



FEMA

August 26, 2015

Bernard P. Carvalho, Jr.
Mayor
Kaua'i Civil Defense Agency
3990 Kaana St., Suite 100
Lihue, HI 96766

Dear Mayor Carvalho:

We have completed our final review of the *County of Kaua'i Multi-Hazard Mitigation and Resilience Plan Update*, officially adopted by Kauai County, Hawaii on June 19, 2015, and found the Plan to be in conformance with Title 44 Code of Federal Regulations (CFR) Part 201.6 *Local Mitigation Plans*.

The approval of this Plan ensures Kauai County continued eligibility for project grants under FEMA's hazard mitigation assistance programs, including Hazard Mitigation Grant Program, Pre-Disaster Mitigation and Flood Mitigation Assistance grant programs. All requests for funding, however, will be evaluated individually according to the specific eligibility, and other requirements of the particular program under which applications are submitted. Approved mitigation plans are eligible for points under the National Flood Insurance Program's Community Rating System (CRS). Additional information regarding the CRS can be found at www.fema.gov/business/nfip/crs.shtm or through your local floodplain manager.

FEMA's approval of the *County of Kaua'i Multi-Hazard Mitigation and Resilience Plan Update* is for a period of five years, effective starting the date of this letter. Prior to August 26, 2020, Kauai County is required to review and revise the Plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval in order to continue to be eligible for mitigation project grant funding. The enclosed plan review tool provides additional recommendations to incorporate into the Plan when Kauai County undertakes the identified plan maintenance process.

If you have any questions regarding the planning or review processes, please contact Phillip Wang, Hazard Mitigation Planner at (510) 627-7753, or by email at phillip.wang@fema.dhs.gov

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeffrey D. Lusk".

Jeffrey D. Lusk
Division Director
Mitigation Division
FEMA Region IX

Enclosures

cc: Vern Miyagi, Executive Officer, Acting State Hazard Mitigation Officer
Elton S. Ushio, Manager, Kauai County Civil Defense Agency
Colby Stanton, Director, FEMA Region IX, Pacific Area Office

LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA’s evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan’s strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: County of Kaua’i	Title of Plan: County of Kaua’i Multi-Hazard Mitigation and Resilience Plan 2015 Update	Date of Plan: June 2015 Resubmittal: August 2015 Resubmittal #2: August 2015
Local Point of Contact: Elton Ushio	Address: 3990 Kaana Street Suite 100 Lihue, HI 96766	
Title: Managing Director		
Agency: Kauai Civil Defense Agency		
Phone Number: (808) 241-1800	E-Mail: Elton Ushio <eushio@kauai.gov>	

State Reviewer:	Title:	Date:
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FEMA Reviewer: Jennifer Venema	Title: Hazard Mitigation Planner	Date: 24 July, 2015 Resubmittal: 18 August 2015 Re-submittal #2: 26 August 2015
Wynne Kwan	Lead Planner (QA/QC)	25 July 2015 Resubmittal: 19 August 2015
Date Received in FEMA Region 9	16 July 2015 Resubmittal: 14 August 2015	
Plan Not Approved	The Plan is NOT approved. The Resubmittal is NOT approved. (19 August 2015)	
Plan Approvable Pending Adoption		
Plan Approved	The Plan is Approved (26 August 2015)	

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SECTION 1:

REGULATION CHECKLIST

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the Plan by Element/sub-element and to determine if each requirement has been ‘Met’ or ‘Not Met.’ The ‘Required Revisions’ summary at the bottom of each Element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is ‘Not Met.’ Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST Regulation (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
ELEMENT A. PLANNING PROCESS			
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	Section 1.0, 1.1, 1.2, 2.1, 2.2, Ch. 2 Appendix F – G Resubmittal: Acknowledgements, Title Page, Ch. 2	Resubmittal: X	
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	Section 1.2.1, Section 2.1, 2.2, 2.3, Ch. 2 Appendix A – H	X	
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	Section 2.1, 2.2.1, 2.3, Ch. 2 Appendix A – H , Section 6.8.2, 6.9.2, 6.11.2, 6.14.6, 7.1.2	X	
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	Section 1.2, Chapter 3, Section 6.0, Section 5.0	X	
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	Section 1.2, 8.1.1, 8.1.2, 8.2, 8.3	X	

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A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	Acknowledgements, Executive Summary, Table 2-1, Section 8.1, 8.2, 8.3	X	
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ELEMENT A: REQUIRED REVISIONS

A1. The Plan provides extensive documentation of the planning process, including activities. Yet the Plan does not identify the overall schedule for plan development. The Plan describes all organizations and multiple County agencies that supported Plan development and will lead Plan implementation; it also identifies Disaster Management Committee (DMC) convened to oversee the planning process for the updated Plan and the agencies/organizations that participate in the DMC. However, the Plan is not clear about the specific persons (and title/agency) who participated on the DMC. It is not clear who led preparation. A news release in Appendix A notes that public meeting discussions were led by the Kaua'i Civil Defense Agency and two researchers from the University of Hawai'i, but it is not clear from the Plan or its appendices if these same individuals led preparation of the Plan. **The Plan must include the schedule or timeframe that made up the Plan development, as well as identify who was involved.**

Resubmittal: The Plan provides additional discussion to describe roles, responsibilities, and timeframe for the 2015 Plan Update. New information is included throughout the Plan to clarify the Plan update process, including the timeframe of ongoing community outreach efforts.

1. REGULATION CHECKLIST	Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)			
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	Hurricane and strong winds: Section 3.0.1, 3.1 Flood: Section 3.0.1, 3.2 Drought: Section 3.3 ,Section 5.2.3 Wildfires: Section 3.4 Coastal erosion: Section 3.5 Climate change and variability:	Hurricane Flood Drought Coastal erosion Climate change and Variability Dam failure Landslide Resubmittal: Earthquakes (description) Landslides	

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	<p>3.6 Earthquakes: Section 3.7</p> <p>Tsunami: Section 3.8</p> <p>Landslide: Section 3.9</p> <p>Vog or volcanic gas: 1.2.2</p> <p>Dam failure: 3.11</p> <p>Resubmittal: Section 3.0 (Climate Change, Volcanoes/vog), Table 3-6 (Drought</p>	<p>(extent (Volcanoes/vog removed)</p> <p>Ok for Wildfire (description), Tsunami (description)</p>	
<p>B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))</p>	<p>Hurricane and strong winds: Section 3.0.1, 3.1.2, 5.2.1</p> <p>Flood: Section 3.0.1, 3.2.2, 3.2.3</p> <p>Drought: Section 3.3.1, 3.3.2, 5.2.3</p> <p>Fire: Section 3.4, 3.4.1</p> <p>Coastal erosion: Section 3.5, Table 5-13, Chapter 3 Appendix E</p> <p>Climate variability and change: Section 3.6, 5.2.5</p> <p>Earthquakes: Section 3.7.2, 5.2.6</p> <p>Tsunami: Section 3.8, 5.2.7</p>	<p>Hurricane and Strong Winds</p> <p>Flood</p> <p>Fire</p> <p>Tsunami</p> <p>Resubmittal: Climate change and variability Coastal erosion</p> <p>(Volcanoes/vog removed)</p> <p>OK for Drought (probability), Earthquake (probability), Tsunami (probability), Landslide (probability), Dam failure (probability)</p>	

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	<p>Landslides: Section 3.0.1, 3.9</p> <p>Dam failure: Section 3.11.2, 3.11.3, 5.2.8</p> <p>Resubmittal #2: Climate variability and change – Table 3- 33, Section 3.6.2</p>		
<p>B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))</p>	<p>Hurricane and strong winds: Section 3.1.2, 5.2.1, Ch. 5 Appendix C</p> <p>Flood: Section 3.2.2, 3.2.3, 5.2.2, Ch. 5 Appendix C</p> <p>Drought: Section 3.3.1, 5.2.3</p> <p>Fire: Section 3.4.1, 5.2.4, Ch. 5 Appendix E</p> <p>Coastal erosion: Section 3.5.1</p> <p>Climate variability and change: Section 3.6.2, 3.6.3, 3.6.4, 5.2.5</p> <p>Earthquakes: Section 3.7.2, 5.2.6</p> <p>Tsunami: Section 5.2.7, Ch. 5 Appendix C</p> <p>Landslides: Section 3.9.1</p> <p>Dam failure: Section 5.2.8</p> <p>Resubmittal:</p>	<p>Hurricane and Strong Winds</p> <p>Flood</p> <p>Drought</p> <p>Wildfire</p> <p>Coastal erosion</p> <p>Climate variability and change</p> <p>Earthquake</p> <p>Tsunami</p> <p>Landslides</p> <p>Volcanoes and related airborne hazards</p> <p>Dam failure</p>	

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	<p>Climate variability and change – Table 6-1, Table 7-1</p> <p>Resubmittal #2: Climate variability and change – Table 3-33, Section 3.6.2</p>		
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))	Section 3.2.3, 5.2.2, 7.3	Resubmittal: X	
<p>ELEMENT B: REQUIRED REVISIONS</p> <p>B1. Description: The Plan must include a description of the natural hazards that can affect the jurisdiction. Although the Plan addresses several hazards, the Plan must also <u>describe</u> each hazard (for instance, provide a simple statement of what is included in the definition of the hazard). The following hazards are not defined in the Plan:</p> <ul style="list-style-type: none"> • Wildfire (What is it? For example, does it <i>focus only on fires caused in wilderness areas</i>?) • Earthquakes (define and describe what is considered an earthquake, such as fault rupture and ground shaking) • Tsunami (What is it? How does the Plan analyze it to differentiate from other secondary tsunami hazards, such as flood? While the plan presents earthquakes that caused tsunamis, it does not clearly define what constitutes a tsunami) <p>Resubmittal: The Resubmittal does not provide additional description of wildfire or tsunami hazards. Hazard profiles in Chapter 3 describe historic occurrences, in addition to activities to mitigate hazards. However, Chapter 3 provides no new information that describes a wildfire or tsunami hazard (for instance, a single sentence for each hazard that states what the hazard is and generally what causes it). While the Resubmittal lacks a new, concise summary of what constitutes an earthquake, language in Section 3.7 provides adequate description to imply that earthquakes consist of ground shaking.</p> <p>Resubmittal #2: New content in the updated Chapter 3 provides additional description of hazards. The updated Plan meets this element.</p> <p>Location, volcanoes and related airborne hazards: The Plan notes that volcanic vog and haze affect many communities. The Plan must identify which communities are affected (e.g., is it all communities? Is the hazard equally dispersed across the County? Or does the hazard occur only in communities around volcanoes?) The Plan must identify the location of volcanic hazards,</p>			

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whether that is a description of a geographic area or a map.

Resubmittal: The Plan removes volcanoes/vog as a hazards, while noting that the County will consider including this hazard in the future if it becomes a more noticeable threat (page 2-2, Section 2.1). Due to this revision, the Plan now provides adequate information on volcanoes/vog to support the County in tracking this as a potential hazard in future updates.

Extent: Hazards lacking adequate description of the extent of the hazard include the following.

- **Drought.** The Plan identifies the most severe droughts in the County in the past 15 years and addresses the location and sector-specific considerations related to drought. Table 3-7 notes that over 26 reported drought events and impacts have occurred. However, the Plan does not define extent of the hazard, such as the levels of severity of historic or current droughts. Page 3-21 notes that analysis was conducted for three drought stages (moderate, severe, and extreme). Similarly, Section 5.2.3 identifies areas of the county in severe and extreme drought stages. Yet the Plan does not define these stages. **The Plan must define the extent of each hazard, such as measurement of the occurrence, or duration.**
- **Landslide.** Section 3.9 describes types of valley walls and earth movements that can cause landslides. The Plan does not present the extent of landslide hazards, such as likelihood of landslide due to slope or soil characteristics.
- **Volcanoes and related airborne hazards:** The Plan notes that volcanic vog and haze can cause adverse health effects and other impacts. However, the Plan does not describe the extent of these hazards, such as the average number of days or typical duration of areas experiencing vog and haze, or some other estimate of the magnitude of the hazard.

Resubmittal: Chapter 3 and Chapter 5 present available information regarding measurements of the extent of drought and landslide hazards. Section 3.9 summarizes the size of a previous landslide occurrence, while Section 3.3 identifies the frequency and occurrences of drought based on best available data from state sources. This information serves to adequately document the extent of landslide and drought hazards.

With the removal of volcanoes/vog as a hazard, the Plan now provides adequate information on the extent of each hazard.

Resubmittal #2: The updated Plan meets this element.

B.2. Previous occurrences and probability, volcanoes and related airborne hazards: While the Plan notes that “residents suffer from the results of airborne volcanic ash and vog” (page 3-54), it does not identify specific past occurrences or an estimate of future likelihood for hazards

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associated with volcanoes. **The Plan must provide information on previous occurrences and probability of future events for each hazard.**

Resubmittal: Due to limited data and the absence of any active lava flow, the Plan removed volcanoes/vog as a hazard. Additional information is not required on volcano/vog occurrences or probability, since the Plan no longer presents them as a hazard for mitigation.

In addition, the Plan must include probability for future events of several other hazards, identifying the likelihood of each. The future probability must be addressed for the following:

- **Drought.** Section 3.3 presents information on historic occurrences of drought, but does not estimate the historical frequency or probability of drought in any given year.
- **Climate change and variability.** While section 3.6.3 identifies historic frequency of sea level rise, the Plan does not present probability of climate change itself, even though the Plan presents it as an independent hazard. For instance, the probability ratings for different climate scenarios are provided in Table 3-12 but not defined (e.g., what criteria distinguish “likely” from “very likely” events associated with climate change?). The Plan must define these general descriptors.
- **Coastal erosion.** While Section 3.5.2 and 3.6.3 includes estimates of future sea level rise, the Plan does not identify any estimates of future probability for coastal erosion. For instance, does Figure 3-6 show estimates of future coastal erosion, and if so, what are the ranges of probability depicted? Similarly, what does information in Table 3-11 regarding erosion rates and storm events tell us about future probability of coastal erosion?
- **Earthquake.** Although the Plan notes that Kaua’i has reduced earthquake risk, the Plan must identify the probability of an earthquake event.
- **Tsunami.** The Plan does not identify the historical frequency or probability of a tsunami hazard.
- **Landslide.** The Plan does not identify the historical frequency or probability of a landslide hazard.
- **Dam failure.** Section 3.11.3 notes that 24 dams in the county were rated as high hazard by the US Army Corps of Engineers. However, the Plan does not identify the probability of dam failure in the county. Any relevant information in the 55-page Appendix E should be summarized and presented in the Plan to demonstrate the analysis of probability for future dam failure hazards.

Resubmittal:

New information - New maps in Chapter 3 Appendix E provides show average annual shoreline accretion and erosion rates. These new maps describe the probability of coastal erosion.

Other content in the Plan - Extensive information on climate change and variability serves to address probability of climate change using best available information, recognizing that the County continues to analyze and address climate change through other planning efforts

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addressed in the Plan (as described in Chapters 6 and 7).

Outstanding probability estimates -Chapters 3 and 5 of the Plan do not provide new information on probability of drought, earthquake, tsunami, landslide, or dam failure. The Plan can use information on historic frequency of these hazards to provide an average annual likelihood of each hazard. Where probability is uncertain due to climate change or other issues, the Plan can note any such limitations when presenting estimated probability using best available information. The Plan must include the probability of future hazards. For hazards with low likelihood such as earthquakes, the Plan can present a low rating probability if the rating is defined (e.g., a low probability could be less than a 1% chance of occurring in a given year, based on the average number of occurrences over the past 100 years).

Note that the Plan still references Chapter 3 Appendix F for a risk assessment of dams in Kauai County. Yet this appendix has been removed. Although the Plan documents historic occurrences that could inform estimates of probability, the Plan still does not identify the probability of dam failure. Not only must the Plan identify hazardous events that occurred in the past, but the Plan must also identify the likelihood of such events in the future.

Resubmittal #2: Information in updated Chapter 3 provides concise statements of probability for each hazard. This element has been met for each hazard.

B4. NFIP insured structures: Section 5.2.2 notes that as of 2010 the County has zero severe repetitive loss properties. While the Plan states that the County of Hawai'i has 46 repetitive loss properties with two or more NFIP claims, the Plan does not identify whether any repetitive loss properties exist in the County of Kaua'i. **The Plan must describe the types (residential, commercial, and institutional) of repetitive loss properties in identified flood hazard areas.** Although the Plan notes that the State "is concerned" with properties that have three or more claims (of which the County has zero), for purposes of repetitive flood loss properties the Plan must report the number of properties with two or more NFIP claims paid under the NFIP.

Resubmittal: The Plan provides additional discussion of the process and timeframe for the County to complete efforts to identify repetitive loss properties.

1. REGULATION CHECKLIST Regulation (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
ELEMENT C. MITIGATION STRATEGY			
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	Section 2.2.1, 2.2.2, 4.3.4, 4.10.1, 6.0, 6.1.1, 6.1.3,	X	

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	6.2.1, 6.2.2, 6.3.1, 6.3.2, 6.4.1, 6.5.1, 6.5.2, 6.6.1, 6.6.2, 6.6.3, 6.7.1, 6.7.2, 6.8.1, 6.8.3, 6.8.4, 6.9.1, 6.10.1, 6.11.1, 6.14.1, 6.14.2, 6.14.3, 6.14.4, 6.14.5, 6.14.7, 6.14.8, Table 6- 13, Section 7.4, Section 7.5		
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))	Section 3.2.3, 5.2.2, Table 6-2, Section 6.2.1, 6.2.2, 6.2.3, Ch. 6 Appendix A, Table 7-1, Section 7.3, Ch. 7 Appendix B	X	
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))	Table 7-1	X	
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))	Section 3.4, 4.3.4, 4.10.1, Table 7-1, Section 7.3, Section 7.4	Hurricane Flood Drought Fire Coastal erosion Earthquake Tsunami Landslides Volcanoes Dam failure	

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		Resubmittal: Climate change volcano/vog removed as a hazard	
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))	Section 7.4, Section 7.5	X	
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	Section 6.0, Table 6-2, Table 7-1, Section 8.1.2, 8.1.3, 8.2	X	

ELEMENT C: REQUIRED REVISIONS

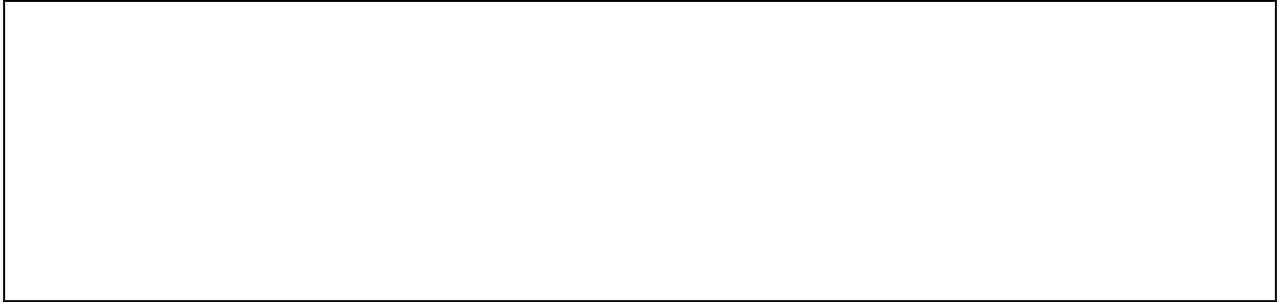
C4. Climate variability and change. On page 7-10 the Plan presents strategies to analyze and consider climate change. Yet the mitigation actions do not identify strategies that reduce the impacts of climate hazards in the risk assessment. **While the County has committed to analyze and consider climate change, since the Plan identifies climate change as a hazard, the Plan must also present strategies that would reduce the impact of climate change. For instance, the Plan can note how strategies that reduce hazards from sea level rise or tsunamis also mitigate risks to climate change impacts.** Such edits could be accomplished in Table 7-2. Or, the Plan can reframe climate change as a consideration for each hazard, rather than presenting it as an independent hazard.

Resubmittal: The Plan includes a summary of other plan efforts that will mitigate climate change and further support implementation of the Plan (see Chapters 6 and 7).

C4. Volcano/vog. The Plan does not consider any mitigation actions to reduce the impact of volcano hazards. **Mitigation strategies must reduce or eliminate long-term risks from hazards.** While actions 4 and 6 in Table 7-1 identify ongoing efforts to provide warning to aid people with respiratory illness, more information is needed in this mitigation to demonstrate whether it is educational or intended to reduce or eliminate long-term risks from the hazard (e.g., by reducing exposure of vulnerable populations to the hazard). Where information is lacking and challenges effective mitigation, the Plan should so state.

Resubmittal: The Plan removes volcanoes/vog as a hazard, eliminating the need to establish mitigation strategies that reduce the impact and risks of volcanoes/vog hazards.

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1. REGULATION CHECKLIST Regulation (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)			
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))	Section 3.6, Ch. 3 Appendix C, Section 4.1.3, 4.1.4 4.3, 4.4, 4.5, 4.6, 5.2.1, 5.2.2, 5.2.4, 5.2.5, 5.3	X	
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	Table 6-2, Table 7-1	X	
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	Section 7.3, 7.4, Ch. 7 Appendix A	X	
<u>ELEMENT D: REQUIRED REVISIONS</u>			
ELEMENT E. PLAN ADOPTION			
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))	Mayor’s Executive Order (pages 3 – 5 of compiled Plan, prior to Table of Contents)	X	
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	Not applicable	N/A	N/A
<u>ELEMENT E: REQUIRED REVISIONS</u>			

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1. REGULATION CHECKLIST	Location in Plan	Met	Not
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page		Met
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (optional for State reviewers only; not to be completed			
by FEMA)			
F1.			
F2.			
<u>ELEMENT F: REQUIRED REVISION</u>			

SECTION 2: PLAN ASSESSMENT

INSTRUCTIONS: The purpose of the Plan Assessment is to offer the local community more comprehensive feedback to the community on the quality and utility of the plan in a narrative format. The audience for the Plan Assessment is not only the plan developer/local community planner, but also elected officials, local departments and agencies, and others involved in implementing the Local Mitigation Plan. The Plan Assessment must be completed by FEMA. The Assessment is an opportunity for FEMA to provide feedback and information to the community on: 1) suggested improvements to the Plan; 2) specific sections in the Plan where the community has gone above and beyond minimum requirements; 3) recommendations for plan implementation; and 4) ongoing partnership(s) and information on other FEMA programs, specifically RiskMAP and Hazard Mitigation Assistance programs. The Plan Assessment is divided into two sections:

1. Plan Strengths and Opportunities for Improvement
2. Resources for Implementing Your Approved Plan

Plan Strengths and Opportunities for Improvement is organized according to the plan Elements listed in the Regulation Checklist. Each Element includes a series of italicized bulleted items that are suggested topics for consideration while evaluating plans, but it is not intended to be a comprehensive list. FEMA Mitigation Planners are not required to answer each bullet item, and should use them as a guide to paraphrase their own written assessment (2-3 sentences) of each Element.

The Plan Assessment must not reiterate the required revisions from the Regulation Checklist or be regulatory in nature, and should be open-ended and to provide the community with

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suggestions for improvements or recommended revisions. The recommended revisions are suggestions for improvement and are not required to be made for the Plan to meet Federal regulatory requirements. The italicized text should be deleted once FEMA has added comments regarding strengths of the plan and potential improvements for future plan revisions. It is recommended that the Plan Assessment be a short synopsis of the overall strengths and weaknesses of the Plan (no longer than two pages), rather than a complete recap section by section.

Resources for Implementing Your Approved Plan provides a place for FEMA to offer information, data sources and general suggestions on the overall plan implementation and maintenance process. Information on other possible sources of assistance including, but not limited to, existing publications, grant funding or training opportunities, can be provided. States may add state and local resources, if available.

Element A: Planning Process

Plan Strengths

- The County undertook a comprehensive and inclusive public engagement process that involved community groups, nonprofits, businesses, utilities, universities and researchers, in addition to a wide range of agency and County representatives.
- The plan development process used multiple forms of community engagement, providing extensive documentation of public input collected from surveys, workshops, and interviews.
- **Resubmittal: The plan includes well organized appendices and a bookmarked PDF that makes extensive technical documentation easy to navigate.**

Opportunities for Improvement

- The Plan could provide additional clarity regarding the governmental structure of the County, including highest elected official, approving bodies, and any advisory committees or other governing structures of communities on the island. For instance, the Plan does not clearly identify whether the communities on the island are independent jurisdictions, or whether they fall under the governing responsibility of the County. **Resubmittal: Additions in Acknowledgements and other sections respond to this suggestion by providing an expanded summary of the governmental structure, key agencies, and roles in the plan development process.**
- The Plan includes references and numerous citations throughout all chapters. In future updates, consider providing a new, consolidated summary that describes methods and key data sources, including new sources since the previous Plan, in one centralized section.
- Although the Mayor's Executive Order is proof of plan adoption, it would also be beneficial for the Kaua'i County Council to review the Plan and pass an associated resolution for plan adoption.

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Element B: Hazard Identification and Risk Assessment

Plan Strengths

- The Plan uses available information to estimate changes in potential risk and vulnerability due to changes in development, land values, and economic activity.
- Extensive GIS mapping and research supports a thoughtful analysis of coastal hazards due to sea level rise and critical facilities at risk.
- The Plan uses available research to analyze the potential hazard and changing risks associated with climate change and variability.
- Maps in the Plan illustrate assets and developed land in the tsunami zone areas (Section 5.2.7) to show vulnerability. **Resubmittal: Maps also present historical rates of shoreline erosion and accretion (Chapter 3 Appendix E).**

Opportunities for Improvement

- Future updates could improve readability by providing a list of all abbreviations and acronyms in one section of the Plan. The Plan does not consistently define acronyms or abbreviations, posing challenges to the reader to understand policies, programs, and key issues. **Resubmittal: the plan now provides a useful summary of acronyms.**
- During future updates, consider treating sea level rise as an independent hazard supported by additional information on the extent and impact the hazard.
- The Plan compiles a wide breadth of resources in many appendices. To support usability of the Plan, consider including streamlining appendices. Rather than include each appendix, consider providing concise summaries of key data or issues, with a separate resource list that provides hyperlinks or citations of additional resources. While the County relied on an extensive body of research to develop a comprehensive plan, not all appendices are necessary for inclusion in the Plan itself. For instance, the next Plan update can summarize the locations of the 24 dams at high levels of risk, rather than refer the reader to a 55-page appendix (Ch. 3 Appendix F) for required plan information regarding the extent and location of a natural hazard. **Resubmittal: the plan is now packaged as a compressed PDF with bookmarks for chapter navigation. The resubmitted plan also includes streamlined and organized appendices. Future plan updates should consider providing high-level summaries of important information in appendices, such as a summary of the shoreline erosion and accretion maps that are included in the updated appendices but not noted in the hazard profiles.**
- The Map in Figure 3-6 (Kaua'i shoreline erosion map) and Ch. 3 Appendix E should include a legend or labels to identify the extent of coastal erosion hazards. **Resubmittal: the plan now provides shoreline and accretion maps (Chapter 3 Appendix E).**
- Rather than present climate variability and hazard as an independent hazard, consider including climate change as a supportive consideration when analyzing other primary hazards, as appropriate. This approach could help to identify efficient, actionable strategies that reduce primary hazard vulnerabilities with the secondary benefit of preparing for changing impacts due to climate change.

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- Consider including landslides as a secondary consideration under earthquake or flooding hazards. Currently, the Plan refers to other hazards when analyzing the vulnerabilities to landslide impacts. A new organization to landslides could help streamline mitigation actions and simplify the mitigation framework.
- **Resubmittal: Following County coordination with FEMA to address repetitive loss properties and secure participation in a Community Rating System (expected in 2017), the plan should be updated to identify the types and number of repetitive flood loss properties.**

Element C: Mitigation Strategy

Plan Strengths

- The Plan provides a comprehensive package of mitigation actions for hazards, including key agencies and supporting partners.
- Sections 3, 6, and 7 provide evaluation private and public efforts implementing the previous plan, including information on integration of the plan into the General Plan and other plan updates.

Opportunities for Improvement

- Considerations for buildings codes and their role in hazard mitigation are addressed across several chapters. Future updates could present one consolidated summary of all relevant building codes and capital improvement plans in one section, along with the summary of plans presented in Table 6-1.
- Future updates should analyze the role of capital improvement plans, drainage plans, and stormwater permits in mitigating hazards.
- While the Plan includes goals and objectives that depict the County's visions for the future, future updates to the Plan should provide separate goal statements that are clearly distinguished from mitigation actions. The current organization in Chapter 7 consolidates goal statements, objectives, and actions. A reorganization organization could provide clarity and better communicate to the public the County's overall goals for hazard mitigation.
- Actions to mitigate fire risks in development are focused on clearing brush and community education. Future updates should consider the role of standards to require defensible space around buildings in areas at high risk of fire hazard.
- While the Plan presents hazards for coastal erosion (including sea level rise), tsunamis, and climate variability and change, mitigations focus on improving the strength of existing structures and not locations of structures themselves. Only one strategy addresses the role of variable setbacks for new construction #2, 1.2, pg. 7-12). Future updates should consider other options to mitigate these hazards for existing construction (for example, consider whether managed retreat or relocation would be appropriate for critical facilities or assets, and present analysis to demonstrate the feasibility or barriers to such actions).
- Although the Disaster Management Committee is identified as the implementation lead for the Plan, the Plan should clarify the nature, authority, and role of the committee. (For instance, is

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the committee comprised of County staff with authority to implement and direct County efforts? Elected community members that will provide recommendations?). **Resubmittal: several sections of the plan now describe the role and composition of the DMC (Acknowledgements, Title Page, Chapter 2).**

Element D: Plan Update, Evaluation, and Implementation (Plan Updates Only)

Plan Strengths

- The Plan uses the Census, GIS data, and County assessor data to analyze changes in development and economic sectors since the previous Plan.

Opportunities for Improvement

- Information on changes in development could be consolidated and organized based on relevance to hazards to improve usability of the Plan.