

9.5 TOWN OF CAIRO

This section presents the jurisdictional annex for the Town of Cairo.

A.) HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
John Coyne 512 Main Street Cairo, NY 12413 518-622-3120	Richard Lorenz PO Box 728 Cairo, NY 12413 518-672-3120

B.) TOWN PROFILE

Population

6,559 (estimated 2007 U.S. Census)

Location

The Town of Cairo is located in Greene County. It is located in the southern part of the County, with a portion of the Town located in Catskill Park. The Town has a total area of 60.1 square miles, of which 60.0 square miles is land and 0.1 square miles is water. The Catskill Creek flows through the Town.

Climate

Greene County, with all its municipalities, generally experiences seasonable weather patterns characteristic of the northeastern U.S. Warm summers are typically experienced, with occasional high temperatures and humidity. Midsummer temperatures typically range from about 68°F to 80°F (Fahrenheit). The winters of Greene County are long and cold. Winter high temperatures are usually in the middle to upper 20s°F, with minimum temperatures of 15°F expected. During the winter, temperatures are cooler than the temperatures in areas located near large bodies of water. Snow accumulates to an average depth of 68 inches each year.

Brief History

The first settler arrived in the Town of Cairo in 1772. After the American Revolution, many new families moved into the area. In 1803, the Town of Cairo was formed from the Towns of Catskill, Coxsackie, and Durham. The Town was formerly known as Canton, but was changed to Cairo in 1808 in honor of Cairo, Egypt.

Governing Body Format

The Town of Cairo is governed by a Town Supervisor and four Town Councilmen, elected to staggered terms. Other elected positions include the Town Clerk, Highway Superintendent, and Town Justice. This elected team supports various Town departments: Clerk's Office, Code Enforcement, Assessor, Highway Department, and Town Court. Finally, special boards, such as the Town Planning Board and Zoning Commission serve the Town of Cairo in specific capacities.

Growth/Development Trends

Various residential subdivision activities, primarily small scale. In addition, Alden Terrace, a housing and retail project is proposed on 30-acre parcel between Routes 32 and 23B. The development includes approximately 140 residential housing units and 89,000 square feet of retail space.

Per the Green County Comprehensive Economic Development Plan 2007:

Potential Growth Areas	Town of Cairo
	The Town has identified several areal where growth is to be directed. The map indicates the location for residential growth, especially within South Cairo due to the availability of easily developable land. Commercial activity is encouraged within the hamlet areas, as there is increased density and mixed uses in those locations.

C.) NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE TOWN

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Extreme Cold	Not applicable	January , 1938	Not available
Flood (Hurricane Diane)	DR-45	August, 1955	Not available
Flood (Hurricane Katie)	DR-52	October, 1955	Not available
Extreme Cold	Not applicable	January, 1971	Not available
Flood (Tropical Storm Agnes)	Not applicable	June, 1972	\$806,000 (countywide)
Extreme Cold	Not applicable	February, 1980	Not available
Extreme Cold	Not applicable	January, 1981	Not available
Extreme Cold	Not applicable	January, 1982	Not available
Extreme Cold	Not applicable	January, 1984	Not available
Flood	DR-792	April, 1987	\$2,000,000 (countywide)
Severe Winter Storm	DR-801	October, 1987	Not available
Ice Storm	Not applicable	December, 1991	\$385,000 (countywide)
Extreme Cold	Not applicable	February, 1993	Not available
Blizzard / Extreme Cold	EM-3107	March, 1993	Not available
Record Cold	Not applicable	January, 1994	Not available
Flood	Not applicable	October, 1995	\$3,000,000 (countywide)
Blizzard	DR-1083	January, 1996	\$160,000
Severe Storm and Flooding	DR-1095	January, 1996	\$10,000,000 (countywide)
Snowstorm	Not applicable	March / April, 1997	\$709,000
Severe Storm/Flooding (Hurricane Floyd)	DR-1295	September, 1999	\$3,000,000 (countywide)

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Severe Storms	DR-1335	May/September, 2000	\$115,000 (countywide)
TSTM / Hail / Lightning	Not applicable	June, 2001	Between \$370,000 and \$400,000 (countywide)
Snowstorm	EM-3173	December 2002 / January 2003	\$29,000
Snowstorm	EM-3184	February, 2003	Not available
Record Cold	Not applicable	March, 2003	Not available
Severe Storms, Tornado, and Flooding	DR-1486	July/August, 2003	Between \$75,000 and \$1,100,000 (countywide)
Snowstorm	Not applicable	December, 2003	Not available
Flood (Hurricane Ivan)	Not applicable	September, 2004	Not available
Snowstorm	Not applicable	January, 2005	Not available
Flood	Not applicable	March, 2005	\$100,000 (countywide)
Severe storms and Flooding	DR-1589	April, 2005	\$1,300,000 (countywide)
Flood (Tropical Cyclone Tammy)	Not applicable	October, 2005	Not available
Severe storms and Flooding	DR-1650	June/July, 2006	Not available
Snowstorm (Valentine's Day Storm)	Not applicable	February, 2007	Not available
Snowstorm (St. Patrick's Day Storm)	Not applicable	March, 2007	Not available
Severe Storms and Inland and Coastal Flooding (Nor'Easter)	DR-1692	April, 2007	Between \$1,300,000 and \$111,000,000 (may be inaccurate) (countywide). A landslide occurred along Warren Stein Road.
Severe Ice Storm	DR-1827	12-13 to 12-31-08	Approximately \$1,200,000 county-wide

Number of FEMA Identified Repetitive Flood Loss Properties: 0^a

Number of FEMA Identified Severe Repetitive Flood Loss Properties: 0^a

^a Source: FEMA Region II, 2008.



D.) NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

Rank #	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
4	Earthquake	\$3,979,208 ^e	Low	10	Low
1	Flood	\$14,936,000 ^e	High	54	High
3	Ground Failure	Not available ^f	Medium	22	Medium
1	Severe Storm	\$726,028 ^d	High	54	High
2	Severe Winter Storm	\$43,564,700 ^d	High	48	High

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)

b. High = Total hazard priority risk ranking score of 40 and above
Medium = Total hazard priority risk ranking of 20-39
Low = Total hazard risk ranking below 20

c. The valuation of general building stock and loss estimates determined in Greene County were based on the default general building stock database provided in HAZUS-MH MR3 (R.S. Means 2006).

d. 500-year MRP structural value loss estimate only; does not include the value of contents. For severe winter storm, the loss estimate is 10% of total general building stock value.

e. Loss estimates for both structure and contents (500-year MRP for the flood hazard and 2,500-year MRP for the earthquake hazard).

f. 0.2% of the general building stock in the Town of Cairo is exposed or located in the approximate landslide hazard area.

E.) CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification.

E.1) Legal and Regulatory Capability

Regulatory Tools (Codes, Ordinances., Plans)	Local Authority (Y or N)	Prohibitions (State or Federal) (Y or N)	Higher Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Code Citation (Section, Paragraph, Page Number, date of adoption)
1) Building Code	Y	N	Y	Y	
2) Zoning Ordinance	N	N	N	N	
3) Subdivision Ordinance	Y	N	N	N	
4) NFIP Flood Damage Prevention Ordinance (if you are in the NFIP, you must have this.)	Y	Y	Y	Y	Effective Date: 4/23/2008
5) Growth Management	N	N	N	N	
6) Floodplain Management / Basin Plan	N	Y	Y	N	
7) Stormwater Management Plan/Ordinance	N	N	Y	Y	
8) Comprehensive Plan / Master Plan/ General Plan	Y	N	N	N	
9) Capital Improvements Plan	N	N	N	N	
10) Site Plan Review Requirements	Y	Y	Y	N	
11) Open Space Plan	N	N	N	N	
12) Economic Development Plan	N	N	N	N	
13) Emergency Response Plan	?	N	Y	Y	
14) Post Disaster Recovery Plan	N	N	N	N	
15) Post Disaster Recovery Ordinance	N	N	N	N	
16) Real Estate Disclosure req.	N	N	N	N	NYS requirement
17) Other [Special Purpose Ordinances (i.e., critical or sensitive areas)]	N	N	N	N	

E.2) Administrative and Technical Capability

Staff/ Personnel Resources	Available (Y or No)	Department/ Agency/Position
1) Planner(s) or Engineer(s) with knowledge of land development and land management practices	N	
2) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	N	
3) Planners or engineers with an understanding of natural hazards	N	
4) NFIP Floodplain Administrator (if you are in the NFIP, you must have one.)	Y	John Coyne, Building Inspector
5) Surveyor(s)	N	
6) Personnel skilled or trained in "GIS" applications	N	
7) Scientist familiar with natural hazards in the Town of Cairo.	N	
8) Emergency Manager	N	
9) Grant Writer(s)	Y	
10) Staff with expertise or training in benefit/cost analysis	N	

E.3) Fiscal Capability

Financial Resources	Accessible or Eligible to use (Yes/No/Don't know)
1) Community development Block Grants (CDBG)	Yes
2) Capital Improvements Project Funding	
3) Authority to Levy Taxes for specific purposes	
4) User fees for water, sewer, gas or electric service	Water/Sewer in Cairo Hamlet
5) Impact Fees for homebuyers or developers of new development/homes	
6) Incur debt through general obligation bonds	
7) Incur debt through special tax bonds	
8) Incur debt through private activity bonds	
9) Withhold public expenditures in hazard-prone areas	
10) State mitigation grant programs (e.g. NYSDEC, NYCDEP)	
11) Other	

E.4) Community Classifications

Program	Classification	Date Classified
Community Rating System (CRS)		
Building Code Effectiveness Grading Schedule (BCEGS)		
Public Protection		
Storm Ready		
Firewise		

- N/A = Not applicable. - = Unavailable.

The classifications listed above relate to the community's effectiveness in providing services that may impact its vulnerability to the natural hazards identified. These classifications can be viewed as a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class one (1) being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

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

The National Firewise Communities website at <http://firewise.org/>

F.) PROPOSED HAZARD MITIGATION INITIATIVES

Initiative	Mitigation Initiative	Applies to new or existing structures	Hazard(s) Mitigated	Objectives Met	Lead Agency	Support agencies	Estimated Cost	Sources of Funding	Timeline
TCO-1A	Where appropriate, support retrofitting of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for retrofitting based on cost-effectiveness versus relocation. Where retrofitting is determined to be a viable option, consider implementation of that action based on available funding.	Existing	Flood, Severe Storm	2, 4, 11	Municipality (likely through NFIP Floodplain Administrator)	SEMO, FEMA	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF
TCO-1B	Where appropriate, support purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for relocation based on cost-effectiveness versus retrofitting. Where relocation is determined	Existing	Flood, Severe Storm	2, 4, 11	Municipality (likely through NFIP Floodplain Administrator)	SEMO, FEMA	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF

Initiative	Mitigation Initiative	Applies to new or existing structures	Hazard(s) Mitigated	Objectives Met	Lead Agency	Support agencies	Estimated Cost	Sources of Funding	Timeline
	to be a viable option, consider implementation of that action based on available funding.								
TCO-2	As appropriate, support participation in incentive-based programs such as CRS.	New & Existing	Flood	2, 3, 4, 5, 6, 8, 9, 10, 11	Municipality (likely through NFIP Floodplain Administrator)	SEMO, ISO, FEMA	Low - Medium	Local Budget	Short
TCO-3	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	New & Existing	All Hazards	All Objectives	Municipality (through mitigation planning point of contacts)	County (through Mitigation Planning Coordinator), SEMO	Low – High (for 5-year update)	Local Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Ongoing
TCO-4	Strive to maintain compliance with, and good-standing in the National Flood Insurance program.	New & Existing	Flood	2, 3, 4, 5, 6, 8, 9, 10, 11	Municipality (likely through NFIP Floodplain Administrator)	SEMO, ISO, FEMA	Low - Medium	Local Budget	Ongoing
TCO-5	Continue to develop, enhance, and implement existing emergency plans.	New & Existing	All Hazards	1, 7, 8, 9	Municipal Emergency Manager with support from County OEM and SEMO	County Emergency Management, SEMO	Low - Medium	Local Budget	Ongoing
TCO-6	Create/enhance/maintain mutual aid agreements with neighboring communities.	New & Existing	All Hazards	1,7,8, 9	Local Emergency Management, DPW and Roads	Surrounding municipalities and County	Low - Medium	Local Budget	Ongoing
TCO-7	Support County-wide initiatives identified in Section 9.1 of the County Annex.	New & Existing	All Hazards	All objectives	Local departments (as applicable for specific initiative)	County and Regional agencies (as appropriate for initiative)	Low - High	Existing programs and grant funding where applicable	Ongoing – Long-term depending on initiative

Notes: Short term = 1 to 5 years. Long Term= 5 years or greater. OG = On going program. DOF = Depending on funding. PDM = Pre-Disaster Mitigation Grant Program.

G.) ANALYSIS OF MITIGATION ACTIONS

This table summarizes the participant's mitigation actions by hazard of concern and the six mitigation types to illustrate that the Town has selected a comprehensive range of actions/projects.

Hazard of Concern	Mitigation Type					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Earthquake	TCO-3, TCO-7	TCO-3, TCO-7	TCO-3, TCO-7	TCO-3, TCO-7	TCO-3, TCO-5, TCO-6, TCO-7	TCO-3, TCO-7
Flooding (riverine, flash, coastal and urban flooding)	TCO-2, TCO-3, TCO-4, TCO-7	TCO-1, TCO-2, TCO-3, TCO-4, TCO-7	TCO-1, TCO-2, TCO-3, TCO-4, TCO-7	TCO-3, TCO-7	TCO-2, TCO-3, TCO-5, TCO-6, TCO-7	TCO-3, TCO-7
Ground Failure	TCO-3, TCO-7	TCO-3, TCO-7	TCO-3, TCO-7	TCO-3, TCO-7	TCO-3, TCO-5, TCO-6, TCO-7	TCO-3, TCO-7
Severe Storms (windstorms, thunderstorms, hail, lightning and tornados)	TCO-2, TCO-3, TCO-4, TCO-7	TCO-1, TCO-2, TCO-3, TCO-4, TCO-7	TCO-1, TCO-2, TCO-3, TCO-4, TCO-7	TCO-3, TCO-7	TCO-2, TCO-3, TCO-5, TCO-6, TCO-7	TCO-3, TCO-7
Severe Winter Storm (heavy snow, blizzards, ice storms)	TCO-3, TCO-7	TCO-3, TCO-7	TCO-3, TCO-7	TCO-3, TCO-7	TCO-3, TCO-5, TCO-6, TCO-7	TCO-3, TCO-7

Notes:

- 1. Prevention:** Government, administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- 2. Property Protection:** Actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- 3. Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.
- 4. Natural Resource Protection:** Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- 5. Emergency Services:** Actions that protect people and property, during and immediately following, a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.
- 6. Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

H.) PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
TCO-1A	6	H	H	Y	Y	N	M-H*
TCO-1B	6	H	H	Y	Y	N	M-H*
TCO-2	14	M	L	Y	N	Y	H
TCO-3	26	M	M	Y	N (Yes for 5 year update)	Y	H
TCO-4	4	H	L	Y	N	Y	H
TCO-5	4	M	L	Y	N	Y	H
TCO-6	5	M	L	Y	N	Y	H
TCO-7	26	M-H	L-M	Y	Dependent on specific initiative	Dependent on specific initiative	M-H (dependent)

Notes: H = High. L = Low. M = Medium. N = No. N/A = Not applicable. Y = Yes.

* This initiative has a “Medium” priority based on the prioritization scheme used in this planning process (implementation dependent on grant funding), however it is recognized that addressing repetitive and severe repetitive loss properties is considered a high priority by FEMA and SEMO (as expressed in the State HMP), and thus shall be considered a “High” priority for all participants in this planning process.

Explanation of Priorities

- **High Priority** - A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an on-going project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority** - A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.

- **Low Priority** - Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions: Yes

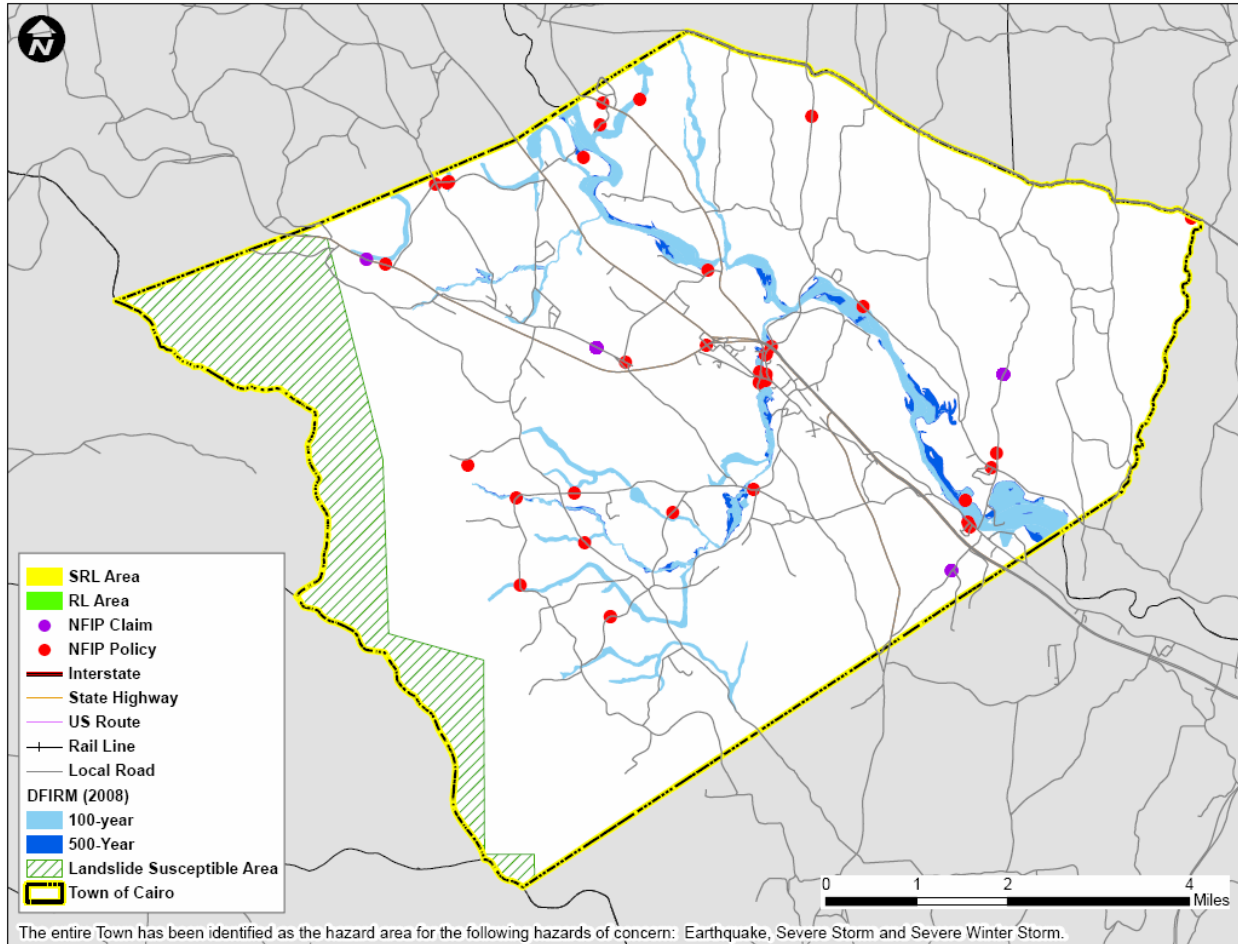
Prioritization of initiatives was based on parameters other than stated above: Not applicable.

I.) FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

None at this time.

J.) HAZARD AREA EXTENT AND LOCATION

A hazard area extent and location map has been generated and is provided below for the Town of Cairo to illustrate the probable areas impacted within the Town. This map is based on the best available data at the time of the preparation of this Plan, and is considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Town of Cairo has significant exposure. The county maps are provided in the hazard profiles within Section 5.4, Volume I of this Plan.



Sources: FEMA DFIRM, 2008; FEMA Region II, 2008; Greene County Planning and Economic Development, 2008; NYSDPC, 2008
 Notes: DFIRM = Digital Flood Insurance Rate Map. NFIP = National Flood Insurance Program; RL = Repetitive Loss; SRL = Severe Repetitive Loss

K.) ADDITIONAL COMMENTS

None at this time.