

# LOCAL HAZARD MITIGATION PLAN UPDATE CHECKLIST

This section of the Plan includes a completed copy of the *Local Hazard Mitigation Plan Update Checklist* as provided by the North Carolina Division of Emergency Management. This checklist indicates that the Plan has been updated sufficiently to maintain compliance with the Stafford Act as required by FEMA and the State of North Carolina with regard to Planning Process, Risk Assessment, Mitigation Strategy, Plan Maintenance and Additional State Requirements.

#### Instructions for Using the Local Hazard Mitigation Plan Update Checklist

Attached is a Checklist to facilitate the review and revision (as appropriate) of the Local Hazard Mitigation Plan that was adopted by your jurisdiction and approved by the NC Division of Emergency Management (NCEM) and the Federal Emergency Management Agency (FEMA) (referred to here as your "Approved Plan"). This Checklist will assist you in preparing the required 5-year update to your plan (referred to here as your "Plan Update"). This Checklist is based on FEMA's Local Multi-Hazard Mitigation Planning Guidance, dated July 1, 2008 (the "Blue Book") and is consistent with the Disaster Mitigation Act of 2000 (P.L. 106-390) and the accompanying federal regulations found at 44 CFR Part 201 (Mitigation Planning, Interim Final Rule). This Checklist also incorporates additional recommendations made by NCEM and refers you to the 2007 NC State Hazard Mitigation Plan to ensure that your local plan update is consistent with the current state plan.

Each element of your Approved Mitigation Plan should be reviewed carefully, and a determination about the need to update each element should be made. Indicate in the second column of the Checklist the exact place in the previously Approved Plan (e.g., Chapter, Section, Annex, and page number) where each required planning element is located. As revisions are inserted into the Plan Update (appropriately marked and dated), use Column 3 to identify where the revision is located. Use the "Comments" column of the Checklist to indicate the reason for the revision, or to explain why no revision is considered necessary. Check "Yes" or "No" in the final column of the Checklist to indicate whether each element of your Approved Plan was revised or otherwise modified. Note: This Checklist does not serve as a substitute for a narrative description of the planning update process. You must describe how your community reviewed and analyzed each section of the previous plan.

Please use this Checklist to record your changes as you review and revise your plan. A COMPLETED CHECKLIST MUST ACCOMPANY YOUR PLAN UPDATE WHEN IT IS SUBMITTED TO NCEM FOR APPROVAL.

The example below illustrates how to complete the Local Hazard Mitigation Plan Update Checklist.

#### **Example**

Assessing Vulnerability: Overview

**Requirement §201.6(c)(2)(ii):** [The risk assessment **shall** include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description **shall** include an overall summary of each hazard and its impact on the community.

Element	Location in the Approved Plan (chapter, section, annex, etc. and page #)	Location in the Plan Update (chapter, section, annex, etc. and page #)	Comments: Use this space to explain revisions made to the Approved Plan, or why revisions were not made.	YES	NO
A. Does the plan update include an <b>overall summary</b> description of the jurisdiction's <b>vulnerability</b> to each hazard?	Section II, pp. 4-10; Map 12, Appendix B	Section II, pp.4A-4C; Map 12A in Appendix B of the Plan Update	This section was revised to reflect new development in the northwest portion of the jurisdiction.	*	
B. Does the plan update address the <b>impact</b> of each hazard on the jurisdiction?	Section II, pp. 11-20	Section II, pp. 11-20	Based on a review of the 2007 NC State Hazard Mitigation Plan, the previously approved plan adequately addresses the impact of each hazard.		✓

July, 2008

# **Local Mitigation Plan Update: NFIP Status/CRS Class**

Use this space to indicate whether your community participates in the National Flood Insurance Program (NFIP). For Multi-Jurisdictional Plans, use a separate line for each community participating in the Plan Update. If your community participates in the Community Rating System, indicate the current (updated) classification number. Use the Comments column to explain any changes in NFIP Status or CRS rating.

		N	CRS Class	CHANGES?			
		Y	N	N/A	#	YES	NO
Jurisdiction:	Comments						
1. Mecklenburg County	Active NFIP participant since 1981.	✓			6	✓	
2. City of Charlotte	Active NFIP participant since 1978.	✓			5	✓	
3. Town of Cornelius	Active NFIP participant since 1997.	✓					✓
4. Town of Davidson	Active NFIP participant since 1997.	✓					✓
5. Town of Huntersville	Active NFIP participant since 2004.	✓					✓
6. Town of Matthews	Active NFIP participant since 2004.	✓					✓
7. Town of Mint Hill	Active NFIP participant since 2007.	✓				1	
8. Town of Pineville	Active NFIP participant since 1987.	✓			6	✓	
[ATTACH PAGE(S) WITH ADD	DITIONAL JURISDICTIONS]						

\* Notes:

Y = Yes, Participating

N = Not Participating

N/A = Not Mapped

#### LOCAL MITIGATION PLAN UPDATE SUMMARY

The Hazard Mitigation Plan Update cannot be approved if the Plan has not been formally readopted by the local jurisdiction.

Elements in gray-shaded areas are recommended but not required by FEMA; absence of these elements will not preclude the Plan Update from receiving approval from FEMA.

	CHANGES?		Midigation Ctratomy	CHANGES?		
Prerequisite(s) (Check Applicable Box)	YES	NO	Mitigation Strategy	YES	NO	
Adoption by the Local Governing Body:  §201.6(c)(5) OR			13. Local Hazard Mitigation Goals: §201.6(c)(3)(i)			
3201.0(0)(0) 010	-		14. Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)			
2 .Multi-Jurisdictional Plan Adoption: §201.6(c)(5)			15. Identification and Analysis of Mitigation Actions: NFIP Compliance §201.6(c)(3)(ii)			
Multi-Jurisdictional Planning Participation: §201.6(a)(3)			16. Implementation of Mitigation Actions: §201.6(c)(3)(iii)			
Planning Process			17. Multi-Jurisdictional Mitigation Actions: §201.6(c)(3)(iv)			
4. Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)			Plan Maintenance Process			
3=0(5) 44 3=0(5)()			18. Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(i)			
Risk Assessment			19. Incorporation into Existing Planning			
5. Identifying Hazards: §201.6(c)(2)(i)			Mechanisms: §201.6(c)(4)(ii)			
6. Profiling Hazards: §201.6(c)(2)(i)			20. Continued Public Involvement: §201.6(c)(4)(iii)			
7. Assessing Vulnerability: Overview: §201.6(c)(2)(ii)			Additional NC State Recommendations			
O. Accession Wales and Why Address in a Departition			D 11 (D) D	N/A	N/A	
8. Assessing Vulnerability: Addressing Repetitive Loss Properties. §201.6(c)(2)(ii)			Description of Plan Progress			
2555 : 10p 5:1100: 320 : 10(0)(2)(11)			Community Profile			
9. Assessing Vulnerability: Identifying Structures, Infrastructure and Critical Facilities:			Capability Assessment			
§201.6(c)(2)(ii)(A)			Map of vulnerable structures & critical facilities overlaid with known hazard areas			
10. Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)			Map of existing & proposed land uses overlaid with			
11. Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)			known hazard areas			
12. Multi-Jurisdictional Risk Assessment: §201.6(c)(2)(iii)						

# PREREQUISITE(S)

# 1. Adoption by the Local Governing Body

**Requirement §201.6(c)(5):** [The local hazard mitigation plan **shall** include] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).

Comment: Note that the plan update must be officially adopted by the local governing body, regardless of the degree of modification to the previously approved plan.

	Location in the	Location in the			IGES?
	Approved Plan (chapter, section,	Plan Update (chapter, section,			
	annex, etc. and	annex, etc. and		YES	NO
Element	page #)	page #)	Comments		
A. Has the local governing body formally adopted the	N/A	N/A	This is a multi-jurisdictional plan.		1
plan update?					,
B. Is supporting documentation, such as a resolution, included?	N/A	N/A	This is a multi-jurisdictional plan.		✓

# 2. Multi-Jurisdictional Plan Adoption

**Requirement §201.6(c)(5):** For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

Comment: Note that the plan update must be officially adopted by the local governing body(ies), regardless of the degree of modification to the previously approved plan.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan indicate the specific jurisdictions represented in the plan update?	Section 1, p.2	Section 1, p.3	All jurisdictions within Mecklenburg County participated in the 2010 plan update (and all were active participants in the initial 2005 plan as well).		✓
B. For each jurisdiction, has the local governing body formally adopted the plan update?	Appendix A	Appendix A	Local governing bodies will adopt plan following conditional approval (Approval Pending Adoption) by FEMA.	<b>✓</b>	
C. Is supporting documentation, such as a resolution, included for each participating jurisdiction?	Appendix A	Appendix A	Copies of resolutions will be included following local adoption (subsequent to conditional approval by FEMA).	<b>✓</b>	

# 3. Multi-Jurisdictional Planning Participation

**Requirement §201.6(a)(3):** Multi-jurisdictional plans (e.g., watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process ... Statewide plans will not be accepted as multi-jurisdictional plans.

**NCEM Recommendation:** NCEM recommends that the Plan Update include a map showing all jurisdictions within the geographic coverage of the multi-jurisdictional plan. The map should indicate which communities are participating/not participating in the plan update. Clearly indicate the jurisdictional boundaries of each participating jurisdiction on the map.

	Location in the	Location in the		CHAN	IGES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan describe <b>how</b> each jurisdiction participated in the plan update process?	Section 2, p.2-15	Section 2, p.13-24; also p.28	A complete description of the 2009-2010 plan update process is included in Section 2, and expands upon the narrative description of the process to prepare the initial plan in 2005.	<b>~</b>	
B. Does the updated plan identify all participating jurisdictions, including new, continuing, and the jurisdictions that no longer participate in the plan?	Section 1, p.2	Section 1, p.3	All jurisdictions within Mecklenburg County that participated in the initial 2005 plan participated in the 2010 plan update. Also, as recommended by NCEM, a map showing the boundaries of all participating jurisdictions is provided in Section 3: Community Profile.		<b>✓</b>

PLANNING PROCESS: §201.6(b): An open public involvement process is essential to the development of an effective plan.

#### 4. Documentation of the Planning Process

**Requirement §201.6(b):** In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process **shall** include:

- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
- (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

**Requirement §201.6(c)(1):** [The plan **shall** document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

Comment: The plan update must describe the process used to review, analyze and update each section of the previously approved plan. If the planning team or committee finds that some sections of the previously approved plan warrant an update, and others do not, the process the team took to make that determination must be documented in the Plan Update.

NCEM Recommendation: NCEM recommends that the mitigation plan include a Community Profile, a narrative description of the jurisdiction.

Comment: The Community Profile may be included in the Planning Process section of the Plan Update, or in an introduction. Alternatively, the Community Profile may be included as an Appendix.

	Location in	Location in		CHAN	GES?
Element	the Approved Plan (chapter, section, annex, etc. and page #)	the Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan provide a narrative description of the process followed to prepare the update?	Section 2, p.2- 15	Section 2, p.13-25	A complete description of the 2009-2010 plan update process is included in Section 2, and expands upon the description of the process to prepare the initial plan in 2005.	<b>√</b>	
B. Does the plan update indicate who was involved in the current planning update process? (For example, who led the development at the staff level and were there any external contributors such as contractors? Who participated on the plan committee, provided information, reviewed drafts, etc.?)	Section 2, p.4-5	Section 2, p.13-14	Planning process section updated with all current information for the 2009-2010 plan update process.	<b>&gt;</b>	

C.	Does the plan update indicate how the public was involved? (Was the public provided an opportunity to comment on the plan during the drafting stage of the update and prior to the plan update approval?)	Section 2, p.12- 13 Appendix B (Public Particip ation Survey)	Section 2, p.24-27 Appendi x B (Public Partici pation Survey)	Updated with all current information for the 2009-2010 plan update process. The public was provided numerous opportunities to participate as advertised through the County's extensive public outreach and advertisement efforts.	<b>✓</b>	
D.	Does the plan update discuss the opportunity for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be involved in the planning update process?	Section 2, p.13- 14.	Section 2, p.24-27	Updated with all current information for the 2009-2010 plan update process. The County was successful in gaining participation and feedback from a wide variety of stakeholders during the plan update process.	<b>~</b>	
E.	Does the planning update process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?	Section 7, p.1-23.	Section 2, p.13-25 and p.29-30 Section 7, p.1-29	Updated with all current information for the 2009-2010 plan update process. The County integrated a lot of new data and information into the 2009-2010 plan update process as described throughout the plan.	<b>*</b>	
F.	Does the plan update document how the planning team reviewed and analyzed each section of the plan and whether each section was revised as part of the update process?	N/A	Section 2, p.29-30	Updated with all current information for the 2009 plan update process. The current plan was thoroughly evaluated and discussed during the "plan update kickoff" meeting as described on pages 19-22 of the plan update.	N/A	N/A
H.	NCEM Recommendation: Does the plan update include a current community profile of the jurisdiction?	Section 3, p.1-7	Section 3, p.1- 10	Updated Community Profile section to include updated narrative information, maps, figures and tables from a variety of sources.	<b>~</b>	

### **Description of Plan Progress**

**Requirement §201.6(d)(3):** A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within five (5) years in order to continue to be eligible for mitigation project grant funding.

#### Comment:

Plan Updates must demonstrate that progress has been made in the past five years to fulfill commitments outlined in the previously approved plan. This will involve a comprehensive review and update of each section of the local mitigation plan and a discussion of the results of evaluation and monitoring activities detailed in the Plan Maintenance section of the previously approved plan. Plan updates may validate the information in the previously approved plan, or may involve a major plan rewrite. A plan update is NOT an annex to the previously approved plan; it stands on its own as a complete and current plan.

The plan update must also describe how the community was kept involved during the plan maintenance process over the previous five years.

The plan update should provide a progress report on any deficiencies in data or information that were noted in the previous plan (e.g., have gaps in data that were identified before been filled?).

**NCEM Recommendation:** NCEM recommends that the plan update include a "Progress Report": a separate section that describes progress that has been made over the past five years, placing emphasis on the status of mitigation actions proposed in the previous plan, detailing how the public has been involved, and describing the results of evaluation and monitoring activities.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update indicate that progress has been made in the past five years to fulfill commitments outlined in the previously approved plan?	N/A		Completed status updates have been provided for every mitigation action proposed in 2005 for each jurisdiction under their own individual Mitigation Action Plan in Section 9 (see "Status Update on 2005 Mitigation Actions").	N/A	N/A

B. Does the plan update include a discussion of the results of evaluation and monitoring activities over the last five years?	N/A	Section 10, p.3	Following completion of the initial 2005 Plan, CMEMO and Charlotte-Mecklenburg County Storm Water Services (CMSWS) coordinated with each of the participating jurisdictions on the evaluation and monitoring activities as described.	N/A	N/A
C. Does the plan update include a narrative description of changes in the mitigation strategy, particularly where actions have been completed? Does the plan update describe any resultant changes to the approved plan?	N/A	Section 2, p. 13-31 Section 8, p.1-8 Section 9, p. 1-66	The reasoning behind necessary changes to the mitigation strategy are documented in Section 2 (Planning Process), and the actual changes may be found in Sections 8 Mitigation Strategy) and 9 (Mitigation Action Plans).	N/A	N/A
D. Does the plan update describe how the public was involved in the plan's maintenance over the past five years?	N/A	Section 10, p. 3	In terms of public involvement, the public was not heavily involved in the plan maintenance process until the 2010 plan update process began in October 2009 (as further described in Section 2: Planning Process).	N/A	N/A

RISK ASSESSMENT:  $\S 201.6(c)(2)$ : The plan shall include a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.

#### Comments:

During an update to the risk assessment, communities are required to consider current and expected future vulnerability to all hazards and to integrate any new scientific hazard data such as flood studies. Communities are encouraged to incorporate updated estimated costs for vulnerable buildings and reduction in vulnerability due to the completion of mitigation actions or projects. Communities should also address the impact of population growth or loss and its implication for vulnerable areas.

New data or data deficiencies previously identified that are now available (e.g., risk assessment or mapped data) are a trigger for plan revision. If the previously approved plan identified data deficiencies that would be addressed at a later time, then FEMA would expect the new information to be incorporated in the updated risk assessment. However, if the data deficiencies have not been resolved, they must be addressed in the Plan update, accompanied by an explanation of why they remain and an updated schedule to resolve the issue. Sources of all data should be included.

The local risk assessment update must address any newly identified hazards that have been determined to pose a more significant threat than was apparent when the previously approved plan was prepared. Improved descriptions of hazards should be incorporated into this section if available.

Maps must be consistent with updated information.

# 5. Identifying Hazards

**Requirement §201.6(c)(2)(i):** [The risk assessment **shall** include a] description of the type ... of all natural hazards that can affect the jurisdiction.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update include a description of the types of all natural hazards that affect the jurisdiction?  If the hazard identification omits (without explanation) any hazards commonly recognized as threats to the jurisdiction, this part of the plan cannot receive a Satisfactory score.	Section 4, p.1-25	Section 4, p.1-25	Updated some narrative descriptions, tables, figures and images and eliminated some information deemed to be extraneous - but much information in this section remains unchanged.	<b>*</b>	

# 6. Profiling Hazards

**Requirement §201.6(c)(2)(i):** [The risk assessment **shall** include a] description of the ... location and extent of all natural hazards that can affect the jurisdiction. The plan **shall** include information on previous occurrences of hazard events and on the probability of future hazard events.

**NCEM Recommendation**: NCEM recommends that local mitigation plans include maps of known hazard areas. Any maps included in the updated plan must be consistent with the updated information.

Comments: Refer to Appendix A of the 2007 NC State Hazard Mitigation Plan to profile applicable hazards that may occur in your jurisdiction. If the previous plan noted any data limitations or deficiencies, then newly acquired data must be incorporated into the updated risk assessment. If data deficiencies have not been resolved, they must be addressed in the update, along with an explanation of why they remain, and a schedule to resolve the issue.

The Plan Update should describe conditions unique to the jurisdiction – such as topography, soil characteristics, climate – that might exacerbate or lessen the potential effects of identified hazards.

	Location in	Location in		CHAN	GES?
Element	the Approved Plan (chapter, section, annex, etc. and page #)	the Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the updated risk assessment identify the	Section	Section	All narrative descriptions and maps showing		
<b>location</b> (i.e., geographic area affected) of each natural hazard addressed in the plan?	5, p.1- 48	5, p.1- 54 Section 6, p.1- 59	hazard area locations were improved and updated with best available data, including new GIS data for flood and wildfire hazards.	<b>✓</b>	
B. Does the updated risk assessment identify the <b>extent</b> (i.e., magnitude or severity) of each hazard addressed in the plan?	Section 6, p.37	Section 6, p. 6-7; p.59	The identification of "extent" as defined by FEMA for each hazard was integrated into the Priority Risk Index (PRI) as described in Section 6. Definitions of specific extent used for PRI are provided on pages 6-7, while PRI determinations for Mecklenburg County are shown on page 59.	*	
C. Does the plan update provide information on <b>previous</b> occurrences of each hazard addressed in the plan?	Section 5, p.1- 48	Section 5, p.1-54	All information on previous hazard occurrences has been updated with best available data, including information on any new hazard events recorded since 2005.	<b>✓</b>	
D. Does the plan update include the <b>probability of future events</b> (i.e., chance of occurrence) for each hazard	Section 5, p.1-	Section 5, p.1-	Probability of future events is discussed under each hazard in Section 5, and assigned a	<b>✓</b>	

addressed in the plan?	48 Section 6, p.37	54 Section 6, p.59	probability level in Table 6:29 in Section 6 (Summary of Qualitative Assessment).		
E. NCEM Recommendation: Does the plan update include map(s) of known hazard areas?	Section 5, p.1-48	Section 5, p.1- 54. Section 6, p.1- 60	All maps illustrating hazard area locations have been improved and updated with best available data. Also, detailed (jurisdictional-level) flood and wildfire hazard maps have been added to Section 6 along with a variety of other hazard overlay maps.	<b>~</b>	

### 7. Assessing Vulnerability: Overview

**Requirement §201.6(c)(2)(ii):** [The risk assessment **shall** include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description **shall** include an overall summary of each hazard and its impact on the community.

#### Comments:

The community should take into account new information when updating its vulnerability assessment, such as: 1) Updates to inventories of existing structures in hazard areas, including new development, redeveloped areas or structures located in annexed areas; 2) Potential impacts of future land development, including areas that may be annexed in the future; 3) New buildings that house special high-risk populations; 4) Completed mitigation actions that have reduced overall vulnerability.

If the previous plan noted any data limitations or deficiencies, then newly acquired data must be incorporated into the updated risk assessment. If data deficiencies have not been resolved, they must be addressed in the update, along with an explanation of why they remain, and a schedule to resolve the issue.

	Location	Location		CHAN	GES?
Element	in the Approved Plan (chapter, section, annex, etc. and page #)	in the Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update include an <b>overall summary</b> description of the jurisdiction's <b>vulnerability</b> to each hazard?	Section 6, p.38.		While the specific data and results from the qualitative and quantitative assessments did change since 2005, the estimated risk levels and overall summary of hazard vulnerability for Mecklenburg County remained the same for each hazard (high, moderate and low).	<b>*</b>	
B. Does the plan update address the <b>impact</b> of each	Section	Section	Section 5 addresses the impact of each hazard by	✓	

hazard on the jurisdiction?	38	1-54. Section	describing the impact of past hazard events, and Section 6 addresses the impact of each hazard by quantifying vulnerability in terms of exposure, potential losses, etc.		
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### 8. Assessing Vulnerability: Addressing Repetitive Loss Properties

**Requirement §201.6(c)(2)(ii):** [The risk assessment] **must** also address National Food Insurance Program (NFIP) insured structures that have been repetitively damaged by floods.

Comments: This requirement is effective for any jurisdiction with NFIP Repetitive Loss Properties. Repetitive Loss Properties (RLP) are those for which two or more losses of at least \$1,000 each have been paid under the NFIP within any 10-year rolling period since 1978. Severe Repetitive Loss Properties (SRL) are a subset of RLP, and should also be addressed in the Plan Update

Note that the Privacy Act of 1974 prohibits public release of the names of policy holders or recipients of financial assistance. However, maps showing areas where claims have been paid can be made public. The data should be used for planning purposes only.

Refer to the NC State Hazard Mitigation Plan, Appendix C "Severe Repetitive Loss Strategy" (2008 Addendum)

	Location in the	Location in the		CHAN	IGES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update describe vulnerability in terms of the types and numbers of repetitive loss properties located in the identified hazard areas?	Section 6, p.14-16	Section 6, p.29-30	Description of vulnerability to repetitive loss properties has been updated with new data as provided by FEMA in 2010, and following an extensive GIS analysis in combination with local cadastral data and tax assessor records.	<b>√</b>	
B. Does the plan update estimate the potential dollar losses to repetitive loss properties and the methodology used to prepare the estimate?*	N/A	N/A	FEMA-identified repetitive loss properties are adequately addressed with the information provided in Section 6, p.25-28. However, Mecklenburg County has requested and is awaiting more updated information from NCEM on the accuracy of this data. Therefore, attempting to estimate a defensible, quantifiable loss estimate for RL properties was not deemed necessary or appropriate at this time.	N/A	N/A

<sup>\*</sup> Note: Elements in gray-shaded areas are recommended but not required by FEMA; absence of these elements will not preclude the Plan Update from receiving approval from FEMA or NCEM

C. Does the plan update include a map of the known flood hazards where repetitive loss properties are located?*	N/A	Section 6, p.30	Please see Figure 6.15	N/A	N/A
D. Does the plan update describe the number, type and area(s) where Severe Repetitive Loss Properties are located?*	N/A	N/A	Mecklenburg County has requested and is awaiting more updated information from NCEM on the accuracy of repetitive loss data in order to help satisfy this requirement.	N/A	N/A
NCEM Requirement: Does the plan update describe undeveloped lots, land uses and development trends within repetitive loss areas?	N/A	Section 3, p. 7-9 Section 6, p. 19-20 and 34-35, Section 7, p. 24	With the number of repetitive loss areas in Charlotte so numerous, an extensive analysis will be required to effectively satisfy this requirement. General development trends and land uses are described in Sections 3 (Community Profile) and Section 6 (Vulnerability Assessment). Also please see description of the County's previous mitigation efforts in Section 7 (Capability Assessment) including the successful acquisition of flood prone properties in those areas subject to repetitive flood losses. Mecklenburg County has requested and is awaiting more updated information from NCEM on the accuracy of repetitive loss data in order to help satisfy this requirement.	N/A	N/A
F. NCEM Recommendation: Does the plan update determine the causes of the flooding situation in repetitive loss areas and/or severe repetitive loss areas?*	N/A	Section 6, p.27	Mecklenburg County has requested and is awaiting more updated information from NCEM on the accuracy of repetitive loss data in order to help satisfy this requirement.	N/A	N/A

<sup>\*</sup> Note: Elements in gray-shaded areas are recommended but not required by FEMA; absence of these elements will not preclude the Plan Update from receiving approval from FEMA or NCEM

# 9. Assessing Vulnerability: Identifying Structures

**Requirement §201.6(c)(2)(ii)(A):** The plan **should** describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard area ... .

NCEM Recommendation: NCEM recommends that local mitigation plans include a map of vulnerable structures including critical facilities. This map should be overlaid with the map of known hazard areas

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update describe vulnerability in terms of the <b>types and numbers</b> of <b>existing</b> buildings, infrastructure and critical facilities located in the identified hazard areas?*	Section 6, p.9 Flood, p.17	Section 6, p.10-14 Flood, p.31 Wildfire, p.55	It is assumed that the entire countywide building stock of approximately 250,000 buildings is equally susceptible to those hazards not located within geographically-defined hazard areas as described in this section (such as flood and wildfire, in which more detailed estimates of at-risk structures are provided).	<b>~</b>	
C. Does the plan update describe vulnerability in terms of the <b>types and numbers</b> of <b>future</b> buildings, infrastructure, and critical facilities located in the identified hazard areas?*	Section 6, p.9 p.17	Section 6, p. 34 Section 7, p. 9-11	Future potential at-risk properties quantified for flood based on future "build-out" conditions. Other than flood, data is not available to quantify the specific types and numbers of future development at risk to other hazards but estimated potential losses are provided. Descriptions of the general development trends in Mecklenburg County is provided in Sections 3 and 6 and also somewhat addressed in Section 7 through the Safe Growth Survey.	<b>√</b>	
C. NCEM Recommendation: Does the plan update include map(s) of vulnerable structures, including critical facilities?*	Section 6, p.10 p.16	Section 6, p.15 p.22-28 p.30 p.48-54	A variety of new maps are provided throughout Section 6 to help illustrate the degree of community-wide vulnerability to hazards with known geographic boundaries.	<b>✓</b>	

<sup>\*</sup> Note: Elements in gray-shaded areas are recommended but not required by FEMA; absence of these elements will not preclude the Plan Update from receiving approval from FEMA or NCEM

### 10. Assessing Vulnerability: Estimating Potential Losses

**Requirement §201.6(c)(2)(ii)(B):** [The plan **should** describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate ....

#### Comments:

If there are changes to the hazard profile and/or to the inventory of structures during the plan update process, the loss estimate should be updated to reflect the changes.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update estimate <b>potential dollar losses</b> to vulnerable structures?*	Section 6, p.38	Section 6, p. 60	Summary of potential dollar loss estimates provided on page 60 (Table 6.31), but more details can be found throughout Section 6 for each identified hazard.	<b>√</b>	
B. Does the plan update describe the <b>methodology</b> used to prepare the estimate?*	Section 6, p.1-6	Section 6, p. 1-7	Summary of methodologies used is found on pages 1-6, but more details may be found throughout Section 6 for each identified hazard.	✓	

<sup>\*</sup> Note: Elements in gray-shaded areas are recommended but not required by FEMA; absence of these elements will not preclude the Plan Update from receiving approval from FEMA or NCEM

# 11. Assessing Vulnerability: Analyzing Development Trends

**Requirement §201.6(c)(2)(ii)(C):** [The plan **should** describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

NCEM Recommendation: NCEM recommends that the plan include a map of land uses (existing and proposed), overlaid with the map of known hazard areas.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update describe land uses and development trends?*	Section 3, p.5-6 Section 6, p.11-13	Section 3, p. 7-9 Section 6, p. 17-20 p. 34-35	Data and narrative descriptions have been updated where determined necessary by representatives from each of the respective participating jurisdictions.	<b>✓</b>	
B. Does the plan update reflect changes in development in hazard prone areas?*	N/A	Section 6, p.10-14 Flood, p.21-35 Wildfire, p.47-57	For those hazards with geographically-defined hazard areas, new data and analysis was completed to reflect changes in the number of structures and critical facilities potentially at-risk. New hazard maps were also added for each participating jurisdiction with identified hazard zones overlaid on digital orthophotography.	N/A	N/A
C. NCEM Recommendation: Does the plan update include map(s) of land uses (existing and proposed)?*	Section 6, p.45-47	Section 6, p.48-50	Figures 6.26 through 6.28 illustrate current land uses across the county and in comparison to identified flood and wildfire hazard areas.	<b>✓</b>	

<sup>\*</sup> Note: Elements in gray-shaded areas are recommended but not required by FEMA; absence of these elements will not preclude the Plan Update from receiving approval from FEMA or NCEM

### 12. Multi-Jurisdictional Risk Assessment

**Requirement §201.6(c)(2)(iii):** For multi-jurisdictional plans, the risk assessment **must** assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

Comment: The multi-jurisdictional plan must present information for the general planning area as a whole. However, where hazards and associated losses occur in any part of the planning area, this information must be attributed to the participating jurisdiction where they occur.

	Location in the Approved Plan (chapter, section, annex, etc. and	Location in the Plan Update (chapter, section, annex, etc. and		CHAN YES	GES? NO
Element	page #)	page #)	Comments		
A. Does the plan update include an updated risk assessment for each participating jurisdiction as needed to reflect unique or varied risks?	Section 5, p.1-48 Section 6, p.1-38	p.1-54	For hazards in which new data was made available, all narrative, maps and tables were updated accordingly.	<b>~</b>	

MITIGATION STRATEGY: \$201.6(c)(3): The plan shall include a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

Comments:

### **CAPABILITY ASSESSMENT**

**NCEM Recommendation**: The mitigation plan should include an assessment of the jurisdiction's capability to carry out mitigation actions, including existing authorities, policies, programs and resources.

Comment: The Capability Assessment may be appropriate as an Appendix to the Plan Update.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update include an analysis of the jurisdiction's current capability: existing authorities, policies, programs and resources?	Section 7, p.1-22	Section 7, p. 1-29	While not a lot has changed since the initial plan was completed, Section 7 was updated following the completion of a new assessment of each jurisdiction's current (2010) capabilities according to the same methodology applied in 2005. The assessment was further enhanced through the use of the Safe Growth Survey.	<b>√</b>	
B. Does the plan update include an analysis of the jurisdiction's ability to expand on and improve these existing tools?	Section 7, p.1-23	Section 7, p. 1-29	In completing the 2010 Capability Assessment Survey and Safe Growth Survey instruments, Mitigation Planning Committee members were encouraged to consider their jurisdiction's ability to expand and improve their existing local tools and capabilities for natural hazard reduction. Also see Table 7.9 (Political Capability) and "Conclusions on Local Capability."	<b>~</b>	

### 13. Local Hazard Mitigation Goals

**Requirement §201.6(c)(3)(i):** [The hazard mitigation strategy **shall** include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Comments: After five years of implementing the mitigation strategy, communities are required to update their goals and actions. In the plan update, goals and objectives may be reaffirmed or updated based on current conditions, including the completion of mitigation initiatives, an updated or new risk assessment, or changes in State priorities.

Although the regulations do not require a description of objectives, communities are encouraged to include objectives developed to achieve the goals so that reviewers understand the connection between goals, objectives and actions.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A Does the plan update include a description of mitigation <b>goals</b> to reduce or avoid long-term vulnerabilities to the identified hazards? ( <b>GOALS</b> are long-term; represent what the community wants to achieve, and are based on the risk assessment findings.)	Section 8, p.2	Section 8, p.3	Goal statements from the initial 2005 plan have been reaffirmed for 2010 based on consensus of the Mitigation Planning Committee (as documented in Section 2: Planning Process).		✓

# 14. Identification and Analysis of Mitigation Actions

**Requirement §201.6(c)(3)(ii):** [The mitigation strategy **shall** include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

Comments: Some of the mitigation actions identified in the previously approved plan may ultimately be eliminated from the community's action plan due to limited capabilities, prohibitive costs, low benefit/cost ratio, or other concerns. Other actions may be continued from the previously approved plan and incorporated into the plan update. Still other actions may be new to the plan update. The process by which the community decides on particular mitigation actions must be described in the plan update.

	Location in the	Location in the		CHAN	IGES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update identify and analyze a comprehensive range of specific mitigation actions and projects for each hazard?	Section 2, p.8-13 Section 8, p. 3-5 Section 9, p. 1-29	Section 2, p.13-27 Section 8, p. 3-8 Section 9, p.1-66	A large, comprehensive range of mitigation actions were discussed and deliberated at Mitigation Planning Committee meetings and through public outreach and involvement efforts (described in Section 2: Planning Process). The broad categories and specific actions considered for hazards described in Section 8.	<b>✓</b>	
B Do the identified actions and projects address reducing the effects of hazards on <b>new</b> buildings and infrastructure?	Section 2, p.8-13 Section 8, p. 3-5 Section 9, p. 1-29	Section 2, p.13-27 Section 8, p. 3-8 Section 9, p.1-66		<b>*</b>	
C. Do the identified actions and projects address reducing the effects of hazards on <b>existing</b> buildings and infrastructure?	Section 2, p.8-13 Section 8, p. 3-5 Section 9, p. 1-29	Section 2, p.13-27 Section 8, p. 3-8 Section 9, p.1-66		<b>✓</b>	
D. NCEM Addition: Do the identified actions address the future use of land that is currently undeveloped in hazard areas?	N/A	Section 2, p.13-27 Section 8, p. 3-8 Section 9, p.1-66		<b>~</b>	
E. If data deficiencies have been identified and remain unresolved, does the plan update describe what action will be taken to collect the data for the next	N/A	N/A		N/A	N/A

update?		

Jurisdiction: Mecklenburg County, NC (Multi-jurisdictional)

# 15. Identification and Analysis of Mitigation Actions: National Flood Insurance Program (NFIP) Compliance

**Requirement §201.6(c)(3)(ii):** [The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.

NCEM Requirement: Local mitigation plan updates are required to be consistent with NC's "Severe Repetitive Loss Strategy" contained in Appendix C to the NC State Hazard Mitigation Plan. Appendix C requires local plans to address repetitive loss properties and severe repetitive loss properties and to develop and give priority to appropriate mitigation actions. Appendix C is available on the Supplemental CD accompanying the NCEM Plan Update Guidance notebook.

	Location in the Approved Plan	Location in the Plan Update		CHAN	GES?
Element	(chapter, section, annex, etc. and page #)	(chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update describe each jurisdiction's participation in the NFIP?	Section 7, p.9-10	Section 7, p.12	The description of each jurisdiction's participation in the NFIP has been updated and expanded upon with new information (see Table 7.3).	<b>*</b>	
B Does the mitigation strategy identify, analyze, and prioritize actions related to continued compliance with the NFIP?	N/A	Section 9 (throughout)	Each jurisdiction included mitigation action related to continued compliance in with the NFIP in their individual mitigation action plans (most of these were listed as Mitigation Action #1).	N/A	N/A
C. NCEM Requirement: Does the plan update identify and prioritize appropriate mitigation actions for repetitive flood loss properties and/or severe repetitive loss properties?	N/A	Section 9, p.4 p.13 p.54 p.55	See Mitigation Action #9 for Mecklenburg County; #9 for City of Charlotte; and #6 and #9 for Town of Pineville. No repetitive loss properties confirmed for other jurisdictions.	N/A	N/A
D. NCEM Requirement: Does the plan update identify appropriate mitigation actions for undeveloped areas within repetitive flood loss areas to avoid repetitive losses in the future?	N/A	Section 9, p.4 p.13 p.54 p.55	See Mitigation Action #9 for Mecklenburg County; #9 for City of Charlotte; and #6 and #9 for Town of Pineville. No repetitive loss properties confirmed for other jurisdictions.	N/A	N/A
E. NCEM Recommendation: does the plan update include a Redevelopment Plan that covers Severe Repetitive Loss areas to be activated in the event of a major disaster?	N/A	N/A	Many of the known severe repetitive loss areas in Mecklenburg County have been addressed through the County's Floodplain Buyout Program as described in Section 7 (Capability Assessment). The specific location of any other FEMA-defined Severe Repetitive Loss properties is pending new, updated data from NCEM.	N/A	N/A

# 16. Implementation of Mitigation Actions

**Requirement:**  $\S 201.6(c)(3)(iii)$ : [The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

Comments: The updated plan must identify the completed, deleted or deferred actions or activities from the previously approved plan. Further, the updated plan shall include in its evaluation and prioritization any new mitigation actions identified since the previous plan was approved.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the updated mitigation strategy include how the actions are <b>prioritized</b> ? (For example, is there a discussion of the process and criteria used?)	Section 8, p.2 Section 9, p.1-29	Section 8, p.1-2 Section 9, 1-66			<b>✓</b>
B. Does the updated mitigation strategy address how the actions will be <b>implemented and administered</b> including the responsible department, existing and potential resources, and timeframe to complete each action?	Section 9, p.1-29	Section 9, 1-66		<b>√</b>	
C. Does the updated prioritization process include an emphasis on the use of a <b>cost-benefit review</b> to maximize benefits?	Section 2, p.8-11 Section 8, p.1-2	Section 8, p.1-2	As in 2005 during the initial development of the plan, only a general economic cost-benefit review was considered through the process of selecting and prioritizing mitigation actions for each jurisdiction. Mitigation actions with "high" priority were determined to be the most cost effective and most compatible with each jurisdiction's unique needs. A more detailed cost-benefit analysis will be applied to particular projects prior to the application for or obligation of funding, as appropriate.		<b>✓</b>
D. Does the plan update identify the completed, deleted or deferred actions as a benchmark for progress, and if activities are unchanged (i.e., deferred), does the updated plan describe why no changes occurred?	N/A	Section 9, 1-66	All proposed mitigation actions from the 2005 plan have been included with information on their current status, in addition to newly proposed mitigation actions for each jurisdiction.	N/A	N/A

# 17. Multi-Jurisdictional Mitigation Actions

**Requirement §201.6(c)(3)(iv):** For multi-jurisdictional plans, there **must** be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

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	Location in the	Location in the		CHAN	IGES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A Does the plan update include at least one identifiable <b>action item</b> for each jurisdiction requesting FEMA approval of the plan update?	Section 9, p.1-29	Section 9, 1-66		<b>✓</b>	
B. Does the updated plan identify the completed, deleted or deferred mitigation actions as a benchmark for progress, and if activities are unchanged (i.e., deferred), does the updated plan describe why no changes occurred?	N/A	Section 9, 1-66	All proposed mitigation actions from the 2005 plan have been included with information on their current status, in addition to newly proposed mitigation actions for each jurisdiction.	N/A	N/A

### PLAN MAINTENANCE PROCESS

# 18. Monitoring, Evaluating, and Updating the Plan

**Requirement §201.6(c)(4)(i):** [The plan maintenance process **shall** include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

### Comments:

The plan update must describe any changes in how the plan will be maintained over the next five-year period.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update describe the method and schedule for <b>monitoring</b> the updated plan, including the responsible department?	Section 10, p.2-4	Section 10, p.2-5		<b>✓</b>	
B. Does the plan update describe the method and schedule for <b>evaluating</b> the plan, including how, when and by whom (i.e., the responsible department)?	Section 10, p.2-4	Section 10, p.2-5		<b>✓</b>	
C. Does the plan update describe the method and schedule for <b>updating</b> the plan within the five-year cycle?	Section 10, p.3	Section 10, p.3-4			<b>✓</b>

# 19. Incorporation into Existing Planning Mechanisms

**Requirement §201.6(c)(4)(ii):** [The plan **shall** include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update identify other local planning mechanisms available for incorporating the mitigation requirements of the mitigation plan?	Section 10, p.1-2	Section 10, p.2		<b>✓</b>	
B. Does the plan update include a process by which the local government will incorporate the mitigation strategy and other information contained in the plan (e.g., risk assessment) into other planning mechanisms, when appropriate?	Section 10, p.1-2	Section 10, p.2		<b>✓</b>	
C. Does the updated plan explain how the local government incorporated the mitigation strategy and other information contained in the plan (e.g., risk assessment) into other planning mechanisms, when appropriate?	N/A	Section 10, p.2		N/A	N/A

# 20. Continued Public Involvement

**Requirement §201.6(c)(4)(iii):** [The plan maintenance process **shall** include a] discussion on how the community will continue public participation in the plan maintenance process.

Comment: Make sure the public from each jurisdiction in a multi-jurisdictional plan has the opportunity for continued public involvement.

	Location in the	Location in the		CHAN	GES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update explain how <b>continued public participation</b> will be obtained? (For example, will there be public notices, an on-going mitigation plan committee, or annual review meetings with stakeholders?)	Section 10, p.5	Section 10, p.5		<b>✓</b>	

# HAZARD MITIGATION PLAN UPDATE SUMMARY

**NCEM Recommendation:** NCEM recommends that the plan update include a section that summarizes the findings of the plan update process.

	Location in the	Location in the		CHAN	IGES?
Element	Approved Plan (chapter, section, annex, etc. and page #)	Plan Update (chapter, section, annex, etc. and page #)	Comments	YES	NO
A. Does the plan update summary indicate the results of the updated risk assessment, including a ranking of the overall importance of each hazard identified for the local jurisdiction?	N/A	Section 2, p.29-31 Also see Section 6, 60 (and throughout)		N/A	N/A
B. Does the plan update summary indicate the existing and proposed capabilities used to address each hazard?	N/A	Section 2, p.29-31 Also see Section 7 throughout		N/A	N/A
C. Does the plan update summary indicate the type of mitigation actions proposed to address each hazard?	N/A	Section 2, p.29-31 Also see Sections 8 and 9 throughout		N/A	N/A