

Section 2: Vulnerability & Risk Assessments		Yes	No	Notes	Definitions	References
2.1	Does the municipality have a localized hazard risk and vulnerability assessment?	x		LWRP (Local Waterfront Revitalization Program) monitoring report 2018 - Is not all encompassing but provides overall description and short term projects. Additionally the Town of North Greenbush Multi Jurisdictional Hazard Mitigation Status Report (2019) and Hazard Mitigation Vision and Goals within the Rensselaer County Plan (section 10.12).		
2.2	Have current and future climate hazards been identified?	x		County plan - 8.12-6 - https://www.rensco.com/wp-content/uploads/2019/11/8.12-North-Greenbush-Town-of.pdf - Jurisdictional Annex of North Greenbush.	Climate hazards include higher temperatures, heavy precipitation, sea-level rise, storm surge & flooding, disruption of natural resource life cycles and a variety of human health risks.	Impacts of climate change
2.3	Have potential risks been prioritized as follows?					
2.3.1	Likelihood of a given effect, e.g. virtually certain/already occurring, high, moderate, low	x		Same as Above and Multi-Jurisdictional Natural Hazard Mitigation Plan for Rensselaer County - North Greenbush Section - 10.12-13		
2.3.2	Magnitude of consequence, e.g., disruption of internal operations, capital and operating costs, number of people affected, public health, economy, and environment.	x		Same as Above as well as Multi-Jurisdictional Natural Hazard Mitigation Plan for Rensselaer County - North Greenbush section		
2.3.3	Are conditions identified that could amplify the effect of a hazard, e.g. storm surge inundation at a high tide or erosion of stabilized shorelines?	x		Same as Above - To a certain extent related to development as well as Comprehensive Emergency Plan Page 11 - limited information.		
2.4	Have municipal employees utilized any of the following vulnerability assessment modalities?					
2.4.1	HAZUS-MH				HAZUS-MH - a tool developed by FEMA to help communities estimate potential losses from natural disasters.	HAZUS-MH
2.4.2	Other:					
2.5	Are municipal employees <u>trained</u> in the use of FEMA's HAZUS-MH?		x	County based on the Multi-Jurisdictional Natural Hazard Mitigation Plan for Rensselaer County - 10.12-11	County has had training of their staff	
2.6	Have adaptation strategies been identified and categorized as follows:					
2.6.1	Type		x			
2.6.2	Administration		x			
2.6.3	Condition		x			
2.6.4	Timing		x			
2.6.5	Geography		x			
2.7	Have adaptation strategies been evaluated and prioritized as follows:					
2.7.1	Strategy cost	x				
2.7.2	Strategy feasibility	x				
2.7.3	Timing of Implementation	x				
2.7.4	Efficacy	x				
2.7.5	Co-benefits	x				
2.8	Have stakeholders linked adaptation strategies to the capital budget and rehabilitation cycles?	x				
2.9	Are maps used to spatially define the following vulnerabilities in relationship to risks?					
2.9.1	Populations, e.g., elderly, children, poor, disabled	x				
2.9.2	Buildings, e.g., business and residential	x				
2.9.3	Infrastructure, e.g. roads, schools, wastewater treatment facilities, hospitals, public works, power plants, drinking water treatment facilities	x				
2.9.4	Natural resources, e.g. wetlands, critical habitats, rare species, dunes, beaches, bluffs	x		working on mapping currently with emphasis on stormwater impacts		
2.9.5	Cultural resources, e.g., historic districts, properties, and landmarks, libraries, museums, recreational areas	x				
2.10	Have the following been identified as climate risks to the community?					
2.10.1	Extreme precipitation and riverine flooding	x				
2.10.2	Landslides	x				
2.10.3	Sea-level rise	x		New York State Climate Hazard Profile (NYSERDA)- Final Report - Number 18-11a, June 2018, page 21		
2.10.4	Coastal storms, storm surge, and coastal flooding	x				

2.10.5 Extreme temperatures and heat waves	x				
2.10.6 High winds	x				
2.10.7 Heavy snow and/or ice storms	x				
2.11 Are municipal planners and emergency managers trained in the use of the following risk-mapping tools?					
2.11.1 Flood insurance rate maps	x		Older 1984	Flood Insurance Rate Maps , or FIRMS, are official maps produced by FEMA that identify areas at risk of flooding, as well as National Flood Insurance risk premium zones in a community.	FIRMs
2.11.2 Sea, Lake and Overland Surges from hurricanes			NA	Storm Surge is an abnormal rise of water generated by a storm, often a hurricane.	SLOSH
2.11.3 Shoreline change analysis			NA	Shoreline changes through erosion or accretion can be analyzed in geographic information system (GIS).	NOAA Shoreline website
2.11.4 Cumulative risk assessments			NA	A tool to assist communities in understanding the aggregation of risks from multiple environmental stressors.	USEPA Cumulative Risk Assessment Framework
2.11.5 Sea level rise inundation maps			NA	Mapping tools to help communities visualize impacts from coastal flooding and sea-level rise.	NOAA Sea Level Rise Viewer
2.11.6 Other:					
2.12 Have vulnerability and risk assessments been directly shared with municipal planners, public work officials, transportation planners, and other appropriate municipal, county or state officials?	x				
2.13 Has inland (riverine) flooding been identified as a hazard in this community? If yes, complete the following:	x		Wynantskill Creek, mapping is currently underway (see above)	Riverine flooding is caused by bank overtopping when the flow capacity of rivers is exceeded locally. The rising water levels generally originate from heavy snowmelt or high-intensity rainfall creating soil saturation and large runoff - locally or in upstream catchment areas.	
2.13.1 Are emergency managers and planners aware of potential riverine flooding extents in the community?	x				
2.13.2 Are local planners, emergency managers and public works officials aware of the location of riverine repetitive loss properties?	x				
2.13.3 Does the community track riverine repetitive loss properties within the National Flood Insurance Program ?		x		National Flood Insurance Program , or NFIP, a federally-subsidized insurance program aimed at reducing the impact of flooding on private and public structures.	NFIP
2.13.4 Do any plans or reports describe the damage and cost of previous storms, riverine floods, or erosion?	x				
2.13.5 Do any plans or reports estimate future financial losses that may result from riverine flooding?		x			
2.14 Have sea-level rise, coastal storms, storm surge and coastal flooding been identified as hazards? If so, answer the following:		x			
2.14.1 Are emergency managers and planners aware of potential coastal flooding extents in the community?	x				
2.14.2 Are local planners, emergency managers and public works officials aware of the location of coastal repetitive loss properties?	x				
2.14.3 Does the community track riverine coastal loss properties within the National Flood Insurance Program ?		x			
2.14.4 Do any plans or reports describe the damage and cost of previous coastal storms, floods, or erosion?	x				
2.14.5 Is a significant part of the community in a V-zone or A-zone as defined on a FEMA flood insurance rate map?	x		A-Zone		
2.14.6 Does the community contain lands within the Coastal Erosion Hazard Area ?		x		Coastal Erosion Hazard Areas are coastal shoreline areas that are vulnerable to erosion, and are identified in maps produced by NYS DEC. Coastal Erosion Hazard Areas are regulated and permits are required for construction and other activities.	NYS DEC Coastal Erosion Hazard Management Program
2.14.7 Have areas of the coastline most prone to erosion hazards been identified?			NA		

2.14.8 Has the community used all available authorities to restrict or prohibit any activities, development or other actions in such erosion hazard areas, in order to minimize damage to property, and to prevent the exacerbation of erosion hazards?			NA		
2.14.9 Has the community developed a build-out analysis using existing zoning ordinances? If so, answer the following:		x			
2.14.9.1 Has the build-out analysis been compared to the extent of storm surge scenarios?					
2.14.9.2 Has the build-out analysis been compared to projected sea-level rise scenarios?					
2.14.10 Do any plans or reports describe the damage and cost of previous coastal storms, floods, or erosion?	x				
2.14.11 Are emergency managers and planners aware of potential storm-surge heights in the community?	x				
2.14.12 Do any plans or reports estimate future financial losses that may result from sea-level rise?		x			
2.14.13 Has the community undertaken a vulnerability and risk assessment using the Department of State Asset Inventory Worksheet and Risk Assessment Tool?		x	In the works - via Climate Smart Committee		Governor's Office of Storm Recovery
2.14.14 Has the community adopted the projections of sea-level rise from the State Sea Level Rise Task Force report or more recent studies for planning purposes?		x	To be considered - via Climate Smart Committee	NYS has adopted official sea-level rise projections.	NYS DEC Official SLR Projections NYS Sea Level Rise Task Force Report