



9.1 Putnam County

This section presents the jurisdictional annex for Putnam County.

9.1.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan's primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Robert Lipton; Acting Commissioner, Bureau of Emergency Services 112 Old Route 6, Carmel, NY 845-808-4000 robert.lipton@putnamcountyny.gov	TBD

9.1.2 County Profile

Please refer to Section 4 of this Plan for details on Putnam County's population, location, climate, history, growth and development.

9.1.3 Natural Hazard Event History Specific to the County

Putnam County has a history of hazard events as detailed in Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities.

9.1.4 Hazard Vulnerabilities and Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for Putnam County.

Table 9.1-1. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, b, e}	Probability of Occurrence ^c	Risk Ranking Score (Probability x Impact)	Hazard Ranking
Earthquake	100-Year GBS: \$0 500-Year GBS: \$5,430,277 2,500-Year GBS: \$106,441,843	Occasional	12	Low
Extreme Temperature	Damage estimate not available	Frequent	21	Medium
Flood	1% Annual Chance: \$324,671,542	Frequent	18	Medium
Landslides	RCV Exposed: \$10,784,818,770	Frequent	54	High
Severe Storm	100-Year MRP: \$16,888,151 500-year MRP: \$104,943,868 Annualized: \$1,268,279	Frequent	48	High
Winter Storm	1% GBS: \$112,111,561 5% GBS: \$560,557,804	Frequent	51	High
Wildfire	Estimated Value in the WUI: \$16,482,929,543	Frequent	42	High

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

b. The valuation of general building stock and loss estimates was based on the custom inventory developed for Putnam County and probabilistic modeling results and exposure analysis as discussed in Section 5.



- c. The earthquake and hurricane wind hazards were evaluated by Census tract. The Census tracts do not exactly align with municipal boundaries; therefore, a total is reported for each Town inclusive of the Villages within the Town boundary.
- d. Frequent = Hazard event is likely to occur within 25 years.
Occasional = Hazard event is likely to occur within 100 years
Rare = Hazard event is not likely to occur within 100 years
- e. The estimated potential losses for Severe Storm are from the HAZUS-MH probabilistic hurricane wind model results. See footnote c.
- GBS = General building stock
MRP = Mean return period
RCV = Replacement cost value

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the County.

Table 9.1-2. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)
Putnam County	380	224	\$4,988,375.17	14	2	77

Source: FEMA, 2014

Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of February 28, 2014 and are summarized by Community Name. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents claims closed by 2/28/2014.

Note (2) Total building and content losses from the claims file provided by FEMA Region 2.

Note (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

9.1.5 Capability Assessment

This section identifies the following capabilities of the County:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the County.

Table 9.1-3. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Authority (local, county, state, federal)	Code Citation and Comments (Code Chapter, date of adoption, name of plan, explanation of authority, etc.)
Building Code	State, Local	Regulated at local and state levels.
Zoning Ordinance	Local	Town Code
Subdivision Ordinance	Local	Town Code
Site Plan Review Requirements	Local	Town Code
National Flood Insurance Program (NFIP) Flood Damage Protection Ordinance	Federal, State, Local	
Comprehensive Plan / Master Plan	County and Local	County has not adopted a Countywide



Tool / Program (code, ordinance, plan)	Authority (local, county, state, federal)	Code Citation and Comments (Code Chapter, date of adoption, name of plan, explanation of authority, etc.)
		Comprehensive Plan
Capital Improvements Plan	County	
Stormwater Management Plan/Ordinance	County, Local	County intends to develop one.
Floodplain Management / Basin Plan	Local	Town Codes
Open Space or Greenway Plan	County	
Emergency Management and/or Response Plan	County and Local	PCBES; Multiple Plans (Haz-Mat, CEMP)
Economic Development Plan	County	PC Economic Development Corporation
Local Waterfront Revitalization Plan (for waterfront communities)	Local	
Post Disaster Recovery Plan and/or Ordinance	County	PCBES; CEMP Appendix
Growth Management	Local	
Real Estate Disclosure req.	State and local	State Mandated; locally enforced
Habitat Conservation Plan		
Special Purpose Ordinances (e.g. wetlands, critical or sensitive areas)	Local	Town Codes

(1) NYS Subdivision laws provide a general framework, but allow room for local ordinances and interpretation.

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the County.

Table 9.1-4. Administrative and Technical Capabilities

Staff/ Personnel Resources	Available (Y or N)	Department/ Agency/Position
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	PC Planning (3)
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	PC Highways (3)
Planners or engineers with an understanding of natural hazards	Y	PC Planning (2)
NFIP Floodplain Administrator	N/A	
Surveyor(s)	Y	PC Highways (1)
Personnel skilled or trained in “GIS” applications	Y	PC Highways, PC IT (4)
Scientist familiar with natural hazards in the County.	Y	PCHD, PC Planning, PCBES
Emergency Manager	Y	PCBES
Grant Writer(s)	Y	PC Planning, BES (2)
Staff with expertise or training in benefit/cost analysis	Y	PC Planning, BES (2)

Fiscal Capability

The table below summarizes financial resources available to the County.

Table 9.1-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community Development Block Grants (CDBG)	Y



Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Capital Improvements Project Funding	Y
Authority to Levy Taxes for specific purposes	Y
User fees for water, sewer, gas or electric service	N
Impact Fees for homebuyers or developers of new development/homes	Y, Final Plat Map Filing Fee
Incur debt through general obligation bonds	Y
Incur debt through special tax bonds	
Incur debt through private activity bonds	
Withhold public expenditures in hazard-prone areas	N
Federal and State grant programs (e.g. FEMA, NYSOEM, NYSDEC)	Y, numerous
Other	

Community Classifications

The table below summarizes classifications for community program available to the County.

Table 9.1-6. Community Classifications

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

N/A = Not applicable. NP = Not participating. - = Unavailable. TBD = To be determined.

The classifications listed above relate to the County's ability to provide effective services to lessen its vulnerability to the 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 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/>



Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

It is the intention of the County to incorporate hazard mitigation planning and natural hazard risk reduction as an integral component of ongoing County administrative, regulatory and operational framework. The following textual summary and table identify relevant planning mechanisms and programs that have been/will be incorporated into County procedures, which may include former mitigation initiatives that have become continuous/on-going programs and may be considered mitigation “capabilities”:

Stormwater Management Plan: The Putnam County Planning Department plans to work to develop and adopt a Countywide Stormwater Management Plan in accordance with the State MS4 regulations. Mitigation initiatives identified in the development of the Stormwater Management Plan shall be incorporated into the annual reviews of this HMP, and five-year updates as appropriate.

Local Emergency Management: The Putnam County Bureau of Emergency Services intends to re-establish Local Emergency Planning Committees (LEPCs) within the County, with an emphasis on stronger municipal level participation. The Jan. 2013 NYSDHSES “A Guidance Document for LEPCs” shall be used to support this effort. Further, the County will work with LEPCs to integrate the findings and recommendations of this HMP within the LEPC programs, and conversely to integrate the needs and interests of the LEPCs into annual HMP reviews and 5-year updates, as appropriate.

Floodplain Management: The County will work to promote or facilitate workshops and seminars intended to build local capabilities in floodplain management, natural hazard risk reduction and disaster recovery, specifically in such areas as grant writing and Benefit/Cost Analysis, NFIP floodplain management and Certified Floodplain Manager (CFM) Training and Certification, NFIP Community Rating System (CRS), Substantial Damage Estimating (SDE), and preparing NFIP Elevation Certificates (EC).

Outreach and Education: The Putnam County Bureau of Emergency Services intends to promote, support and leverage the Public Officials Conference (Per NYS Executive Law Article 2B) to include relevant training and education in support of the implementation of this HMP.

Climate Change and Sea Level Rise: While considering, planning, engineering and undertaking projects throughout the County, and particularly along the Hudson River, the County will review and incorporate the latest information on climate change and sea level rise projections. Current sea level rise and coastal flooding adaptation information is available from the following sources:

- NYSERDA’s ClimAid report and 2014 updated sea level rise projections (<http://www.nyserda.ny.gov/Cleantech-and-Innovation/Environment/Environmental-Research-and-Development-Technical-Reports/Response-to-Climate-Change-in-New-York.aspx>)
- Scenic Hudson’s sea level rise mapper (<http://www.scenichudson.org/slr/mapper>)
- FEMA’s Coastal Construction Manual (<https://www.fema.gov/media-library/assets/documents/3293>)
- NYS DEC’s Climate Smart Communities program (<http://www.dec.ny.gov/energy/50845.html>)
- NYS Community Risk and Resiliency Act (adopted Sep 2014) (http://assembly.state.ny.us/leg/?default_fld=&bn=A06558&term=2013&Summary=Y&Actions=Y&Memo=Y&Text=Y)



Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and prioritization.

Past Mitigation Activity

The County identifies the following mitigation projects and/or initiatives have been completed in the past:

- 2011 Dam Safety & Maintenance Inspection – Highway Project
- 2013- Stormwater Outfall Mapping- Highway Project
- 2013-2014 UST/AST removals/ reinstallations – Highway Project
- 2014- Generators – Emergency Services Project
- 2013- 2014 Cell Towner Upgrades – IT Project
- Snake Avenue culvert/bridge – Highway Project
- Replacement of culverts and piping to mitigate flooding – Highway Project

Proposed Hazard Mitigation Initiatives for the Plan

Putnam County identified mitigation initiatives they would like to pursue in the future. Some of these initiatives may be previous actions carried forward for this plan. These initiatives 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 County priorities. Table 9.1-7 identifies the County's local mitigation strategy.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.1-8 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan.



Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PCBES-1	Re-Establish Local Emergency Planning Committees (LEPCs) within the County, with an emphasis on stronger municipal level participation. The Jan. 2013 NYSDHSES "A Guidance Document for LEPCs" shall be used to support this effort. Further, the County will work with LEPCs to integrate the findings and recommendations of this HMP within the LEPC programs, and conversely to integrate the needs and interests of the LEPCs into annual HMP reviews and 5-year updates, as appropriate.										
	See above	N/A	All Hazards	G-1, G-2, G-3, G-5, G-6	PCBES – OEM; working with all municipalities and countywide stakeholders	Medium to High – Improved and broad EM capabilities to address all hazards	Low - Medium	County and Local Budgets	Short	High	LPR, EM*
PCBES-2 (LOI #325)	County Incident Command Systems Training	N/A	All Hazards	G-1, G-5	Putnam County Bureau of Emergency Services, Robert Lipton, Deputy Commissioner - Putnam County Bureau of Emergency Services	High – Improved ability to respond and manage disasters (life safety)	\$128,000	Federal or State HLS grants (incl. EMPG); County Budget for Local Match	Short	Medium	LPR, EAP
PCBES-3 (LOI #351)	County Electrical Live Line Training Capabilities / Preparedness	Existing	Severe Storms, Severe Winter Storms	G-1, G-2, G-5	Putnam County Bureau of Emergency Services, Robert Lipton, Deputy Commissioner of Emergency Services	High - Public Safety; Reduced lengths of utility outages	\$120,000	Federal or State HLS grants (incl. EMPG); County Budget for Local Match	Short	Low	EAP
PCBES-4 (LOI #371)	Enhance Putnam County Fire Training Center Emergency Preparedness Capabilities	Both	Wildfire, Structural Fire	G-1, G-2, G-5	Putnam County Bureau of Emergency Services, Robert Lipton, Deputy Commissioner of Emergency Services	High – Improved fire-fighting capabilities	\$450,000	Federal or State Fire grants; County Budget for Local Match	Short	High	EAP
PCBES-5 (LOI #424)	Putnam County Emergency Operations Center (EOC) Incident & Resource Management	N/A	All Hazards	G-1, G-5	Putnam County Bureau of Emergency Services, Robert Lipton, Deputy Commissioner of Emergency Services	High – Improved ability to respond and manage disasters (life safety)	\$100,000	Federal or State HLS grants (incl. EMPG); County Budget for Local Match	Short	High	LPR, EAP



Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PCBES-6 (LOI #475)	Putnam County Animal Emergency Response Site	N/A	All Hazards requiring sheltering	G-1, G-3, G-5	Putnam County, Robert Lipton, Deputy Commissioner of Emergency Services	High – Improved life-safety (facilitates human sheltering)	\$550,000	Federal or State HLS grants (incl. EMPG); County Budget for Local Match	Short	Low	LPR
PCBES-7 (LOI #481)	Enhance / Upgrade Tools for Disaster Damage Assessment & Tracking	Existing	All Hazards	G-1, G-5, G-6	Putnam County, Robert Lipton, Deputy Commissioner of Emergency Services	High – Improved capabilities to assess damages for response and recovery	\$1,000,000	Federal or State HLS grants (incl. EMPG); County Budget for Local Match	Short	High	LPR, EAP
PCBES-8 (LOI #487)	Transportation Hardening & Evacuation Upgrades	N/A	All Hazards requiring Evacuation	G-1, G-5	Putnam County, Robert Lipton, Deputy Commissioner of Emergency Services	High – Life Safety	\$2,000,000	Federal or State HLS grants (incl. EMPG); County Budget for Local Match	Short	Medium	LPR,EAP
PCBES-9 (LOI #491)	Earthquake Retrofits for Critical Infrastructures	Both	Earthquake	G-1, G-2, G-5	Putnam County, Robert Lipton, Deputy Commissioner of Emergency Services	High – Life Safety, Reduced Vulnerability of Critical Facilities	\$25,000,000	FEMA Mitigation Grants; Federal or State HLS grants (incl. EMPG); County Budget for Local Match	Long Term (dependent on funding)	High	LPR, SIP
PCBES-10	Promote, support and leverage the Public Officials Conference (Per NYS Executive Law Article 2B) to include relevant training and education in support of the implementation of this HMP.										
	See above	N/A	All Hazards	G-5, G-6	PCBES – OEM; working with municipal Supervisors, Highway Superintendents, Local Officials, County and Town attorneys	Medium to High – Improved awareness and capabilities to address all hazards and promote HMP strategy implementation	Low - Medium	County and Local Budgets	Short	High	LPR, EAP



Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PCBES-11	Facilitate Workshops and Seminars to build local capabilities in floodplain management and disaster recovery, anticipated to include based on municipal and county interest: <ul style="list-style-type: none"> NFIP Community Rating System (CRS) Benefit-Cost Analysis (BCA) Substantial Damage Estimating (SDE) NFIP Elevation Certificates (EC) Certified Floodplain Manager (CFM) Training and Certification 										
	See Above.	Both	All Hazards	All Objectives	Putnam County OEM, as supported by relevant County and local department leads	High (comprehensive improvements mitigation and risk-reduction capabilities)	Low-Medium (locally)	County and Local (staff resources)	Short	High	LPR, EAP
PCBES-12	County-Wide Housing Location/Relocation Planning Initiative for Disaster Displaced Residents and Structures: PCOEM to develop and implement a program to work with all Putnam County municipalities to identify sites within the community suitable for relocation of houses out of the floodplain, or building new houses once properties in the floodplain are razed. As part of this program, all communities will be surveyed to identify potential sites, including any pre-disaster actions that may be required to make them viable for these purposes. It is noted that while a community may identify suitable sites, the use (including transfer of ownership) of suitable private property would be at the discretion of the property owner.										
	See Above.	Both	All hazards requiring temporary or permanent relocation	G-2, G-6	PCOEM, working with all municipalities	Improved ability to temporarily or permanently relocate hazard-prone or disaster affected residents and property	Low	County and local budgets	Short (2015)	High	SIP
PCHWY – 1 (LOI #811)	Hazardous Tree Mitigation	Existing	Severe Storm, Severe Winter Storm	G-1, G-2, G-4	Putnam County Highways & Facilities	High – Life Safety, reduced vulnerability to power outages. Recent Damages: \$14,184,960	High / \$1,122,000	County budgets; grant funding as available (TBD)	36 months initial / On-going program	High	NRP, SIP
PCHWY – 2 (LOI #353)	Storm Sewer Improvement Program	Existing	Flood	G-2, G-2	Putnam County Highways and Facilities, Robert Lipton, Deputy Commissioner Bureau of Emergency Services	High – Reduced vulnerability to road damage, closures and traffic accidents. Recent Damages: \$2,000,000	HIGH / \$3,000,000	Federal Mitigation Grant Funds, Federal and NYSDOT highway and transportation infrastructure grants, County budget for local match	Short / 36 months	High	SIP



Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PCHWY – 3 (LOI #377)	UST/AST Continuity of Service and Hardening	Existing	Flood	G-1, G-2	Putnam County Highways and Facilities, Robert Lipton, Deputy Commissioner Bureau of Emergency Services	High – Public Health/Life Safety, reduced environmental impacts Recent Damages: \$700,000	High - \$1,000,000	Federal Mitigation or EPA Grant Funds; County Budget for Local Match	Short/ 36 Months	High	SIP
PCHWY – 4 (LOI #379)	Dam Hardening	Existing	Flood, Severe Storm, Earthquake – Dam Failure	G-1, G-2, G-4	Putnam County Highways and Facilities Robert Lipton, Deputy Commissioner Bureau of Emergency Services	High – Life Safety; Reduced damage to structures and infrastructure Recent Damages: \$1,000,000	High/ \$2,500,000	TBD	Short / 36 months	High	SIP
PCHWY – 5 (LOI #380)	Bridge, Culvert and Road Hardening	Existing	Flood, Severe Storm	G-1, G-2, G-6	Putnam County Highways and Facilities Robert Lipton, Deputy Commissioner	High – Reduced vulnerability to road damage, closures and traffic accidents Recent Damages: \$200,000	High / \$3,000,000	Federal Mitigation Grant Funds, Federal and NYSDOT highway and transportation infrastructure grants, County budget for local match	Short / 36 months	High	SIP
PCHWY – 6 (LOI #381)	Utility Upgrade and Connection for Critical Infrastructure	Existing	Severe Storm, Severe Winter Storm	G-1, G-2	Putnam County Highways and Facilities Robert Lipton, Deputy Commissioner Bureau of Emergency Services	High – Reduced vulnerability of critical facilities and services to power outages Recent Damages: \$700,000	High - \$1,000,000	Federal Mitigation Grant Funds, County Budget Local Match	Short	High	SIP



Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals / Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
PCHWY - 7 (LOI #437)	Earthquake Retrofits for Critical Infrastructures	Both	Earthquake	G-1, G-2, G-5	Putnam County Highways and Facilities Robert Lipton, Deputy Commissioner Bureau of Emergency Services	High – Life Safety, Reduced Vulnerability of Critical Facilities	High - \$2,500,000	FEMA Mitigation Grants; Federal or State HLS grants (incl. EMPG); County Budget for Local Match	Long Term (dependent on funding)	High	LPR, SIP
PCOIT- 1 (LOI #472)	Critical Network Infrastructure	Existing	Severe Storms, Severe Winter Storms, Earthquake	G-1, G-2, G-5	Putnam County Office of IT & GIS, Robert, Lipton	High – Continuity of Operations, Life Safety (Communications) Recent Damages: \$4,260,100.00	High - \$1,295,500	Federal Mitigation and DHS grants; County Budget for Local Match	Short / 36 months	High	SIP
PCPlan - 1	Complete and adopt a Countywide Stormwater Management Plan. Incorporate the findings and recommendations of this HMP, as appropriate. Mitigation initiatives identified in the development of the Stormwater Management Plan should be incorporated into the annual reviews of this HMP, and five-year updates as appropriate.										
	See above	N/A	All Hazards	G-3, G-4, G-6	PC Planning Department / Soil and Water Conservation District; working with all County Departments	Medium – High Improved countywide stormwater and land use management integrating natural hazard risk	Medium	County Budget	Draft to be submitted to County Legislature in late 2014	High	LPR
PCPlan - 2	Continue to seek funding to conduct and inventory of Ash trees along County Highways and other county properties (Emerald Ash Borer - EAB). Then seek funding to implement a program to mitigate the spread of EAB through removal, disposal, and long term monitoring of affected trees.										
	See above	N/A	EAB Infestation creating hazardous trees that are susceptible to severe storms and severe winter storms	G-2, G-4, G-6	PC Planning Department / Soil and Water Conservation District	Medium – Life Safety (transportation accident), reduced vulnerability to power outages, improved debris management	Medium - High	TBD	Short Term – Inventory; Long Term – Mitigation Project Implementation	Medium	LPR, NRP

Notes:

Not all acronyms and abbreviations defined below are included in the table.

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

Acronyms and Abbreviations:

CAV Community Assistance Visit



CRS	Community Rating System
DPW	Department of Public Works
FEMA	Federal Emergency Management Agency
FPA	Floodplain Administrator
HMA	Hazard Mitigation Assistance
N/A	Not applicable
NFIP	National Flood Insurance Program
OEM	Office of Emergency Management

FMA	Flood Mitigation Assistance Grant Program
HMGP	Hazard Mitigation Grant Program
PDM	Pre-Disaster Mitigation Grant Program
RFC	Repetitive Flood Claims Grant Program
SRL	Severe Repetitive Loss Grant Program

Timeline:

Short	1 to 5 years
Long Term	5 years or greater
OG	On-going program
DOF	Depending on funding

Potential FEMA HMA Funding Sources:

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.

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

Low=	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where numerical project benefits cannot reasonably be established at this time:

Low	Long-term benefits of the project are difficult to quantify in the short term.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
High	Project will have an immediate impact on the reduction of risk exposure to life and property.

Mitigation Category:

- **Local Plans and Regulations (LPR)** – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- **Structure and Infrastructure Project (SIP)** - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- **Natural Systems Protection (NSP)** – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- **Education and Awareness Programs (EAP)** – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities



Table 9.1-8. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
PCBES- 1	Re-establish LEPCs	1	1	1	1	1	1	1	1	1	0 (will require administrative resources to organize)	1	1	1	1	13	High
PCBES- 2	County Incident Command Systems Training	1	0	1	1	0	1	1	0	0	1	1	1	1	0	9	Medium
PCBES- 3	County Electrical Live Line Training Capabilities / Preparedness	1	1	1	1	0	0	0	0	0	0	0	1	1	0	6	Low
PCBES- 4	Enhance Putnam County Fire Training Center Emergency Preparedness Capabilities	1	1	1	1	1	1	1	0	0	1	0	0	1	0	9	High
PCBES- 5	Putnam County Emergency Operations Center (EOC) Incident & Resource Management	1	1	1	1	1	1	1	0	0	0	1	1	1	0	10	High
PCBES- 6	Putnam County Animal Emergency Response Site	0	-1	0	0	0	0	-1	0	0	0	0	1	1	1	3	Low
PCBES- 7	Enhance / Upgrade Tools for Disaster Damage Assessment & Tracking	1	1	1	1	1	1	0	0	0	0	0	1	0	1	8	High
PCBES- 8	Transportation Hardening & Evacuation Upgrades	1	0	1	1	1	1	1	0	0	0	0	1	0	0	7	Medium
PCBES- 9	Earthquake Retrofits for Critical Infrastructures	1	1	1	1	1	1	1	1	0	0	1	0	1	1	11	High
PCBES- 10	Public Official Conference Outreach and Education	1	1	1	1	1	1	1	0	1	0 (will require administrative resources to organize)	1	1	1	1	12	High
PCBES- 11	County Led Activities to Build Regional	1	1	1	1	1	1	1	1	1	0 (will require administrative resources to organize)	1	1	1	1	13	High



Section 9.1: Putnam County

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
	Mitigation Capabilities										resources to organize)						
PCBES- 12	County-Wide Housing Location/Relocation Planning Initiative	1	1	1	1	-1	0	1	1	1	1	1	1	1	1	10	High
PCWHY-1	Hazardous Tree Mitigation	1	1	1	0	0	1	1	1	1	1	1	1	1	1	12	High
PCWHY-2	Storm Sewer Improvement Program	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
PCWHY-3	UST/AST Continuity of Service and Hardening	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
PCWHY-4	Dam Hardening	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
PCWHY-5	Bridge, Culvert and Road Hardening	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
PCWHY-6	Utility Upgrade and Connection for Critical Infrastructure	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
PCWHY-7	Earthquake Retrofits for Critical Infrastructures	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
PCOIT-1	Critical Network Infrastructure	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
PCPlan-1	Countywide Stormwater Management Plan	0	1	1	1	1	1	1	1	1	1	1	1	1	1	13	High
PCPlan-2	Ash Tree/EAB Survey and Mitigation Plan	1	1	0 (not determined)	1	1	0 (may include trees outside of County ROWs)	0 (will need County funding approval)	1	1	0 (funding and implementation will consume administrative resources)	1	0 (dependent on funding)	1 (Planning)	1	9	Medium

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.



9.1.6 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.1.7 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for Putnam County that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are 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 County has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.1.8 Additional Comments

None at this time.



Name of Jurisdiction: Putnam County Bureau of Emergency Services, Carmel
Action Number: LOI #325
Action Name: County Incident Command Systems Training

Assessing the Risk	
Hazard(s) addressed:	All Hazards
Specific problem being mitigated:	Preparedness and the ability to place members of the county and town workforce into the incident response are essential. Appropriate training of the county and towns workforce in Incident Management is needed to better prepare for incident response. 300 individuals for Training @ \$ 40.00/ Hour x 8 hours = \$ 96,000.00 100 individuals for Backfill @ 40.00/ hour x 8 hours = \$ 32,000 \$ 128,000.00 / year 1 & 2 \$ 64,000.00 / year after \$ 192,000.00 - Complete
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No Action Alternative will result in the inability to for all agencies to collectively respond and mitigate natural and manmade disasters.
	2. First feasible alternative to the proposed project would be to reduce scope of program initiative to mission critical training only.
	3. Develop an in- house training program during working hours for managers, executives and other essential personal. This would include online ICS training, and various other specific online courses for incident management. Develop in-house training exercises for participants to gain experience using ICS. Schedule limit tuition free RDPC training through DHS for the about list personal
Action/Project Intended for Implementation	
Description of Selected Action/Project	ICS training for the county will ensure a quicker and more efficient response to emergencies reducing the effects of said emergency thus reducing the cost of those affected.
Mitigation Action/Project Type	LPR, EAP
Objectives Met	G-1, G-5
Applies to existing structures/infrastructure, future, or not applicable	Does not apply to structures
Benefits (losses avoided)	High – Improved ability to respond and manage disasters (life safety) Recent Damages: \$500,000
Estimated Cost	\$128,000
Priority*	Medium
Plan for Implementation	
Responsible Organization	Putnam County Bureau of Emergency Services, Robert Lipton, Deputy Commissioner - Putnam County Bureau of Emergency Services
Local Planning Mechanism	Comprehensive Emergency Management Plans, County Budget
Potential Funding Sources	Federal or State HLS grants (incl. EMPG); County Budget for Local Match



Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #325

Action Name:

County Incident Command Systems Training

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	ICS training to prepare for an event
Property Protection	0	ICS training will help to quickly mitigate hazards
Cost-Effectiveness	1	Doing the classes on a large scale is more economical than smaller individual classes
Technical	1	This is technically feasible
Political	0	
Legal	1	The jurisdiction has the authority
Fiscal	1	The project can be partially funded with existing budgets
Environmental	0	No environmental impacts
Social	0	No social impacts
Administrative	1	Putnam county has instructors available for this training
Multi-Hazard	1	This training better prepares the county for Multi-Hazard
Timeline	1	Can be completed immediately
Agency Champion	1	There is strong support in favor of training
Other Community Objectives	0	It supports the policy of other plans
Total	9	
Priority (High/Med/Low)	med	



Name of Jurisdiction:

Putnam County Bureau of Emergency Services, Carmel

Action Number:

LOI #351

Action Name:

County Electrical Live Line Training Capabilities / Preparedness

Assessing the Risk	
Hazard(s) addressed:	Severe Storms, Severe Winter Storms
Specific problem being mitigated:	A need has been determined for the appropriate dedicated training set-up simulator for first responders to handle LIVE downed electrical / utility services. Numerous hours are spent on "downed wires" after a storm awaiting a representative of the utility company to CLEAR (make safe) a downed wire. This non-productive time can be used by Fire/EMS/Law Enforcement and Highways (DPW) crews in cutting and clearing of trees to re-open roadways for emergency and public access with the proper training.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	No Action Alternative will result in the inability for all agencies to collectively respond and mitigate natural and manmade disasters.
	1. We will continue to have delays in getting roads cleared and power on for our residents. We will continue to put our first responders at risk because of proper training and lack of live line training.
	2. Reduce the scope of the training simulator. This would only reduce the cost of the project slightly and will not provide the entire scope of live line training, but it will give the first responder the ability to recognize the dangers that do exist on a limited basis. This would provide a better response for our residents, but it would not be optimal. 3. The training simulator components have been provided by NYSEG electrical engineers and designed with safety as the number one priority. A request to reduce the training simulator components as stated in this alternative has the potential to rescue the scope and mission of the training and also compromise the safety of the utility workers providing the training.
	3. Provide first responder training only when available and scheduled by the public utility. Due to budget cuts, the state of the economy, and the time and effort required to stage these demonstrations our public electric utility, NYSEG has significantly scaled down the frequency and locations of these live line demonstrations. Putnam County has over one thousand volunteer firefighters and we graduate at least two classes of firefighter 1 students, which equates to approximately fifty new volunteer firefighters each year. Providing this live line electrical utility training is essential to their safety and well-being. This alternative will pose a significant reduction in effectiveness of this training. Also, as stated in the scope of work for this application the live line training enables the first responders to more efficiently and effectively safely assess downed live wires. These damage assessments are essential to providing a more efficient and timely restoration. This alternative has the potential to significantly limit the expected results and benefits of this project.



Action/Project Intended for Implementation	
Description of Selected Action/Project	By having the appropriate training facility simulator for the electrical hazards that emergency first responders and County highway crews encounter it will allow safety training to better prepare them to safely and efficiently mitigate these incidents. Being able to safely clear and remove debris from the roadways will allow utility crews to more efficiently restore power to our critical facilities and the citizens of our community.
Mitigation Action/Project Type	EAP
Objectives Met	G-1, G-2, G-5
Applies to existing structures/infrastructure, future, or not applicable	Applies to all structures
Benefits (losses avoided)	Public Safety; Reduced lengths of utility outages
Estimated Cost	\$120,000
Priority*	Low
Plan for Implementation	
Responsible Organization	Putnam County Bureau of Emergency Services, Robert Lipton, Deputy Commissioner of Emergency Services
Local Planning Mechanism	Comprehensive Emergency Management Plans, County Budget
Potential Funding Sources	Federal or State HLS grants (incl. EMPG); County Budget for Local Match
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #351

Action Name:

County Electrical Live Line Training Capabilities / Preparedness

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Identifies the risks of live electrical lines for emergency workers
Property Protection	1	Knowing the risks out in the field will help emergency workers protect property
Cost-Effectiveness	1	Large group training sessions are more cost effective
Technical	1	This is a long term solution
Political	0	Emergency workers fully support the training
Legal	0	Jurisdiction has the authority to implement
Fiscal	0	The project needs fiscal support
Environmental	0	No environmental impact
Social	0	No social impact
Administrative	0	Local electric company will provide the training
Multi-Hazard	0	This helps reduce the risk of multi hazards
Timeline	1	Can be completed in a short time frame
Agency Champion	1	Emergency services is in full support
Other Community Objectives	0	
Total	6	



Name of Jurisdiction:	Putnam County Bureau of Emergency Services, Carmel
Action Number:	LOI #371
Action Name:	Enhance Putnam County Fire Training Center Emergency Preparedness Capabilities

Assessing the Risk	
Hazard(s) addressed:	Wildfire, Structural Fire
Specific problem being mitigated:	The intensity and frequency of violent summer storms, ice storms, and heavy snow in the winter months contribute to the number of residential and commercial structure fires. Heating and cooking are also leading causes of residential structure fires which result in personal injury and significant amounts of property damage. The United States Fire Administration publishes annual reports and statistics to substantiate these losses.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	The "no action alternative" to this proposal will result in the fire training agencies of Putnam not having the appropriate fire training resources in place at the county fire training center to properly train.
	A first feasible, though not appropriate alternative would be to scale back the proposed scope of the projects to patches and repairs. This will result in the inability to further train first responders against all hazards events
	A second feasible alternative would be to let each department on their own purchase and build training props on their own property. This would not be the best way to go because it would increase costs, not allow multiple departments to train together, and not allow full size training structures to be built.
Action/Project Intended for Implementation	
Description of Selected Action/Project	This goal of this project is enhance the Putnam County Fire Training Facility which supports training for thirteen volunteer fire departments, four volunteer ambulance corps, several local Police Departments, and the Putnam County Sheriff Operations. Replacement of the current fire flashover unit as well as the construction of a new training tower will provide props for the fire, EMS, and law enforcement agencies to safely conduct training evolutions which will result in a better prepared response force to mitigate various types of emergency incidents.
Mitigation Action/Project Type	EAP
Objectives Met	G-1, G-2, G-5
Applies to existing structures/infrastructure, future, or not applicable	Both
Benefits (losses avoided)	High – Improved fire-fighting capabilities
Estimated Cost	\$450,000
Priority*	High
Plan for Implementation	



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Responsible Organization	Putnam County Bureau of Emergency Services, Robert Lipton, Deputy Commissioner of Emergency Services
Local Planning Mechanism	Comprehensive Emergency Management Plans, County Budget
Potential Funding Sources	Federal or State Fire grants; County Budget for Local Match
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #371

Action Name:

Enhance Putnam County Fire Training Center Emergency Preparedness Capabilities

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Reduce the number of injuries and deaths of firefighters and civilians. Increase fire department efficiency and morale Improve training capability of fire department
Property Protection	1	Reduce property damage. Reduce property loss and business interruption resulting from fire
Cost-Effectiveness	1	Improve volunteer department recruitment and retention • Contribute to a continuation of an effective volunteer fire service
Technical	1	It is a long term solution that is technically feasible
Political	1	Putnam County is a volunteer community and has full support from the community
Legal	1	Full authority to implement
Fiscal	1	Reduce lost time injuries and compensation claims
Environmental	0	No environmental impact
Social	0	No social impact
Administrative	1	We have a fully staffed training center
Multi-Hazard	0	The action reduces the risk to multi hazard
Timeline	0	Training can start immediately, and upgrades to center to be continuous
Agency Champion	1	Improve public image of the fire department
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	high	



Name of Jurisdiction:	Putnam County Bureau of Emergency Services, Carmel
Action Number:	LOI #424
Action Name:	Putnam County Emergency Operations Center (EOC) Incident & Resource Management

Assessing the Risk	
Hazard(s) addressed:	All Hazards
Specific problem being mitigated:	The Putnam County Emergency Operations Center is responsible for the coordination of resources required to support major incidents that are beyond the capability of its individual municipalities. During events like Hurricane Irene and Sandy, fire, EMS, law enforcement, transportation, highway, social services, public health, and many other support services are required. The requests for and the allocation of those resources must be assigned and tracked. Damages from both of these storms in our County were so extensive that they qualified for FEMA declarations.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Taking no action will result in inefficiencies that will increase recovery costs, require more manpower to support emergencies, and increase the amount of time it takes to restore the community to normal operations.
	2. The first alternative would be to add the additional functionality to the existing incident management application that we are currently using. If feasible, this alternative would significantly add to the time it would take to implement. The internal Putnam County programming resources that we would require are extremely constrained. Adding these additional features would also be complex and a duplication of effort since they already exist in the DLAN application. Our neighboring Counties use the DLAN application and are able to interconnect and share information. This alternative solution would not permit us that functionality.
	3. Hire an outside contractor to build a custom application to meet the requirements for an incident management system for our Emergency Operations Center. To build in the features of DLAN would be complex and extremely cost prohibitive. Maintenance costs and adding additional functionality for the application would be very time consuming and cost prohibitive. Our neighboring Counties already use the DLAN application and are able to interconnect and share information. This custom application would be non-standard and most likely not be compatible with our neighbors.
Action/Project Intended for Implementation	
Description of Selected Action/Project	This project is to install DisasterLan (DLAN) application software and related hardware to help manage critical emergencies more efficiently and effectively. Features of this application will provide County administration, department leaders, first responders (fire, EMS, law enforcement), local Town Supervisors, public works, and all others required secure local and remote web access to a system which will be used to manage the incident and the resource requests and allocations. This application provides a complete resource and incident management structure, documentation library, instant messaging and mail capability,



	status board, directory, incident command (ICS) situation reporting facility, and many other features. Implementing this application will significantly improve the efficiency of a limited amount of personell to handle large scale emergencies within our jurisdiction. This is the same application currently being used by several of our neighboring Counties and the New York State Office of Emergency Management. Putnam county has purchased the basic Dlan software package
Mitigation Action/Project Type	LPR,EAP
Goals/Objectives Met	G-1, G-5
Applies to existing structures/infrastructure, future, or not applicable	Applies to existing and future structures
Benefits (losses avoided)	High – Improved ability to respond and manage disasters (life safety)
Estimated Cost	\$100,000
Priority*	High
Plan for Implementation	
Responsible Organization	Putnam County Bureau of Emergency Services, Robert Lipton, Deputy Commissioner of Emergency Services
Local Planning Mechanism	Comprehensive Emergency Management Plans, County Budget
Potential Funding Sources	Federal or State HLS grants (incl. EMPG); County Budget for Local Match
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: 8/14//14 Progress on Action/Project: Dlan has been installed in the county and we are in the process of uploading our data. Training and implementation is scheduled for the fall.

* Refer to results of Prioritization (page 2)



Action Number:

LOI #424

Action Name:

Putnam County Emergency Operations Center (EOC) Incident & Resource Management

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	the DisasterLAN (DLAN) application software and related hardware to help manage critical emergencies more efficiently and effectively in and around Putnam County
Property Protection	1	During events like Hurricane Irene and Sandy, Fire, EMS, Law Enforcement, Transportation, Highway, Social Services, Public Health, and many other support services are required. Damages from both of these storms in our County were so extensive that they qualified for FEMA declarations. The requests for and the allocation of critical resources must be coordinated, assigned, and tracked.
Cost-Effectiveness	1	Features of this application will provide County administration, department leaders, first responders (Fire, EMS, Law Enforcement), local Town Officials, Public Works, and all others required secure local and remote web access to a system which will be used to manage the incident and the resource requests and allocations.
Technical	1	This application provides a complete resource and incident management structure, documentation library, instant messaging and mail capability, status board, directory, incident command (ICS) situation reporting facility, and many other features.
Political	1	All the county departments are in support of this package
Legal	1	Full authority
Fiscal	1	The basic package has been purchased by the county. To purchase the enhancements that we need, funding will be required from another source
Environmental	0	No environmental impact
Social	0	No social impact
Administrative	0	Putnam county has the personnel and administrative capabilities
Multi-Hazard	1	Implementing this application will significantly improve the efficiency of a limited amount of personnel to handle large scale emergencies within our jurisdiction.
Timeline	1	This project can be completed in a short amount of time
Agency Champion	1	All departments are in support of this project
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Putnam County, Carmel
Action Number: LOI #475
Action Name: Putnam County Animal Emergency Response Site

Assessing the Risk	
Hazard(s) addressed:	All Hazards requiring sheltering
Specific problem being mitigated:	Putnam County has a need to provide a site to shelter / house animals displaced by a natural and or man made disaster. This project is designed to assist in complying with the Pets & Evacuation Transportation Standards Act of 2006. This act calls for the emergency managers / directors to take into account the needs of individuals with pets during and following a major disaster.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Impacts with No Action - the county will continue not being able to support or shelter sick, injured, or displaced animals during and after storm or emergency events.
	2. Reduce the amount of construction to building 1 and building 2. The surplus shelter (building 3) is additional spacing required for larger animals and in the case of a devastating storm additional capacity for sheltering of animals.
	3. Construction of only building 1. This would reduce the scope of the project to the sheltering of displaced animals only. Any sick and injured animals would have to go directly to local animal hospitals which do not have the capacity to shelter a large number of animals for extended periods of time. Some animals would likely have to be put down.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Upgrade, prepare, and renovate the existing Tilly Foster Farm property with materials to accommodate the needs of people with pets and service animals during a disaster. Providing a place for people to bring pets in a disaster will alleviate the current problem of people arriving at human shelters where they are generally not prepared to accept or accommodate them.
Mitigation Action/Project Type	LPR
Goals/Objectives Met	G-1, G-3, G-5
Applies to existing structures/infrastructure, future, or not applicable	N/A
Benefits (losses avoided)	High – Improved life-safety (facilitates human sheltering)
Estimated Cost	\$550,000
Priority*	Low
Plan for Implementation	
Responsible Organization	Putnam County, Robert Lipton, Deputy Commissioner of Emergency Services



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Local Planning Mechanism	Comprehensive Emergency Management Plans, Sheltering Plans, County Budget
Potential Funding Sources	Federal or State HLS grants (incl. EMPG); County Budget for Local Match
Timeline for Completion	Long term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #475

Action Name:

Putnam County Animal Emergency Response Site

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	For the safety and protection of animals and pets
Property Protection	-1	
Cost-Effectiveness	0	
Technical	0	
Political	0	
Legal	0	
Fiscal	-1	County needs funding support for this project
Environmental	0	No impact environmentally
Social	0	No social impact
Administrative	0	Outside help from the volunteer community will be needed
Multi-Hazard	0	
Timeline	1	Can be completed within 5 yrs.
Agency Champion	1	Yes other agencies will advocate for this
Other Community Objectives	1	This project supports community enhancement
Total	3	
Priority (High/Med/Low)	Low	



Name of Jurisdiction:	Putnam County, Carmel
Action Number:	LOI #481
Action Name:	Enhance / Upgrade Tools for Disaster Damage Assessment & Tracking

Assessing the Risk	
Hazard(s) addressed:	All Hazards
Specific problem being mitigated:	Putnam County has a need to enhance the tools used for damage assessment and tracking during a disaster. In past events such as hurricanes Irene and Sandy we have learned that it is important to quickly assess the damages in each area of our County and to be able to prioritize the allocation of limited critical resources accordingly.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	<p>If no action alternative is taken, assessing for damage occurrences from natural or man-made events will take longer to identify, respond and correct. This has the potential to this result is potential risk in increased losses to life and property. For example, there are</p> <ol style="list-style-type: none"> 1. several small dams located in Putnam County. If a dam suffers damage but has not failed, early recognition of the damage and resultant correction could be taken to prevent failure. But without the tools necessary to make the process more efficient, the damage may go unnoticed until the dam fails, resulting in greater losses.
	<ol style="list-style-type: none"> 2. The first feasible alternative would be to scale back the scope of the project. Such a scaling back could serve to provide limited improvement in efficiencies. This alternative does not provide us with all the necessary information needed for proper damage assessment.
	<ol style="list-style-type: none"> 3. The second feasible alternative is to make an active social media page for Putnam County. This would allow residents who could still reach the internet or have cell service to upload pictures and reports of damage to their area. We can along with this deploy our REACT team to traffic control points and have them upload through their cell phones traffic updates. Fire departments would also have this ability. This second alternative would be limited only to people who have the technology and service availability to provide these reports. Due to the nature of social media the accuracy of this data would be less than optimal.
Action/Project Intended for Implementation	
Description of Selected Action/Project	<p>The proposed new technology and cache of tools include mobile and hand held GPS and GIS equipment that can assist emergency personell quickly and efficiently capture damaged property information. Information such as photos, GPS coordinates, damage costs, etc, are captured and entered into a database that can be accessed by those involved in mitigation efforts. The compilation of this information is required for the New York State Office of Emergency Management and FEMA officials for assistance and declarations. Through the use of personal computers, mobile hand held tablets, smart boards, additional portable radios and cameras, the assessment teams will be able to operate more efficiently and effectively complete these tasks.</p> <p>Putnam County has purchased Dlan, disaster management software</p>



Mitigation Action/Project Type	LPR, EAP
Objectives Met	G-1, G-5, G-6
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	High – Improved capabilities to assess damages for response and recovery
Estimated Cost	\$1,000,000
Priority*	High
Plan for Implementation	
Responsible Organization	Putnam County, Robert Lipton, Deputy Commissioner of Emergency Services
Local Planning Mechanism	Comprehensive Emergency Management Plans, County Budget
Potential Funding Sources	Federal or State HLS grants (incl. EMPG); County Budget for Local Match
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #481

Action Name:

Enhance / Upgrade Tools for Disaster Damage Assessment & Tracking

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provides the ability to quickly assess damage and get help where needed most
Property Protection	1	“ “ “ “ “ “ “
Cost-Effectiveness	1	Makes the most efficient use of our resources
Technical	1	Putnam county has made available systems to handle the new equipment
Political	1	Local government is in full support
Legal	1	yes
Fiscal	0	Funding is needed to support this action
Environmental	0	No environmental impact
Social	0	No social impact
Administrative	0	Putnam County has the ability to maintain the system
Multi-Hazard	0	
Timeline	1	Can be completed within five years
Agency Champion	0	
Other Community Objectives	1	Yes action provides for a safer and more resilient community
Total	8	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Putnam County, Carmel

Action Number: LOI #487

Action Name: Transportation Hardening & Evacuation Upgrades

Assessing the Risk	
Hazard(s) addressed:	All Hazards requiring Evacuation
Specific problem being mitigated:	The Putnam County Busing System has been identified as a storm critical resource required for the evacuation and movement of the public. This project would involve development and implementation of an emergency transportation plan and related recommendations to facilitate the evacuation capabilities and needs of the residents of Putnam County. Putnam County has a population of approximately 100,000 people in a 246 square mile area.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	If no action is taken at all the impacts will be consistent with damage that has occurred in prior events. We would not see a decrease in the
	1. response time to the timely establishment of evacuation routes that could otherwise be improved. Improving the response was intended to prevent damage and loss of life.
	2. The first feasible alternative would be to scale back the entire request proportionate to the amounts requested for each line item with certain exceptions. Priority would be given to the remote monitoring equipment and the expert consulting services. From that point the project would be scaled proportionately and implemented based on the risk that can be assumed from historical events.
	3. Should the funding be limited to an amount less than 65% of the current request, the second feasible alternative would be a material change to the scope outlined in this submission. We would only seek to procure materials proportionate to the quantities and prices proposed under the section labeled "Cost Line Items".
Action/Project Intended for Implementation	
Description of Selected Action/Project	This project would include the development of an Emergency Transportation plan and implementation of resulting recommendations to accommodate the hardening of the current transportation facilities and related transportation vehicles and equipment. It will address the evacuation and movement requirements that may be encountered during an emergency / disaster event in our County.
Mitigation Action/Project Type	LPR,EAP
Goals/Objectives Met	G-1, G-5
Applies to existing structures/infrastructure, future, or not applicable	N/A
Benefits (losses avoided)	High – Life Safety
Estimated Cost	\$2,000,000



Priority*	Medium
Plan for Implementation	
Responsible Organization	Putnam County, Robert Lipton, Deputy Commissioner of Emergency Services
Local Planning Mechanism	Comprehensive Emergency Management Plans, Evacuation Plans, County Budget
Potential Funding Sources	Federal or State HLS grants (incl. EMPG); County Budget for Local Match
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #487

Action Name:

Transportation Hardening & Evacuation Upgrades

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provides for the timely and efficient evacuation of the public
Property Protection	0	No land property involved
Cost-Effectiveness	1	There is no down side to this project
Technical	1	Once in effect it will become part of our emergency planning
Political	1	Yes, there is political support
Legal	1	Yes, jurisdiction has authority
Fiscal	1	Project can be funded under existing budgets
Environmental	0	Less traffic congestion leading to less pollution
Social	0	This will benefit those who have no means of evacuation
Administrative	0	The county has the means to support this operation
Multi-Hazard	0	
Timeline	1	This can be implemented immediately
Agency Champion	0	
Other Community Objectives	0	
Total	7	
Priority (High/Med/Low)	Medium	



Name of Jurisdiction: Putnam County, Carmel
Action Number: LOI #491
Action Name: Earthquake Retrofits for Critical Infrastructures

Assessing the Risk	
Hazard(s) addressed:	Earthquake
Specific problem being mitigated:	This project is designed to mitigate the risk of earthquake / seismic damages to Putnam County facilities that are deemed critical to emergency operations and essential services provided to the residents of Putnam County.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No Action Alternative would be no action taken and county structures and buildings stay as is.
	2. The First Feasible Alternative would be to evaluate, design and implement seismic retrofits of all eight (8) structures indicated above. This will involve a site assessment for each bridge, including condition and estimate of Useful Life. For each bridge that will or may be partially or fully retained a Seismic Assessment will be performed using AASHTO's Seismic Retrofitting Manual for Highway Structures: Part 1 – Bridges as a guide.
	3. The Second Feasible Alternative would include the scope of the First Feasible Alternative, but only for structures that are the sole means of access for County Residents and Emergency Services. This would reduce the number of structures considered from eight (8) to two (2).
Action/Project Intended for Implementation	
Description of Selected Action/Project	Provide a comprehensive seismic analysis and review of critical County infrastructure and facilities. Develop and implement recommendations for buildings, structures, and other related items identified as being vulnerable to seismic activity. Implement a seismic retrofit program for those facilities as well as local dams and related flood control equipment.
Mitigation Action/Project Type	LPR, SIP
Goals/Objectives Met	G-1, G-2, G-5
Applies to existing structures/infrastructure, future, or not applicable	Applies to existing and future structures
Benefits (losses avoided)	High – Life Safety, Reduced Vulnerability of Critical Facilities
Estimated Cost	\$25,000,000
Priority*	High
Plan for Implementation	
Responsible Organization	Putnam County, Robert Lipton, Deputy Commissioner of Emergency Services
Local Planning Mechanism	Comprehensive Emergency Management Plans, GIS of Critical Facilities, County Budget



Section 9.1: Putnam County

Potential Funding Sources	FEMA Mitigation Grants; Federal or State HLS grants (incl. EMPG); County Budget for Local Match
Timeline for Completion	Long Term (dependent on funding)
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #491

Action Name:

Earthquake Retrofits for Critical Infrastructures

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Any structural collapse presents a significant threat to public safety
Property Protection	1	This project will help reduce damage to infrastructure
Cost-Effectiveness	1	Project is considered highly cost effective
Technical	1	Project is technically feasible and is a long term solution.
Political	1	There is overwhelming support of this issue
Legal	1	The jurisdiction has full authority to implement
Fiscal	1	County would be unable to support this project without funding from another source
Environmental	1	Yes all environmental impacts will be considered and will be in compliance
Social	0	No social impact
Administrative	0	Outside agencies will be brought in
Multi-Hazard	1	This action will help mitigate potential multiple hazards
Timeline	0	This will be a long term project
Agency Champion	1	Local government is in full support of this project
Other Community Objectives	1	This is a capital improvement project that supports economic development and environmental quality
Total	11	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Putnam County Highways and Facilities, Carmel
Action Number: LOI #811
Action Name: Hazardous Tree Mitigation

Assessing the Risk	
Hazard(s) addressed:	Severe Storm, Severe Winter Storm
Specific problem being mitigated:	Roads and utilities are often adversely affected by falling trees due to storm winds and rains. A tree removal and trimming program from County ROW will help reduce such impacts by removing venerable and susceptible trees and limbs near roads and overhead
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No action alternative would result in additional impacts to county response and loss of utility services during critical storm events.
	2. Alternative to the proposed project objective would be to evaluate, design, and implement alternative with reduction in site specific locations. Alternate project will mitigate and allow for same protections originally submitted at a reduced scale.
	3. Alternative is to allow funding to plan/design/ scope a project that will designate shelters, and upgrade designated locations to accommodate community members that are medically dependent.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Trim trees and branches from roadways. This will insure that roadways remain open and passable and power lines remain intact during storms. Reduce power outages in Putnam county due to trees and branches along the roadway.
Mitigation Action/Project Type	• NRP, SIP
Objectives Met	G-1, G-2, G-4
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	High – Life Safety, reduced vulnerability to power outages Recent Damages: \$14,184,960
Estimated Cost	High / \$1,122,000.00
Priority*	High (Tier I)
Plan for Implementation	
Responsible Organization	Putnam County Highways & Facilities, Fred Pena, Commissioner
Local Planning Mechanism	
Potential Funding Sources	County budgets; grant funding as available (TBD)
Timeline for Completion	36 months initial / OG = On-going program.
Reporting on Progress	



Date of Status Report/ Report of Progress	Date: Progress on Action/Project:
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* Refer to results of Prioritization (page 2)



Action Number:

LOI #811

Action Name:

Hazardous Tree Mitigation

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility to remain operational during power outages
Property Protection	1	This project will have no significant effect on reducing damage to the Village Hall structure.
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	0	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions
Political	0	This project is supported both publically and politically
Legal	1	The municipality has full legal authority to implement this project
Fiscal	1	The town can currently fund the local match if a grant were awarded.
Environmental	1	There are no environmental constraints associated with this project.
Social	1	This project benefits all sectors of the community equally.
Administrative	1	The Town has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	This project provides protection against multiple hazards.
Timeline	1	The project can be implemented within one year once funding is secured.
Agency Champion	1	The Town Supervisor and Emergency Management Coordinator are the leads for this critical project.
Other Community Objectives	1	This project supports the Town's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	12	
Priority (High/Med/Low)	HIGH	



Name of Jurisdiction: Putnam County Highways and Facilities, Carmel
Action Number: LOI #353- Application 494
Action Name: Storm Sewer Improvement Program

Assessing the Risk	
Hazard(s) addressed:	<ul style="list-style-type: none"> Flooding (riverine, flash, coastal, urban/stormwater, dam failure)
Specific problem being mitigated:	For years now, storm drains overflow on roadways causing flooding. Annually it costs the highway department 100,000 dollars in man power, labor, and equipment to clear the overflow on these roadways.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No Action Under this Alternative, no assessment or repairs would be contemplated and the stormwater systems would continue to degrade to the point of non-functionality
	2. Feasible/Preferred Alternative The project would consist of a three (3) phase project. The first phase would to be a comprehensive inventory of Putnam County-owned stormwater systems followed by repair and maintenance recommendations / open risks remain.
	3. The project will consist of three (3) phases of reduced scope compared to the Feasible/Preferred. Alternative. The first phase would consist of a comprehensive inventory of Putnam County-owned stormwater systems, followed by a prioritized listing./ open risks remain
Action/Project Intended for Implementation	
Description of Selected Action/Project	Provide a comprehensive review of closed and open drainage system. Improve critical area and system components to better manage storm surges and peak runoff flow.
Mitigation Action/Project Type	Structure and Infrastructure Project (SIP)
Objectives Met	G-2, G-2
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	High – Reduced vulnerability to road damage, closures and traffic accidents Recent Damages: \$2,000,000
Estimated Cost	HIGH / \$3,000,000
Priority*	Tier I - HIGH
Plan for Implementation	
Responsible Organization	Putnam County Highways and Facilities, Robert Lipton, Deputy Commissioner Bureau of Emergency Services
Local Planning Mechanism	Transportation Plans; County Capital Budgets
Potential Funding Sources	Federal Mitigation Grant Funds, Federal and NYSDOT highway and transportation infrastructure grants, County budget for local match



Timeline for Completion	Short / 36 months
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #353

Action Name:

Storm Sewer Improvement Program

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility to remain operational during power outages.
Property Protection	0	This project will have no significant effect on reducing damage to the Village Hall structure.
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported both publically and politically.
Legal	1	The municipality has full legal authority to implement this project.
Fiscal	0	The town can currently fund the local match if a grant were awarded.
Environmental	1	There are no environmental constraints associated with this project.
Social	1	This project benefits all sectors of the community equally.
Administrative	1	The Town has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	This project provides protection against multiple hazards.
Timeline	1	The project can be implemented within one year once funding is secured.
Agency Champion	1	The Town Supervisor and Emergency Management Coordinator are the leads for this critical project.
Other Community Objectives	1	This project supports the Town's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	12	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Putnam County Highways and Facilities, Carmel
Action Number: LOI #377
Action Name: UST/AST Continuity of Service and Hardening

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	For several years, UST and ASTs have not had the proper amount of protection from flooding. Since the contents in these tanks can be dangerous if exposed, it is important to keep them protected from further damage.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	"No Action Alternative"-would leave risk to community members as well as water sources if source site was to become at risk when hazard occurred.
	2. Alternate project objective would be to evaluate, design, and implement natural gas utility connection to County Office building, allowing for reduction in project scope size and funding while allowing for Hardening of current system.
	3. Alternate project objective would be to evaluate, design, and implement fuel management system thus allowing for reduction in project scope size and funding while allowing for hardening of current system and mitigation any future risk of leaks being undetected.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Provide a comprehensive review of UST's and AST's that are vulnerable to flooding and convert protected AST's or conversion to natural gas where possible
Mitigation Action/Project Type	Structure and Infrastructure Project (SIP)
Objectives Met	G-1, G-2
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	Medium – Public Health/Life Safety, reduced environmental impacts Recent Damages: \$700,000
Estimated Cost	High/ \$1,000,000
Priority*	Tier I - High
Plan for Implementation	
Responsible Organization	Putnam County Highways and Facilities, Robert Lipton, Deputy Commissioner Bureau of Emergency Services
Local Planning Mechanism	Comprehensive Emergency Management Plans, County Budgets
Potential Funding Sources	Federal Mitigation or EPA Grant Funds; County Budget for Local Match
Timeline for Completion	Short/ 36 Months
Reporting on Progress	



**Date of Status Report/
Report of Progress**

Date:
Progress on Action/Project:

*** Refer to results of Prioritization (page 2)**



Action Number:

LOI #377

Action Name:

UST/ASt Continuity of Service and Hardening

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility's to remain operational during power outages.
Property Protection	0	This project will have no significant effect on reducing damage to the Village Hall structure.
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported both publically and politically.
Legal	1	The municipality has full legal authority to implement this project.
Fiscal	0	The town can currently fund the local match if a grant were awarded.
Environmental	1	There are no environmental constraints associated with this project.
Social	1	This project benefits all sectors of the community equally.
Administrative	1	The Town has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	This project provides protection against multiple hazards.
Timeline	1	The project can be implemented within one year once funding is secured.
Agency Champion	1	The Town Supervisor and Emergency Management Coordinator are the leads for this critical project.
Other Community Objectives	1	This project supports the Town's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	12	
Priority (High/Med/Low)	HIGH	



Name of Jurisdiction: Putnam County Highways and Facilities, Carmel
Action Number: LOI #379
Action Name: Dam Hardening

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Storm, Earthquake – Dam Failure
Specific problem being mitigated:	In recent years the destruction of dams has affected primary highways and roads. Yearly, 25,000 dollars is put in to making dams more resistant to storm surges and peak runoff.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. "No Action Alternative"- would leave risk to community members if hazard was to occur
	2. Recommended that the maintenance work, repairs and modifications be made within the next 2 years; and estimated cost. -/ leaves open risk
	3. Overview of Inundation Area in each of the Emergency Action Plans that CHA prepared for the County Select only one or two sites/ leaves open risk
Action/Project Intended for Implementation	
Description of Selected Action/Project	Provide a comprehensive review of dams of class A, B, and C. Develop and implement a dams hardening program to better resist storm surges and peak runoff flows.
Mitigation Action/Project Type	Structure and Infrastructure Project (SIP)
Objectives Met	G-1, G-2, G-4
Applies to existing structures/infrastructure, future, or not applicable	Structure and Infrastructure Project (SIP)
Benefits (losses avoided)	High – Life Safety; Reduced damage to structures and infrastructure Recent Damages: \$1,000,000
Estimated Cost	High/ \$2,500,000
Priority*	HIGH
Plan for Implementation	
Responsible Organization	Putnam County Highways and Facilities, Robert Lipton, Deputy Commissioner Bureau of Emergency Services
Local Planning Mechanism	CEMP, Dam Emergency Action Plans
Potential Funding Sources	TBD
Timeline for Completion	Short / 36 months
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #437

Action Name:

Earthquake Retrofits for Critical Infrastructures

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility to remain operational during power outages.
Property Protection	0	This project will have no significant effect on reducing damage to the Village Hall structure.
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported both publically and politically.
Legal	1	The municipality has full legal authority to implement this project.
Fiscal	0	The town can currently fund the local match if a grant were awarded.
Environmental	1	There are no environmental constraints associated with this project.
Social	1	This project benefits all sectors of the community equally.
Administrative	1	The Town has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	This project provides protection against multiple hazards.
Timeline	1	The project can be implemented within one year once funding is secured.
Agency Champion	1	The Town Supervisor and Emergency Management Coordinator are the leads for this critical project.
Other Community Objectives	1	This project supports the Town's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	12	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Putnam County Highways and Facilities, Carmel
Action Number: LOI #380 / Application 494
Action Name: Bridge, Culvert and Road Hardening

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Storm
Specific problem being mitigated:	For years now, many roadways and bridges have been damaged due to severe storms and peak runoff. Annually, 100,000 dollars is spent on repairing these roadways and preventing further damage.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No Action Under this Alternative, no assessment or repairs would be contemplated and the stormwater systems would continue to degrade to the point of non-functionality
	2. (3) Phase project. The first phase would to be a comprehensive inventory of Putnam County-owned stormwater systems followed by repair and maintenance recommendations. The second phase would consist of procurement of contractors to implement the initial repair and maintenance recommendations. The third phase would be to use County forces to implement an annual, rotating (approximately one-fifth of the system per year) maintenance and repair program to ensure that the initial repairs and maintenance are maintained.
	3. Alternative. The first phase would consist of a comprehensive inventory of Putnam County-owned stormwater systems, followed by a prioritized listing of critically damaged facilities and repair and maintenance recommendations. The second phase would consist of procurement of contractors to perform repairs and maintenance for only the critical facilities identified in phase one. The third phase would be to use County forces to implement an annual, rotating (approximately one-tenth of the system per year) maintenance and repair program to ensure that the initial repairs and maintenance are maintained. Non-critical facilities would also be addressed in this phase by County forces
Action/Project Intended for Implementation	
Description of Selected Action/Project	Provide a comprehensive review of roadways, culverts and bridge structures that are vulnerable to scouring and damage from storm surges and peak runoff flows. Develop and implement a critical roads and bridges hardening program to better resist storm surg
Mitigation Action/Project Type	Structure and Infrastructure Project (SIP)
Objectives Met	G-1, G-2, G-6
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	High – Reduced vulnerability to road damage, closures and traffic accidents Recent Damages: \$200,000
Estimated Cost	High / \$3,000,000



Priority*	Tier I , High
Plan for Implementation	
Responsible Organization	Putnam County Highways and Facilities, Robert Lipton, Deputy Commissioner
Local Planning Mechanism	Transportation Plans; County Capital Budgets
Potential Funding Sources	Federal Mitigation Grant Funds, Federal and NYSDOT highway and transportation infrastructure grants, County budget for local match
Timeline for Completion	Short / 36 months
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #380

Action Name:

Bridge, Culvert and Road Hardening

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility to remain operational during power outages.
Property Protection	0	This project will have no significant effect on reducing damage to the Village Hall structure.
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported both publically and politically.
Legal	1	The municipality has full legal authority to implement this project.
Fiscal	0	The town can currently fund the local match if a grant were awarded.
Environmental	1	There are no environmental constraints associated with this project.
Social	1	This project benefits all sectors of the community equally.
Administrative	1	The Town has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	This project provides protection against multiple hazards.
Timeline	1	The project can be implemented within one year once funding is secured.
Agency Champion	1	The Town Supervisor and Emergency Management Coordinator are the leads for this critical project.
Other Community Objectives	1	This project supports the Town's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	12	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Putnam County Highways and Facilities, Carmel
Action Number: LOI #381
Action Name: Utility Upgrade and Connection for Critical Infrastructure

Assessing the Risk	
Hazard(s) addressed:	Severe Storm, Severe Winter Storm
Specific problem being mitigated:	In previous years, severe storms have damaged important power supplies necessary for certain facilities. Each year 500,000 dollars is used to protect this equipment to prevent destruction.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No Action Alternative would affect current mitigation response plan development in progress by County Officials.
	2. First feasible alternative to the proposed project objective would be to evaluate, design, and implement alternative with reduction in site specific locations. Alternate project will mitigate and allow for same protections originally submitted at a reduced scale.
	3. Second alternative to the proposed project objective would be to evaluate critical areas, and implement alternative with reduction in site specific locations. Alternate project will mitigate and allow for same protections originally submitted at a reduced scale.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Provide a comprehensive review of storm critical infrastructure and facilities, Develop and implement a critical facilities protection measures. Example: Connect COB to Courthouse Back-up Power Generation Improve and protect power supply to Highways and Facilities complex (842 Fair Street) and provide back-up generation
Mitigation Action/Project Type	Structure and Infrastructure Project (SIP)
Objectives Met	G-1, G-2
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	High – Reduced vulnerability of critical facilities and services to power outages Recent Damages: \$700,000
Estimated Cost	HIGH / \$1,000,000
Priority*	Tier I, HIGH
Plan for Implementation	
Responsible Organization	Putnam County Highways and Facilities, Robert Lipton, Deputy Commissioner Bureau of Emergency Services
Local Planning Mechanism	
Potential Funding Sources	Federal Mitigation Grant Funds, County Budget Local Match
Timeline for Completion	Short
Reporting on Progress	



Date of Status Report/ Report of Progress	Date: Progress on Action/Project:
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* Refer to results of Prioritization (page 2)



Action Number:

LOI #381

Action Name:

Utility Upgrade and Connection for Critical Infrastructure

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility to remain operational during power outages.
Property Protection	0	This project will have no significant effect on reducing damage to the Village Hall structure.
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported both publically and politically.
Legal	1	The municipality has full legal authority to implement this project.
Fiscal	0	The town can currently fund the local match if a grant were awarded.
Environmental	1	There are no environmental constraints associated with this project.
Social	1	This project benefits all sectors of the community equally.
Administrative	1	The Town has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	This project provides protection against multiple hazards.
Timeline	1	The project can be implemented within one year once funding is secured.
Agency Champion	1	The Town Supervisor and Emergency Management Coordinator are the leads for this critical project.
Other Community Objectives	1	This project supports the Town's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	12	
Priority	HIGH	



Name of Jurisdiction: Putnam County Highways and Facilities, Carmel
Action Number: LOI #437
Action Name: Earthquake Retrofits for Critical Infrastructures

Assessing the Risk	
Hazard(s) addressed:	Earthquake
Specific problem being mitigated:	For many years, the damage earthquakes cause has been a growing concern. Most buildings were built with little or no prevention for seismic activity, it is important that these buildings have the proper construction to withstand such as event as an earthq
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. "No Action Alternative"- would leave risk to community members if hazard was to occur
	2. Recommended that the maintenance work, repairs and modifications be made within the next 2 years; and estimated cost. -/ leaves open risk
	3. Overview of Inundation Area in each of the Emergency Action Plans that CHA prepared for the County Select only one or two sites/ leaves open risk
Action/Project Intended for Implementation	
Description of Selected Action/Project	Provide a comprehensive review of critical emergency repsonse infrastructure and facilities. For those buildings and structures identified that may be vulnerable to seismic activity, develop and implement a seismic retrofit program, for example, the COB,
Mitigation Action/Project Type	LPR, SIP
Goals/Objectives Met	G-1, G-2, G-5
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	High – Life Safety, Reduced Vulnerability of Critical Facilities Recent Damages: \$1,000,000
Estimated Cost	High / \$2,500,000
Priority*	Tier I - High
Plan for Implementation	
Responsible Organization	Putnam County Highways and Facilities, Robert Lipton, Deputy Commissioner Bureau of Emergency Services
Local Planning Mechanism	Comprehensive Emergency Management Plans, GIS of Critical Facilities, County Budget
Potential Funding Sources	FEMA Mitigation Grants; Federal or State HLS grants (incl. EMPG); County Budget for Local Match
Timeline for Completion	Short/ 36 months
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



*** Refer to results of Prioritization (page 2)**



Action Number:

LOI #437

Action Name:

Earthquake Retrofits for Critical Infrastructures

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility to remain operational during power outages.
Property Protection	0	This project will have no significant effect on reducing damage to the Village Hall structure.
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported both publically and politically.
Legal	1	The municipality has full legal authority to implement this project.
Fiscal	0	The town can currently fund the local match if a grant were awarded.
Environmental	1	There are no environmental constraints associated with this project.
Social	1	This project benefits all sectors of the community equally.
Administrative	1	The Town has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	This project provides protection against multiple hazards.
Timeline	1	The project can be implemented within one year once funding is secured.
Agency Champion	1	The Town Supervisor and Emergency Management Coordinator are the leads for this critical project.
Other Community Objectives	1	This project supports the Town's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	12	



Name of Jurisdiction: Putnam County Office of IT & GIS, Carmel
Action Number: LOI #472
Action Name: Critical Network Infrastructure

Assessing the Risk	
Hazard(s) addressed:	Severe Storms, Severe Winter Storms, Earthquake
Specific problem being mitigated:	Putnam County utilizes a full Gig-E fiber optic solution to interconnect 8 County campuses and numerous County facilities located within the campus. All data communication rides on this network and has allowed the County to deploy a central server farm .
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No Build / Not reasonable as some type of action is needed.
	2. Feasible alternative project would be to allow for scope review for design to place solar panels on one or more required sites. This will allow for alternate power source in case of long term utility lose. The price of a solar generator is approximately three times that of a fuel generator and solar generators require a large area for the panels to get sunlight
	3. Alternative would be to supply each building with a secondary power feed from the utility. This would allow the operation of the building and fiber network as long as both feeds remain in place. This is an extremely expensive option. The utility company has to pull a line from a source separate from the original, run and attach the line to the building and then there would be a reoccurring charge for that line. There is also no guarantee that both sources will be operational during a large storm.
Action/Project Intended for Implementation	
Description of Selected Action/Project	The issue is adding generators at all key locations and larger UPS units. Diversification of the fiber ring will further harden our network however our vendor does not have any existing paths to offer us. That means we would have to pay for new lines t
Mitigation Action/Project Type	Structure and Infrastructure Project (SIP)
Objectives Met	G-1, G-2, G-5
Applies to existing structures/infrastructure, future, or not applicable	Existing
Benefits (losses avoided)	High – Continuity of Operations, Life Safety (Communications) Recent Damages: \$4,260,100.00
Estimated Cost	High - \$1,295,500
Priority*	Tier I - High
Plan for Implementation	
Responsible Organization	Putnam County Office of IT & GIS, Robert, Lipton
Local Planning Mechanism	COOP/COG Plans, County Budgets



Potential Funding Sources	Federal Mitigation and DHS grants; County Budget for Local Match
Timeline for Completion	Short / 36 months
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number:

LOI #472

Action Name:

Critical Network Infrastructure

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility to remain operational during power outages.
Property Protection	0	This project will have no significant effect on reducing damage to the Village Hall structure.
Cost-Effectiveness	1	This project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported both publically and politically.
Legal	1	The municipality has full legal authority to implement this project.
Fiscal	0	The town can currently fund the local match if a grant were awarded.
Environmental	1	There are no environmental constraints associated with this project.
Social	1	This project benefits all sectors of the community equally.
Administrative	1	The Town has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	This project provides protection against multiple hazards.
Timeline	1	The project can be implemented within one year once funding is secured.
Agency Champion	1	The Town Supervisor and Emergency Management Coordinator are the leads for this critical project.
Other Community Objectives	1	This project supports the Town's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	12	