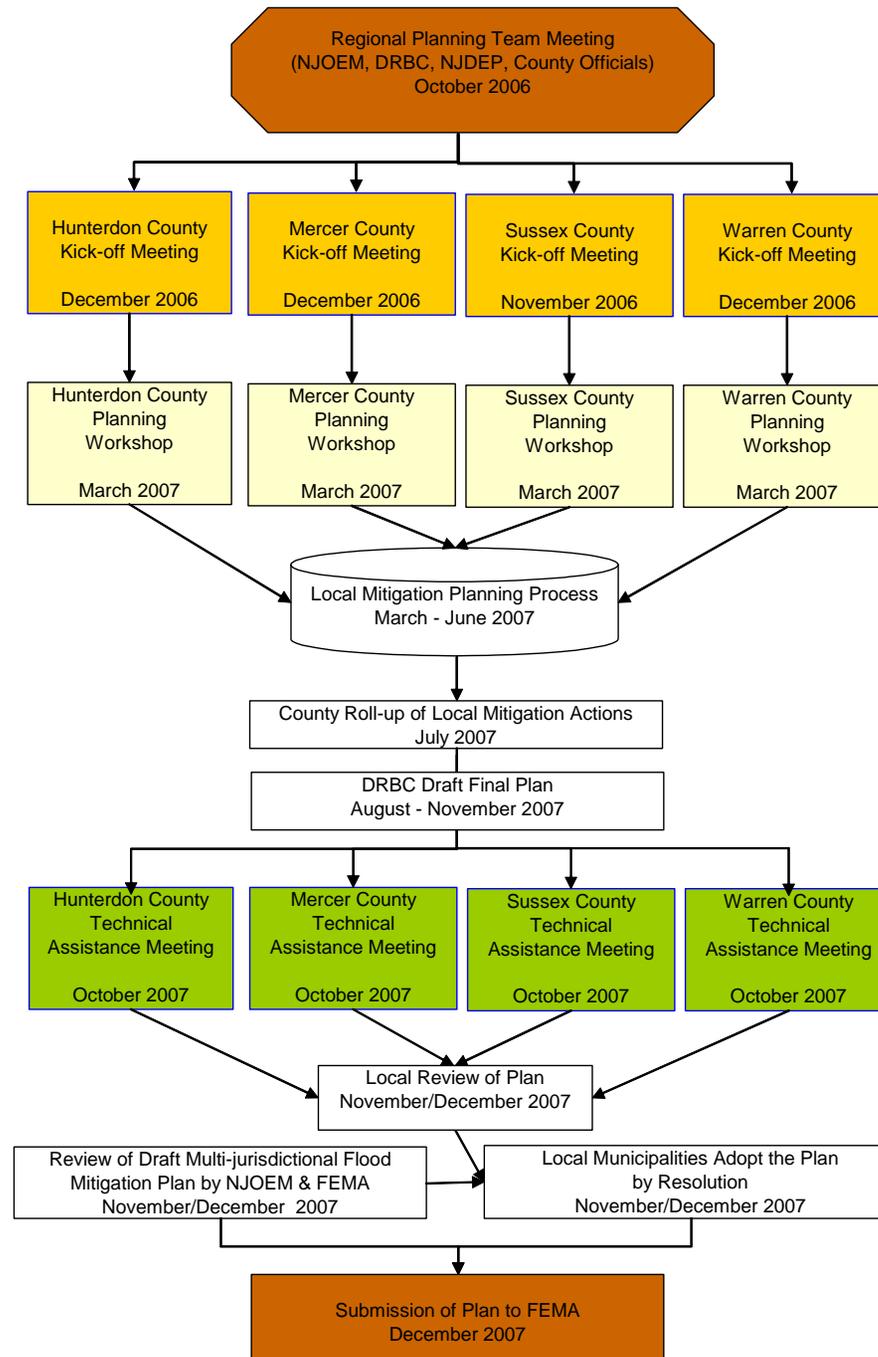


A Flood Mitigation Plan for the Non-Tidal N.J. Section of the Delaware River Basin



Hunterdon County Technical Workshop
(3rd Meeting)
October 2, 2007



Study Area Participation:

Hunterdon:

16 Eligible Municipalities

15 Participating

Mercer:

9 Eligible Municipalities

6 Participating

Sussex:

17 Eligible Municipalities

11 Statements of Intent

Warren:

22 Municipalities

21 Participating

Total Actively Participating:

53 municipalities!



Ongoing Initiatives

- Delaware River Basin Interstate Flood Mitigation Task Force
 - Final Report Issued - July 2007
 - Congressional Briefing
 - NJDEP Briefing

- Flood Analysis Model

Repetitive Loss Properties

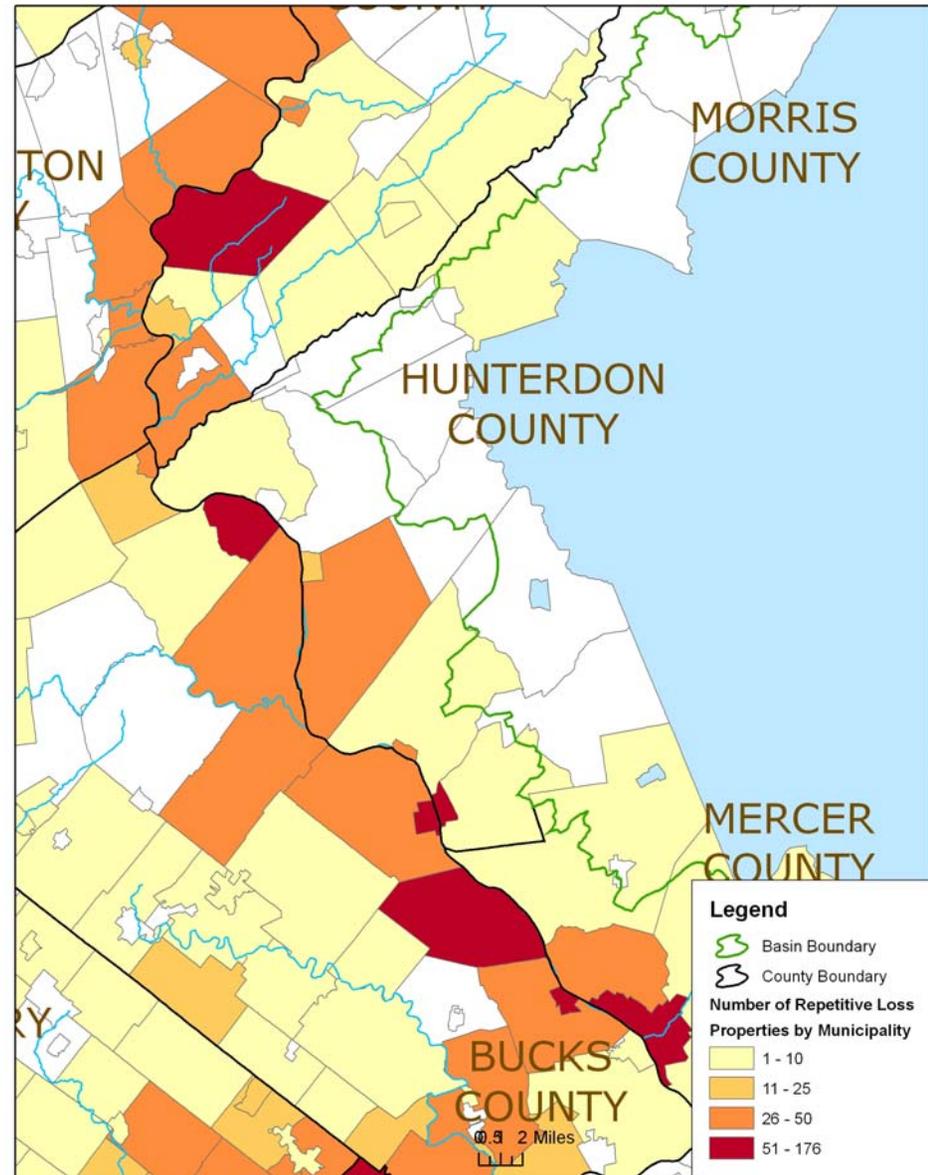
Hunterdon County:
 166 Repetitive Loss Properties
 \$13.6 Million in Total Payouts

Municipalities with the most Loss Properties:

	<u>Properties</u>	<u>Cost</u>
Lambertville	64	\$3.3M
Stockton	29	\$1.9M
Kingwood	28	\$4.7M
Frenchtown	23	\$1.7M
Holland	10	\$1.1M
Delaware	9	\$0.8M
West Amwell	2	\$0.06M
Lebanon	1	\$0.01M

Data provided by FEMA, 02/28/07

Repetitive Loss Properties in the Delaware River Basin



Source: Federal Emergency Management Agency (FEMA). A property is considered a repetitive loss property when there are 2 or more losses reported which were paid more than \$1,000 for each loss. The 2 losses must be within 10 years of each other and be at least 10 days apart. Losses from 01/01/1978 - 02/28/07 that are closed are considered.

Prepared by Delaware River Basin Commission Staff, April 2007.

Severe Repetitive Loss Properties

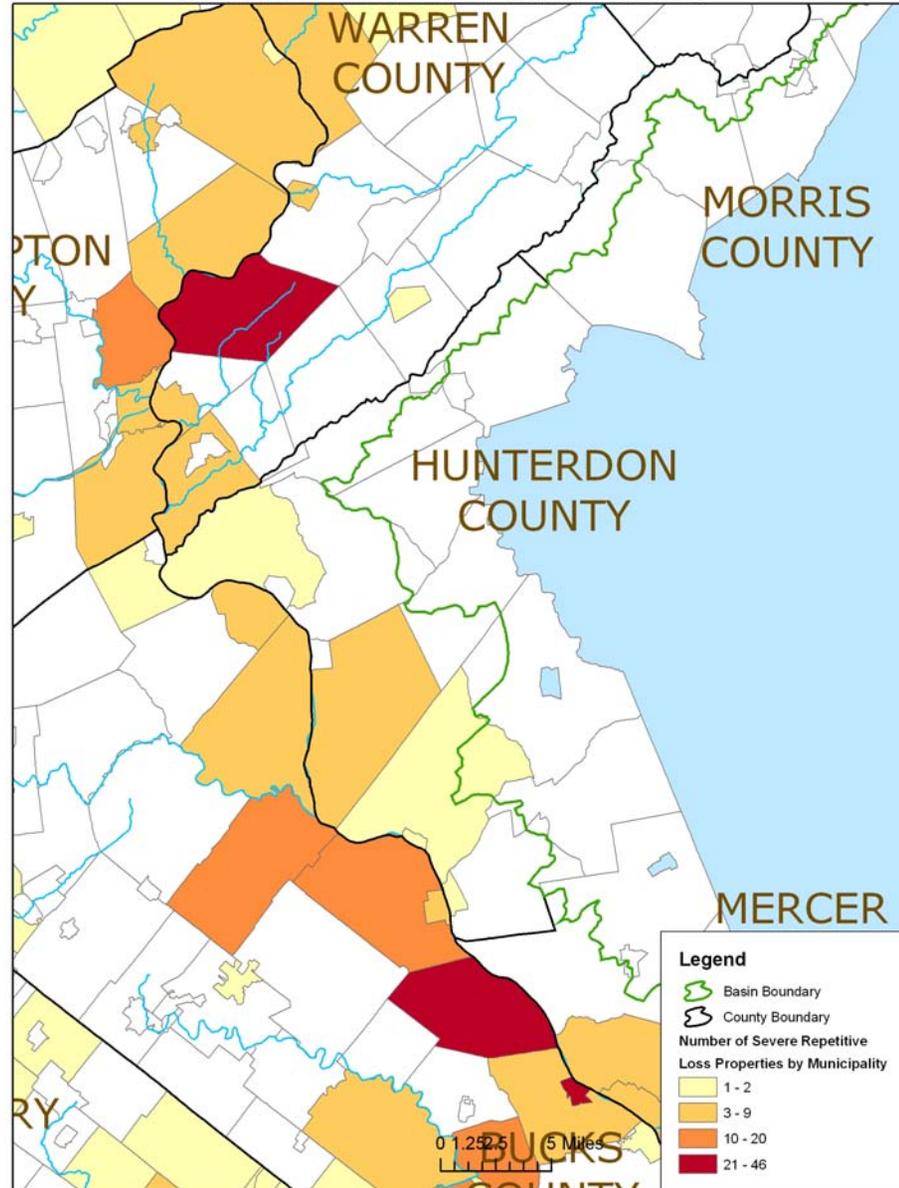
Hunterdon County:
13 Severe Rep Loss Properties
\$3.3 Million in Total Payouts

Municipalities with the most Severe Repetitive Loss Properties:

	<u>Properties</u>	<u>Cost</u>
Kingwood	5	\$1.9M
Holland	2	\$0.5M
Stockton	2	\$0.5M
Delaware	2	\$0.3M
Lambertville	2	\$0.2M

Data provided by FEMA, 02/28/07

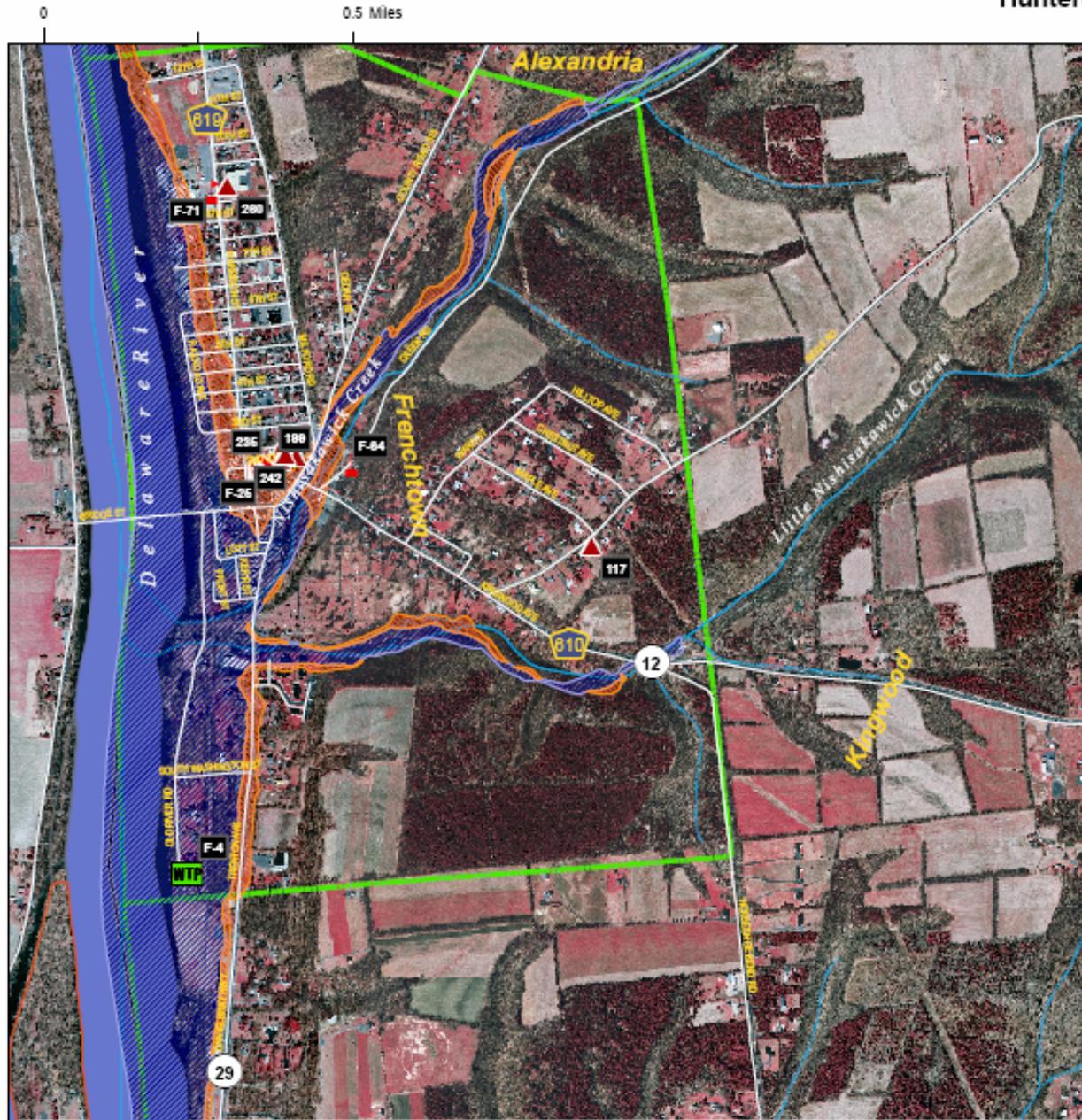
Severe Repetitive Loss Properties in the Delaware River Basin



Source: Federal Emergency Management Agency (FEMA). A property is considered a severe repetitive loss property either when there are at least 4 losses each exceeding \$5000 or when there are 2 or more losses where the building payments exceed the property value. Losses from 01/01/1978 - 02/28/07 that are closed are considered.

Prepared by Delaware River Basin Commission Staff, April 2007.

Hunterdon County Critical Facilities map grid 59



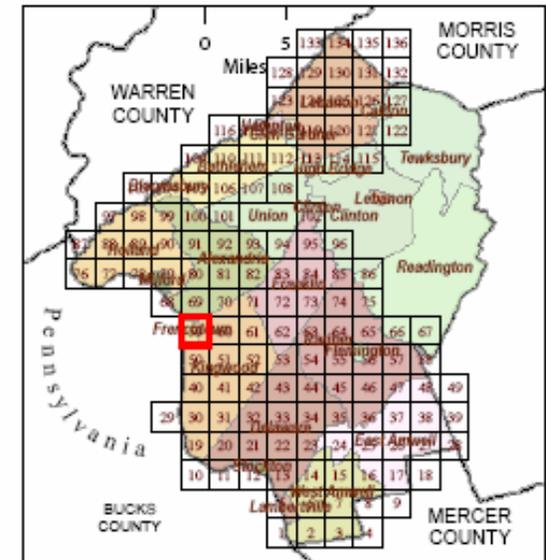
Legend

- County-identified facilities
- FEMA Hazus services**
 - Emergency management
 - Fire department
 - Police station
 - Hospital
 - School
- FEMA Hazus utilities**
 - Potable water facility
 - Waste water treatment
- Hydrology**
 - Named stream
 - Unnamed stream
 - 100-year floodplain
 - 500-year floodplain
- Administrative boundaries**
 - Municipal boundary
 - County boundary
- Critical facilities identifier (see spreadsheet)**
 - County-identified facility
 - FEMA Hazus-listed facility



Prepared by DRBC staff April 2007

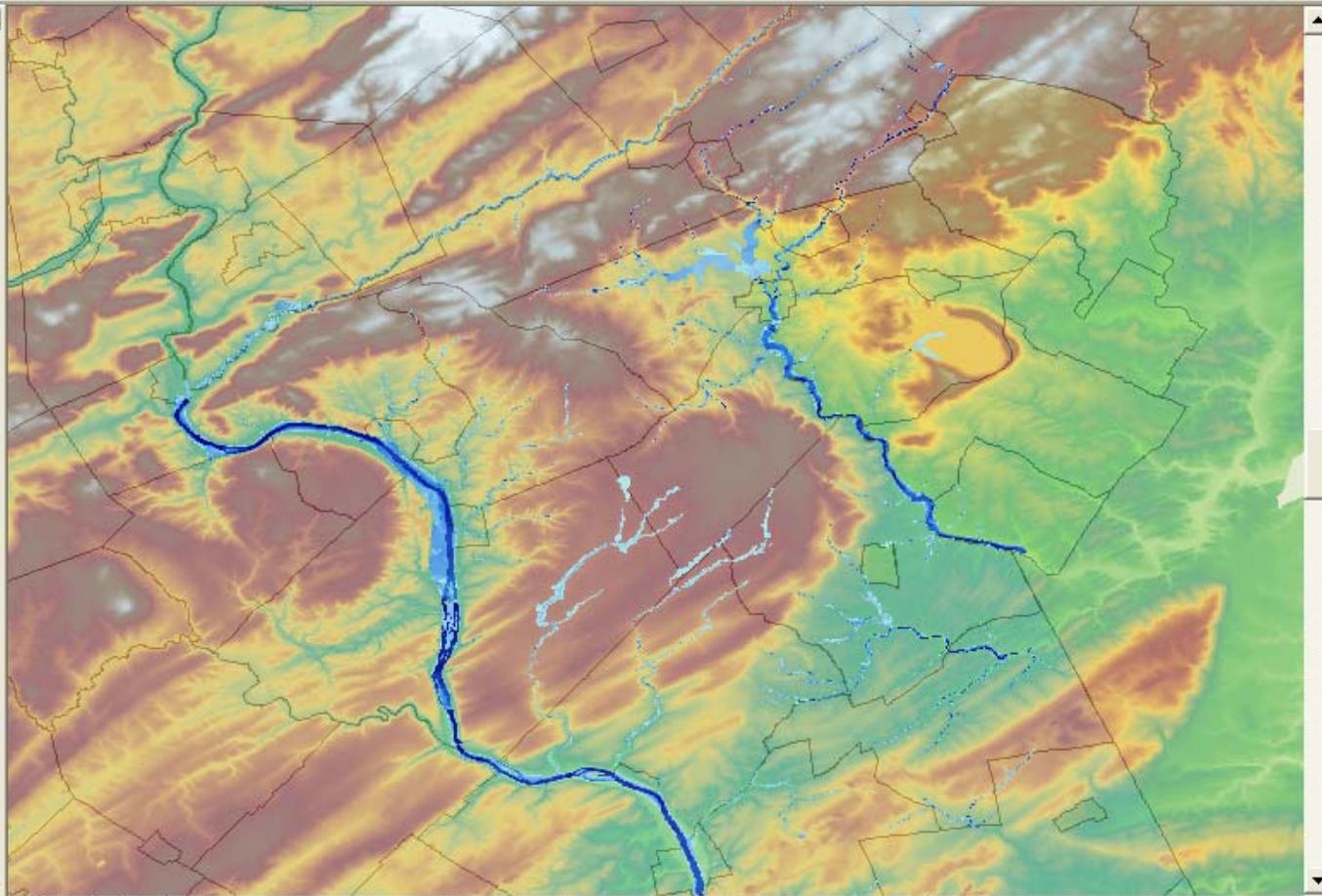
Sources: Hunterdon County, FEMA Q3 floodplain data (1996), FEMA Hazus dataset, New Jersey orthophotos (2002).



HAZUS-FIT Riverine Coastal
1:344,249
Editor Task: Create New Feature Target:

Layers

- BoundaryPolygon
- rpd500
Value
High : 68.3089
Low : 0.000732422
- ChosenReaches
- Othertribs_RPD100
Value
High : 30.8783
Low : 0.000152588
- Reaches
- drb_bnd_polygon
- H_lowerbasinRPD100
Value
High : 45.2093
Low : 0.000293732
- q3_hunterdon
- H_upperbasinrpd100
Value
High : 59.2655
Low : 0.000375077



Display Source Selection

Drawing Arial 10 B I U A

75°15'29.32"W 40°22'5.25"N

Essential Facilities Shown by HAZUS to be Inundated by a 100 Year-Flood

EMERGENCY CENTERS

Rescue Squad 23	9 Mill St	Stockton
Rescue Squad 68	160 York St	Milford

FIRE

West Amwell Township Fire Dept	2 State Highway 518	Lambertville
Stockton Fire Dept	9 Mill St	Stockton
Milford Fire Company Building	21 Water Street	Milford

OIL

Stem Brothers	French Town - Milford Road	Alexandria
---------------	----------------------------	------------

WATER/ WASTEWATER FACILITIES

Pumping Station	River Road and Bridge St.	Frenchtown
Creek Park (pump station)	Route 12/Kingwood Ave	Frenchtown
FRENCHTOWN BOROUGH OF	FOOT OF RIVER ROAD	FRENCHTOWN
MILFORD SEWER UTILITY	122 CARPENTER ST	MILFORD
LAMBERTVILLE SEWAGE AUTHORITY	LAMBERT LANE EXTENSION	LAMBERTVILLE
RARITAN TWP MUA FLEMINGTON (Out of Basin)	30 FLEMINGTON JUNCTION RD	FLEMINGTON

HAZUS Flood Model Results



- Hazard maps
 - Flood depth
- Building losses
 - By occupancy and by building type
 - By full replacement value and depreciated replacement value
- Essential facilities
 - Building and content losses
- Vehicles and agriculture losses
- Shelter requirements

Importance of Local Participation:



Lambertville, NJ - April 2005

- Crucial for the successful development of a Flood Mitigation Plan that contains mitigation actions able to be implemented in the future.
- Participation by the counties and municipalities is also required by FEMA in order for them to be eligible to adopt the Plan.

Hunterdon County Participation

Municipality	Submitted Statement of Intent	Submitted Municipal Questionnaire	Submitted Municipal Worksheet	Attended County Kickoff Meeting	Attended Planning Workshop
Alexandria Township	X	X	X	X	-
Bethlehem Township	X	X	in the mail	-	-
Bloomsbury Borough	X	X		-	X
Delaware Township	X	X	X	X	-
East Amwell Township	X	X	X	X	X
Franklin Township	X	X	X	X	-
Frenchtown Borough	X	X	X	X	X
Hampton Borough	X	X	X	X	-
Kingwood Township	X	X	X	X	-
Lambertville City	X	X (All Hazards Plan)	X (All Hazards Plan)	X	X
Lebanon Township	X	X	X	X	X
Milford Borough	X	X	X	X	-
Raritan Township	X	X	X (no mitigation action)	-	X
Stockton Borough	X	X	X	X	X
West Amwell Township	X	X	X (no mitigation action)	X	X

**Participation as of 10/02/2007*

Local Municipality Requirements

1. Submit a Statement of Intent for your municipality
2. Designate a local liaison for your municipality
3. Attend county meetings and planning workshops
4. Form a local flood mitigation planning committee
5. Document your local planning process
6. Complete the municipal questionnaire
7. Publish notice of the municipality's intent to prepare a Flood Mitigation Plan to encourage public participation
8. Distribute a prepared questionnaire to residents known to be in the flood prone areas

Local Municipality Requirements (cont.)

9. Allow time for comment at two public meetings; once during the drafting stage and another prior to adopting the plan.
10. Collect resident questionnaires and summarize public comments
11. Create a list of flood mitigation goals for your community
12. Compose a list of community goals and desired local mitigation actions
13. Adopt the final plan locally by resolution

- Compose and prioritize a list of desired local mitigation actions (include estimated cost, organization responsible for implementation, implementation schedule, priority and potential funding sources)

Implementation Strategy Table Sample
(adapted from Draft FEMA 386-8 Multi-jurisdictional How-To)

(Name of Jurisdiction) Town A

Mitigation action, program or project	Hazard(s) addressed	Applies to existing or new assets	Existing local planning mechanism through which action will be implemented	Responsible Party	Target date	Estimated cost (\$)	Funding source	Priority
Action 2.1.1: Bridge Replacement	Flood	Existing	Capital Improvement Plan	Planning Department	2 years from plan adoption date	\$90,000	Capital Improvement budget	High
Action 2.1.2: Property Acquisition	Flood	Existing	Floodplain Management Plan	Village Administrator	1 year	\$80,000	Pre-Disaster Mitigation Program (75%) and local match (open space program) (25%)	High
Action 2.3.1: Elevate critical facility (hospital)	Flood	Existing	NFIP participation	NFIP coordinator	2 years	\$50,000	Flood Mitigation Assistance Program grant	High
Action 5.3.1: Public awareness program on local TV channel	All	New and existing	NA	County Emergency Management Agency	6 months	\$5,000	Private Channel I	Medium
Action 1.4.1: Code update	Seismic and wind	New	Building Code Ordinance	Building Department of each jurisdiction	3 years	Staff time	Department budget	Medium

Prepared by:
Name _____
Title _____
Telephone _____

Flood Mitigation Action Categories

1. **Prevention** (Open space preservation, Floodplain regs)
2. **Property Protection** (Acquisition, Elevation, Relocation, Structural Retrofits)
3. **Public Information and Awareness** (Outreach, Education, Training)
4. **Emergency Services** (Warning systems; Community Notification Systems)
5. **Natural Resource Protection** (Floodplain protection, Riparian buffers)
6. **Structural Projects** (Levees, floodwalls, floodgates, Stormwater Retrofits)

Next Steps - Municipalities

- Submit FINAL Municipal Worksheet by October 19th!
- Ensure Completion of:
 - Prioritized Local Mitigation Actions
 - Public Participation Process
 - Publish Notice of Intent
 - Flood Prone Resident Questionnaire
 - Allow Comment at a Public Meeting
 - Summarize Public Comment
 - Flood Mitigation Goals

**Submit FINAL Municipal
Worksheet by October 19th!**

Municipality	Program	Project	Federal	Non-Federal
Harmony Township	Flood Mitigation Assistance Program (FMA)	Acquisition of 3 structures	\$ 674,640	\$ 224,880
Wayne Township	FMA	Acquisition	\$ 5,749,500	\$ 1,916,500
Little Falls Township	Repetitive Flood Claims Program	Acquisition of 5 structures	\$ 1,900,000	\$ -
Harmony Township	Hazard Mitigation Grant Program (HMGP)	Acquisition of 4 structures	\$ 858,900	\$ 286,300
Harmony Township	HMGP	Elevation of 8 structures	\$ 372,300	\$ 124,100
Pohatcong Township	HMGP	Acquisition of 2 structures	\$ 365,550	\$ 121,850
Fairfield Township	HMGP	Elevation of 6 structures	\$ 193,073	\$ 64,358
Carneys Point Township	Pre-Disaster Mitigation Grant Program (PDM)	Pump Station Upgrade	\$ 1,210,069	\$ 407,023