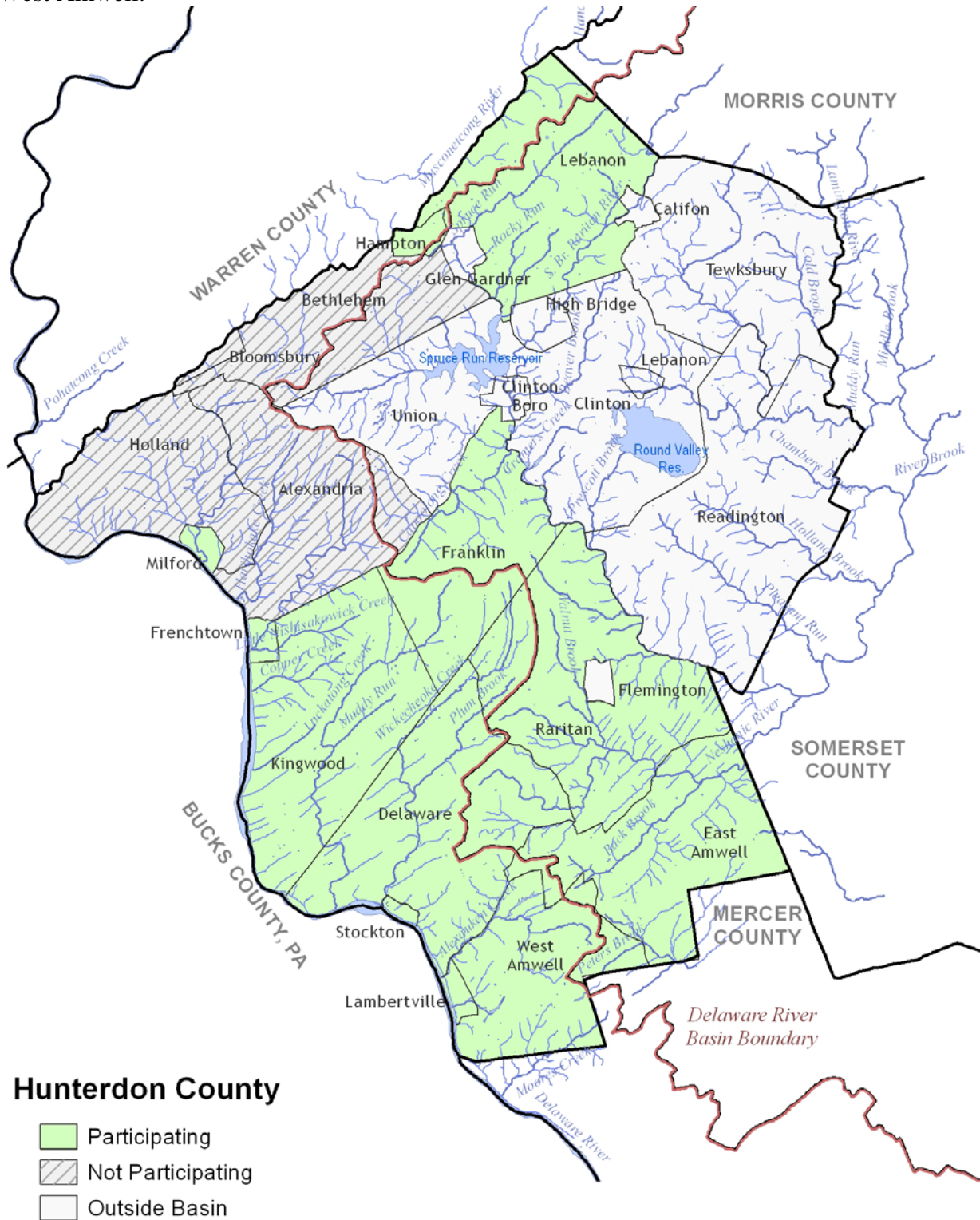


Hunterdon County:

Participating municipalities in Hunterdon County include Delaware, East Amwell, Franklin, Frenchtown, Hampton, Kingwood, Lambertville, Lebanon Township, Milford, Raritan, Stockton and West Amwell.



The entire western portion of Hunterdon County lies along the Delaware River. Hunterdon County was affected by the June 2006, April 2005, September 2004, and September 1999 flooding events. Although there have been county roads and bridges that have been affected by flooding, no essential county facilities have been impacted by these events.

Hunterdon County Flood Response:

To help prepare the citizenry for flood events, the county puts out newspaper articles and press releases. The county monitors the weather and river heights and relays this information to the municipal coordinators and provides information to the public. During a flood event, the county is responsible for continued weather and river height monitoring, emergency response, and providing assistance to municipality and state emergency services. After a flood event, Hunterdon County helps with the recovery work, completing financial paperwork to track expenses during and after the event, and assists FEMA and state liaisons.

During past flooding events, Hunterdon County has received response assistance from FEMA, NJDEP, and NJOEM. Afterwards, the county has received clean-up and recovery help from FEMA, NJDEP, NJOEM, Red Cross, the Salvation Army, Fire, and EMS services. Hunterdon County has benefited from FEMA's Public Assistance Grant Program.

Hunterdon County hosts a community emergency notification system called Community Alert Network to help disseminate information during an event. The county currently has a limited public awareness campaign and would like to expand its reach.

County Mitigation Statement:

Hunterdon County pledges to support the mitigation goals and actions of their municipalities to the best of their ability.

County Mitigation Actions:

1. ACTION: Public outreach and education

Description/Background:

Hazard: Flooding

Existing or new assets: TBD

Existing mechanism through which action will be implemented: Newspapers, pamphlets, seminars

Responsible Organization: Hunterdon County OEM

Target Completion Date: Ongoing

Estimated Cost: \$10,000

Potential Funding Sources: Operating Budget Item

Priority: TBD

Mitigation Action Plan of Participating Jurisdictions for Hunterdon County

Jurisdiction	Page Number	Status
Hunterdon County	151	1 action submitted
Delaware Township	156	4 actions submitted
East Amwell Township	159	2 actions submitted
Franklin Township	161	4 actions submitted
Frenchtown Borough	164	4 actions submitted
Hampton Borough	169	2 actions submitted
Kingwood Township	171	3 actions submitted
Lambertville City	174	6 actions submitted
Lebanon Township	179	1 action submitted
Milford Borough	181	1 action submitted
Raritan Township	183	3 actions submitted
Stockton Borough	185	7 actions submitted
West Amwell Township	190	1 action submitted

Hunterdon County: Municipal Mitigation Actions by Action Category

1. Prevention (Policy/Ordinances/Studies/Enforcement)				
Municipality	Mitigation Action	Responsible Party	Estimated Cost	Priority
Delaware Township	Stream Corridor Ordinance	Township Committee	\$3,000	High
Delaware Township	Update Stormwater Regulations	Waste Water Management Committee	\$2,000	High
Delaware Township	Flood review of all new construction	Floodplain Coordinator	\$500	High
Franklin Township	Maintain guidelines for steep slopes and flood prone areas	Planning Board and Building Dept.	N/A	Medium
Kingwood Township	Complete All Hazards Mitigation Plan	Kingwood Township	\$1,000	High
2. Property Protection (Acquisition, Elevation, Flood proofing)				
Municipality	Mitigation Action	Responsible Party	Estimated Cost	Priority
Frenchtown Borough	Relocation of electric panels at Public Works garage and sewer plant	Borough	\$20,000	High
Frenchtown Borough	Relocation of Sewer Plant	Borough	\$3-5M	High
Kingwood Township	Elevate Homes	Kingwood Township OEM	\$5M	High
Kingwood Township	Property Acquisition	Kingwood Township OEM	\$5M	High
Lambertville City	Assist residents and business owners with elevation applications	City Council	\$250,000	High
Lambertville City	Analyze properties north of Cherry Street for structural elevation	City Council	To be determined	Medium
Raritan Township	Kuhl Road elevation	Township, county	\$1.5 M	High
Raritan Township	Copper Hill Road elevation and bridge replacement	Township, county	\$280,000	High
Raritan Township	Hampton Corner Road elevation and bridge replacement	Township, county	\$330,000	High
Stockton Borough	Residential property acquisition	Floodplain Administrator	\$1 M	High
Stockton Borough	Flood proof sewer pump station	Sewer Authority	\$25,000	High
Stockton Borough	Relocate Fire Department	Planning Board	\$750,000	Medium
Stockton Borough	Flood proof Borough Hall	Floodplain Administrator	\$25,000	Low
3. Public Information and Awareness				
Municipality	Mitigation Action	Responsible Party	Estimated Cost	Priority
East Amwell Township	Community education for flood preparedness	East Amwell Township	To be determined	High
Lebanon Township	Public education	Lebanon Township	Minimal direct cost	Medium
Stockton Borough	Public awareness program	Stockton OEM	\$500	Medium

4. Emergency Services				
Municipality	Mitigation Action	Responsible Party	Estimated Cost	Priority
East Amwell Township	Upgrade community notification system and township web site	East Amwell Township	To be determined	Medium
5. Natural Resource Protection (Floodplain protection, Stream Corridor Restoration, Open space)				
Municipality	Mitigation Action	Responsible Party	Estimated Cost	Priority
Alexandria Township	Open space along the Delaware	To be determined	To be determined	High
Delaware Township	Analysis of local watersheds	Princeton Hydro	\$8,000	High
Franklin Township	Place rip-rap at face of stream adjacent to roadway	Franklin DPW	\$2,000	High
Franklin Township	Remove sediment and vegetation from roadside culverts	Franklin DPW and/or sub-division developer	Depends on extent, \$10,000 estimate	Medium
Franklin Township	Check for waterway obstructions (ie fallen trees, large debris, etc.)	Franklin DPW/landowners	Varies, \$1,000 per obstruction estimate	Medium
Hampton Borough	Storm Creek bed clean-up	Franklin DPW	Free	High
West Amwell Township	Preserve open space and farmland	To be determined	To be determined	Medium
6. Structural Projects				
Municipality	Mitigation Action	Responsible Party	Estimated Cost	Priority
Frenchtown Borough	Install backflow prevention plugs on drainage pipes under towpath and at sewer plant	Frenchtown Borough	\$25,000	High
Frenchtown Borough	Raise level of the D&R towpath to prevent backflow of Delaware River over towpath	NJ State (DEP, D&R Canal Commission)	To be determined	Medium/ Low
Hampton Borough	Route 31 Retention Pond	NJDOT	To be determined	Medium
Lambertville City	Install a backflow prevention device storm sewer behind CVS Pharmacy that surcharges adjacent to the Canal Studios building	City Council	\$75,000.00	High
Lambertville City	Install backflow prevention device within Niece Lumberyard to mitigate backflow of Ely Creek	City Council	\$120,000	High
Lambertville City	Install flood gate and lift station at Swan Creek	City Council	\$8 million	High
Lambertville City	Study of sanitary sewerage backflow during flooding events	Lambertville Sewer Authority	\$500,000	High
Milford Borough	Wet well	Borough of Milford	To be determined	Medium
Stockton Borough	Levee (river wall) improvement plan	Governing body	\$5 M	High
Stockton Borough	Backflow prevention on storm drain outlets	Storm Water Management Coordinator	\$50,000	Medium

Delaware Township, Hunterdon County:

Location:

Delaware Township is located on the western border of central New Jersey in southwestern Hunterdon County. The township is home to 4,478 people living in 37.03 square miles. It is bordered by the Townships of Solebury (PA) and Plumstead (PA) to the west, the Townships of Kingwood and Franklin to the north, the Townships of Raritan and East Amwell to the east, and by the Township of West Amwell and City of Lambertville to the south.



Geology:

The township lies in the Piedmont Plateau, which is part of the Appalachian Province. This area is characterized by nearly level lowlands, occasional ridges and low hills, and is underlain by sedimentary rock. The relatively flat topography of a river terrace is found along the Delaware River. Elevations range from 43 feet at the Delaware River to 550 feet at the northern corner of the township.

Hydrology:

The *Delaware River* flows along the western border of the Township of Delaware.

The *Alexauken Creek* has its headwaters in the central part of the Township of West Amwell to the south and flows generally northwest to a point just south of the center of Delaware Township's southern boundary. From this point it flows southwest to its confluence with the Delaware River. The Alexauken Creek drains the southern part of Delaware Township.

The *Brookville Creek* begins in the southwestern part of the township and flows southwest to its confluence with the Delaware and Raritan Canal.

The *Wickecheoke Creek* has its headwaters in the Township of Raritan and flows generally southwest. It enters Delaware Township near its northern corner and continues through the township to the Delaware River. It reaches the Delaware and Raritan Canal and the Delaware River at the Prallsville Mills to the north of Stockton, NJ. The *Plum Brook* is a tributary to the Wickecheoke.

The *Lockatong Creek* has its headwaters in the southwestern part of Franklin Township and flows through Kingwood and Delaware Township to its confluence with the Delaware. The Wickecheoke Creek originates in Raritan Township, New Jersey and flows through Croton and Locktown. Turning south, it cuts through a low ridge, is joined by Plum Brook and cuts through a second, slightly larger ridge to the west of Sergeantsville.

Also present in Delaware Township are the Dunkard Creek and Rose Creek.

In the Raritan River Watershed, the *Third Neshanic River* begins in the eastern part of the township and flows generally southeast. The Third Neshanic River becomes a major tributary to the Neshanic River.

Recent Flood History:

Delaware Township was recently impacted by flooding on July 21, 2006 and during the three major mainstem floods of June 2006, April 2005 and September 2004. In July 2006, heavy rainfall caused Dunkard Creek and Rose Creek to flood 8 buildings: 5 sustained basement damage and 3 sustained first floor damage. Between 25% and 50% of the township was affected by flood waters, which contained residential, agricultural, and government properties. Covered Bridge Road, Lower Creek Road, Rittenhouse Road, Sandbrook Road, and Dunkard Church Road were flooded and the sewage authority and 2 historic homes were adversely affected. Erosion, sediment deposition, altered stream flow and debris caused financial strain on the community and hindered emergency services.

The June 2006 and April 2005 events caused the Delaware River, the D&R Canal, Rose Creek, and the Delaware tributaries to flood. Between 25% and 50% of the township was affected, wells were contaminated, and major roadways were impassible, preventing emergency assistance. Route 29 (which runs along the D&R Canal), Lower Creek Road, Upper Creek Road, the Upper Creek Road Extension along the Wickecheoke River and Quarry Road and Federal Twist Road near the D&R Canal were flooded in June 2006 and April 2005. During the April 2005 flood, Raven Rock Road near the Lockatong River was also flooded and oil tanks and sewage contaminated both soil and well water. There are on-going property acquisitions along the Wicheokee and Lockatong Creeks, which will be earmarked for open space preservation. At least one home in the community is interested in acquisition or elevation.

Unique Flood Risk to Municipality:

Several residences are flooded by Delaware River. Residences of Lower Creek Road, Covered Bridge Road, Britton Road, Brookville-Hollow Road, Seabrook Road, Grafton Road, Rittenhouse and Dogwood Drive are flooded during heavy rains and stormwater run-off.

Local Flood Mitigation Planning Committee:

Bruce Mast	EMC/Chief of Police
Harry Sheperd	Deputy EMC
Richard Madden	Committee Member
Jay Trstensky	Director of Public Works
Phil Izzo	Construction Official
James Drummond	Town Historian
Robert Streilein	Flooded Property Owner
Leslie Sauer	Waste Water Manager
Ron Bond	Planning/Zoning
Robert Miller	Floodplain Coordinator
Peter Turek	Municipal Engineer
Michelle Trivigno	Tax Assessor
Diane Soriero McDaniel	T/A Construction
Linda McKeegan	Flooded Property Owner

Ordinances/Plans Reviewed:

Stormwater Management Ordinance, stormwater analysis study of Rose Creek watershed,
Stream Corridor Ordinance

Outreach:

Lower Delaware Regional Watershed Coordinating Council, D&R Canal Commission

First Public Meeting Date: 5/29/07

Date and Method of Advertisement for Meeting:

Announced at township meetings, listed in meeting agendas

Questionnaire Distribution Method:

Mailed to flood impacted residents and businesses, advertised in local newspaper and available on web site, at municipal offices, police station, or by calling the township

Public Response:**Flood Mitigation Goals:**

1. Protect existing and new development by adopting and enforcing a stream corridor ordinance and by updating the current Stormwater Management regulations
2. Educate residents about flood risks
3. Conduct analysis of local watersheds
4. Reduce flooding along Lower Creek Road

Delaware Mitigation Action Plan:**1. ACTION: Stream Corridor Ordinance**

Description/Background: Delaware Township wants to adopt and enforce a new stream corridor ordinance to help protect new and existing developments within the township.

Hazard: Flooding

Existing or new assets: New

Existing mechanism through which action will be implemented: Zoning

Responsible Organization: Township Committee

Target Completion Date: 2008/2009

Estimated Cost: \$3000

Potential Funding Sources: Delaware Township

Priority: High

2. ACTION: Update Stormwater Regulations

Description/Background: Delaware Township wants to update current stormwater management regulations to minimize areas that are affected by stormwater runoff during extreme rain events.

Hazard: Drainage, new construction

Existing or new assets: Existing/New

Existing mechanism through which action will be implemented: Engineering

Responsible Organization: Waste Water Management Committee

Target Completion Date: 2008/2009

Estimated Cost: \$2000

Potential Funding Sources: Delaware Township

Priority: High

3. ACTION: Flood review of all new construction

Description/Background: Delaware Township wants to ensure that new building construction minimizes flood risk.

Hazard: Flooding

Existing or new assets: New

Existing mechanism through which action will be implemented: Floodplain Coordinator

Responsible Organization: Floodplain Coordinator

Target Completion Date: Ongoing

Estimated Cost: \$500/year

Potential Funding Sources: Delaware Township

Priority: High

4. ACTION: Analysis of local watersheds

Description/Background: Starting with the Rose Creek watershed, Delaware Township will contract Princeton Hydro to analyze the watersheds and make recommendations for flood mitigation.

Hazard: Flooding

Existing or new assets: Existing/New

Existing mechanism through which action will be implemented: Township Committee

Responsible Organization: Princeton Hydro

Target Completion Date: 2008/2009

Estimated Cost: \$8000

Potential Funding Sources: Delaware Township

Priority: High

East Amwell Township, Hunterdon County:

Location:

East Amwell Township is a community of 4,455 people located in the southeastern corner of Hunterdon County. The 28.72 square mile township is bordered by the Delaware Township to the west, by Hopewell Township to the southeast, West Amwell Township to the southwest, Raritan Township to the northwest, and Hillsborough Township to the northeast. The majority of the township is located in the Raritan River Watershed, with the extreme western part of this township located in the Delaware River Basin.

**Geology:**

The township lies in the Piedmont Physiographic Province. The northern part of the township is in the Raritan Valley Lowland region with rolling plain, while the southern part of the township lies in the Sourland Mountain region with relatively flat mountaintops that are higher. The underlying rock is primarily Brunswick shale. The elevations range from 100 feet at the Neshanic River to 560 feet in the southeastern part of the township.

Hydrology:

Over 90% of East Amwell primarily drains to the Raritan River Watershed, but a small northwestern portion of the township drains to the Delaware River.

The *Neshanic River*, a tributary to the South Branch of the Raritan River, flows through the northern portion of the township. The *Back Brook* is a tributary to the Neshanic River has its headwaters near Rocktown in eastern East Amwell Township.

The *Stony Brook* exists in the township and lies within the Stony Brook/Millstone Watershed.

Recent Flood History:

Although flooding is not a usual occurrence, heavy rainfall caused by tropical storms and hurricanes sometimes produces flooding conditions. During Hurricane Floyd in September 1999, the Raritan River flooded a small part of East Amwell. 18 single family homes sustained basement damage and 10 sustained first floor damage. The average assessed value of these homes was \$425,000. Hurricane Floyd also caused flood damage to the city municipal building.

Unique Flood Risk to Municipality: None

Local Flood Mitigation Planning Committee:

Tim Matheny	Township Administrator
C.J. Soos	OEM
Larry Tatsch	Governing Body
George Howell	Public Works
Dennis O'Neal	Engineer
Stu Doddy	Planning/Zoning/Code Enforcement
Terri Stahl	Municipal Clerk

Ordinances/Plans Reviewed:

Files and municipal records, photographs and reports related to flooding incidents, floodplain maps, Flood Management Ordinance

Outreach:

First Public Meeting Date: November 8, 2007

Date and Method of Advertisement for Meeting:

Questionnaire Distribution Method: Township web site

Public Response:

1. Comments about roads after flooding events
2. Summaries of damage incurred in June 2006 and September 1999

Flood Mitigation Goals:

1. Better community notification
2. Better flood preparation

East Amwell Mitigation Action Plan:

1. ACTION: Upgrade community notification system and township web site

Description/Background:

Hazard: Flooding
Existing or new assets: Existing
Existing mechanism through which action will be implemented:
Responsible Organization: Township
Target Completion Date: 2009
Estimated Cost: To be determined
Potential Funding Sources: To be determined
Priority: High

2. ACTION: Community education for flood preparedness

Description/Background:
Hazard: Flooding
Existing or new assets: Existing
Existing mechanism through which action will be implemented:
Responsible Organization: Township
Target Completion Date: Ongoing
Estimated Cost: To be determined
Potential Funding Sources: To be determined
Priority: Medium

Franklin Township, Hunterdon County:

Location:

Franklin Township is located in the central part of Hunterdon County, approximately 9 miles north of Flemington, New Jersey. It is home to 2,990 people, and comprises 22.92 square miles. Within the township lie the historic villages of Quakertown and Pittstown. Franklin is bordered by Alexandria Township to the west, Kingwood Township to the southwest, Delaware Township to the south, Raritan Township to the east, Clinton Township to the northeast, the Town of Clinton to the north, and Union Township to the northwest.



Geology:

The township lies in the Piedmont Plateau, which is part of the Appalachian Province. This area is characterized by nearly level lowlands, occasional ridges and low hills, and is underlain by shale and sandstone. Elevations range from 140 feet in the eastern part of the township to 706 feet just southeast of Quakertown, New Jersey.

Hydrology:

Franklin is comprised of both the Delaware River watershed (40%) and the Raritan River watershed (60%).

The southern half of the township drains to the Delaware River. There are no major water bodies that drain into the Delaware River situated in Franklin Township, however, there are

several small tributaries that feed the *Lockatong Creek* and *Muddy Run* in Kingwood Township which then drain into the Delaware River.

The *Capoolong Creek* drains northeast into the *South Branch of the Raritan River*.

Recent Flood History:

Franklin Township was recently affected by the June 2006, April 2005, September 2004, and September 1999 flood events. During the 2004, 2005, and 2006 floods, the South Branch Raritan River and the Capoolong Creek flooded agricultural lands and caused minor road damage. The September 1999 event caused more substantial damage to the community as 30 structures with an average assessed value of \$400,000 sustained basement damage. Critical roads and a county bridge were also affected. After the event, about 20 culverts were cleaned and regraded, rip rap was replaced, debris and sediment was removed and a survey of privately owned retention and detention basins was performed.

During the past flood events, Hamden River Road, the bottom of Spring Hill Road (the portion adjacent to the South Branch Raritan), Kingtown Road (around the Capoolong Creek), Sidney Road, Pittstown/Everittstown Road, and Landsdown Road were flooded.

Unique Flood Risk to Municipality: A dam condition at Spruce Run or Round Valley Reservoirs could impact floodplain areas.

Local Flood Mitigation Planning Committee:

George Reichert	Floodplain Admin./Stormwater Manger/Deputy OEM Coord.
Ken Mandoli	Emergency Management Coordinator
Alan Dilley	DPW Supervisor
Bruce Studier	Environmental Commission

Ordinances/Plans Reviewed:

Chapter 199 -Flood Damage Prevention, Ordinance 220 Article IV Floodplain Regulations, Municipal Chapter 296 Stormwater Control

Outreach:

South Branch Watershed Association, Rural Awareness (Municipal Historical Group)

First Public Meeting Date: 4/17/07

Date and Method of Advertisement for Meeting: Newsletter and ordinance notice

Questionnaire Distribution Method:

Notice at township building and drive-by canvassing

Public Response:

1. There are no residential structures exposed to first floor conditions in the floodplain, but some crawlspaces and basements are exposed.
2. There are some small sheds and barns that are located within the floodplain, although this is limited.

Flood Mitigation Goals:

1. Maintain a policy of no development in the floodplains
2. Stabilize and protect drainage pipes, culverts, and public roads adjacent to waterways

Franklin Mitigation Action Plan:

1. **ACTION: Maintain guidelines for steep slopes and flood prone areas**
Description/Background: The ordinances address prohibiting development in sensitive areas.
Hazard: Flooding/erosion
Existing or new assets: Existing/New
Existing mechanism through which action will be implemented: Municipal Ordinances
Responsible Organization: Planning Board and Building Dept.
Target Completion Date: In place and ongoing
Estimated Cost: N/A
Potential Funding Sources: N/A
Priority: Medium

2. **ACTION: Place rip-rap at face of stream adjacent to roadway**
Description/Background: Occasional high water events have caused localized erosion. These efforts will address exposed areas and mitigate the concerns.
Hazard: Flooding/erosion
Existing or new assets: Existing
Existing mechanism through which action will be implemented: Regular maintenance and ordinances
Responsible Organization: DPW
Target Completion Date: Fall 2007
Estimated Cost: \$2,000
Potential Funding Sources: Municipal budget
Priority: High

3. **ACTION: Remove sediment and vegetation from roadside culverts**
Description/Background: Sediment can build-up at drainage structure outlets. Therefore, excess material will be removed.
Hazard: Flooding
Existing or new assets: Existing/New
Existing mechanism through which action will be implemented: Regular Maintenance
Responsible Organization: DPW or sub-division developer
Target Completion Date: Ongoing
Estimated Cost: Depends on extent; \$10,000 estimate
Potential Funding Sources: N/A
Priority: Medium

4. **ACTION: Check for waterway obstructions (fallen trees, large debris, etc.)**
Description/Background: Obstructions may be causing a dam condition near important drainage components (swales, culverts, bridges, etc.). Therefore, obstructions will be searched for and removed.
Hazard: Flooding
Existing or new assets: Existing
Existing mechanism through which action will be implemented: Post storm survey
Responsible Organization: DPW/Landowners

Target Completion Date: Ongoing
Estimated Cost: Varies; \$1,000 per obstruction estimate
Potential Funding Sources: Municipal budget/private expense
Priority: Medium

Frenchtown Borough, Hunterdon County:

Location:

The Borough of Frenchtown is a one-square mile municipality located along the Delaware River on the western border of central New Jersey in southwestern Hunterdon County. It is bordered by Tinicum Township (PA) to the west, Alexandria Township to the north, and Kingwood Township to the east and south. The borough is home to 1,499 people within 1.34 square miles.



Geology:

The borough lies in the Piedmont Plateau, which is part of the Appalachian Province. This area is characterized by nearly level lowlands, occasional ridges and low hills, and is underlain by sedimentary rocks. The elevations range from 94 feet at the Delaware River to 330 feet at the borough's eastern corporate limits.

Hydrology:

The *Delaware River* flows along the western border of the Borough of Frenchtown.

The *Little Nishisakawick Creek* has its headwaters in northwestern Kingwood Township and flows generally southwest through the southern half of Frenchtown to its confluence with the Delaware River, approximately 200 feet downstream from the mouth of the Nishisakawick Creek.

The *Nishisakawick Creek*, a tributary to the Delaware, has its headwaters in the central part of the Township of Alexandria and flows generally southwest, entering Frenchtown at its northwestern corner. It flows southwest through town to its confluence with the Delaware River in the southwestern corner of the borough at Trenton Avenue/Route 29.

Recent Flood History:

Frenchtown experienced flooding in 1996, 2004, 2005 and 2006. In 1996 an ice jam broke and the River rose to 20-21'.

An old railroad right of way runs along the Delaware River and is currently used as a bike path and is owned by NJDEP Parks and Forestry. That embankment protects most of Frenchtown from any water that might overtop the bank of the River. Water from the River has only come over the bike path once. It did so in 1955 (during the flood of record) at the lowest point in the path. When the River backs up the Creeks, it goes through large culverts under the bike path. (NJDEP is responsible for the bike path, as well as the culverts.)

Flood waters from the Delaware River back up Nishisakawick Creek and Little Nishisakawick Creek, as well as the storm sewers and small culverts under the railroad embankment.

Distinct areas flood:

- The treatment plant at the end of River Rd and along River Rd.
- The area next to Nishisakawick Creek, generally bounded by Hawk St., Trenton Ave., River Rd and Bridge St.
- The area between Bridge and 3rd Streets, and the bike path and Harrison Rd
- Along Railroad Ave.

During the June 2006 storm, 68 houses incurred basement damage; 11 due to the Delaware River, 17 due to back-up through the towpath drainage pipes, and 40 by the Nississackaway Creek. Thirty (30) homes incurred first floor damage. The sewer plant's filtration unit and the pump station on River Road also flooded (the plant itself doesn't flood). The Railroad Avenue and the Frenchtown-Uhlerstown bridges were inundated with water, became impassible, and sustained damage due to mud and debris. Riverbank and road erosion was substantial and household heating oil was washed into the Delaware River. In addition, debris clogged the Nississackaway Creek, which has narrowed the opening of the creek where it enters the Delaware River.

During the April 2005 event, essential facilities were affected. The Post Office closed for 35 days due to severe flooding in its main floor, lobby and work areas, and the Fire Department and Emergency Response teams incurred equipment loss and damage.

Since Frenchtown is a rural community with a small tax base and municipal budget, the recent flooding has been a financial hardship on the township as it has been for many Delaware River townships. Commercial property owners also incur serious economic setbacks during flood events. Not only does flooding affect some businesses directly with water inundation, but all businesses in the borough are affected by road closures. When the bridges are closed for flooding and related repairs, weekend tourists, upon which Frenchtown businesses depend, cannot reach the borough. Frenchtown Borough works to more quickly re-open bridges and roads to traffic after flood events.

Flood Mitigation:

There are 3 properties that are undergoing elevation as of 2007. In January 2007, three applications were submitted to FEMA for acquisition. More property owners are interested in elevation and acquisition, but the borough is worried about the loss of tax ratables, aesthetics and character of the town if homes, especially if the historic homes were purchased and demolished. Homeowners also have difficulties securing funding and obtaining permits for acquisitions and elevations.

Frenchtown is currently looking to purchase flood-control plugs to control backflow of the Delaware River through drainage pipes underneath the towpath and is also in the process of developing a community telephone notification system. Frenchtown also hopes to build up the

towpath/bike path with stone to elevate the natural barrier and increase flood protection to 150 residences and businesses. In addition, the borough wants to install a one-way valve on the storm drains running beneath the towpath from the river to the residential area at 2nd Street. This measure will help ameliorate flooding for approximately 25 properties. In order to lessen flooding along the Nississackaway, the borough would like to install flood gates and remove accumulated debris from the creek.

Unique Flood Risk to Municipality:

Flooding occurs in Frenchtown for multiple reasons and from multiple sources. First, properties located immediately on the Delaware River (River Road, Washington Street) flood from elevated River levels. Second, other areas (Trenton Avenue, Front, Lott, Hawk Streets) flood from the Nississackaway Creek from its waters and back up from the River. Third, several properties (Railroad Ave and intersecting numbered streets like lower 2nd through lower 5th) flood from back up of the Delaware River through drainage pipes under the Delaware River Canal towpath.

Due to the small size and limited Borough resources and staff, responding to a flood emergency is more difficult and the related economic costs are a larger proportion of total borough budget than other larger municipalities.

Local Flood Mitigation Planning Committee:

Adam Liebttag	Council Member
Ken Arata	Resident
Tom Senn	Resident
Jerry Becker	Resident
Ron Sworen	Mayor
Sue Adipietro	Resident
Anne Glaser	Resident

Ordinances/Plans Reviewed:

Flood Control Ordinance, emergency management plans, data from flood events

Outreach:

First Public Meeting Date: 5/31/2007

Date and Method of Advertisement for Meeting:

5/24/2007 Delaware Valley News and agenda posted at Borough Hall

Questionnaire Distribution Method: bulk mailing to all residents

Public Response:

1. Questions about NYC reservoirs
2. Support for a Reverse 911 system
3. Support for emergency management information to be posted on a borough web site
4. Suggestions for keeping in touch with NOAA web site for weather information preceding flooding events
5. Interest in installing a flood gage on the Frenchtown-Uhlerstown Bridge that would provide cresting and river level data
6. Two residents state that elevation/buyouts are not viable options as elevation is expensive, state permits are required, as well as borough approval. In addition, there will

be a negative cumulative aesthetic impact of elevating, acquiring and demolishing homes (many of which are historic) within the borough.

7. One resident expressed concern that what happens upriver may have negative affects downriver. For instance, preventing the Delaware River from backing up through the towpath and flooding Railroad Ave and 2nd through 5th Streets may cause additional flooding pressure on the lower portion of town near the Creek and Trenton Ave.
8. Many residents expressed support for dredging the Nissisackaway Creek and parts of the Delaware River where it flows into the creeks. While this could improve the flow of the creek and river in flood-prone locations and improve aesthetics, some residents expressed concern that dredging could have a negative impact on the environment and habitats. The Borough is concerned with obtaining and paying for the appropriate permits from the state.

Flood Mitigation Goals:

1. Improve notification and early warning system to residents. Improved communication will allow better planning and prevention by residents and businesses, notify residents and businesses of how to stay in touch with the borough and emergency management resources, and provide updates during flood events
2. Reduce or prevent back flow of Delaware River along towpath through drainage pipes.
3. Reduce or prevent damage and down time at Public Works and Sewer Plant facilities due to river flooding
4. Reduce or prevent damage to homes and businesses on Trenton Avenue, Front and Lott Streets, which suffer flooding from Nissisackaway Creek elevation and backup from Delaware River
5. Protect Borough infrastructure at the Sewer Plant, Public Works facility, pumping stations in Creek Park and on River Road
6. Preserve towpath and prevent erosion of towpath and river bank; prevent or contain erosion of creek bank in Creek Park

Frenchtown Mitigation Action Plan:

1. **ACTION: Relocation of electric panels at Public Works garage and sewer plant**
Description/Background: Borough Council is obtaining proposals for electrical work to be completed, will award to vendor according to law. Borough staff will oversee and coordinate onsite work with appropriate code inspectors, etc.
Hazard: Flooding
Existing or new assets: Existing
Existing mechanism through which action will be implemented: Borough Council and Borough Staff
Responsible Organization: Borough
Target Completion Date: 2007-2008
Estimated Cost: \$20,000
Potential Funding Sources: Grant or self-funded
Priority: High

2. ACTION: Relocation of Sewer Plant

Description/Background: Borough recognizes need to expand and/or build new wastewater treatment plant to serve expanding Borough needs (aside from flooding). Design and construction of new sewer plant is in initial planning stages.

Hazard: Flooding

Existing or new assets: Existing/New

Existing mechanism through which action will be implemented:

Responsible Organization: Borough

Target Completion Date: 2008-2010

Estimated Cost: \$3-5 million

Potential Funding Sources: Grants & Loans from State and Federal Gov't, Borough funds

Priority: High, but long term

3. ACTION: Raise level of the D&R towpath to prevent backflow of Delaware River over towpath

Description/Background: Raising the height of the towpath would increase protection of more than 20 properties impacted by back flow of the River.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented:

Responsible Organization: NJ State (DEP, D&R Canal Commission)?

Target Completion Date: Open

Estimated Cost: To be determined

Potential Funding Sources: State

Priority: Medium to Low

4. ACTION: Install backflow prevention plugs on drainage pipes under towpath and at sewer plant

Description/Background: Borough Council and Sewer Committee are exploring "backflow plugs" to prevent back flow of River through drainage pipes in towpath. An additional backflow plug will be installed at Sewer Plant. Borough staff and Council are working to identify mechanical options, engineering to fit plugs into the pipes. If the plugs are removable, staff responsibility will be defined to determine who installs plugs during a flood event.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented:

Responsible Organization: Borough

Target Completion Date: 2007/2008

Estimated Cost: \$25,000

Potential Funding Sources: Grant or self-funded

Priority: High

Hampton Borough, Hunterdon County:

Location:

Hampton Borough is located along the northwestern border of Hunterdon County. There are 1,546 people living within the borough's 1.54 square miles. It is bordered by Lebanon Township to the north, Bethlehem Township and Borough of Glen Gardner to the south, and Washington Township to the west.



Geology:

The borough is located in the Reading Prong of the New England Uplands province (Highlands of New Jersey). The area is moderately rugged and characterized by approximately parallel, somewhat irregular ridges intervening valleys all trending northeast. The borough is located in the valley and underlain by marine sediments. The ridges around the borough rise 500 to 1,000 feet above the valley floor, which is around 350 feet at its lowest point.

Hydrology:

The *Musconetcong River* forms the northern border of this borough. It originates at Lake Hopatcong and flows northwest. After flowing through Lake Musconetcong, the river flows southwest forming the border of Hunterdon and Warren Counties until it joins the Delaware River in Reigelsville, New Jersey.

Recent Flood History:

Hampton was affected by flooding in June 2006, April 2005, September 2004, and September 1999. The Musconetcong and Storm Water Creek flooded Borough Park and properties adjacent to Storm Water Creek from Lackawanna, Bowlby, and Main Street to Box Culvert. During a typical flooding event, 10 structures incur basement damage.

Unique Flood Risk to Municipality: None

Local Flood Mitigation Planning Committee:

Rob Walton	Mayor
Jeff Tampier	OEM
Bob Sheridan	Environmental Committee Chair

Ordinances/Plans Reviewed:

Outreach:

First Public Meeting Date: 10/8/2007

Date and Method of Advertisement for Meeting:

9/18/2007 Post at Borough Hall, 9/26/2007 Borough Newsletter

Questionnaire Distribution Method: Questionnaires were delivered by hand to all residents affected by local flooding.

Public Response:

1. Three responses were received expressing no interest in aid
2. The 3 reported only minor flooding in basements and washed out driveways

Flood Mitigation Goals:

Improved Storm Water Management

Hampton Mitigation Action Plan:**1. ACTION: Storm Creek bed clean-up**

Description/Background: The storm creek begins at the outlet of a storm water pipe on the south side of Lackawanna Street near Route 31. It traverses Lackawanna, Bowlby Street as it travels north between the back yards of homes facing Main Street until it crosses Main Street and is continued in buried concrete pipes. The creek has become filled with tree limbs, natural debris and garbage. They plan to use prison labor to clean by hand all debris and move stones from the bottom of the bed to the top, thus deepening and widening the creek. While this work will be completed in September 2007, it will need annual maintenance to keep it clear.

Hazard: Flooding**Existing or new assets:** Existing**Existing mechanism through which action will be implemented:** DPW Administration**Responsible Organization:** DPW**Target Completion Date:** September 2007 & annual maintenance**Estimated Cost:** Free**Potential Funding Sources:** NJ DOC labor**Priority:** High**2. ACTION: Route 31 Retention Pond**

Description/Background: The state DOT will be widening and improving Route 31 as part of a project to replace the bridge of the NJ Transit rail line. As part of this project the DOT is constructing a water retention pond near the south corner of Lackawanna Street and Route 31. Much of the water that falls on Route 31 finds its way into the municipal storm water creek described in the first action above. As part of this DOT project, nearly all water on Route 31 will be directed into this retention pond.

Hazard: Flooding**Existing or new assets:** New**Existing mechanism through which action will be implemented:** DOT Construction Project**Responsible Organization:** DOT**Target Completion Date:** 2009**Estimated Cost:** TBD**Potential Funding Sources:** TBD**Priority:** Medium

Kingwood Township, Hunterdon County:

Location:

The Township of Kingwood is located on the western part of Hunterdon County and is home to 3,782 people. The 35.81 square mile township is bordered by the Delaware River. Kingwood is bordered by Tincum Township (PA) and Plumstead Township (PA) to the west, the Townships of Frenchtown and Alexandria to the north, Franklin Township to the east, and Delaware Township to the south.



The oft-flooded village of Byram is located directly on the Delaware River and contains approximately 40 homes within Kingwood Township.

Geology:

The township lies in the Piedmont Plateau, which is part of the Appalachian Province. This area is characterized by nearly level lowlands, occasional ridges and low hills, and is underlain by sedimentary rock. The relatively flat topography of the river terrace is found along the Delaware River. Elevations range from 57 feet at the Delaware River to 570 feet in the south-central part of the township.

Hydrology:

The *Delaware River* flows along the western border of the Kingwood Township.

The *Little Nashisakawick Creek* originates in the northern portion of the township until it enters Frenchtown Borough.

The *Copper Creek* and *Warford Creek* are both tributaries to the Delaware that are entirely located within Kingwood.

The *Locketong Creek* has its headwaters in the southwestern part of Franklin Township and flows generally southwest through Kingwood Township, and into Delaware Township. The Locketong Creek and its tributaries drain most of the township.

The *Muddy Run* is a tributary to the Locketong. It has its headwaters in the east-central region of the township and generally flows southwest to its confluence with the Locketong Creek.

Recent Flood History:

The Byram section of Kingwood was affected by the June 2006, April 2005, September 2004, September 1999, and January/February 1996 flooding events. Each of the flooding events was caused by the Delaware River and affected only a small portion of the township. During events, it is estimated that 40 privately-owned structures sustain basement damage, and that 35-40 buildings sustain first floor damage. While no essential facilities were affected by the recent flooding events, a small number of private wells and septic tanks were contaminated. Repetitive flood loss properties are located along the Delaware River (Old River Road) in southern

Kingwood and in or near Byram (Byram Lane).

Two major causes of flooding are the very low elevation of the area, causing the bank to get overtopped by the Delaware River, compounded by rainwater coming off of Route 29 and the old railroad track right of way. Sometimes the water from the highway and the railroad collects in the low areas of Byram before the river floods it.

Flood Mitigation:

In 1997, homeowners began funding their own property elevations. Approximately four to five home elevations have been completed. There are at least 8-10 more owners interested in elevation, although lack of funding is preventing follow through.

Unique Flood Risk to Municipality:

Only a small portion of Kingwood Township experiences repetitive flooding. The Byram community has been severely flooded and properties have suffered significant repetitive damage in the last three floods. Property values range from \$600K - \$700K, with one valued at \$1.6M.

Local Flood Mitigation Planning Committee:

James Burke	Mayor/Planning Board/LEMC
Mary Macconnell	Clerk, DEP/EMC
Thomas Decker	Engineer/Stormwater Mngmt Coord.
Michael DeSapio	Zoning Officer/Floodplain Admin
Wayne Degan	Construction Official
Joseph Zdrodowski	Chair Flooded Property Owners
Jerry Fechter	Flooded Property Owner
Jolene Cooper	Flooded Property Owner
Nina Altschiller	Flooded Property Owner
Richard Desvernine	Flooded Property Owner (moved)
Fred Mount	Flooded Property Owner

Ordinances/Plans Reviewed:

Lambertville's All Hazard Mitigation Plan, Army Corps study for floodwater abatement plan, zoning ordinances were modified to facilitate elevating residences and DRBC flood maps

Outreach:

Lambertville, Frenchtown, Holland Township, Harmony Township, Delaware River Basin Commission, Federal Emergency Management Agency, Rep. Rush Holt, local school

First Public Meeting: 7/2006

Advertisement for Meeting:

Announced at meeting, Delaware Valley News article 9/4/2007

Questionnaire Distribution: local volunteers

Public Response:

1. Complaints about the time it has taken to develop the plan to petition FEMA for funds. Citizens are interested in how the process can be accelerated.
2. Resentment for NJDEP regarding restrictions and permits required. This has abated due

- to changes made by NJDEP in granting approval to take remedial action.
3. Most residents in Byram community want to elevate their homes, but cannot afford to do so with their own resources.
 4. Some residents chose not to wait for FEMA and elevated their homes using their own funds.

Flood Mitigation Goals:

1. Have over 50% of Byram residents elevate their homes.

Kingwood Mitigation Action Plan:

1. ACTION: Complete All Hazards Mitigation Plan

Description/Background: The All Hazards Mitigation Plan for Kingwood Township is in progress. It may be necessary to enlist professional help to complete the document. The technical assistance required is minimal.

Hazard: Flooding

Existing or new assets: Existing/New

Existing mechanism through which action will be implemented: NJOEM

Responsible Organization: Kingwood Township

Target Completion Date: Fall 2007/2008

Estimated Cost: \$1,000

Potential Funding Sources: FEMA, NJ Green Acres

Priority: High

2. ACTION: Elevate Homes

Description/Background: The questionnaire submitted recently to the property owners indicated that more than 80% of the homeowners now wish to elevate their homes providing that they receive assistance from FEMA and NJ Green Acres.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: NJOEM

Responsible Organization: Kingwood Township OEM

Target Completion Date: Ongoing

Estimated Cost: \$5,000,000

Potential Funding Sources: FEMA, NJ Green Acres

Priority: High

3. ACTION: Property Acquisition

Description/Background: Some property owners are considering having FEMA acquire their homes as it may not be economically feasible to elevate their homes (built on slab, location subject to river debris, structure not suitable for elevation, etc.).

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: NJOEM

Responsible Organization: Kingwood Township OEM

Target Completion Date: Ongoing

Estimated Cost: \$5,000,000

Potential Funding Sources: FEMA, NJ Green Acres
Priority: High

City of Lambertville, Hunterdon County:

Location:

The City of Lambertville is located in southwestern Hunterdon County along the Delaware River and on the western border of West Amwell Township. Lambertville is home to 3,868 people within 1.25 square miles. It is bordered by the Borough of New Hope (PA) and the Township of Solebury (PA) to the west, by the Township of Delaware to the north, and the Township of West Amwell on the east and south.



Geology:

The borough lies in the Piedmont Plateau, which is part of the Appalachian Province. This area is characterized by nearly level lowlands, low hills and is underlain by sedimentary rocks. The elevations range from 40 feet at the Delaware River to 340 feet in the extreme southeastern corner of the city.

Hydrology:

The *Delaware River* flows along the western border of the City of Lambertville.

The *Swan Creek* (~3 mi² drainage area) flows northwest as it enters the city and joins the *Swan Creek Tributary* about 1,000 feet inside the city limits then flows west into the Delaware River. Swan Creek drains the southern part of the city. Both portions of these streams have steep channels with high velocities during flood events.

The *Alexauken Creek* (15 mi² drainage area) has its headwaters in the central part of West Amwell Township and flows generally west along the northern border of Lambertville to the Delaware River.

The *Ely Creek* is located to the northern part of Lambertville.

Recent Flood History:

Major flooding on the Alexauken Creek, Ely Creek and Swan Creek results from backwater from the Delaware River causing overflow in their lower reaches. They also occasionally experience flash flooding, which causes high channel velocities and resultant scour and erosion.

The municipality experienced major flooding events in September 2004, April 2005 and June 2006, resulting in millions of dollars of damage. The flooding of 2005 was 6" higher than the other two flooding events. The highest event in 2005 was estimated to be a 75 year flood event by the town's municipal engineer.

Lambertville was also affected by Tropical Storm Floyd in September 1999 which caused flooding to homes and businesses at the intersections of North Main Street and Elm and Buttonwood Streets. The Lambertville Public School was also affected and flood-proof doors have since been installed at the school. In addition, five dams were damaged upstream of Lambertville including Amwell Dam Nos. 1-3 on the Alexauken Creek and Lambertville Dam Nos. 1 and 2, which are part of the Lambertville water supply complex owned by United Water. Amwell Dams 2 and 3 have been rehabilitated, Lambertville Dam 2 will be rehabilitated, Lambertville Dam 1 will be removed, and Amwell Dam 1 will remain as a significant hazard dam. The 1999 flood also caused erosion along the creek banks; riprap along Alexauken Creek, gabion baskets with stone along Swan Creek, and the gabion retaining wall along the Union Fire House all required replacement.

During flooding events, Holcombe Island is inundated by waters from the Delaware River. The Delaware River then backs into Swan, Ely, and Alexauken Creeks, which then floods the basements and first floors of residential and commercial structures along Lambert Lane. In June 2006, debris impacted the Free Bridge, which inhibited movement of emergency services.

In 2001, NJDOT completed a flood control measure that included the installation of a large-diameter diversion pipe along Delaware Avenue to relieve flooding near and downstream from Lambertville Elementary School. Ely field is now utilized as a detention basin during high flow events. In addition, the junction at the eastern end of Delaware Avenue transitions into 2 tunnels which pass under the D&R Canal where the flow is then discharged to Island Creek and the Delaware River. This system requires frequent debris removal at the diversion structure and protects Buttonwood and Elm Streets and the Lambertville Public School.

Riverine flooding occurs along the Delaware River west of the Delaware and Raritan Canal. The Canal is elevated over the normal level of the river, and adjacent to the canal is a railroad track. The canal and railroad acts as a levee through the City, so from the treatment plant to Alexauken Creek there isn't overtopping from the Delaware River until waters rise higher than the 100-year flood. There exist two areas where these earthworks pass over creeks. Backup in water from the Delaware River prevents the creek waters from flowing out of the City resulting in backwater flooding along the Swan Creek (+3 mi² drainage area) and Alexauken Creek (15 mi² drainage area). A 1999 flood event, from Hurricane Floyd, was a Swan Creek only event; the Delaware River did not cause a problem. Nearby, Ely Creek (0.7 mi² drainage area) also floods. It flows between Alexauken and Swan Creeks and goes behind businesses and homes.

Flash flooding has occurred in the vicinity of the Elementary School along North Main Street. Additionally, flash flooding has been associated with hillside runoff. In both instances the hazards, vulnerability and potential mitigation measures have been studied by the City and selected mitigation measures have been funded or are scheduled in the next year or two. In the past, the area of the School has received additional drainage structures that have mitigated the problem to a great extent, but has not eliminated it entirely. Flooding in this area has an impact to the school and the adjacent roadway that impairs commerce and limits accessibility of the fire company equipment during times of flooding.

Unique Flood Risk to Municipality: None

Local Flood Mitigation Planning Committee:

David DelVecchio	Mayor
David Burd	OEM Coordinator
Alan Tamm	Absaroka Corporation (private contractor)
Paul Cronce	PWD Director/OEM Deputy Coordinator
John Miller	Planning Board Member
Allen Rowles	Construction Official
Matt Hartigan	Fire Chief
James Meehan	Sewerage Authority
Michael Burns	Historic Preservation Commission Chair
Caren Franzini	Flooded Property Owner
Bradley M. Campbell	Resident/Past NJDEP Commissioner
William Powell	Hunterdon County OEM Coordinator
Gregory Westfall	USDA NRCS Water Resource Planner
Bambi Kuhl	Social Services Director
Donna Drewes	Community Planner-Municipal Land Use Center at the College of New Jersey
Chad Brown	FEMA
William Millette	Hunterdon County Planning Board
Ken Bogen	Hunterdon County Planning Board

Ordinances/Plans Reviewed:

Master Plan, Annual Capital Improvement Plan, Flood Damage Prevention Ordinance, flood insurance studies, Emergency Operations Plan, Zoning Ordinance, Building Code, Stormwater Management Ordinance, existing land use maps, elevation certificates

Outreach:

Boy Scouts, Girl Scouts, Chamber of Commerce, Fire Department, Rescue Squads, various civic organizations, business owners, clergy and residents from different sections of the community, Princeton University, N.J. State Department of Environmental Protection, County Emergency Managers from more than a dozen different counties statewide, municipal, county and state-level police and fire department personnel, N.J. Department of Geologic Services, students at the College of New Jersey, The Municipal Land Use Center (a non-profit organization), Hunterdon County emergency management officials

First Public Meeting: 07/24/2006

Advertisement for Meeting:

The Beacon, Hunterdon County Democrat before meetings, public service announcements through local radio stations

Questionnaire Distribution:**Public Response:****Flood Mitigation Goals:**

1. Protect and promote public health and safety
2. Safeguard public essential facilities and infrastructure
3. Protect public and private property

4. Promote Lambertville's economic vitality
5. Preserve the natural environment and promote human health

Lambertville Mitigation Action Plan:

1. ACTION: Install a backflow prevention device storm sewer behind CVS Pharmacy that surcharges adjacent to the Canal Studios building

Description/Background: When the Delaware River is above flood stage, Alexauken Creek back flows through a storm sewer system. The storm sewer system surcharges at an inlet adjacent to the Canal Studios building that is located on North Union Street, just south of an open lot and intersection with Cherry Street. This surcharge can be mitigated by the installation of a backflow prevention device. The City Council has authorized an engineering feasibility study to be performed to confirm that a backflow valve can be installed on an existing headwall at the discharge of the storm sewer system. The City has also authorized a consultant to prepare a HMGP application as per the instruction of the State Hazard Mitigation Officer.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: TBD

Responsible Organization: City Council

Target Completion Date: Feasibility study: March 2007; HMGP application: June 2007; Installation pending approval

Estimated Cost: Estimated \$75,000

Potential Funding Sources: Hazard Mitigation Grant Program, City

Priority: High

2. ACTION: Install backflow prevention device within Niece Lumberyard to mitigate backflow of Ely Creek

Description/Background: The storm sewer system that feeds Ely Creek surcharges to North Union Street when the Delaware River is above flood stage. This floods the residential and commercial area bounded by the canal, Arnett Avenue and Cherry Street. The area has a combination of residential and commercial properties. It is believed that the surcharge can be mitigated by the installation of a backflow prevention device within the Niece Lumberyard and a portable pump. The City of Lambertville City Council has authorized an engineering feasibility study to be performed to confirm that a flood gate can be installed on an existing headwall within the Niece Lumberyard. The City has also authorized a consultant to prepare a HMGP application as per the instruction of the State Hazard Mitigation Officer.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: TBD

Responsible Organization: City Council

Target Completion Date: Feasibility study: March 2007; HMGP application: June 2007; Installation pending approval

Estimated Cost: \$120,000

Potential Funding Sources: Hazard Mitigation Grant Program, City

Priority: High

3. ACTION: Install flood gate and lift station at Swan Creek

Description/Background: Swan Creek surcharges onto North Union Street and vicinity when the Delaware River is above flood stage causing flooding of the residential and commercial area. The area impacted is bounded by the canal to the west, Ferry Street to the north, South Main Street to the east and Mount Hope Street to the south. The area is mostly residential with some commercial zone including a drycleaner. Critical infrastructure to the west of South Union Street includes a wastewater pumping station and the Justice Center where the City has board meetings and municipal court. It is believed that the surcharge can be mitigated by the installation of a flood gate and lift station. The City commissioned a study of the back-flooding by the United States Department of Agriculture - Natural Resources Conservation Service (NRCS). The objective of the study was to provide technical assistance for determining elevations of existing flood-prone structures as well as to preliminarily review hydrology and hydraulics alternatives of flood mitigation. Tentatively, the NRCS has confirmed that a flood gate and lift station will work to prevent the back-flooding of the Delaware River and de-water the local runoff from the relatively small (3.43 square miles) Swan Creek watershed. Coordination with the New Jersey Water Supply Authority is ongoing since the overflow from the canal must be diverted to reduce the size of the pump station. The City is meeting with the Authority and NRCS to see if the wasting of the canal can be relocated or modified. The City has also authorized a consultant to prepare a PDM application. Detailed licensing and design has begun.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: TBD

Responsible Organization: City Council

Target Completion Date: Study: March 2007; other dates pending NJWSA and PDM program

Estimated Cost: \$8,000,000

Potential Funding Sources: Pre-Disaster Mitigation Grant Program, City

Priority: High

4. ACTION: Study of sanitary sewerage backflow during flooding events

Description/Background: The City believes that a study of the potential backflow of the sanitary sewer during a flood would be wise.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: TBD

Responsible Organization: Lambertville Sewer Authority

Target Completion Date: TBD

Estimated Cost: \$500,000

Potential Funding Sources: Pre-Disaster Mitigation Grant Program, Lambertville Sewer Authority

Priority: High

5. ACTION: Assist residents and business owners with elevation applications

Description/Background: The City of Lambertville City Council is aware that a structural

solution may not exist specifically along Lambert Lane. The City will help residents and businesses with applications to elevate buildings if deemed feasible.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: TBD

Responsible Organization: City Council

Target Completion Date: TBD

Estimated Cost: \$250,000

Potential Funding Sources: Pre-Disaster Mitigation Grant Program, Repetitive Flood Claim Losses

Priority: High

6. ACTION: Analyze properties north of Cherry Street for structural elevation
Description/Background:

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: TBD

Responsible Organization: City Council

Target Completion Date: TBD

Estimated Cost: TBD

Potential Funding Sources: TBD

Priority: Medium

Lebanon Township, Hunterdon County:

Location:

Lebanon Township is located in mountainous northern Hunterdon County. Lebanon's 31.72 square miles is home to 5,816 people.

Lebanon Township is bordered by Morris Township to the northeast, Tewksbury Township and the Borough of Califon to the southeast, Clinton Township and the Borough of High Bridge to the south, Union and Bethlehem Townships to the southwest, the Boroughs of Glen Gardner and Hampton to the west, and the Townships of Mansfield and Washington to the northwest.



Geology:

The township is located in the New England Uplands province (Highlands of New Jersey, locally known). The area is moderately rugged and characterized by approximately parallel, somewhat irregular ridges intervening valleys all trending northeast. The township is underlain by carbonates, shale and some glacial till. The soils in this area are deep and mostly well drained, moderate sloping and rocky. The ridges in the township rise 500 to 1,000 feet above the valley floor.

Hydrology:

Only the northern portion of the township lies in the Delaware River Basin, as it is drained to the *Musconetcong River* which comprises its western border. The Musconetcong River originates at Lake Hopatcong and flows northwest. After flowing through Lake Musconetcong, the river flows southwest forming the border of Hunterdon and Warren counties and joins the Delaware River in Reigelsville, New Jersey. This river flows through the northern and eastern portions of the township.

The rest of the waterways in Lebanon Township drain to the Raritan River Watershed.

The *Rocky Run* and *Willoughby Creek* both have their confluence with the Spruce Run. The *Spruce Run* begins in the north central part of the township and flows southwest to its confluence with the Spruce Run Reservoir.

The *South Branch* of the Raritan River and one of its tributaries, the *Little Brook*, flow through the southeastern portion of the Township.

Recent Flood History:

Lebanon Township was affected by the September 2004 and September 1999 flood events. Minor road damage along Hollow Road and River Road was incurred during the 2004 storm. In 1999, less than 10 homes sustained minor basement flooding. No essential facilities were affected.

Unique Flood Risk to Municipality: None

Local Flood Mitigation Planning Committee:

Warren Newman	Floodplain Administrator
Steve Reisse	Engineer
Warren Gabriel	OEM Coordinator
Ed Post	Mayor

Ordinances/Plans Reviewed:**Outreach:**

First Public Meeting: May 16, 2007

Advertisement for Meeting: *Hunterdon County Democrat*

Questionnaire Distribution: Mail

Public Response:

1. Wanted to find out if the plan affected their flood insurance and how
2. Advised that storms caused minimal damage to their properties

Flood Mitigation Goals:

1. To be prepared for the future should the need arise

Lebanon Mitigation Action Plan:**1. ACTION: Public education**

Description/Background: The township wants to enhance public awareness through information portals, including the township newsletter and website. It also would like to

investigate potential public outreach opportunities with a cooperative effort between Lebanon Township and the Musconetcong Watershed Association.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: TBD

Responsible Organization: Township of Lebanon

Target Completion Date: January 2008

Estimated Cost: Minimal Direct Cost

Potential Funding Sources: Township of Lebanon

Priority: Medium

Milford Borough, Hunterdon County:

Location:

The Borough of Milford is located on the western border of central New Jersey in northwestern Hunterdon County. It is bordered by Bridgeton Township (PA) to the west, Alexandria Township to the south, and Holland Township to the north and east.



Geology:

The borough lies in the Piedmont Plateau, which is part of the Appalachian Province. This area is characterized by nearly level lowlands, occasional ridges and low hills, and is underlain by sedimentary rock. Elevations range from 95 feet at the Delaware River to 440 feet in the northwestern part of the borough. Elevations along the Delaware are higher in Milford than across the river in Pennsylvania.

Hydrology:

The *Delaware River* flows along the western border of the Borough of Milford.

The *Harihokake Creek* has its headwaters in Alexandria and flows generally southeast into the Borough of Milford, where it empties into the Delaware River.

The *Quequacommisacong Creek* begins in Eastern Holland Township and flows southward into the Borough and empties into the Harihokake Creek.

Recent Flood History:

Milford Borough was affected by the June 2006 and April 2005 flooding events. During the events, the Delaware River, Quequacommisacong *Creek*, and Harihokake Creek flooded Water Street, York Street, Carpenter Street, Spring Garden Street, and Railroad Avenue. Residential, commercial, and government properties became inundated with water. The Milford Sewerage Treatment Plant's lift station and chlorination chamber was damaged.

Since the floods, one property has been elevated by the homeowner. Milford Borough wants

to continue maintenance of local streams and the banks of the Delaware River to prevent debris from blocking the waterways.

Unique Flood Risk to Municipality: The sewer plant is located in the flood area in the borough, will review again after public meeting and surveys are received.

Local Flood Mitigation Planning Committee:

James Gallos	Mayor
Henri Schepens	OEM Coordinator
John Phillips	Council
Larry Lutz	EMS
Douglas Sloyer	Fire Department
Greg Romeo	School Board
Lori Laughton	OEM
Mike Giannone	Fire Official
Rick Aller	OEM
Greg MacTye	GSUWR
Dr. Debra Curry	OEM

Ordinances/Plans Reviewed:

Outreach:

First Public Meeting: 10/1/07

Advertisement for Meeting: Delaware Valley News 9/20/07 and Milford Web site

Questionnaire Distribution: Mailing

Public Response:

Flood Mitigation Goals:

1. To prevent future damage and flood proof the sewage treatment plant's lift station and chlorination chamber
2. To continue maintenance of local streams and the banks of the Delaware River to prevent debris from blocking the waterways

Milford Mitigation Action Plan:

1. ACTION: Wet well

Description/Background:

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: None

Responsible Organization: Borough of Milford

Target Completion Date: 2009

Estimated Cost: Currently researching costs

Potential Funding Sources: Grants

Priority: Medium

Raritan Township, Hunterdon County:

Location:

Raritan Township is located in central Hunterdon County and is home to 19,809 people. It is bordered by the Township of Clinton to the north, the Townships of Readington and Hillsborough to the east, the Township of East Amwell to the south, and the Townships of Franklin and Delaware to the west. The township encompasses 37.91 square miles. Only the northwestern portion of this township, approximately 4.82 miles, is drained by the Delaware River.



Geology:

The township lies in the Piedmont Physiographic Province. The underlying rock is primarily Brunswick shale. The elevations range from 100 feet at its eastern border to 625 feet in the northern part of the township.

Hydrology:

Over 85% of Raritan drains to the Raritan River Watershed, but a small northwestern portion of the township drains to the Delaware River. The upper reaches of the *Wickecheoke River* and *Plum Brook* flow through the Township. These are both tributaries to the Delaware.

The remaining portion of Raritan Township is located within the Raritan River Basin and includes the *Neshanic River* and its 3 tributaries, as well as *Walnut Brook* that drain to Neshanic.

The *South Branch of the Raritan River* forms the western boundary of the township. Tributaries to the South Branch in Raritan Township, from north to south, include the *Assiscong River*, the *Minneaconing Creek*, and the *Bushkill Brook*.

Recent Flood History:

Raritan Township was affected by the June 2006, April 2005, September 2004, and September 1999 flood events. During these events, no developed land was affected, but Wickecheoke Creek, Plum Brook, South Branch of the Raritan River and its tributaries flooded. Street flooding denied vehicular access in 5 locations along the Wickecheoke Creek, 1 on Plum Brook, and 11 locations along the Neshanic River. More specifically, Kuhl Road, Hampton Corner Road, Plum Brook Road, Sam Levine Road, Old Croton Road, Oak Grove Road, Dayton Road, and areas near 202 flooded. Road, culvert, and bridge repair and debris clean-up were the only impacts on the city infrastructure.

Unique Flood Risk to Municipality: None

Local Flood Mitigation Planning Committee:

Thomas Camporeale	OEM Coordinator
Don Gootee	OEM
Allan Pietrefesa	Twp. Administrator
Fred Coppola	Engineer
Dirk Struening	Director of Public Works

Ordinances/Plans Reviewed:

Stormwater Management Ordinance and plan, existing FEMA studies, floodplain maps

Outreach: None

First Public Meeting: 8/23/2007

Advertisement for Meeting: 08/15/2007 Hunterdon County Democrat

Questionnaire Distribution: Township Web site

Public Response: None

Flood Mitigation Goals:

1. Preservation of Open Space that includes areas in the floodplain
2. Attempt to limit impervious cover
3. Eliminate flooding for emergency access purposes
4. Take as many steps as environmentally possible to reduce roadway flooding by proper maintenance of infrastructure

Raritan Mitigation Action Plan:**1. ACTION: Kuhl Road elevation**

Description/Background: The mitigation action would be road elevation to alleviate flooding. Flooding prevents vehicular traffic which includes emergency vehicles.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: Capital improvement

Responsible Organization: Township of Raritan, County

Target Completion Date: 2009

Estimated Cost: \$1,500,000

Potential Funding Sources: Flood mitigation assistance program

Priority: High

2. ACTION: Copper Hill Road elevation and bridge replacement

Description/Background: The mitigation action would be roadway elevation and bridge replacement. Flooding prevents vehicular traffic which includes emergency vehicles.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: Capital improvement

Responsible Organization: Raritan Township, County

Target Completion Date: 2010

Estimated Cost: \$280,000

Potential Funding Sources: Flood mitigation assistance program

Priority: High

3. ACTION: Hampton Corner Road elevation and bridge replacement

Description/Background: This project would require roadway elevation and bridge replacement. Flooding prevents vehicular traffic which includes emergency vehicles.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: Capital improvement

Responsible Organization: Raritan Township, County

Target Completion Date: 2009
Estimated Cost: \$330,000
Potential Funding Sources: Flood mitigation assistance program
Priority: High

Stockton Borough, Hunterdon County:

Location:

The Borough of Stockton is a small community of 560 people within a 0.60 square mile area. The borough is located in southwestern Hunterdon County and is bordered by the D&R Canal and Delaware River to the south and southwest, the Wickecheoke Creek to the northwest, and Delaware Township everywhere else. It is bordered by Solebury Township (PA) to the west.



Geology:

The borough lies in the Piedmont Plateau, which is part of the Appalachian Province. This area is characterized by nearly level lowlands, occasional ridges and low hills, and is underlain by shale. The relatively flat topography of the river terrace is found in the southern portion of the borough and adjacent to the Delaware River.

Hydrology:

The *Delaware River* flows along the southern border of the Borough of Stockton.

The *Brookville Creek* is located in the southwestern part of the township and flows southwest to its confluence with the Delaware and Raritan Canal. The last 2,500 feet of the stream forms the southeastern corporate limits with the Borough of Stockton and the Township of Delaware.

The *Wickecheoke Creek* has its headwaters in the Township of Raritan and flows generally southwest.

The *Brookville Creek* is located in the southwestern part of the township and connects with the D&R Canal.

Recent Flood History:

Stockton was impacted by the June 2006 and the April 2005 flooding events. June 2006, the Delaware River and its local tributaries encroached into more than 100 residents' basements and over 50 residents' first floors. The average assessed value of the homes was \$300,000 and the homes were 50 to 100 years old. The flood cost the borough \$65,000 in public damage and residents and business costs were estimated at \$2,000,000, much of which was reimbursed by FEMA and insurance. During the June 2006 flood the canal wall breached in town at the south end of Mill Street.

During the April 2005 flood the canal wall north of town (just south of the Prallsville Mill) breached. The canal wall also breached south of Mill Street. The April 2005 event caused more damage than the 2006 event. In 2005, 25% to 50% of the borough was affected. Over 150 residential and commercial structures sustained basement damage and over 100 residential and commercial structures sustained first floor damage. The flood cost the borough about \$85,000. \$45,000 was reimbursed by FEMA and the rest is being paid for by a tax increase. It is estimated that residents and businesses incurred a \$7,000,000 loss collectively, which was mostly reimbursed by insurance.

The Stockton Fire Department located on Mill Street has had first floor damage as a result of the floods of 2005 and 2006.

The sewage pump station was inundated with flood waters in 2005 and 2006 and the electrical and mechanical systems had to be replaced. Sewage is normally pumped to Lambertville for treatment.

The September 2004 flood only affected one residence in Stockton.

Flood Mitigation:

There are 2 homes that have been elevated by residents at a cost of more than \$100,000/each.

Unique Flood Risk to Municipality: The D&R Canal is a feeder branch to the main canal, which NJWSA uses to supply water to other parts of New Jersey. NJDEP, Parks & Forestry owns the canal. The NJ Water Supply Authority is responsible for maintenance of the canal, including breaches. The levee can adequately hold in the canal water, but the outer wall tends to fail against flooding pressure from the Delaware River. This occurred during 1955, as well as, the 2005 and 2006 storms. The canal has been repaired, since the recent storm events, to the pre-existing wall elevations. Each repair cost NJWSA about \$500K, of which the 2006 repairs were partially reimbursed by FEMA. Everything within 300' of the 170 year old D&R Canal is affected by its historic designation (essentially, from Route 29 to the Delaware River). The municipality would like to shore up the walls of the D&R Canal, so that the potential for flooding would be less.

Stockton OEM notifies all residents in danger of flooding by going door-to-door. The Stockton Fire Department is located on Mill Street and has had first floor damage as a result of the floods of 2005 and 2006.

Local Flood Mitigation Planning Committee:

Michael Hagerty	Council President
Andrew Giannattasio	Councilman
Greg Cook	OEM Coordinator
Robert Miller	Floodplain Administrator
Robert Ent	Sewer and Water Supervisor
Tom Manning	Planning Board Chair
Bill Lowry	Environmental Commission Chair
Denis O'Neal	Borough Engineer

Ordinances/Plans Reviewed:

Lambertville's plan, FEMA information, Hopewell Township's plan

Outreach: NJWSA, Delaware River Mill Society

First Public Meeting: 11/20/2007

Advertisement for Meeting: 11/08/07 editions of the Lambertville Beacon and the Hunterdon County Democrat

Questionnaire Distribution: Hand delivered to residents in the floodplain

Public Response:

1. Of the 30 responses, all but 2 had suffered some kind of flood damage, most of it in the floods of 2005 and 2006. Nine of those having flood damage had damage as far back as the flood of 1955. Almost everyone had flood damage to their basements and about 50% of them had first floor damage, of those three received substantial damage (foundation walls were blown in). The cost of the damage varied from \$1,000.00 to \$165,000.00.
2. All but 4 of the respondent's have flood insurance that covered some but not all of the cost of the repairs.
3. The question of whether or not they would be characterized by FEMA as repetitive or severe repetitive loss properties seemed to not be understood as 6 said yes, 12 said no and 12 said they don't know.
4. Almost all would like to elevate their mechanical equipment, but only 3 said they were interested in elevation of their houses. Only 2 said they would be interested in acquisition.
5. They seemed unanimous in the desire to see the level of the reservoirs better controlled by some tri-state agency and the river wall of the canal either raised or maintained because it acts as a levy in protecting the borough.

Flood Mitigation Goals:

1. Inform residents of the flood prevention and mitigation measures and property acquisition options available to them.
2. Prepare systems and procedures for the Borough's response to future flooding.
3. Work with NJWSA and neighboring communities to insure that existing flood prevention systems are working.
4. Reach out to state and federal agencies for funding options.

Stockton Mitigation Action Plan:**1. ACTION: Public awareness program**

Description/Background: Update the flood mitigation plan as information presents itself. Update existing flood plain ordinances so that they continue to manage the development in the flood plain. Distribute flood mitigation material to residents as it becomes available. Update our handouts and procedures so that we are better prepared when the next flood comes. Create and maintain a database showing the history of effected properties and any improvements to those properties. Seek to identify funding and alternative revenue sources to address the identified plan goals.

Hazard: Flooding

Existing or new assets: Existing/New

Existing mechanism through which action will be implemented: NA

Responsible Organization: OEM
Target Completion Date: 1 year
Estimated Cost: \$500
Potential Funding Sources: County, State
Priority: Medium

2. ACTION: Relocate Fire Department

Description/Background: The fire department is located on Mill Street and has had first floor damage as a result of the floods of 2005 and 2006. The Stockton Fire Department is a private, non-profit organization that owns only the land that the fire department is presently on. Furthermore, the borough has no open land that it owns that is not in the flood plain. We have joint ownership with the state of a large tract of land that, per our agreement with the state, can only be used for passive recreation and does not allow for any building.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: Master Plan

Responsible Organization: Planning Board

Target Completion Date: 2 years

Estimated Cost: \$750,000

Potential Funding Sources: FEMA, Capital Improvement Fund

Priority: Medium

3. ACTION: Flood proof Borough Hall

Description/Background: Borough Hall is located on South Main Street and suffered only basement flooding from the floods of 2005 and 2006. It did have about 1 foot of water on the first floor during the flood of 1955. As of now, we do not have a historic district in the borough, but we have had discussion at the Planning Board level on the pros and cons of creating them. If that was to happen, then Borough Hall would be in one of those districts. We are creating a plan to move our mechanical equipment and archival storage to the second floor which is above the flood hazard zone.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: Capital Improvement Plan

Responsible Organization: Floodplain Administrator

Target Completion Date: 2 years

Estimated Cost: \$25,000

Potential Funding Sources: FEMA, Capital improvement Fund

Priority: Low

4. ACTION: Residential property acquisition

Description/Background: Based on our survey and face to face discussions, we have about 5 residents that would be interested in property acquisition if the monies work out. All of these properties are located on Mill Street and would be considered severe repetitive loss properties.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: Floodplain Management Plan

Responsible Organization: Floodplain Administrator

Target Completion Date: 1 year

Estimated Cost: \$1,000,000

Potential Funding Sources: FEMA, Greenacres

Priority: High

5. ACTION: Flood proof sewer pump station

Description/Background: During the floods of 2005 and 2006, the sewer pump station filled with flood water. We have a plan in place that we hope to find funding for in 2008 to install a sluice gate.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: Capital Improvement Plan

Responsible Organization: Sewer Authority

Target Completion Date: 6 months

Estimated Cost: \$25,000

Potential Funding Sources: Capital Improvement Fund

Priority: High

6. ACTION: Levee (river wall) improvement plan

Description/Background: The river wall that is part of the DRCC canal is higher than most of the land in the flood plain. The borough flooded during the 2005 and 2006 floods because the wall breached. Until it breached, the wall acted as a levy in protecting the borough from the river's flooding.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: NA

Responsible Organization: Governing body

Target Completion Date: 1 year

Estimated Cost: \$5,000,000

Potential Funding Sources: NJWSA, Army Corps of Engineers

Priority: High

7. ACTION: Backflow prevention on storm drain outlets

Description/Background: We have 2 outlets into the canal that effect flooding in the borough. When the canal fills up, the storm drains backup and flood North and South Railroad Avenues.

Hazard: Flooding

Existing or new assets: Existing

Existing mechanism through which action will be implemented: Storm Water Management Plan

Responsible Organization: Storm Water Management Coordinator

Target Completion Date: 1 year
Estimated Cost: \$50,000
Potential Funding Sources: FEMA, Capital Improvement Fund
Priority: Medium

West Amwell Township, Hunterdon County:

Location:

West Amwell Township is a rural community of 2,383 people within 21.9 square miles. The township is located in southwestern Hunterdon County and serves as the border between Hunterdon and Mercer Counties. It is bordered by Solebury Township (PA) and New Hope (PA) to the west, Delaware Township and Lambertville to the north, East Amwell Township to the north and east, and Hopewell Township to the south and east.



Geology:

The township lies in the Piedmont Plateau, which is part of the Appalachian Province. This area is characterized by nearly level lowlands, occasional ridges and low hills, and is underlain by sedimentary rock. The relatively flat topography of the river terrace is found along the Delaware River. Elevations range from 28 feet at the Delaware River to 475 feet in the northeast part of the township.

Hydrology:

The *Delaware River* flows along the western border of West Amwell Township.

The *Swan Creek* has its headwaters in the central part of the Township and flows through the City of Lambertville to its confluence with the Delaware.

The *Alexauken Creek* has its headwaters in the northeastern part of the township of West Amwell and flows generally northwest to a point just south of the center of the township's northern boundary. From this point, it flows southwest to its confluence with the Delaware River. The creek also forms part of the border between West Amwell Township and Lambertville. This creek drains the northwestern portion of West Amwell Township.

The *Moores Creek* flows through the southern part of the Township and, after passing through Hopewell Township in Mercer County, empties into the Delaware River.

Recent Flood History:

The majority of the township is unaffected by flooding due to its elevation, although there are a few repetitive loss properties in West Amwell near Swan Creek.

Unique Flood Risk to Municipality:

West Amwell Township has little risk of flood impacts, but 3 significant streams flow into the

Delaware River, which could add to problems downstream. West Amwell is interested in reducing the amount of runoff entering these streams and exacerbating problems in communities along the Delaware.

Local Flood Mitigation Planning Committee:

Ron Shapella	Mayor
Harry Heller	Township OEM Director
Lora Olsen	Township Clerk

Ordinances/Plans Reviewed:

Stream Corridor Ordinance - buffer inclusive of all 100-year floodplains, 150-foot buffer for major development, FEMA 100 and 500 year floodplain maps

Outreach: Stonybrook Millstone Watershed Association

First Public Meeting: 10/17/2007

Advertisement for Meeting:

Questionnaire Distribution: Local volunteers

Public Response: None

Flood Mitigation Goals:

1. Preserve open space and farmland

West Amwell Mitigation Action Plan:

1. ACTION: Preserve open space and farmland

Description/Background: There are significant developable areas along Alexauken Creek (C1), Moores Creek (TM) and Swan Creek. Preserving these areas from development would reduce potential flood damage that might occur to these areas in the future.

Hazard: Flooding

Existing or new assets: New and Existing

Existing mechanism through which action will be implemented:

Responsible Organization: To be determined

Target Completion Date: To be determined

Estimated Cost: To be determined

Potential Funding Sources: To be determined

Priority: Medium

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