0%

Answered question 25
Skipped question 6

Q16. What newspaper would be the best way to inform you?

Answer Options	Response Percent
Star Ledger	4.8%
Courier Post	0.0%
Philadelphia Inquirer	47.6%
North Jersey Herald & News	47.6%
West Paterson Herald News	0.0%
Other (please specify)	47.6%

Answered question 21
Skipped question 10

Q17. What steps, if any, have you (or someone in your household) taken to prepare for a natural disaster? (Please check all that apply)

Answer Options	Response Percent
Prepared a disaster supply kit	63.6%
Received CPR/ First Aid training	86.4%
Made a fire escape plan	77.3%
Made a household emergency plan	68.2%
Made an evacuation/ reconnection plan	59.1%
Discussed utility shut-offs	77.3%
Designed or retrofitted a home using Hazard-resistant construction techniques or retrofits	9.1%
Insurance	59.1%
Other (please specify)	18.2%

Answered question 22
Skipped question 9

Q18. To the best of your knowledge, is your property located in a designated floodplain?

Answer Options	Response Percent
Yes	16.0%
No	76.0%
Don't Know	8.0%

Answered question 25
Skipped question 6

Q19. Do you have flood insurance?

Answer Options	Response Percent
Yes	100.0%
No	0.0%
Don't Know	0.0%

Answered question 3
Skipped question 28

Q20. If "no" what is primary reason why you do not carry flood insurance?

Answer Options	Response Percent
Don't need it/ Property has never flooded	0.0%
Don't need it/ Not in floodplain	0.0%
Too expensive	0.0%
Not familiar with it/ Don't know about it	0.0%
My insurance company won't provide it	0.0%
I'm covered under my homeowners' policy	0.0%
Not worth it	0.0%
Did not think it was for renters	0.0%
Other (please specify)	0.0%

Answered question 0
Skipped question 31

Q21. Do you or did you have problems getting homeowners insurance?

Answer Options	Response Percent
Yes	0.0%
No	100.0%
Don't Know	0.0%

Answered question 3
Skipped question 28

Q22. Did you consider the impact a natural disaster could have on your home before you purchased it/ moved into it?

Answer Options	Response Percent
Yes	56.5%
No	43.5%
Don't Know	0.0%

Answered question 23
Skipped question 8

Q23. How much would you be willing to spend on your current home to retrofit it to withstand the impacts of possible natural hazards (for example, elevating a flood-prone home, reinforcing a wind-prone home, using fire-proof materials on a home in a wild-fire prone area, etc.)?

Answer Options	Response Percent
0	5.0%
<$100	5.0%
$100-$500	5.0%
$500-$1,000	30.0%
$1,000-$5,000	35.0%
$5,000-$10,000	15.0%
>$10,000	5.0%

Answered question 20
Skipped question 11

Q24. Which of the following incentives might encourage you to spend money to retrofit your home to withstand the impacts of possible natural hazards (for example, elevating a flood-prone home, reinforcing a wind-prone home, using fire-proof materials on a home in a wild-fire prone area, etc.)?

Answer Options	Response Percent
Building permit fee waiver	68.2%
Insurance premium discount	86.4%
Low interest rate loan	50.0%
Property tax break	77.3%
Mortgage discount	36.4%
Grant finding that requires a "cost share"	59.1%
State Tax Incentive	77.3%
None	9.1%
Other (please specify)	0.0%

Answered question 22
Skipped question 9

Q25. If your property were located in a designated "high hazard" area, or had received repeated damages from a natural hazard event, would you consider one of the following? (check all that apply)

Answer Options	Response Percent
A buyout of your property (and relocation of your family)	77.3%
Structural elevation of your property	31.8%
Flood-proofing of your property	45.5%
None of the above	0.0%

Answered question 22
Skipped question 9

Q26. Natural Hazards can have a significant impact on a community, but planning for these events can help lessen the impacts. The following statements will help determine citizen priorities for planning for natural hazards. Read each statement and choose the level of importance it has for you.

Answer Options	Extremely important	Moderately important	Somewhat important	Not important	Rating Average
Protect private property	72.7%	27.3%	0.0%	0.0%	1.27
Protect critical facilities (fire stations, utilities, hospitals, etc.)	90.9%	9.1%	0.0%	0.0%	1.09
Prevent new development or redevelopment in hazardous areas	72.7%	13.6%	13.5%	0.0%	1.41
Protect historical/cultural landmarks	22.7%	59.1%	18.2%	0.0%	1.95
Enhancing the function of natural processes (streams, wetlands, etc.)	40.9%	54.5%	4.5%	0.0%	1.64
Strengthening emergency services (fire, police, ambulances, etc.)	72.7%	27.3%	0.0%	0.0%	1.27
Promoting cooperation between public agencies, non-profits, citizen, and businesses	68.2%	27.3%	4.5%	0.0%	1.36

Answered question 22
Skipped question 9

Q27. Other comments regarding hazard mitigation or hazard mitigation planning:

Open-Ended Response
Respondents provided a wide array of responses mentioned in the following categories:
Additional steps for hazard mitigation within the community, more credibility among government agencies and the use of hazard mitigation programs such as acquisition and house elevation.

Answered question 3
Skipped question 28

Appendix G
STAPLEE Analysis of Mitigation Actions

Section 9 identified specific actions using the Social, Technical, Administrative, Political, Legal, Economic, and Environmental (STAPLEE) criteria to achieve identified goals, an appropriate responsible party for each action, a schedule for accomplishment, suggested funding sources and priority rankings. The tables contained within this appendix provide the detailed basis for this initial prioritization of the actions.

In drafting this initial prioritization, the Passaic County Office of Emergency Management (PCOEM), consultant, and participating municipalities worked cooperatively to determine which STAPLEE criteria each action did or was likely to meet. The criteria that were considered "met" are identified with a "+", and the criteria that were not considered met are identified with a "0". The methodology also allows for a "-"designation when impacts are expected to be negative, but none of the projects below required it at this time. The participants in this process have defined High, Medium, and Low priorities to be assigned as follows:

- High: Meets five of the seven STAPLEE criteria
- Medium: Meets four of the seven STAPLEE criteria
- Low: Meets three of the seven STAPLEE criteria

This prioritization is considered preliminary and will be revisited in the future by the PCOEM and the participating municipalities as funding becomes available. The process by which these priorities will be revisited is described in Section 9.4.

Table G.1
Prioritization of Passaic County Hazard Mitigation Goals, Objectives, and General Actions

Action	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
1.A.1: Develop *All Hazards* public education and outreach program for hazard mitigation and preparedness.	+	+	+	o	+	o	+	5	High
1.A.2: Initiate a public awareness program on local TV channel for hazard safety.	+	o	o	+	+	o	+	4	Medium
1.A.3: Conduct evacuation exercises with and for local OEM personnel and private citizens.	+	o	o	+	+	o	+	4	Medium
1.A.4: Conduct yearly workshops related to FEMA hazard mitigation grant programs, including FMA, HMGP, PDM, SRL, and RFC, with a focus on those aspects available to private firms and property owners (coordinated with Action 1.B.1, below).	+	+	o	+	+	o	+	5	High
1.A.5: Educate the public through NJOEM and New Jersey Forest Fire Service outreach programs and hazard mitigation workshops.	+	+	+	+	+	o	+	6	High
1.B.1: Conduct yearly workshops related to FEMA hazard mitigation grant programs, including FMA, HMGP, PDM, SRL, and RFC (coordinated with Action 1.A.4, above).	+	+	o	+	+	o	+	5	High

Action	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
1.C.1: Reach out to municipal floodplain administrators, departments of planning, public works, engineering, etc. regarding the importance of hazard mitigation planning and provision of municipal plans and data for planning purposes.	+	+	o	+	+	+	+	6	High
2.A.1: Develop and maintain relationships with organizations that can provide technical information and/or assistance in the areas of hazard identification and risk assessment, e.g., incorporate information re: implementation of Risk MAP initiative as source of improved information re: flood risk in participating municipalities.	+	o	o	+	+	o	+	4	Medium
2.A.2: Coordinate with state efforts to undertake detailed vulnerability assessments and develop mitigation options for critical facilities in A and AE zones.	+	+	o	+	+	+	+	6	High
2.A.3: Encourage municipal OEMs to continuously update and verify status of repetitive loss and severe repetitive loss lists from the NFIP.	+	+	+	+	+	+	+	7	High
2.A.4: Coordinate with NJGS and other county, state, and federal agencies to better identify specific sites in the county that may be exposed to the effects of geo-hazards such as landslides, sinkholes and subsidence and compare results with locations of critical facilities..	+	o	o	+	+	o	+	4	Medium
2.A.5: Using a prioritized list of state, county, and local facilities, coordinate with state effort to survey wind vulnerabilities, based on criteria such as age of the facility, value of operations, proximity to the coast, etc.	+	o	o	+	o	o	+	3	Low
2.A.6: Coordinate with state efforts to inventory or survey prioritized areas to determine if there is a need for additional study or data collection related to wildfire and/or urban-interface fires. Focus of inventory/study will be on identifying areas where there exist vulnerable populations or built environment and/or areas where fuel loads and other conditions suggest potential for wildfire risk.	+	o	o	+	+	o	+	4	Medium
2.A.7: Coordinate with state efforts to conduct wildfire risk assessments for areas and assets that are determined to have the most hazard (fuel load, etc.) potential, and the most vulnerable structures, populations or operations.	+	o	o	+	+	o	+	4	Medium
2.A.8: Maintain effective coordination and information sharing related to hazardous material sites with NJOEM and the Right to Know (RTK) Network.	+	o	o	+	+	o	+	4	Medium
2.A.9: Complete data collection for Geographic Information System (GIS) analysis and mapping of potential areas of impact related to hazardous material sites.	+	o	o	+	+	o	+	4	Medium

Action	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
2.A.10: Integrate data about hazardous materials with most current available information about other risk factors, e.g. population, climate, other site-specific characteristics.	+	o	o	+	+	o	+	4	Medium
2.A.11: Undertake a survey of critical facilities to identify and prioritize those that may have structural characteristics that make them vulnerable to excessive snow and ice loads.	+	o	o	+	+	o	+	4	Medium
2.A.12: Complete a detailed analysis of past losses related to nor'easters and other coastal storms to determine if additional study is indicated. Work with state and federal agencies to develop a detailed characterization of erosion history and risks in particular.	+	o	o	+	+	o	+	4	Medium
2.A.13: Work with appropriate agencies to identify specific areas that are vulnerable to storm effects, then inventory assets and populations in these areas as the basis for a risk calculation.	+	o	o	+	+	o	+	4	Medium
2.A.14: Work with NJDEP to more fully understand the dam hazard rankings and methodology behind them, particular regarding high-hazard sites.	+	o	o	+	o	+	+	4	Medium
2.A.15: Conduct detailed risk assessments for dams that appear to have vulnerabilities, and where there is potential for significant damage or loss of life.	+	+	o	+	+	o	+	5	High
2.A.16: Use best possible flood data, including DFIRM and Map Mod data, if available, in next plan update.	+	+	+	+	+	+	+	7	High
2.A.17: Consolidate and incorporate relevant local data related to hazards, extent, probability, exposure, risk, history, etc.	+	+	o	+	+	o	+	5	High
2.B.1: Participate in the Emergency Preparedness Conference and workshops.	+	o	+	+	+	+	+	6	High
2.C.1: Develop a database inventory of critical facilities countywide (county-, local-, and privately-owned), including fire and police stations, medical facilities, major public buildings important for emergency response and recovery, and critical lifeline transportation and utility nodes such as bridges, water treatment plants, wastewater treatment plants, high voltage electric substations, and hazardous materials facilities.	+	+	o	+	+	o	+	5	High
2.C.2: Prioritize critical facilities and complete Phase 1 site surveys to identify vulnerabilities.	+	+	o	+	+	o	+	5	High
3.A.1: Continue working with the state, as well as local jurisdictions, to encourage local cooperation in making Repetitive Loss (RL) (and SRL) property mitigation a high priority, and to offer municipalities technical support in carrying out the requirements of FEMA mitigation programs as well as current information related to RL and SRL properties.	+	+	+	+	+	+	+	7	High

Action	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
3.A.2: Provide grants information, planning tools, training, and technical assistance to increase the number of public and private sector hazard mitigation projects.	+	+	o	+	+	+	+	6	High
3.A.3: Conduct direct outreach and education to municipal OEMs and other potential participants in Plan maintenance and future Plan updates.	+	+	o	+	+	o	+	5	High
3.A.4: Work with NJOEM and FEMA to incorporate "recommended revisions" per NJOEM and FEMA Region II review of this Plan into future Plan updates.	+	+	+	+	+	+	+	7	High
3.B.1: Conduct community outreach, workshops, and training to increase NFIP and CRS participation including potentially setting up CRS site visits and/or workshops for interested jurisdictions (coordinate with outreach actions listed under Objectives 1.A and 1.B).	+	+	o	o	+	o	+	4	Medium
3.B.2: Encourage municipalities to include identification and prioritization of actions related to future participation in and compliance with the NFIP.	+	+	o	+	+	+	+	6	High
3.C.1: Encourage enforcement of floodplain management as it relates to new and existing construction by integrating hazard mitigation practices with zoning, subdivision ordinances, comprehensive planning, and other land use tools at the municipal level.	+	+	o	o	+	+	+	5	High
3.C.2: Coordinate with state efforts to encourage the New Jersey League of Municipalities to become more involved in mitigation activities, and in particular to support the activities described in Action 3.C.1 and 3.D.1.	+	o	o	o	+	+	+	4	Medium
3.D.1: Encourage enforcement of floodplain management as it relates to new and existing construction by integrating hazard mitigation practices with zoning, subdivision ordinances, comprehensive planning, other land use tools, and environmental and other regulatory mechanisms via state requirements, reviews, and regulations. Coordinate with the State Planning Commission to integrate the State Development and Redevelopment Plan and the State Hazard Mitigation Plan.	+	+	o	o	+	+	+	5	High
3.E.1: Develop a simple GIS platform, or build upon an existing platform, to maintain and analyze critical facilities inventories and information about hazards.	+	O	O	o	+	0	+	3	Low
3.F.1: Explore potential for possible regionalization or consolidation of hazard mitigation planning, administration, and/or implementation at the county level.	+	+	o	+	+	+	+	6	High
4.A.1: Coordinate with state efforts to develop and implement a detailed severe repetitive loss mitigation strategy that will qualify the county and municipalities for 90:10 cost share under the FEMA SRL program.	+	+	+	+	+	+	+	7	High

Action	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
4.A.2: Continue working with local and regional jurisdictions to encourage and support their efforts to mitigate RL (and SRL) properties, either individually through the use of cluster solutions and/or basin projects, as appropriate, and offer technical support in carrying out the requirements of FEMA mitigation programs. (see Table 9.3.3-1 for further detail).	+	+	o	+	+	o	+	5	High
4.A.3: Implement mitigation projects and programs intended to reduce risk to critical facilities (see Table 9.3.3-1 for further detail).	+	+	o	o	o	o	+	3	Low
4.A.4: Implement other mitigation projects and programs as appropriate at the municipal level (see Table 9.3.3-1 for further detail).	+	+	o	o	o	o	+	3	Low
4.B.1: Ensure full and effective enforcement of building codes, floodplain management, zoning, and other risk-reducing regulations.	+	+	o	o	+	+	+	5	High
4.B.2: Integrate hazard mitigation priorities Plan into floodplain management, zoning, subdivision regulation, and other local regulations as appropriate.	+	+	o	o	+	+	+	5	High
4.B.3: Integrate hazard mitigation priorities into Capital Improvement Plans, transportation planning, and other capital planning.	+	+	o	o	+	+	+	5	High

[1] See the municipality actions below for a ranking.

Note: Projects were ranked with a -,0,+ rating per STAPLEE category. "-"indicates a negative impact, "0" indicates negligible impact, and "+" indicates a positive impact.

Table G.2
Municipality Specific Mitigation Actions

Mitigation Action, Program, or Project	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
BLOOMINGDALE BOROUGH									
Bloomingdale 1: Backup power for shelter at W.T. Bergen School on 225 Glenwild Avenue	+	+	o	+	+	o	+	5	High
Bloomingdale 2: Engineering study to determine appropriate mitigation action for flood-prone properties on the following roads that are affected by Vandam and Post Brooks: Vandam Avenue, Brandt Lane, Walnut Street, Tice Street, Poplar Street, Chestnut Street, and Park Avenue	+	+	o	o	+	o	+	4	Medium
Bloomingdale 3: Educational initiative regarding hazard mitigation for residents living on the following streets: Vandam Avenue, Brandt Lane, Walnut Street, Tice Street, Poplar Street, Chestnut Street, and Park Place	+	+	+	+	+	o	+	6	High
Bloomingdale 4: Construct/fix retention basin and flood ponds along Vandam Brook and Post Brook along Brandt Lane (see also, Bloomingdale 2)	+	+	+	o	+	o	o	4	Medium
Bloomingdale 5: Pursue property owner contacts for residential repetitive loss properties to determine viable options for mitigation.	+	+	o	+	+	o	+	5	High
Bloomingdale 6: Install river gauge on Pequannock River (at boundary with Riverdale)	+	+	o	+	+	o	+	5	High
CLIFTON CITY									
Clifton 1: Backup power for shelter / distribution center at the Woodrow Wilson Middle School on Van Houten Avenue	+	+	o	+	+	o	+	5	High
Clifton 2: Backup power for shelter / distribution center at Clifton High School on 333 Colfax Avenue	+	+	o	+	+	o	+	5	High
Clifton 3: Backup power for shelter / distribution center at Elementary School #17 on Lexington Avenue	+	+	o	+	+	o	+	5	High
Clifton 4: Determine mitigation action (relocation / retrofitting) for the Department of Public Works building on East 7th Street	+	+	o	+	+	o	o	4	Medium
Clifton 5: Engineering study to determine mitigation action for Passaic Valley Sewage Pumping Station on Kingslin Road	+	+	o	o	+	o	+	4	Medium
Clifton 6: Engineering study to determine mitigation action for Pumping Station on Route 46 at Main Avenue overpass	+	+	o	o	+	o	+	4	Medium
Clifton 7: Engineering study to determine mitigation action for Pumping Station on Route 3 and Hepburn Road	+	+	o	o	+	o	+	4	Medium
Clifton 8: Construct larger culvert on Sylvan Avenue and Main Avenue	+	+	o	+	+	o	+	5	High

Mitigation Action, Program, or Project	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
Clifton 9: Pursue property owner contacts for residential and non-residential repetitive loss properties to determine viable options for mitigation	+	+	o	+	+	o	+	5	High
HALEDON BOROUGH									
Haledon 1: Backup generator for shelter at Haledon Recreation Center	+	+	o	+	+	o	+	5	High
Haledon 2: Backup generator for Haledon Fire Company 1 located on Pompton Road	+	+	o	+	+	o	+	5	High
Haledon 3: Backup generator for Haledon Fire Company 2 located on West Broadway	+	+	o	+	+	o	+	5	High
Haledon 4: Public Warning/Alert System throughout the Borough	+	o	+	o	o	+	+	4	Medium
Haledon 5: Pursue property owner contacts for residential repetitive loss properties (Henry Street) to determine viable options for mitigation	+	+	o	+	+	o	+	5	High
HAWTHORNE BOROUGH									
Hawthorne 1: Backup generator for shelter at Hawthorne High School	+	+	o	+	+	o	+	5	High
Hawthorne 2: Backup generator for shelter at Lincoln Middle School	+	+	o	+	+	o	+	5	High
Hawthorne 3: Engineering assessment to assess flood issues related to approximately seven sewer and water pump stations along the Passaic River	+	+	o	o	+	o	+	4	Medium
Hawthorne 4: Acquire private properties (including several repetitive loss properties) in southeast corner of the Borough	+	o	o	+	+	o	+	4	Medium
Hawthorne 5: Work with Passaic County to address flooding in southern portion of the borough by channeling Goffle Brook into Passaic River (Passaic County Parks)	+	o	o	+	o	+	o	3	Low
Hawthorne 6: Address erosion issues affecting private residences on Brookside Avenue and First Avenue along Goffle Brook through an engineering study to assess appropriate mitigation for Goffle Brook	+	o	o	+	o	+	o	3	Low
LITTLE FALL TOWNSHIP									
Little Falls 1: Backup power for shelter/ back-up 911 center/ backup police, fire, EMS, and communications centers at the Civic Center on 15 Warren Street	+	+	o	+	+	o	+	5	High
Little Falls 2: Backup power for shelter at St. Agnes Church on 65 Union Avenue	+	+	o	+	+	o	+	5	High
Little Falls 3: Backup power for Fire Company 4 on Long Hill Road	+	+	o	+	+	o	+	5	High
Little Falls 4: Backup power for Eagle Rescue Squad Company Number 1/ EMS on Wilmore Road	+	+	o	+	+	o	+	5	High

Mitigation Action, Program, or Project	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
Little Falls 5: Engineering study to determine appropriate mitigation action including addressing flash flooding at the Department of Public Works building along the Peckman River on Sindle Avenue, including diversion by culvert to Passaic River	+	+	o	o	+	o	+	4	Medium
Little Falls 6: Backup power for the Municipal Building/ Town Clerk/ Data Storage Facility on 225 Main Street	+	+	o	+	+	o	+	5	High
Little Falls 7: Engineering study to address flooding on the following roads: Garden Street, Roselle Street, Dairy Street, Lyttel Street, Barber Street, River View Circle, William Street, Louis Street, Bogart Place, Fairfield Avenue, Island Avenue, West End Avenue, Orchard Avenue, Grey Rock, Woodcliff Avenue, Micklejohn Avenue, Garrabrant Avenue, Stinson Place, Muller Place, Ryle Avenue, Madison Avenue, Jackson Avenue, Sindle Avenue, Hopson Avenue, Cedar Street and Hudson Street	+	+	o	o	+	o	+	4	Medium
Little Falls 8: Elevation of properties on William Street, Louis Street, Garden Street, Roselle Street, Dairy Street, Lyttel Street, and Barber Street (related to Little Falls 8)	+	o	o	+	+	o	+	4	Medium
Little Falls 9: Early warning system (reverse 911) to warn residents of flash flooding	+	+	o	+	+	o	+	5	High
NORTH HALEDON BOROUGH									
North Haledon 1: Backup power for shelter at Grace Bible Church on High Mountain Road	+	+	o	+	+	o	+	5	High
North Haledon 2: Engineering study to determine mitigation action including retrofitting of Municipal Building/Data Storage Facility/Police Building	+	+	o	o	+	o	+	4	Medium
North Haledon 3: Engineering study to determine mitigation action for Molly Ann Brook	+	+	o	o	+	o	+	4	Medium
North Haledon 4: Engineering study to determine risk of Yahn's Dam	+	+	o	+	+	o	o	4	Medium
PASSAIC CITY									
Passaic 1: Engineering study to assess flood issues affecting 8th, 9th, and 10th streets near Passaic Street and River Drive	+	+	o	+	+	o	+	5	High
Passaic 2: Public awareness program on local TV channel for hazard safety	+	o	o	+	+	o	+	4	Medium
Passaic 3: Code Update	+	+	+	+	+	+	+	7	High
Passaic 4: Pursue property owner contacts for residential repetitive loss property (Henry Street) to determine viable options for mitigation	+	+	o	+	+	o	+	5	High
PATERSON CITY									
Paterson 1: Backup power for shelter at Riverside Vets Community Center, 165 5th Avenue	+	+	o	+	+	o	+	5	High

Mitigation Action, Program, or Project	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
Paterson 2: Engineering study to determine best mitigation action for the Passaic River Corridor River Street area	+	+	o	+	+	+	+	6	High
Paterson 3: Engineering study to determine best mitigation action for Public Safety Building on 111 Broadway Street	+	+	o	+	+	+	+	6	High
Paterson 4: Burying power lines along the following streets: [list to be provided by Paterson OEM]	+	+	o	+	o	o	+	4	Medium
Paterson 5: Acquisition of home on the following roads: East Main Street, Corridor Street, Hilman Street, Presidential Boulevard, Amity Street, North First Street, Percie Street, Stout Street, North Street, Watson Street, and Bergen Street	+	o	o	+	+	o	+	4	Medium
POMPTON LAKES BOROUGH									
Pompton Lakes 1: Engineering study to determine mitigation actions for the following streets: Lower Ringwood Avenue, Haroldson Place, Washington Avenue, Madison Place, Lincoln Avenue, Central Avenue, Willow Avenue, Elm Street, Magnolia Avenue, Arcadia Road, Albany Avenue, Bedford Road, Cambridge Road, Lower Garden Road, Marion Court, Stiles Court, Hill Court, Henderson Court, West Lenox Court, Riverview Road, Van Ness Avenue, Pine Street, Beech Avenue, Olive Avenue, Dawes Highway, Ramapo Street, Woodlawn Avenue, and Washington Avenue	+	+	o	+	+	o	+	5	High
Pompton Lakes 2: Acquisition of properties on the following streets: River Edge Drive, Laurel Avenue, Walnut Avenue, and Poplar Avenue	+	o	o	+	+	o	+	4	Medium
Pompton Lakes 3: Improved drainage along Sunset Road	+	+	o	+	+	o	o	4	Medium
Pompton Lakes 4: Diesel generator for Firehouse / Alternate EOC	+	+	o	+	+	o	+	5	High
Pompton Lakes 5: Diesel generator for primary shelter: Lakeside School	+	+	o	+	+	o	+	5	High
Pompton Lakes 6: River silt and snag removal	+	o	+	+	o	o	o	3	Low
Pompton Lakes 7: Install check valves on storm drains, total of 6	+	+	+	+	+	+	o	6	High
Pompton Lakes 8: Purchase Vac-Truck for storm drain cleaning and related projects	+	+	+	+	+	+	o	6	High
Pompton Lakes 9: Riverbank restoration on Wanaque, Pequannock and Ramapo Rivers	+	o	+	+	o	o	o	3	Low
Pompton Lakes 10: Annual river clean-up on Wanaque, Pequannock and Ramapo Rivers	+	o	+	+	o	o	o	3	Low
Pompton Lakes 11: Purchase articulating bucket truck for downed and other tree work	+	+	o	+	+	o	+	5	High
Pompton Lakes 12: Debris removal, confluence of two rivers	+	o	+	+	o	o	o	3	Low

Mitigation Action, Program, or Project	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
Pompton Lakes 13: Install local river gauge system	+	+	+	+	o	+	o	5	High
Pompton Lakes 14: Determine properties at risk due to failure of Ramapo River Dam (per Section 7.3.4) and potential mitigation measures	+	+	o	o	+	o	+	4	Medium
PROSPECT PARK BOROUGH									
Prospect Park 1: Engineering study to assess flooding on E. Main Street and Short Street related to sanitary sewerage infiltration and backup	+	+	o	+	+	o	+	5	High
RINGWOOD									
Ringwood 1: Relocate/retrofit Police Department/data storage facility/Municipal Building at 60 Margaret King Avenue	+	o	o	+	+	o	+	4	Medium
Ringwood 2: Backup power for shelter at EG Hewitt School on Sloatsburg Road	+	+	o	+	+	o	+	5	High
Ringwood 3: Backup power for shelter at Martin J. Ryerson School on Valley Road	+	+	o	+	+	o	+	5	High
Ringwood 4: Backup power for Peter Cooper School / shelter on Roger Court	+	+	o	+	+	o	+	5	High
Ringwood 5: Hazard threat recognition regarding mapping and capping of iron mines in Mining Halls/Upper Ringwood Area	+	+	o	o	+	+	o	4	Medium
Ringwood 6: Pursue property owner contacts for residential repetitive loss property (Colonia Drive) to determine viable options for mitigation.	+	+	o	+	+	o	+	5	High
Ringwood 7: Determine properties at risk due to failure of Monksville Dam (per Section 7.3.4) and potential mitigation measures	+	o	o	+	+	o	o	3	Low
TOTOWA BOROUGH									
Totowa 1: Engineering study to determine best mitigation action for Fire Department located on 93 Lincoln Avenue	+	+	0	+	+	0	+	5	High
Totowa 2: Backup power for Fire Department located on 400 Riverview Drive	+	+	o	+	+	o	+	5	High
Totowa 3: Backup power for Shelter at Totowa Community Center at 393 Union Boulevard	+	+	o	+	+	o	+	5	High
Totowa 4: Engineering study to determine risk of dam failure (bordering Little Falls / Totowa / Wayne / West Paterson municipalities)	+	o	o	+	+	o	o	3	Low
Totowa 5: Burying power lines along Lower Borough, West End Industrial Park, the Business Section of Route 46, and the Industrial Section of Union Boulevard	+	o	+	+	o	o	+	4	Medium

Mitigation Action, Program, or Project	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total	Priority
Totowa 6: Engineering study to determine route of flooding and appropriate mitigation action for properties (including properties on the repetitive loss lists) on the following streets: Norwood Terrace, Riverview Drive, Lincoln Avenue, Boyle Avenue, Charles Street, Franklin Place, Lewis Place, Williams Place, Totowa Road, Jackson Road, Madison Road, Vreeland Avenue, Maltese Drive, West End Road, Crescent Avenue, Margaret Street, and Rosalie Street	+	+	+	+	+	o	+	6	High
Totowa 7: Acquisition of properties (including properties on the repetitive loss lists) on Norwood Terrace	+	o	o	+	+	o	+	4	Medium
Totowa 8: Rebuild and relocate Williams Street Sewer Pumping Station	+	+	o	+	+	o	o	4	Medium
Totowa 9: Rehabilitation and install new pump for storm water for Lower Borough area	+	+	o	+	+	o	o	4	Medium
Totowa 10: Backup power for EOC located at 22 Mitchell Avenue	+	+	o	+	+	o	+	5	High
Totowa 11: Backup power for Municipal Complex located at 537 Totowa Road	+	+	o	+	+	o	+	5	High
Totowa 12: Rebuild Riverview Pump Station located at 100 Riverview Drive	+	+	o	+	+	o	o	4	Medium
Totowa 13: Install early warning system	+	o	+	+	+	+	+	6	High
Totowa 14: Backup Power for Fire House/Shelter located at 11 Mitchell Avenue	+	+	o	+	+	o	+	5	High
WANAQUE BOROUGH									
Wanaque 1: Dredge/deepen/widen Post Brook at Ringwood Avenue (major thoroughfare/ evacuation route)	+	o	+	+	o	o	o	3	Low
Wanaque 2: Dredge/deepen/widen Posts Brook tributary at DuPont Avenue and Makemoney Avenue	+	o	+	+	o	o	o	3	Low
Wanaque 3: Engineering study to determine mitigation action regarding flooding at Crescent Road and Treemont Terrace	+	+	o	+	+	o	+	5	High
Wanaque 4: Assess risk from Ramapo Fault on Algonquin and Texas Eastern pipelines and Raymond Dam	+	o	+	+	o	o	o	3	Low
Wanaque 5: Pursue property owner contacts for residential repetitive loss properties to determine viable options for mitigation. See also, items #1 through #4 which are related to the cause of the repetitive losses	+	+	o	+	+	o	+	5	High
Wanaque 6: Determine properties at risk due to failure(s) of Monksville Dam and Raymond Dam (per Section 7.3.4) and potential mitigation measures	+	o	o	+	+	o	o	3	Low

WAYNE TOWNSHIP									
Wayne 1: Acquisition of properties on Fayette Avenue in Hoffman Grove section (in planning stages)	+	o	o	+	+	o	+	4	Medium
Wayne 2: Acquisition of properties in Old Wayne section	+	o	o	+	+	o	+	4	Medium
Wayne 3: Acquisition of properties in Hoffman Grove (active project partially funded)	+	+	o	+	+	o	+	5	High
Wayne 4: Old Wayne Dike upgrade.	+	+	o	+	+	o	+	5	High
Wayne 5: Planning and Zoning on-going project to review and revise Wayne Floodplain Management regulations and the Wayne Township Master Plan to meet NFIP standards and regulate land development	+	+	+	+	+	+	+	7	High
WEST MILFORD TOWNSHIP									
West Milford 1: Improve drainage/reconstruction of Burnt Meadow Road	+	o	o	+	+	+	o	4	Medium
West Milford 2: Improve Lower Pond Dam at Bubbling Spring	+	o	+	+	o	o	o	3	Low
West Milford 3: Improve High Crest Dam	+	o	+	+	o	o	o	3	Low
West Milford 4: Improve West Brook Park (KOA)									
West Milford 5: Replace West Brook Park (KNOA) Bridge	+	o	+	+	o	o	o	3	Low
West Milford 6: Replace Crescent Road Bridge	+	o	+	+	o	o	o	3	Low
West Milford 7: Replace High Crest Drive Bridge at spillway	+	o	+	+	o	o	o	3	Low
West Milford 8: Dredge Belcher Creek (in part to relieve flooding of repetitive loss properties	+	o	+	+	o	o	o	3	Low
West Milford 9: Upgrade storm drainage system on Cherry Ridges	+	+	o	+	+	+	o	5	High
West Milford 10: Back-up generator for Township emergency management shelters and Public Safety Buildings	+	+	o	+	+	o	+	5	High
West Milford 11: Public warning / alert system	+	+	+	+	+	+	o	6	High
West Milford 12: Pursue property owner contacts for residential repetitive loss properties (including properties on the NFIP based list and other uninsured properties to determine viable options for mitigation	+	+	o	+	+	o	+	5	High
West Milford 13: Determine properties at risk due to failure(s) of Clinton Reservoir and Charlottesburg Dam (per Section 7.3.4) and potential mitigation measures	+	o	o	+	+	o	o	3	Low
WOODLAND PARK BOROUGH									
Woodland Park 1: Construct a bypass tunnel from Peckman River to divert water and avoid flash flooding along these roads: McBride Avenue, Lackawanna Avenue, Bergen Boulevard, Pompton Avenue, Ryle Park Avenue, Passaic Avenue, Rockaway Avenue, Ramapo Avenue, Dowling Parkway, Hromiak Terrace, Lozrovich Place, Wallace Lane, Vetrone Drive, Browertown Road, Andrews Drive, Ray Avenue, and Radcliffe Avenue	+	o	+	+	o	o	o	3	Low
Woodland Park 2: Construct dikes, improve conveyance, flood tunnel along Passaic River	+	o	+	+	o	o	o	3	Low

Woodland Park 3: Work with Passaic County to improve storm drainage carrying capacity, confluence (straighten out to reduce debris), adjust to address bridge and culvert replacement issue on McBride Avenue and /or Browertown Road	+	+	o	+	o	+	o	4	Medium
Woodland Park 4: Install emergency flood warning system	+	o	+	+	+	o	+	5	High
Woodland Park 5: Retrofit Municipal Building/Police/Tri-Town EOC (Woodland Park / Totowa / Little Falls) on 5 Brophy Lane	+	o	+	+	+	o	+	5	High
Woodland Park 6: Relocate/elevates shelter eight or more feet, install backup power at the Youth and Senior Center located at 8 Memorial Drive	o	+	o	+	+	o	+	4	Medium
Woodland Park 7: Backup power/improve mechanical plumbing of shelter at Beatrice Gilmore School located at 1068 McBride Avenue	+	+	o	+	+	o	+	5	High
Woodland Park 8: Backup power for shelter at Memorial School located on Memorial Drive	+	+	o	+	+	o	+	5	High
Woodland Park 9: Upgrade sewer system, valve checks on plumbing, and retrofit Fire Company #2 on 1070 McBride Avenue	+	o	+	+	+	+	o	5	High
Woodland Park 10: Backup power for shelter at Charles Olban School located at 8 Lincoln Lane	+	+	o	+	+	o	+	5	High
Woodland Park 11: Backup power for EMS building located on 23 Rose Place	+	+	o	+	+	o	+	5	High
Woodland Park 12: Elevate and/or floodproof private dwellings that have had repetitive loses (Mc Bride Avenue and Bergen Boulevard)	+	+	o	+	+	o	+	5	High
Woodland Park 13: Determine properties at risk due to failure(s) of New Street Reservoir Dam (per Section 7.3.4) and potential mitigation measures	+	+	+	+	+	o	o	5	High

Note: Projects were ranked with a -,0,+ rating per STAPLEE category. "-" indicates a negative impact, "0" indicates negligible impact, and "+" indicates a positive impact.

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Appendix H
Adoption Resolutions

Contents of this Appendix

H.1 Passaic County
H.2 Municipalities

In accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and the Interim Final Rule (IFR), Passaic County, New Jersey, has developed this Multi-Jurisdictional Hazard Mitigation Plan to identify hazards that threaten the county and ways to reduce future damages associated with these hazards.

Following this page are the signed adoption resolutions of the county and all participating jurisdictions that have adopted this Plan, authorizing municipal government staff to carry out the actions detailed herein.

H.1 Passaic County

[Insert copy of Passaic County resolution]

H.2 Municipalities

[Insert list and copies of Municipal resolutions]

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Appendix I
Approval Letters

Contents of this Appendix

I.1 Passaic County
I.2 Municipalities

In accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and the Interim Final Rule (IFR), Passaic County, New Jersey, has developed this Multi-Jurisdictional Hazard Mitigation Plan to identify hazards that threaten the county and ways to reduce future damages associated with these hazards.

Following this page are the signed approval letters to all participating jurisdictions that have been approved within this Plan.

I.1 Passaic County

[Insert copy of Passaic County approval letter]

I.2 Municipalities

[Insert list and copies of Municipal approval letters]

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