

## 9.5 COOPERSBURG BOROUGH

This section presents the jurisdictional annex for Coopersburg Borough.

### A. HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact		Alternate Point of Contact	
<u>Name</u>	Timothy Paashaus	<u>Name</u>	Daniel Trexler
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<u>Department</u>		<u>Department</u>	
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### B. MUNICIPAL PROFILE

Coopersburg Borough is located in the south-eastern part of Lehigh County. It encompasses an area of 0.9 square miles, and has a population of 2,386 (2010 Census). As shown in Figure 1, the borough is surrounded by Upper Saucon Township (Lehigh County), but its south-eastern borders also touch the county line shared with Bucks County.

**Figure 1**



(Source: <http://www.lvpc.org/pdf/maps/baseMap-LehighNorthamptonCounties.pdf>)

There are no significant bodies of water or waterways within Coopersburg Borough.

State Route 2045 (Main Street) is the primary local north-south route through the borough. State Route 309 (3<sup>rd</sup> Street) runs north-south along the eastern part of the borough, connecting to points north in Upper Saucon Township and Allentown; and south to Bucks County. SR 2026 (State Street) is the primary east-west corridor through the borough.

**B.1 Known or Anticipated Future Development**

There is no known or anticipated future development identified in the Borough at this time.

**C. NATURAL HAZARD EVENT HISTORY SPECIFIC TO COOPERSBURG BOROUGH**

Type of Event	FEMA Disaster # (if applicable)	Local Damage and Losses
Hurricane Irene (2011)	DR-4025; EM-3339	Widespread Power Outages and Minor Flooding
October Snowstorm (2011)		Widespread power outages, temporary road closures due to fallen trees, debris and wires down
Super Storm Sandy (2012)		Minor flooding and power outages

**D. NATURAL HAZARD RISK/VULNERABILITY RISK RANKING**

The following relative ranking of natural and non-natural hazard risks in this municipality was developed using PEMA's Risk Factor methodology described in Section 4, "Risk Assessment"

HAZARD RISK	NATURAL HAZARDS	RISK ASSESSMENT CATEGORY					RISK FACTOR (RF)
		PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION	
HIGH	Flood	3	3	2	3	3	2.8
	Winter Storm	3	2	4	1	3	2.7
MODERATE	Radon Exposure	4	1	2	1	4	2.4
	Extreme Temperatures	4	1	2	1	3	2.3
	Drought	2	1	4	1	4	2.2
	Wildfire	3	1	2	3	3	2.2
	Hailstorm	3	1	3	2	1	2.1
	Wind, incl. Tornado	1	3	2	4	1	2.1
	Lightning	4	1	1	2	1	2
	Earthquake	1	1	4	4	1	1.9
LOW	Subsidence / Sinkholes	2	1	1	2	1	1.4
	Landslide	1	1	1	4	1	1.3

HAZARD RISK	MAN-MADE HAZARDS	RISK ASSESSMENT CATEGORY					RISK FACTOR (RF)
		PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION	
HIGH	Fire (Urban/Structural)	4	2	1	4	2	2.6
	Environmental Hazard and	3	2	2	4	3	2.6
	Utility Interruption	3	1	3	4	3	2.5
MODERATE	Transportation Accident	4	1	1	4	1	2.2
	Mass Gathering and Civil Disturbance	3	1	1	4	2	2
	Terrorism	1	3	1	4	1	1.9
LOW	Building Collapse	1	3	1	4	1	1.9
	Dam Failure	1	2	2	4	2	1.9
	Nuclear Incident	1	1	1	4	2	1.4
	Levee Failure	0	0	0	0	0	0

### **E. CAPABILITY ASSESSMENT**

This section identifies the following capabilities of the local jurisdiction:

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

## E.1 Planning and Regulatory Capability

Tool / Program	Status			Dept./Agency Responsible	Effect on Loss Reduction: + Support O Neutral - Hinder	Change Since Last Plan: + Positive - Negative	Comments
	In Place	Date Adopted or Updated	Under Development				
Hazard Mitigation Plan	X	7/2006		County	+		
Emergency Operations Plan			X		+		
Disaster Recovery Plan							
Evacuation Plan			X		+		
Continuity of Operations Plan			X		+		
NFIP							
NFIP – Community Rating System							
Floodplain Regulations (spec. NFIP Flood Damage Prevention Ordinance)							
Floodplain Management Plan							
Zoning Regulations	X	2006		Admin/Council	0		Needs Update
Subdivision Regulations	X	2005		Admin/Council	0		Needs Update
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	X	5/25/10		Comp Plan Group	+	+	Still Updating
Open Space Management Plan (or Parks/Rec or Greenways Plan)							
Stormwater Management Plan / Ordinance	X			Infrastructure Committee	+		Storm Sewer Installs have helped

Tool / Program	Status			Dept./Agency Responsible	Effect on Loss Reduction: + Support O Neutral - Hinder	Change Since Last Plan: + Positive - Negative	Comments
	In Place	Date Adopted or Updated	Under Development				
Natural Resource Protection Plan							
Capital Improvement Plan			X	Admin			Needs major improvement
Economic Development Plan							
Historic Preservation Plan			X				See comp plan
Farmland Preservation							
Building Code	X	2006					See Zoning
Fire Code	X				+		Needs continued development. Adopted interim fire code
Firewise							
Storm Ready	X	2012		Lehigh County			
Other							

**E.2 Administrative and Technical Capability**

Staff/Personnel Resources	Yes	No	Department/Agency	Comments
Planners (with land use / land development knowledge)		X		Possible future position
Planners or engineers (with natural and/or human caused hazards knowledge)	X		Admin	Contract with KCE
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		Admin	Contract with KCE
Emergency Manager	X		EMA Director	Volunteer Position
NFIP Floodplain Administrator		X		
Land Surveyors	X		See Engineer	See Engineer
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or fiscal staff to handle large/complex grants		X		In-House and Engineer
Staff with expertise or training in Benefit-Cost Analysis	X		Admin	
Other				

**E.3 Fiscal Capability**

Financial Resources	Yes	No	Department/Agency	Comments
Capital Improvement Programming	X		Borough	In-House
Community Development Block Grants (CDBG)	X		County – for sanitary sewer upgrade	
Special Purpose Taxes		X		
Gas / Electric Utility Fees		X		Only Road Openings Money
Water / Sewer Fees	X		Borough	
Stormwater Utility Fees		X		
Development Impact Fees		X		
General Obligation, Revenue, and/or Special Tax Bonds	X			R.E. Taxes
Partnering Arrangements or Intergovernmental Agreements		x		
Other				



## E.4 Community Classifications

Program	Classification	Date Classified
Community Rating System (CRS)	NP	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	TBD	TBD
Public Protection	TBD	TBD
Storm Ready	Lehigh County	TBD
Firewise	NP	N/A

N/A = Not applicable. NP = Not participating. TBD = To Be Determined.

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. Storm Ready communities are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness.

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. MITIGATION STRATEGY

### F.1 Past Mitigation Activities/Efforts

- The Comprehensive Planning Committee would like to move towards underground electric, starting at least with Main Street to prevent electric interruption.
- Continuing to construct Storm-Sewers to help with flooding.
- Continuing improvements on the underground gasoline lines has minimized the potential for Fire/Explosion.

## F.2 Hazard Vulnerabilities Identified

It is estimated that in Coopersburg Borough, 5 residents live within the 1% annual chance flood area (NFIP Special Flood Hazard Area). Of the municipality's total land area, 2.2% is located within the 1% annual chance flood area. \$543,570 (0.1%) of the municipality's general building stock replacement cost value (structure and contents) is located within the 1% annual chance flood area.

There are 3 NFIP policies in the community. While there are 61 parcels located within the 1% annual chance flood area, there are only 2 policies issued to property owners in the 1% annual chance flood area. FEMA has identified no Repetitive Loss (RL) or Severe Repetitive Loss (SRL) properties in the municipality.

HAZUS-MH estimates that for a 1% annual chance flood, \$1,023,000 (0.2%) of the municipality's general building stock replacement cost value (structure and contents) will be damaged, 64 people may be displaced, 9 people may seek short-term sheltering, and an estimated 33 tons of debris could be generated.

The following vulnerabilities have been identified by the community, within the risk assessment, or in other plan, reports and documents (e.g. FEMA Flood Insurance Studies, Act 167 Stormwater Management Plans):

- Underground Electric
- Storm-Sewer System to help with flooding

Please refer to the Hazard Profiles for additional vulnerability information relevant to this jurisdiction.

### F.3 Hazard Mitigation Strategy

Note some of the identified mitigation initiatives in Table F are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities.

Action No.	Action	Mitigation Technique Category	Hazard(s) Addressed	Priority (H/M/L)	Estimated Cost	Potential Funding Sources	Lead Agency / Department	Implementation Schedule	Applies to New and/or Existing Structures*
1	Work with the electric utilities to move towards underground electric wires, starting with at least Main Street to prevent electric interruption.	Property Protection	Severe Storms; Winter and Wind	Medium	High	TBD	Borough working with the electric utilities	Ongoing	Existing
2	Maintain fleet of vehicles and equipment for emergency response	Emergency Services	All	High	Medium	Borough budget; available public protection and emergency services grant programs	Borough	Ongoing	N/A
3	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	All Categories	All Hazards	High	Low – High (for 5-year update)	Local Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Municipality (via mitigation planning point of contacts) with support from Planning Partners (through their Points of Contact), PEMA	Ongoing	New & Existing
4	Complete the ongoing updates of the Comprehensive Emergency Management Plans	Emergency Services	All Hazards	High	Low	Local Budget	Municipality with support from PEMA	Ongoing	New & Existing
5	Work with regional agencies (i.e. County and PEMA) to	Public Education	All Hazards	Medium	Medium	Local budget,	Municipality with support	Short – Long-term DOF	NA

Action No.	Action	Mitigation Technique Category	Hazard(s) Addressed	Priority (H/M/L)	Estimated Cost	Potential Funding Sources	Lead Agency / Department	Implementation Schedule	Applies to New and/or Existing Structures*
	help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).	and Awareness, Emergency Services				FEMA HMA and HLS grant programs	from County, PEMA		
6	Continue to construct storm sewers to help alleviate flooding.	Structural Projects	Flood	Medium	High	Local Budget	Borough	Ongoing	Existing

Notes:

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

**Costs:**

Where actual project costs have been reasonably estimated:

Low = < \$10,000

Medium = \$10,000 to \$100,000

High = > \$100,000

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

Low = Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.

Medium = Could budget for under existing work-plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.

High = Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

**Potential FEMA HMA Funding Sources:**

PDM = Pre-Disaster Mitigation Grant Program

FMA = Flood Mitigation Assistance Grant Program

RFC = Repetitive Flood Claims Grant Program

SRL = Severe Repetitive Loss Grant Program

HMGP = Hazard Mitigation Grant Program

**Timeline:**

Short = 1 to 5 years. Long Term = 5 years or greater. OG = On-going program.

DOF = Depending on funding.

### G. ANALYSIS OF MITIGATION ACTIONS

Municipal mitigation actions were evaluated and prioritized primarily using the PA STEEL methodology discussed in Section 6 of this plan. Per the cost-benefit weighted PA STEEL methodology, those actions receiving 20 or more favorable ratings were generally considered high-priority actions. However, other factors beyond the PA STEEL numeric ranking may have been considered by the municipality during project prioritization. For example, a project might be assigned a medium priority because of the uncertainty of a funding source, and could be changed to high once a funding source has been identified such as a grant.

Mitigation Action		PA STEEL CRITERIA CONSIDERATIONS																				Results			
		(+) Favorable						(-) Less favorable						(N) Not Applicable											
		P Political			A Administrative			S Social		T Technical			E Economic			E Environmental					L Legal			SUMMARY (EQUAL WEIGHTING)	SUMMARY (BENEFITS & COSTS PRIORITIZED)
Political Support	Local Champion	Public Support	Staffing	Funding Allocation	Maintenance / Operations	Community Acceptance	Effect on Segment of Population	Technically Feasible	Long-Term Solution	Secondary Impacts	Benefit of Action (x3)	Cost of Action (x3)	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Site	Consistent w/ Community Environmental Goals	Consistent w/ Federal Laws	State Authority	Existing Local Authority	Potential Legal Challenge			
1	Underground electric lines	+	+	+	-	-	-	+	-	+	+	+	+	+	-	+	+	+	+	+	N	+	+	17 5 (+) 1 (-) 2 (N)	21 1 (+) 3 (-) 2 (N)
2	Maintain fleet vehicles for emergency services	+	+	+	-	-	+	+	+	+	+	+	+	+	-	+	+	+	N	+	N	+	+	18 3 (+) 2 (-) 2 (N)	22 1 (+) 3 (-) 2 (N)
3	Continue to support the implementation, monitoring, maintenance, and updating of this Plan	+	+	-	+	+	-	-	-	+	+	+	+	+	+	+	N	N	+	+	+	+	-	16 5 (+) 2 (-) 2 (N)	20 1 (+) 5 (-) 2 (N)

4	Update CEMP	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N	N	+	N	+	+	+	+	20 (+) 0 (-) 3 (N)	24 (+) 0 (-) 3 (N)
5	Develop post-disaster capabilities	+	+	+	-	-	+	+	+	+	+	+	-	+	-	+	N	N	N	+	N	+	+	15 (+) 4 (-) 4 (N)	17 (+) 6 (-) 4 (N)	
6	Continue to install storm sewers	+	+	+	-	-	-	+	-	+	+	+	+	+	-	+	+	+	+	+	N	+	+	17 (+) 5 (-) 1 (N)	21 (+) 3 (-) 2 (N)	



## H. FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

A more detailed flood loss analysis could be conducted on a structural level (versus the Census block analysis conducted for the HMP). The location of each building, details regarding the building (see additional data needed below) and the assessed or fair market value could be included in HAZUS-MH. The FEMA DFIRM boundaries, FEMA Flood Insurance Study detailed studies, base flood elevations and available Light Detection and Ranging (LiDAR) data or digital elevation models (DEM) could be used to generate a more accurate flood depth grid and then integrated into the HAZUS model. The flood depth-damage functions could be updated using the U.S. Army Corps of Engineer damage functions for residential building stock to better correlate HAZUS-MH results with FEMA benefit-cost analysis models. HAZUS-MH would then estimate more accurate potential losses per structure.

Additional data needed to perform the analysis described above:

- Specific building information – first-floor elevation (elevation certificates), number of stories, foundation type, basement, square footage, occupancy type, year built, type of construction etc.
- Assessed or fair market value of structure
- LiDAR or high resolution DEM

Regional risk maps are provided in the hazard profiles within Section 4, Volume I of this Plan.

## I. HAZARD AREA EXTENT AND LOCATION

A hazard area extent and location map has been generated and is provided below for Coopersburg Borough to illustrate the probable areas impacted within Coopersburg Borough. 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 Coopersburg Borough has significant exposure. The Planning Area maps are provided in the hazard profiles within Section 4, Volume I of this Plan.

## J. ADDITIONAL COMMENTS

No additional comments at this time.

SECTION 9.5: COOPERSBURG BOROUGH

