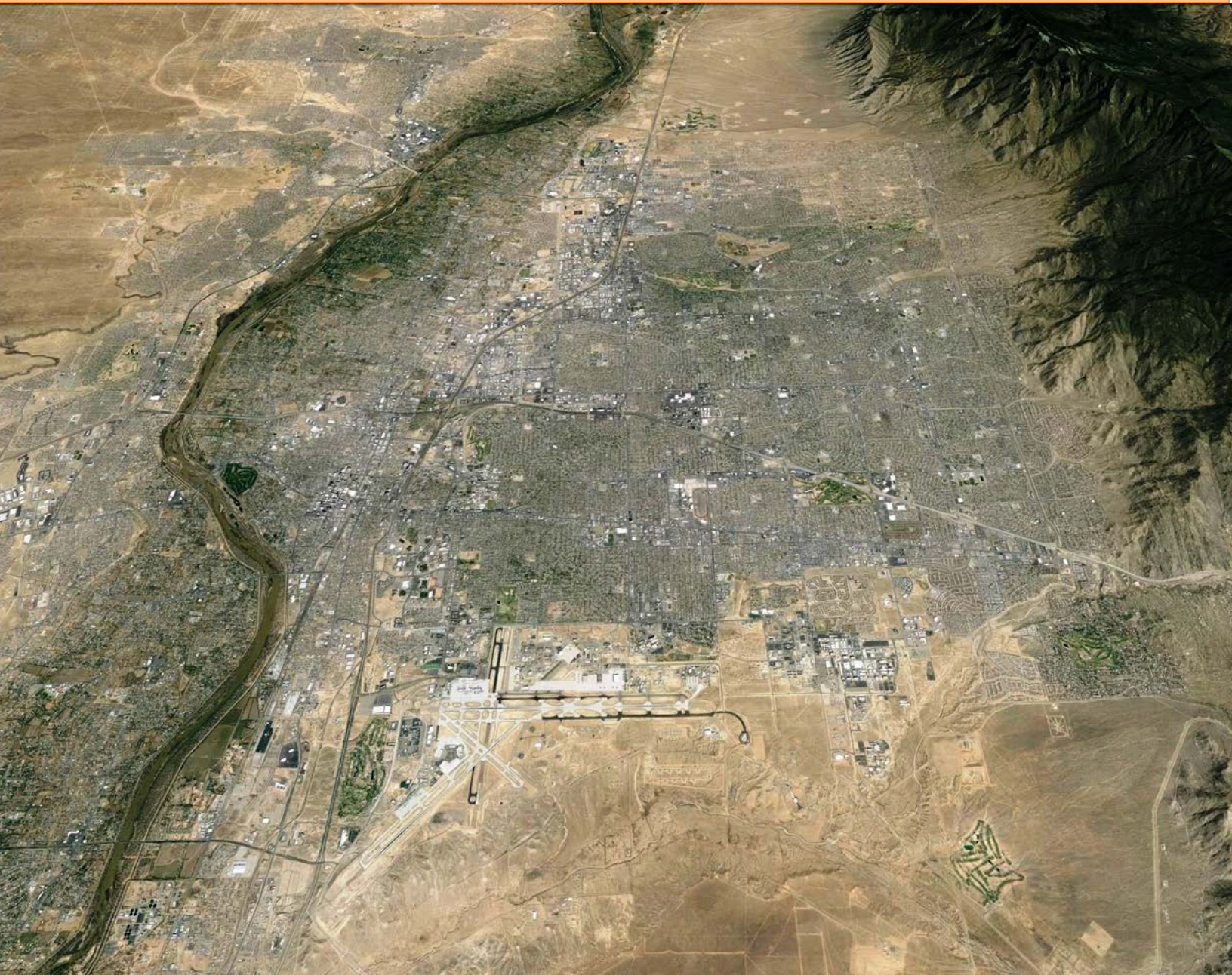




Comprehensive Emergency Management Plan

Annex I

Mitigation



City of Albuquerque
Office of Emergency Management

ANNEX I MITIGATION

Disaster prevention is the best strategy.

A. General.

What is Hazard Mitigation?

1. Hazard mitigation planning is the process of developing a set of actions designed to reduce or eliminate risk to people and property from hazards and their effects. Mitigation efforts include activities that will prevent or reduce the impact of emergency/disaster results on people, property and environment. Efforts include building codes, land use planning, training and education, structural and non-structural safety measures.
2. Hazard mitigation differs from emergency preparedness, which focuses on activities designed to make a person, place, organization, or community more ready to take appropriate action in a disaster with emergency response, equipment, food, shelter, and medicine. However, hazard mitigation and emergency preparedness are closely associated because where time or financial resources may preclude certain desirable mitigation actions, emergency preparedness can make it possible to respond and recover appropriately despite losses that may be unavoidable.
3. Hazard mitigation is distinguished from other disaster management functions by measures that make development and the natural environment safer and more disaster-resilient. Mitigation generally involves alteration of physical environments, significantly reducing risks and vulnerability to hazards by altering the built environment so that life and property losses can be avoided or reduced. Mitigation also makes it easier and less expensive to respond to and recover from disasters.
4. Mitigation efforts include activities that will prevent or reduce the impact of emergency/disaster results on people, property and environment. Efforts include building codes, land use planning, training and education, structural and non-structural safety measures.
5. Mitigation activities may be undertaken before a hazard event or afterwards. Pre-event mitigation activities are highly desirable, since the period immediately following a hazard event is often a difficult one in which to make mitigation decisions.
6. When an emergency or disaster is not occurring and there is no threat to life and property, every reasonable effort is made to ensure that when a disaster does strike, adverse impacts will be minimized. To do so, numerous ongoing activities are carried out by local, state and

federal governments. Such activities include land use management; planning; emergency preparedness; training and education; and flood, hurricane, or other hazard damage reduction.

7. Essentially, there are three basic ways to engage in mitigation. We can:

- Act on the hazard (the cause of the emergency);
- Act on the people (the population affected by the emergency);
- Act on the interface between the hazard and people.

B. Policies.

1. It is the policy of City of Albuquerque (CABQ) to support mitigation activities to eliminate or reduce disaster damages and to coordinate recovery efforts with development and hazard mitigation plans of the City.

This is done in a number of ways, including but not limited to, the land use planning process and the enforcement of existing codes, and mitigation requirement in the permit process.

2. CABQ Departments are encouraged to support mitigation efforts that fall within their respective mission areas.
3. Each City department director should become knowledgeable on mitigation issues and opportunities and develop agency mitigation strategies that may apply to that agency.

C. Local Mitigation Strategy.

CABQ maintains a Local Mitigation Strategy Program. The program includes individual agency activities to reduce the community's vulnerability to disasters and development of an overarching mitigation plan. The Hazard Mitigation Plan serves as a tool for directing ongoing efforts of the City to reduce impacts of identified natural and manmade hazards.

The ultimate objectives of the Local Mitigation Program process are to:

- Improve the community's resistance to damage from known natural, technological, and societal hazards;
- Place CABQ in a position to compete more effectively for pre and post-disaster mitigation funding;
- Reduce the cost of disasters at all levels;
- Speed community recovery when disasters occur.

The 2015 Hazard Mitigation Plan

The 2015 Hazard Mitigation Plan (HMP) is a comprehensive update of the 2007 HMP. It performs the following functions:

1. Documents local hazard mitigation systems implemented in CABQ;
2. Describes strategies and priorities for future mitigation activities;
3. Highlights new hazard mitigation initiatives since the 2007 HMP;
4. Describes and illustrates mitigation progress and success stories;
5. Attempts to integrate local, state, and private sector hazard mitigation activities into a comprehensive effort;
6. Meets state and federal statutory and regulatory requirements.

The 2015 HMP has also been designed to meet the requirements for a Mitigation Plan under Rule 44 Code of Federal Regulations (CFR) Part 201.4 published by FEMA.

Adoption of the HMP and FEMA approval of the HMP as a Standard Plan qualify CABQ to obtain federal assistance for hazard mitigation and for the repair and replacement of infrastructure damaged in natural disasters.

D. Mitigation Action Plan

The mitigation actions and strategies in this section address, to the extent possible, the risk from the hazards described in Section 4, of the 2015 City of Albuquerque/Bernalillo County Mitigation Plan. The actions and strategies also address areas where additional coordination with other agencies and organizations could benefit Albuquerque/Bernalillo goals to reduce risk. The actions and strategies are the specific measures to help meet the goals of the 2015 City of Albuquerque/Bernalillo County Mitigation Plan and include estimated timeframes for completion. Where a specific dollar estimate was not available, a range of costs was used:

- High – Over \$500,000
- Medium - \$100,000 to \$499,000
- Low – \$5,000 to \$100,000
- Minimal – Less than \$5,000

The actions were prioritized using a basic format to encourage immediate action (see Table 5.1), of the 2015 City of Albuquerque/Bernalillo Count Mitigation Plan. Flood projects originally receiving a “High” prioritization were also reviewed with STAPLEE criteria considerations (See Section 6.2.1. of the 2015 City of Albuquerque/Bernalillo Count Mitigation Plan for criteria). The

pass/fail results of the STAPLEE evaluation for these types of projects are listed in Sections 5.3.1, of the 2015 City of Albuquerque/Bernalillo Count Mitigation Plan for project undergoing the evaluation.

Category	Timeframe	Comments
High	Begin within 1 year from Plan adoption	Top organizational priority and is generally a well-detailed project idea. Protects population, resource, or property at high risk. Uses feasible methods, techniques, or technology.
Medium	2-3 years from Plan adoption	A good idea that needs more information or is an action that addresses a moderate hazard.
Low	3-5 years from Plan adoption	An idea that needs a lot more information or will take a lot of preliminary action to build support.

Multiple funding sources have been identified (see Section 6.1.) for suitability. The priority for each action is at the bottom of each action box. When a proposed project mitigates multiple hazards, this is noted.

Multi-hazard Public Education Program	
Project Description/ Comments:	Educate residents on natural hazard threats, impacts, mitigation opportunities, and advanced preparations to make in advance of events. Print materials will be developed and distributed at local government buildings and public libraries. Include the Los Ranchos Citizen Corps Program as part of this effort.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood, Wildfire, Drought, Severe Winter Storms, High Wind, Thunderstorm, Extreme Heat, Dam Failure, Tornado
Responsible Organization:	Local Emergency Management Divisions
Estimated Costs:	Low
Possible Funding Sources:	Local budgets, FEMA
Timeline for Implementation :	Within one year of Plan adoption
Cost-Benefit Review	Life safety benefits expected to outweigh the low costs
STAPLEE Review	No concerns raised
Priority	High

10th Street Storm Drain	
Project Description/ Comments:	This project will replace the existing storm drain pipe, laterals and inlets in 10th Street from Park Street to Iron Street. It will mitigate the flooding that was observed during the July and September storms of 2013.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	City of Albuquerque
Estimated Costs:	High (\$800,000)
Possible Funding Sources:	Local municipal funds, New Mexico State Grants, FEMA
Timeline for Implementation:	Within three years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE+C Review	No concerns raised
Priority	High

Stover Street Storm Drain	
Project Description/ Comments:	This project will replace the existing storm drainpipe, laterals and inlets in Stover Street from 8th Street to 11th Street. It will mitigate the flooding that was observed during the July and September storms of 2013.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	City of Albuquerque
Estimated Costs:	High (\$700,000)
Possible Funding Sources:	Local municipal funds, New Mexico State Grants, FEMA
Timeline for Implementation:	Within three years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE+C Review	No concerns raised
Priority	High

South Broadway Pond Expansion	
Project Description/Comments:	This project will increase the capacity of the South Broadway Pond, thus mitigating the flooding that occurred repeatedly during 2006, 2013 and 2014.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	City of Albuquerque
Estimated Costs:	High (\$2,938,000)
Possible Funding Sources:	Local municipal funds, New Mexico State Grants FEMA
Timeline for Implementation:	Within three years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE+C Review	No concerns raised
Priority	High

Montano Levee Project Feasibility Study	
Project Description/Comments:	Study the feasibility of installing nearly three miles of riverside levee on the west side of the Rio Grande to remove floodplain from hundreds of acres of developed properties.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	City of Albuquerque, U.S. Army Corps of Engineers
Estimated Costs:	High (\$1,000,000)
Possible Funding Sources:	Local municipal funds , Federal funds
Timeline for Implementation:	Within three years of Plan adoption
Cost-Benefit Review	Life safety and economic benefits expected to outweigh the costs
STAPLEE+C Review	No concerns raised
Priority	High

Arroyo Flash Flood Indication System Phases I-III	
Project Description/ Comments:	This project will consist of the installation of sensors, warning lights, and radio communication when the following arroyos meet a threshold flow amount: Embudo Arroyo (I-40 to Morris) Upper North Diversion Channel from Indian School to I-25 and Embudo Arroyo to Carlisle North Diversion Channel from I-25 to Balloon Fiesta Park It will send signals to the downstream warning indicators and the CABQ Fire Department Alarm Room
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	City of Albuquerque
Estimated Costs:	High (over \$1 Million)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), CABQ
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

I. MITIGATION

Bryn Mawr/Aztec System	
Project Description/ Comments:	This project will install a new large diameter storm drain and channel between Aztec and Bryn Mawr east of the North Diversion Channel to alleviate dangerous driving conditions during storm events.
Jurisdiction:	CABQ
Hazard(s) Addressed:	Flood
Responsible Organization:	CABQ
Estimated Costs:	High (\$1,500,000)
Possible Funding Sources:	CABQ, AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018).
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Calabacillas Arroyo Bank Monitoring and Enhancement (Reaches 1-4)	
Project Description/ Comments:	This project's primary focus is to evaluate and enhance the bank protection and grade control structures on the Calabacillas Arroyo to provide erosion protection.
Jurisdiction:	CABQ
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, CABQ
Estimated Costs:	High (over \$1 million)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018).
Timeline for Implementation:	Within five years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Calabacillas Grade Control Structures 1a, 6a, and 7a	
Project Description/ Comments:	This project is to construct grade control structures to control the depth, width, and slope of the Calabacillas Arroyo to stabilize the arroyo and reduce erosion, scour and structure bypass.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, CABQ
Estimated Costs:	High (over \$1.5 million)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018).
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Drainage Comprehensive and Feasibility Studies	
Project Description/ Comments:	This project is for the preparation of plans and feasibility studies to do the following:
	<ul style="list-style-type: none"> • Gibson-San Mateo Flood Plain Restudy (\$100,000) • Glenrio (Loma Hermosa) Feasibility Study (\$450,000) • North Camino Arroyo Drainage Management Plan (\$200,000) • North Valley Drainage Management Plan (\$500,000) • Upper Snow Vista Channel Improvements Study (\$100,000) • Valle de Oro Site Plan (\$100,000)
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	City of Albuquerque
Estimated Costs:	High
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), CABQ, Bernalillo County, Village of Los Ranchos, US Fish and Wildlife
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Guac Detention Basin Phase I	
Project Description/ Comments:	This project is to provide additional detention volume (around 500 acre-feet) in the Guac-Amole Detention Dam system for a drainage area of nearly 18 square miles.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, Bernalillo County, CABQ
Estimated Costs:	High (\$1,173,000)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018).
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Hahn Arroyo Rehabilitation and Modification Phase 2	
Project Description/ Comments:	This project is to continue the rehabilitation and modification of the Hahn Arroyo corridor to replace a distressed channel and prevent a catastrophic failure.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, CABQ
Estimated Costs:	High (\$4,055,000)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), CABQ
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Kirtland Air Force Base (KAFB) South Detention Basin Study and Project	
Project Description/ Comments:	Investigate the feasibility and benefits of constructing a regional stormwater detention basin on Kirtland AFB to remove floodplain in southeast Albuquerque. This project will likely involved the development of a 20 to 30 acre-foot detention pond at the southeast quadrant of the Louisiana/Gibson intersection to collect and limit runoff from KAFB.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, CABQ, KAFB, FEMA
Estimated Costs:	High (\$1,481,000)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), CABQ, US Air Force
Timeline for Implementation:	Within five years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Marble-Arno Pump Station	
Project Description/ Comments:	This project is to construct an additional pump station to supplement the Broadway Pump Station. In combination with additional storage and wet well requirements, this pump station will make the drainage control in the Mid Valley DMP more efficient.
Jurisdiction:	AMAFCA, CABQ
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, CABQ
Estimated Costs:	High (\$18,000,000)
Possible Funding Sources:	CABQ, AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018)
Timeline for Implementation:	Within one year of Plan adoption - \$5,000,000 part of the overall project
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Mid Valley Drainage Management Plan and Implementation Components	
Project Description/Comments:	This project is to install master planned drainage facilities identified in the Mid Valley Drainage Management Plan including purchase of right of way.
Jurisdiction:	AMAFCA, CABQ
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, CABQ
Estimated Costs:	High (\$7,000,000)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations, to be held in 2014, 2016, and 2018), CABQ
Timeline for Implementation:	Within five years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Montano Levee	
Project Description/Comments:	This project is to install nearly three miles of riverside levee on the west side of the Rio Grande to complete the levee system that keeps the river within the prescribed floodway. Toe drains will be included.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, MRGCD, USACE, CABQ, Bernalillo County
Estimated Costs:	High (\$5,141,000)
Possible Funding Sources:	USACE, AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), CABQ, Bernalillo County
Timeline for Implementation:	Within three to five years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

North Camino Inlet Improvements, Channel Extension, and North Camino/El Camino Arroyos Earthen Berm

Project Description/ Comments:	This project is to reconfigure and possibly relocate the North Camino inlet to reduce waves that may overtop the channel. This project will also include completing the North Camino Channel from the existing channel near San Mateo to the inlet into the North Diversion Channel. The project also includes construction of an earthen berm to prevent runoff from flowing into either the North Camino Arroyo or the El Camino Arroyo from the other watershed.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, USACE, CABQ, Pueblo of Sandia
Estimated Costs:	High
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), CABQ, Pueblo of Sandia
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Northwest Mesa Miscellaneous Drainage Projects

Project Description/ Comments:	This project is to install master planned drainage facilities in the West I-40 Drainage Management Plan and the Boca Negra DMP to control runoff.
Jurisdiction:	AMAFCA, Bernalillo County, CABQ
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, Bernalillo County, CABQ
Estimated Costs:	High (\$1,000,000)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), Bernalillo County, CABQ
Timeline for Implementation:	Within three to five years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Pond 187 and 187A Construction and Outfall	
Project Description/ Comments:	This project to construct Ponds 187 and 187A to accept high flows from the Isleta Drain. It is part of the master planned drainage facilities identified in the Southwest Valley Flood Reduction Project.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, Bernalillo County, CABQ, NMDOT, MRGCD, Albuquerque Public Schools
Estimated Costs:	High (over \$10,000,000)
Possible Funding Sources:	CABQ, AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), Bernalillo County
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Expo New Mexico Racetrack Pond Modifications	
Project Description/ Comments:	This project is to modify existing ponds in the infield of the Expo New Mexico racetrack to maximize the efficiency of the system draining to the San Pedro Storm drain removing properties from the floodplain and controlling excess runoff.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, CABQ, NMDOT, ExpoNM
Estimated Costs:	High (\$2,232,000)
Possible Funding Sources:	CABQ, AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018)
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

South Diversion Channel Freeboard Improvements	
Project Description/ Comments:	This project will construct 2-foot sill walls along the west side of the South Diversion Channel which will help contain the 500-year flood water surface plus wave action.
Jurisdiction:	AMAFCA, CABQ
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, CABQ, University of New Mexico (UNM)
Estimated Costs:	Medium (\$419,000)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), CABQ, UNM
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Southeast Valley Drainage Management Plan Projects Implementation and Right of Way Acquisition	
Project Description/ Comments:	This project is to construct various projects that can alleviate local drainage problems as identified in the Southeast Valley Drainage Management and Storm Water Quality Plan. This project is also to include the acquisition of drainage right of way for ponding and/or conveyance of stormwater generated within the Southeast Valley and Mesa del Sol bluff area.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	AMFCA, Bernalillo County, CABQ, MRGCD, BOR, USACE
Estimated Costs:	High (\$2,000,000)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), Bernalillo County, Private sources
Timeline for Implementation:	Within five years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

West I-40 Diversion Channel	
Project Description/Comments:	This project is to upgrade an existing earthen channel to include a concrete channel lining or a naturalistic design. This project will allow for the stable, long-term conveyance of storm water.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	AMAFCA, CABQ, NMDOT
Estimated Costs:	High (\$2,538,000)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), CABQ, Private sources
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Storm Drain Projects – Various Locations	
Project Description/ Comments:	<p>Storm Drain improvements, extensions, enhancement and repairs at various locations including:</p> <ul style="list-style-type: none"> • Benavides Storm Drain Extension (\$391,000) • Black Mesa (Don Felipe Dam) Storm Drain (\$4,803,000) • Black Mesa (McCoy Dam) Storm Drain (\$3,541,000) • Black Mesa (Raymac) Storm Drain (\$2,746,000) • Bobby Foster Storm Drain (\$4,715,000) • North Fourth Street (\$2,999,000) • North Johniece Storm Drain (\$3,764,000) • South Johniece Storm Drain (\$632,000) • Tower Road Storm Drain (\$1,520,000)
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	City of Albuquerque
Estimated Costs:	High
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), Bernalillo County, Village of Los Ranchos
Timeline for Implementation:	Within five years of Plan adoption
Cost-Benefit Review	Life safety, environmental, and economic benefits expected to outweigh the costs
STAPLEE Review	No concerns raised
Priority	High

Flood Insurance Awareness Program	
Project Description/ Comments:	A public awareness program will provide the unprotected property owners throughout the planning area with information concerning their risk and available insurance. Informational materials should be multi-lingual.
Jurisdiction:	Bernalillo County, City of Albuquerque Planning Department, AMAFCA, Village of Los Ranchos de Albuquerque, Village of Tijeras
Hazard(s) Addressed:	Flood
Responsible Organization:	County and local Floodplain Managers
Estimated Costs:	Low
Possible Funding Sources:	Local budgets
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Due to low cost, the benefits are anticipated to outweigh costs
STAPLEE Review	No concerns raised
Priority	High

Multi-Jurisdiction Storm Water Management Plans	
Project Description/ Comments:	Investigate the feasibility and buy-in for regional stormwater management planning approach. Establish committee and coordinate with neighboring communities to establish better water management planning. Evaluate linkage to MS4 Permit Issuance (90th Percentile Storm Retention Requirement).
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	County and local public works and planning departments
Estimated Costs:	Low
Possible Funding Sources:	Local municipal funds, New Mexico State Grants
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Due to low cost, the benefits are anticipated to outweigh costs
STAPLEE Review	Should be integrated within MS4 EPA Permit Constraints. Committee may already exist via Memorandum of Understandings with AMAFCA.
Priority	High

Continue Drainage Ditch Improvements and Maintenance	
Project Description/ Comments:	Continue cleaning and repairing drainage ditches, arroyos and culverts to increase or maintain capacity. Continuing implementing maintenance plans.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	Local and county public works departments
Estimated Costs:	Medium
Possible Funding Sources:	FEMA
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Due to the repetitive losses, the benefits are anticipated to outweigh costs
STAPLEE Review	Maintenance costs should be budgeted.
Priority	High

Continue thinning and fuel reduction projects in Bosque	
Project Description/ Comments:	Continue Middle Rio Grande Bosque Initiative, Middle Rio Grande Bosque Restoration, and Bosque Ecosystem Revitalization Programs. Through these programs dead and downed trees and non-native plants are cleared out of areas within the Bosque. This keeps fire from spreading vertically to the upper story; preserves native plants such as cottonwoods and willows and improves wildlife habitat.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Wildfire
Responsible Organization:	USACE, City of Albuquerque, Bernalillo County, Albuquerque Fire Department, Middle Rio Grande Conservancy District
Estimated Costs:	Low
Possible Funding Sources:	Rio Grande Water Fund, Municipal Budgets
Timeline for Implementation:	Some planning efforts on-going. Implement within one year of Plan adoption.
Cost-Benefit Review	Due to risk of wildfire in the area, and the low cost, the benefits are anticipated to outweigh costs
STAPLEE Review	No concerns raised
Priority	High

Increase water storage capacity for fire suppression in the Bosque	
Project Description/ Comments:	Study needed on best way to increase water availability for fire suppression in the Bosque by increasing capability for water storage via new wells or dry hydrants.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Wildfire
Responsible Organization:	Albuquerque Bernalillo County Water Utility Authority/ Water Resources Division, AMAFCA (potentially through its dams)
Estimated Costs:	Low - Project cost estimated at \$40,000
Possible Funding Sources:	USFS, NM State Forestry, New Mexico State Fire Fund, Hazard Mitigation Grant Program Technical Assistance funds administered by NMDHSEM
Timeline for Implementation:	Within one to two years of Plan adoption
Cost-Benefit Review	Increased water capacity in Bosque will increase fire fighting capabilities in a high- risk area. Economic and life-safety benefits are anticipated to outweigh low costs.
STAPLEE Review	Legal - for new wells, an agreement on water environmental rights will need to be obtained. Additionally, water rights issues for well will need to be resolved. Economic – need sources of funding.
Priority	High

Participate in State's program to use bio mass fuels as a way to dispose of tree thinning debris in the Bosque and East Mountain areas

Project Description/ Comments:	Thinning projects create an overabundance of debris for disposal. Using the debris as a bio mass fuel source should be studied as an effective and cost effective solution for disposal. Evaluate possible sale of firewood from thinning projects.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Wildfire
Responsible Organization:	City of Albuquerque Open Space Division, New Mexico State Parks
Estimated Costs:	Low - Project cost estimated at \$65,000
Possible Funding Sources:	Rio Grande Water Fund, USFS, NM State Forestry, New Mexico State Fire Fund, Hazard Mitigation Grant Program Technical Assistance funds administered by NMDHSEM
Timeline for Implementation:	Within one to two years of Plan adoption
Cost-Benefit Review	Disposal costs for slash average \$8.00/cubic yard. Bio-fuel could be means to eliminate disposal costs and create additional fuel source.
STAPLEE Review	Technical – need to work with the Rio Grande Water Trust and some studies may already be available.
Priority	High

Continue and expand water conservation programs for residential, commercial and industrial users	
Project Description/Comments:	Continue and expand existing County and City water conservation programs to encourage and provide incentives for residents to use water-saving landscaping techniques. Promote City Water Awareness Programs/Water Audits and County Water Conservation Plan, Ordinance and Guidelines. Employ municipal and county, subdivision , and building regulations to promote water conservation. Implement aggressive program to repair leaks in existing municipal water system. Implement drought emergency plan to: implement residential, business and watering restrictions, water use violation fees, and a drought emergency surcharge for excessive water usage.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Drought
Responsible Organization:	Albuquerque Bernalillo County Water Authority
Estimated Costs:	Low (Part of City Water Conservation Program)
Possible Funding Sources:	Local municipal funds
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Due to low cost, the benefits are anticipated to outweigh costs
STAPLEE Review	Economics drive differences in programs.
Priority	High

Continue to implement aggressive program to repair leaks in existing municipal water system, including lines to homes

Project Description/ Comments:	Due to the recurrent and persistent drought, value of water as an asset is rising. Water leakage not only wastes water, but can also contribute to subsidence and sinkholes.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Drought, Land Subsidence
Responsible Organization:	Albuquerque Bernalillo County Water Utility Authority/Engineering & Planning
Estimated Costs:	Low to medium
Possible Funding Sources:	Local municipal funds
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Due to relatively low cost, the benefits are anticipated to outweigh costs
STAPLEE Review	Social – need to work with other water associations and private homeowners. Technical – need to determine if subsidence was caused by groundwater withdrawal. Economic – need funding.
Priority	High

Prepare Public Education Effort for Winterizing Measures

Project Description/ Comments:	Provide educational information to local residents on insulating pipes to reduce damage from winter storms. Find ready-made brochures to distribute.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Severe Winter Storm
Responsible Organization:	Local Emergency Managers
Estimated Costs:	Low
Possible Funding Sources:	HUD if funds are needed
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Due to low cost of awareness programs, the benefits are anticipated to outweigh costs
STAPLEE Review	No concerns raised
Priority	High

Prepare Emergency Action Plans (EAPs) for Several AMAFCA Dams	
Project Description/Comments:	Prepare EAPs, a plan that identifies potential emergency conditions at a dam and outlines the procedures to follow to minimize property damage and loss of life, at the following dams: John B. Robert and Arroyo del Oso Dams (\$100,000) Ladera Dams 0-15 (\$250,000) North Domingo Baca and Kinney Dams (\$50,000) South Domingo Baca Dam (\$50,000) Westgate, Amole and Hubbell Dams (\$200,000)
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Dam Failure
Responsible Organization:	AMAFCA, CABQ, OSE, Bernalillo County
Estimated Costs:	Medium
Possible Funding Sources:	AMAFCA Funds (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018), CABQ for John B. Robert and Arroyo del Oso Dams
Timeline for Implementation:	Within one to two years of Plan adoption except Ladera Dams which will within 5 years of adoption
Cost-Benefit Review:	Benefits of planning for life safety relatively low compared to costs
STAPLEE Review	No concerns raised
Priority	High

Pino Dam Emergency Spillway Modifications

Project Description/ Comments:	For Pino Dam, which is presently an earthen dam, either construct a secondary emergency spillway on the west or south side of the dam and/or add erosion resistant structural elements to the primary emergency spillway. Either proposal must be approved by the Office of the State Engineer.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Dam Failure
Responsible Organization:	AMAFCA, OSE
Estimated Costs:	High (\$3,726,000)
Possible Funding Sources:	AMAFCA (dependent on voter approval of \$25 Million Bond Authorizations to be held in 2014, 2016, and 2018)
Timeline for Implementation:	Within 5 years of adoption
Cost-Benefit Review:	Benefits of planning for life safety relatively low compared to costs
STAPLEE Review	No concerns raised
Priority	High

Explore Options for Mapping of Dam Failure Inundation Areas

Project Description/ Comments:	Map potential dam failure inundation area. The City and AMAFCA will coordinate with the USACE and the NM Dam Safety Bureau (part of OSE) on preparing Emergency Action Plans for jurisdictional dams. Part of this effort will include evaluating options for mapping dam inundation areas where this has not yet occurred.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Dam Failure
Responsible Organization:	Local Emergency Managers
Estimated Costs:	Medium
Possible Funding Sources:	FEMA Risk MAP
Timeline for Implementation:	Within three to five years of Plan adoption
Cost-Benefit Review	Benefits relative to costs would have to be explored in greater detail
STAPLEE Review	No concerns raised
Priority	Medium

Implement Tree Trimming to Protect Power Lines	
Project Description/ Comments:	Trim trees along roadways to prevent interference with power lines during high winds and winter storms. The Public Service Company of New Mexico (PNM) does this through a contract. Public education needs to be a component of the project.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Severe Winter Storm, High Winds
Responsible Organization:	Local Forestry Department, PNM
Estimated Costs:	Low to Medium
Possible Funding Sources:	Incorporate into capital improvements plans
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Due to multiple benefits from tree-trimming, benefits expected to outweigh costs
STAPLEE Review	No concerns raised
Priority	Medium

Continue Implementation of Wildfire Public Education and Outreach Activities	
Project Description/ Comments:	Develop comprehensive education process that includes Fire safety education/prevention and organize community cleanups in high fuel areas. Some efforts are currently in process with the County offering biannual green waste days at County owned facilities and monthly fire prevention classes.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Wildfire
Responsible Organization:	Local emergency managers
Estimated Costs:	Low
Possible Funding Sources:	USFS; County and Municipal Budgets
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Due to low cost of awareness programs, the benefits are anticipated to outweigh costs
STAPLEE Review	No concern raised but funds will need to be continually budgeted for this activity.
Priority	Medium

Well Safety Education Program	
Project Description/ Comments:	Local Emergency Managers will work with the New Mexico Department of Health to provide educational information for residents of the county's unincorporated areas on avoiding water well contamination due to flooding. Materials will include methods for well decontamination after flood events. Some notification for County residents is already in place. Attach educational information to County permits and website. The Health Department can help address waterborne disease. Materials should be multi-lingual.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood
Responsible Organization:	Bernalillo County Emergency Management, Bernalillo County Health Department, New Mexico Environment Department, New Mexico State Engineer's Office, New Mexico Department of Health
Estimated Costs:	Low
Possible Funding Sources:	Local budgets
Timeline for Implementation:	Within 2 to 3 years of Plan adoption
Cost-Benefit Review	Due to low cost, the benefits are anticipated to outweigh costs
STAPLEE Review	No concerns raised
Priority	Medium

Expand existing projects to use treated effluent for non-potable uses.	
Project Description/ Comments:	City of Albuquerque and Bernalillo County already use treated effluent to irrigate golf course and limited number of city parks. Existing programs can be expanded and thereby reduce current use of potable water.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Drought
Responsible Organization:	City of Albuquerque and Bernalillo County Public Works departments
Estimated Costs:	Moderate - Project cost estimated at \$250,000
Possible Funding Sources:	Office of State Engineer, State legislative funds, Pre-Disaster Mitigation Assistance funds administered by NMOEM, Hazard Mitigation Grant Program Technical Assistance funds administered by NMOEM
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Economic benefits expected to outweigh the costs. New water sources cost more than \$6,000/acre-foot of water. Each acre-foot of water typically serves three households. Re-use of treated effluent equals cost of adding 125 new households.
STAPLEE Review	Economic – need funding.
Priority	Medium

Promote and Expand Drought Indicator/Early Warning System	
Project Description/ Comments:	Promote and expand a system that detects levels of soil moisture and stream/river levels to determine when conditions are trending toward a drought. Some warning is available from USDA.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Drought
Responsible Organization:	Local emergency management
Estimated Costs:	Low
Possible Funding Sources:	NRCS, USDA
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Benefits relative to costs would have to be explored in greater detail
STAPLEE Review	Economic – need funding.
Priority	Medium

Increase awareness of potential for earthquakes in Bernalillo County	
Project Description/ Comments:	Although earthquakes are rare in Bernalillo County, earthquakes should be included in other disaster information literature and programs already in place. Information should include what to do before, during, and after an earthquake. Part of the education effort will be on the dangers of how an earthquake may affect AMAFCA facilities and what the public should be aware of if high rains occur after a flood event in relation to damaged AMAFCA facilities.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Earthquake
Responsible Organization:	Bernalillo County Office of Homeland Security and Emergency Management; City of Albuquerque Office of Emergency Management
Estimated Costs:	Minimal
Possible Funding Sources:	FEMA Earthquake Program, General Fund
Timeline for Implementation:	Within 12 months of Plan adoption
Cost-Benefit Review	Due to low cost of awareness programs, the benefits are anticipated to outweigh costs
STAPLEE Review	No concerns raised
Priority	Medium

Increase Warning Capabilities	
Project Description/ Comments:	Increase number of sirens and radios/televisions with warning capabilities, in public buildings, parks, and recreational areas to announce alerts from the Emergency Alert System and National Weather Radio for the public. Alert the public of potential severe weather including wind, tornado, hail storms or other severe weather.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	High Wind, Tornado, Hail Storms, Flash Flooding
Responsible Organization:	Bernalillo County, City of Albuquerque, Village of Los Ranchos de Albuquerque and Village of Tijeras Fire Departments and Offices of the Emergency Managers/Bernalillo County EOC Manager; Albuquerque EOC Manager; Tijeras Fire Chief
Estimated Costs:	Medium (~\$40,000)
Possible Funding Sources:	Local budgets, FEMA
Timeline for Implementation:	Within 12 months of Plan adoption
Cost-Benefit Review	Due to relatively low cost and life safety benefits, the overall benefits are anticipated to outweigh costs
STAPLEE Review	No concerns raised
Priority	Medium

Install Generators at Critical Facilities	
Project Description/ Comments:	This project would allow for fixed diesel powered generators be installed at critical facilities to ensure continuity of emergency services to the public during high hazard events.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Flood, Drought, Severe Winter Storms, High Wind, Thunderstorm, Earthquake, Dam Failure, Tornado
Responsible Organization:	Local Emergency Management Divisions
Estimated Costs:	Medium
Possible Funding Sources:	Local budgets, New Mexico Department of Transportation, FEMA
Timeline for Implementation:	Within 2 to 3 years of Plan adoption
Cost-Benefit Review	Life safety benefits expected to outweigh the relatively low costs
STAPLEE Review	No concerns raised
Priority	Medium

Establish Lightning Safety Program for Bernalillo County Residents

Project Description/ Comments:	Raise awareness among Bernalillo County residents of dangers of lightning and what to do in a lightning storm. Obtain ready-made guides and brochures from sources like FEMA. Draft a Plan for lightning safety at outdoor events where large crowds of people are expected to gather.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Thunderstorms
Responsible Organization:	Local Emergency Managers
Estimated Costs:	Minimal
Possible Funding Sources:	Some staff time needed
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Due to low cost of awareness programs, the benefits are anticipated to outweigh costs
STAPLEE Review	No concerns raised
Priority	Medium

Evaluate Methods for Protecting Public Buildings from Lightning Strike Damage

Project Description/Comments:	Install a surge protector system for protecting electronic equipment from direct lightning strikes. Severe weather plan to take the extra step of disconnecting especially sensitive equipment.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Thunderstorms
Responsible Organization:	Local Emergency Managers
Estimated Costs:	Low to Medium
Possible Funding Sources:	Incorporate into capital improvements plans
Timeline for Implementation:	Within two to three years of Plan adoption
Cost-Benefit Review	Due to high cost of data loss and relative low cost of project, the benefits are anticipated to outweigh the costs
STAPLEE Review	No concerns raised
Priority	Medium

Activate Shelter Plan to Set up a Public Cooling Centers

Project Description/ Comments:	Activate and set up cooling centers in well-known centrally located public facilities that will serve as a shelter to vulnerable populations (particularly the elderly and families with infants and toddlers) during periods of extreme heat following the existing procedures from Annex J of the Emergency Operations Plan (EOP). Work with NM Department of Health-BHEM Vulnerable Populations Coordinator for specifics on addressing vulnerable populations.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Extreme Heat
Responsible Organization:	Local Emergency Managers
Estimated Costs:	Low to Medium (cost of generators)
Possible Funding Sources:	HUD, potentially FEMA
Timeline for Implementation:	Within two to three years from Plan adoption
Cost-Benefit Review	Due to potential health risks due to extreme heat, the benefits are anticipated to outweigh the costs
STAPLEE Review	No concerns raised
Priority	Medium

Map known landslide areas and debris flow run-out zones

I. MITIGATION

City of Albuquerque,
New Mexico,

Project Description/ Comments:	USGS produced landslide maps approximately 20 years ago based on aerial photographs of steep regions throughout New Mexico. There is a need to produce landslide maps in digital format based on this mapping for the use of individual counties and municipalities. The Department of Transportation also has landslide information that is used for design and maintenance priorities. This information, as well as reported landslide areas, should could enhance the accuracy of the USGS product and produce beneficial information for Bernalillo County and its jurisdictions.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Landslide
Responsible Organization:	Bernalillo County, CABQ, USGS, assistance from State of New Mexico
Estimated Costs:	Low to medium
Possible Funding Sources:	State and local budget possibly from current staff and resources, USGS, DOT, HMGP, PDM
Timeline for Implementation:	60 months
Cost-Benefit Review	Mapping may range from low to medium cost but provides essential information needed for other projects.
STAPLEE Review	No concerns raised
Priority	Medium

Bury Power Lines

Project Description/ Comments:	Bury all power lines in Bernalillo County to reduce the incident of a downed tree hitting a power line or ice affecting lines. New development in the City is required to bury power lines (except high voltage lines).
Jurisdiction:	Bernalillo County, City of Albuquerque, Village of Tijeras, Village of Los Ranchos de Albuquerque
Hazard(s) Addressed:	Wildfire, Severe winter storms, thunderstorms, high wind
Responsible Organization:	Municipal utilities, PNM
Estimated Costs:	High
Possible Funding Sources:	Work with utility companies and Incorporate into capital improvements plans
Timeline for Implementation:	Within three to five years of Plan adoption
Cost-Benefit Review	Costs are high; individual BCA would need to be run
STAPLEE Review	Costs (economic) are a concern.
Priority	Low

Review and update existing building codes for earthquakes	
Project Description/ Comments:	Building codes are the first line of defense against earthquake damage. Adopt new building codes, as necessary, to ensure adequacy in respect to potential earthquake risk. AMAFCA to evaluate its facilities for vulnerability to earthquakes.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Earthquake
Responsible Organization:	Bernalillo County Building, Planning, and Zoning Department/Building Official
Estimated Costs:	Low
Possible Funding Sources:	Local budgets
Timeline for Implementation:	Within 12 months of Plan adoption
Cost-Benefit Review	Relative low costs for review and consideration so the benefits are anticipated to outweigh costs
STAPLEE Review	Political – code changes are difficult to implement.
Priority	Low
Conduct Technical Assistance Visits to help homeowners implement non-structural earthquake	

retrofits of their home	
Project Description/Comments:	Work with home owners to conduct inexpensive, non-structural retrofitting such: as securing appliances, bookcases, cabinet drawers and doors to prevent tipping/opening during an earthquake; securing pictures and framed art to walls; securing hanging fixtures to the ceiling, and applying safety film to glass windows and doors.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Earthquake
Responsible Organization:	Local Emergency Managers
Estimated Costs:	\$500/per home or less
Possible Funding Sources:	HUD funds, FEMA, Homeowner
Timeline for Implementation:	Within three to five years of Plan adoption
Cost-Benefit Review	Non-structural retrofits are an inexpensive means of mitigating property damage and personal damage due to the effects of earthquakes.
STAPLEE Review	Administrative and economic – who is able to support and fund this.
Priority	Low

Explore Feasibility of Insulating Water Pipes on Exterior of Public Buildings	
Project Description/Comments:	Insulating the pipes can reduce incidences of pipes bursting and causing interior water damage and loss of water in public buildings. Also consider insulation for unheated spaces.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Severe Winter Storm
Responsible Organization:	Local Emergency Managers
Estimated Costs:	Medium
Possible Funding Sources:	Incorporate into capital improvements plans
Timeline for Implementation:	Within three to five years of Plan adoption
Cost-Benefit Review	Benefits relative to costs would have to be explored in greater detail
STAPLEE Review	No concerns raised
Priority	Low
Further investigations to examine the vulnerability of structures to severe weather and	

hailstorms	
Project Description/ Comments:	As public buildings are constructed or renovated, use hail-resistant metal roofing. County has high percentage of manufactured homes and a number of historic critical facilities. Identify specific vulnerabilities and distribute information about how to strengthen their ability to resist high wind events and hailstorms.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Thunderstorms
Responsible Organization:	Bernalillo County Building Section; City of Albuquerque Building Inspection Section; Village of Los Ranchos de Albuquerque Planning Department
Estimated Costs:	Low / \$80,000
Possible Funding Sources:	Incorporate into capital improvements plans / Bernalillo County, Pre-Disaster Mitigation Assistance funds administered by NMOEM, Hazard Mitigation Grant Program Technical Assistance funds administered by NMOEM
Timeline for Implementation:	Within three to five years of Plan adoption / Within 24 months of adoption of Plan
Cost-Benefit Review	Benefits relative to costs would have to be explored in greater detail
STAPLEE Review	Economic – retrofits can be costly and funding needs to identified.
Priority	Low

Implement Residential Safe Room Rebate Program

I. MITIGATION

Project Description/Comments:	Implement program to encourage individuals to construct safe rooms at residential homes by implementing a safe room rebate program to reimburse a portion of the construction costs.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Tornados, High Winds
Responsible Organization:	Local Emergency Managers
Estimated Costs:	Medium
Possible Funding Sources:	FEMA
Timeline for Implementation:	Within three to five years of Plan adoption
Cost-Benefit Review	Benefits relative to costs would have to be explored in greater detail
STAPLEE Review	No concerns raised
Priority	Low

Tornado Warning System	
Project Description/Comments:	Purchase and install a tornado warning system
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Tornados
Responsible Organization:	Local Emergency Managers
Estimated Costs:	Low to Medium
Possible Funding Sources:	FEMA
Timeline for Implementation:	Within three to five years of Plan adoption
Cost-Benefit Review	Benefits relative to costs would have to be explored in greater detail
STAPLEE Review	No concerns raised
Priority	Low

Evaluate Options for Dam Failure Warning System

Project Description/ Comments:	Coordinate with other communities and dam operators to develop a gauge and communication system that would provide warning in event of a dam failure. The City and AMAFCA are working with AFD to evaluate systems for arroyo flooding.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Dam Failure
Responsible Organization:	Local Emergency Managers
Estimated Costs:	Medium
Possible Funding Sources:	USGS, FEMA
Timeline for Implementation:	Within three to five years of Plan adoption
Cost-Benefit Review	Benefits relative to costs would have to be explored in greater detail
STAPLEE Review	No concerns raised
Priority	Low

Conduct fan drive to prepare for periods of extreme heat

Project Description/ Comments:	Collect and distribute fans to most vulnerable residents (generally the elderly) during periods of extreme heat. Develop a list of vulnerable residents ahead of any extreme heat.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Extreme Heat
Responsible Organization:	Local Emergency Managers
Estimated Costs:	Volunteer time and efforts
Possible Funding Sources:	Local donations
Timeline for Implementation:	Within three to five years from Plan adoption
Cost-Benefit Review	Due to potential health risks due to extreme heat and voluntary nature of this effort, the benefits are anticipated to outweigh the costs
STAPLEE Review	No concerns raised
Priority	Low

Anchor slope mesh over areas prone to landslides that threaten infrastructure and critical facilities

Project	Areas within Bernalillo County are vulnerable to landslides due to slope erosion.
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I. MITIGATION

Description/ Comments:	Anchor heavy-gauge metal slope mesh over areas prone to landslides along transportation routes and near critical facilities in areas of high vulnerability.
Jurisdiction:	City of Albuquerque
Hazard(s) Addressed:	Landslide
Responsible Organization:	Bernalillo County Office of Emergency Management/Emergency Manager and Bernalillo County Public Works Department
Estimated Costs:	Medium – estimated originally at \$100,000
Possible Funding Sources:	General Fund
Timeline for Implementation:	Within one year of Plan adoption
Cost-Benefit Review	Protection of transportation routes and critical facilities will minimize damage and protect lives in the event of a landslide.
STAPLEE Review	No concerns raised
Priority	Low

E. References.

1. Federal.
 - a. The Disaster Mitigation Act of 2000.
 - b. Section 409 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (P.L. 93-228, as amended).
 - c. 44 CFR Part 206 Subpart M for implementing Section 409.
 - d. FEMA Hazard Mitigation Assistance (HMA) Tool for Identifying Duplication (Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program) July 12, 2013.
2. State.
 - State of New Mexico Hazard Mitigation Plan, September 2010.
3. County.
 - Bernalillo County/City of Albuquerque Hazard Mitigation Plan.
4. City of Albuquerque.

- a. Comprehensive Emergency Management Plan.
- b. Codes: Fire Prevention, Land Use, Zoning, Building.
- c. Municipal Codes: Fire Prevention, Land Use, Zoning, Building.