APPENDIX A Acronyms

This page intentionally left blank.



ACRONYMS AND ABBREVIATIONS

44 CFR §201.6 CFR Title 44, Section 201.6

2012 HMP 2012 Lincoln County All Hazard Mitigation Plan

2018 HMP 2018 Lincoln County Multi-jurisdictional Hazard Mitigation Plan

°F degrees Fahrenheit

Act Robert T. Stafford Disaster Relief and Emergency Assistance Act

APA Approval Pending Adoption

BFE Base Flood Elevation
BIA Bureau of Indian Affairs
BLE Base Level Engineering

BRIC Building Resilient Infrastructure and Communities

CDC Center for Disease Control and Prevention

CFM Certified Floodplain Manager
CFR Code of Federal Regulations

cfs cubic feet per second

CIP Capital Improvement Program

CMP County Master Plan

Co Company

CP Communication Plan

CRS Community Rating System

CWDG Community Wildfire Defense Grant
CWPP Community Wildfire Protection Plan
DFIRM Digital Flood Insurance Rate Map

DHSEM Department of Homeland Security and Emergency Management

DMA 2000 Disaster Mitigation Act of 2000
DOT Department of Transportation

DR Drive

E East

EAP Emergency Action Plan

EMS Emergency Medical Services
EOP Emergency Operations Plan

EPA U.S. Environmental Protection Agency estBFE Estimated Base Flood Elevation Viewer

EWP Emergency Watershed Protection grant program, Natural Resources Conservation

Service

FEMA Federal Emergency Management Agency

FID Federal Identification Number
FIRM Flood Insurance Rate Map

FMA Flood Mitigation Assistance grant program

GIS geographic information system

HAZMAT hazardous material

HAZUS-MH Hazards United States Multi-Hazard

HHPD High Hazard Potential Dam

HIFLD Homeland Infrastructure Foundation Level Data

HMA FEMA Hazard Mitigation Assistance
HMGP Hazard Mitigation Grant Program

HMGP- Post Fire Hazard Mitigation Grant Program - Post Fire

HMP Hazard Mitigation Plan

hrs hours
Hwy Highway
I Interstate

ICIP Infrastructure Capital Improvement Plan inFRM Interagency Flood Risk Management

IPCC Intergovernmental Panel on Climate Change

KBDI Keetch-Byram Drought Index

LAL Lightning Activity Level

LCC Long Continuity Current Lightning

LEPC Local Emergency Planning Committee

LLC Limited Liability Corporation

MP Mile Post/Mile Marker

mph miles per hour

N North

NCA National Climate Assessment
NCDC National Climatic Data Center

NDMC National Drought Mitigation Center
NFIP National Flood Insurance Program
NFPA National Fire Protection Association

NID National Inventory of Dams

NM New Mexico

NMBGMR New Mexico Bureau of Geology and Mineral Resources

NMDOT New Mexico Department of Transportation

NMOSE New Mexico Office of the State Engineer

No. number

NOAA National Oceanic and Atmospheric Administration

NRCS Natural Resources Conservation Service NWCG National Wildfire Coordinating Group

NWS National Weather Service

OES Office of Emergency Services

PDM Pre-Disaster Mitigation grant program

PDSI Palmer Drought Severity Index
PER Preliminary Engineering Report

PNM Power New Mexico

PPOC Primary Points of Contact

PRI Priority Risk Index

PSA Public Service Announcement

RAOB Radiosonde Observation

RAWS Remote Automatic Weather Station

RH relative humidity
RL Repetitive Loss

S South

SEED Safety Evaluation of Existing Dams

SME subject matter expert

Stafford Act Robert T. Stafford Disaster Relief and Emergency Assistance Act

STAPLE+E Social, Technical, Administrative, Political, Legal, Economic, Environmental

State HMP State Hazard Mitigation Plan

SVI rating Social Vulnerability Index rating

USACE United States Army Corps of Engineers
USDA United States Department of Agriculture

USFS United States Forest Service

USGCRP United States Global Change Research Program

USGS United States Geological Survey

VOR Village of Ruidoso

W West

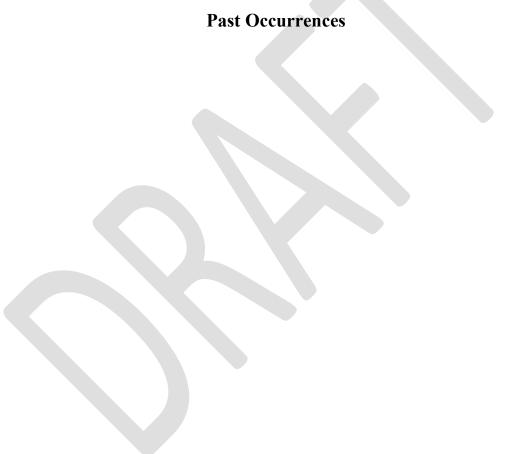
WFIGS Wildland Fire Interagency Geospatial Services

WUI wildland urban interface

WWTP Wastewater Treatment Plant



APPENDIX B



This page intentionally left blank.



PREVIOUS HAZARD OCCURRENCES Through December 2016

B-1 Wildfire

Community	Date	Detailed Description
Village of Ruidoso	4/3/2011 The White Fire	A human-caused wildfire begun in Gavilan Canyon and quickly spread north and northeast as very strong winds fueled the fire. The White Fire crossed Highway 70 near Ruidoso Downs and continued to move toward Forest Service Road 120. Highway 70 between mile markers 265 and 271 was closed for a time. Much of the burned area consists of steep, rough and rocky terrain, which made it difficult to contain the fire. In all, 10,384 acres were scorched, 5 homes and 7 outbuildings were destroyed and another 2 homes and 2 outbuildings were damaged, totaling \$1.5 Million in property damage costs.
Village of Ruidoso	6/16/2011 The Swallow Fire	The Swallow Fire quickly engulfed 9 homes amidst breezy, hot and very dry conditions. This human caused fire, named the Swallow Fire for starting on Swallow Drive, burned 10 acres of land in a wooded Ruidoso neighborhood. Nine homes were lost to the blaze, totaling \$3.50 Million in property damage costs.
Lincoln County	06/28/2011 Donaldson Fire	A wildfire which started on June 28, 2011, named the Donaldson because it started on the ranch of famous newsman Sam Donaldson, was caused by lightning. The high winds caused the fire to pick up intensity as it sped south of Hondo reaching both sides of the Rio Hondo, reaching not only private land but the Mescalero Apache Tribal lands as well. The fire burned approximately over 100,000 acres and caused over \$5 million in damages.

Community	Date	Detailed Description
Lincoln County	08/07/2011 Baton Rouge Fire	Though it was the middle of monsoon, dry fuels and abundant lightning resulted in a new wildfire. The Baton Rouge Complex consumed over 28,000 acres, most of which was within Lincoln County, though some burnout operations occurred just across the border in Chaves County. The Baton Rouge Complex consisted of both the Baton Rouge wildfire and the Flying H wildfire which were started by lightning. In all, the fires burned over 28,000 acres near the Chaves and Lincoln County line. Approximately 10 power poles, which fed a local ranch, were destroyed on the north side of the fire within Lincoln County. Total property damage totaled \$25K.
Lincoln County	04/03/2012 Little Bear Fire	This lightning sparked wildfire erupted on the afternoon of June 4, 2012, then spread rapidly overnight during strong gusty winds. The Little Bear Fire burned approximately 35,300 acres of National Forest System (NFS) Lands on the Smokey Bear Ranger District of the Lincoln National Forest, with total burn area of 44,330 acres, The fire started in the White Mountain Wilderness and ran northeast across six watersheds, including the Rio Bonito, in the mountains directly adjacent to Ruidoso, Alto, and Angus, New Mexico. The burn severity was high to moderate throughout 53% of the fire. The fire destroyed 254 residential structures, 12 outbuildings, and forced numerous evacuations across the region. \$26M in property damage was reported.
Lincoln County	02/09/2015	Persistent high pressure over New Mexico caused a prolonged period of near record to record high temperatures for central and eastern areas. Very warm temperatures on the 9th combined with low humidity values and windy conditions to create critical fire weather conditions for portions of east central New Mexico. No other injuries or property damage were reported. Total property damage was \$6K.

B-2 Flood

Community	Date	Detailed Description
Lincoln County	7/28/2010	Deep monsoon moisture combined with an easterly wave over southeast New Mexico to create widespread heavy rain across northern and central New Mexico. Hardest hit areas were in the vicinity of the central mountain chain, where several flash floods were observed. \$26K in property damage was reported.
City of Ruidoso Downs	7/13/2011	Heavy rains led to flooding in Allison Canyon along U.S. Highway 70 near mile marker 268. Fortunately, residents in the River Ranch RV park along the canyon were evacuated prior to the high water reaching the ranch. An estimated 4 to 6 feet of water flowed through the area. Fortunately, the RV park did not sustain much damage. \$0 in property damage was reported.
Lincoln County Village of Ruidoso	7/28/2010	Deep monsoon moisture combined with an easterly wave over southeast New Mexico to create widespread heavy rain across northern and central New Mexico. Hardest hit areas were in the vicinity of the central mountain chain, where several flash floods were observed. \$26K in property damage was reported.
City of Ruidoso Downs	8/3/2011	Heavy rain fell early in the afternoon across the White Fire burn scar. Fortunately only minor flooding ensued at the time. However, as another round of showers and thunderstorms moved over the burn scar in the evening, more significant flooding resulted. Culverts that were built along a road near Seeping Springs that crossed Allison Canyon were already at capacity from the earlier rains. The additional precipitation caused them to give way, which lead to rapid flows along Allison Canyon. These waters reach the River Ranch RV Park along Highway 70. The water was estimated to be three feet high, which topped the concrete barriers that were installed to protect the park. Fortunately, the park did not sustain any damage. \$10K in property damage was reported.

Community	Date	Detailed Description
City of Ruidoso Downs	8/5/2011	A thunderstorm slowing moving to the northeast, dropped significant amounts of rain between Ruidoso and Glencoe. Though the Rio Ruidoso was running high and fast downstream of Ruidoso Downs, the most significant flooding was within the town itself. Water approximately two feet deep flooded the intersection of Highlands and Joe Welch. An SUV attempted to cross the waters but was unsuccessful. Flooding and debris from the White Fire burn scar was also noted along Highway 70. \$0 in property damage was reported.
Lincoln County	8/12/2011	A strong thunderstorm with very heavy rain moved squarely over the White Fire burn scar dumping up to 2 inches per radar estimates. A few hours later, a seemingly typical afternoon thunderstorm north of Clovis produced violent wind gusts as the storm quickly collapsed. \$10K in property damage was reported.
City of Ruidoso Downs	8/20/2011	Heavy rains on the eastern half of the White Fire burn scar led to flash flooding along the Rio Ruidoso downstream toward Glencoe and Hondo. Radar estimates near 3 inches of rain fell in this area. Emergency management reported the Rio Ruidoso out of its banks for a 6 to 10 mile stretch downstream of the White Fire burn scar. High water levels in the canyons and arroyos on the east and south side of the burn scar flowed into the Rio Ruidoso, causing it to flood. Debris from the burn area was piled up on the banks. Near mile marker 272.5 on Highway 70, portions of the Rio de Oso Trailer park was underwater. \$0 in property damage was reported.
City of Ruidoso Downs	8/21/2011	Upper level high pressure was centered over New Mexico resulting in very light and erratic steering winds aloft. This coupled with sufficient moisture aided in the development of slow-moving heavy rain producing thunderstorms over and near the central mountain chain and western high terrain. Flash flooding was observed over the Little Bear burn scar. The Rio Ruidoso was reported to be out of its banks along U.S. Highway 70 at Fox Cave. \$0 in property damage was reported.

Community	Date	Detailed Description
Village of Ruidoso City of Ruidoso Downs	8/21/2012	Upper level high pressure was centered over New Mexico resulting in very light and erratic steering winds aloft. This coupled with sufficient moisture aided in the development of slow-moving heavy rain producing thunderstorms over and near the central mountain chain and western high terrain. Flash flooding was observed over the Little Bear burn scar. A swift water rescue was conducted near Gavilan Canyon. \$0 in property damage was reported.
Lincoln County	6/22/2012	Slow moving showers and thunderstorms developed early in the afternoon over the Little Bear burn scar. Heavy and prolonged rain was received over portions of a recent wildfire burn scar leading to flash flooding. Three hundred yards of forest service road 107 washed out between Runnels Stables on northwest end of Little Bear burn scar and Bonito Lake. \$50K in property damage was reported.
Lincoln County	7/5/2012	This pattern maintained a persistent south to north steering component within a deep monsoonal moisture plume over the state. Precipitable water values were 150-200% of normal. Narrow stream channels quickly rose with water levels reaching a depth of 4 feet. the flood waters moved debris and boulders the size of car tires 10 to 15 feet downstream. \$10K in property damage was reported.
Lincoln County	7/7/2012	Monsoonal moisture plume over much of western and central portions of the state led to continued development of isolated to scattered showers and thunderstorms across much of the area. Development of storms to the north of the Little Bear Fire burn scar led to flooding in portions of the scarred area. A partial road collapse occurred along Old Bonito Lake Rd due to flash flood undercuts and encroachments. \$25K in property damage was reported.
Lincoln County	9/6/2012	A weak back door cold front pushed into the state ushering in lower level moisture and creating a favorable environment for afternoon shower and thunderstorm development. Large rocks and boulders were washed over portions of Forest Road 107 making it impassable. Rainfall amounts of nearly one inch were reported near the area where the flash flooding took place. \$2K in property damage was reported.

Community	Date	Detailed Description
Lincoln County	8/1/2013	A persistent area of training thunderstorms over south-central Lincoln County produced heavy rainfall over the Little Bear burn scar. The first round of heavy rainfall dumped around 1 inch of rainfall in the area from the White burn scar west across Ruidoso to the Little Bear burn scar. \$1K in property damage was reported.
Lincoln County	9/13/2013	Heavy rainfall over the Rio Bonito watershed led to a 23 feet rise in Bonito Lake. The lake rose from 22 feet below the spillway to 8 inches over the spillway. Emergency operations were in place due to significant concerns regarding a breach of the spillway. No breach occurred. Eagle Creek was out of banks and flooded a nearby playground along NM 48. There was no property damage.
Lincoln County	9/18/2013	A weak upper level jet axis focused directly over central New Mexico interacted with abundant low level moisture entrenched over the region to produce scattered strong to severe thunderstorms. These storms were slow-moving and in many cases trained over the same areas repeatedly through the afternoon and early evening hours. Heavy rainfall with this convective activity fell on already saturated soil conditions and exacerbated flooding concerns after a historic week of flooding. NM 247 closed between mile markers 0 and 48 due to flooding. \$0 in property damage was reported.
Lincoln County	7/14/2014	A couple severe thunderstorms erupted over the area given the presence of strong vertical wind shear. The most severe flooding occurred well after sunset when training thunderstorms around the Espanola area produced prolific rainfall amounts. \$0 in property damage.

Community	Date	Detailed Description
Village of Capitan	9/21/2014	Many areas from the upper Gila region of Catron County eastward across Socorro and Lincoln counties into the eastern plains reported 4 day rainfall amounts of 2 to nearly 5 inches. This prolonged heavy rainfall event and abundant remnant moisture set the stage for flash flooding as a second upper disturbance approached from northwestern Mexico on the 21st. A large area of heavy rainfall shifted very slowly north across Lincoln and Chaves counties resulting in flash flooding. Flooding was reported on State Road 246 at mile markers 4,27-29, and 55-56. Pavement was damaged at mile marker 29. The highway was closed from Capitan to Roswell. \$130K in property damage was reported.
Lincoln County	9/4/2014	A monsoon moisture surge containing the remnants of two tropical systems moved into the state from the south and southwest. Mud and debris was reported on State Road 107 west of Bonito Lake. \$0 in property damage.
Lincoln County	9/21/2014	Many areas from the upper Gila region of Catron County eastward across Socorro and Lincoln counties into the eastern plains reported 4 day rainfall amounts of 2 to nearly 5 inches. This prolonged heavy rainfall event and abundant remnant moisture set the stage for flash flooding as a second upper disturbance approached from northwestern Mexico on the 21st. A large area of heavy rainfall shifted very slowly north across Lincoln and Chaves counties resulting in flash flooding. Flooding was reported on State Road 246 at mile markers 4,27-29, and 55-56. Pavement was damaged at mile marker 29. The highway was closed from Capitan to Roswell. \$130K in property damage was reported.
Lincoln County	9/24/2014	A strong back door cold front shifted southwest over eastern New Mexico on the 24th, setting the stage for severe thunderstorms and more heavy rainfall. Large rocks that disrupted traffic were swept onto US 380 due to intense runoff.\$0 in property damage.

Community	Date	Detailed Description
Lincoln County	7/12/2015	One storm in particular to the west of Ruidoso near Bonito Lake produced a significant localized flash flood near Orchard Campground and Marthas Canyon. Several points on the road were washed over with flood waters, mud, rocks, and debris. A significant wash out with debris near Orchard Campground west of Bonito Lake. A couple places along highway 107 were impassable due to flowing water and debris. Marthas Canyon was the hardest hit. \$10K in property damage was reported.
Lincoln County	8/10/2015	The largest hail reported was quarter size near Logan, an area that also received 5.05 inches of rain throughout the event. The heavy rains produced flash flooding along U.S. Highway 54 between Corona and Carrizozo, causing the road to be closed for 45 minutes. \$10K in property damage was reported.
Lincoln County	9/9/2015	Several storms quickly became strong then eventually severe with large hail and high winds. This activity merged into a large cluster of slow- moving storms around Lincoln County later in the afternoon where localized flash flooding impacted state road 462. \$0 in property damage was reported.

B-3 Thunderstorms (includes Thunderstorms, Lightning, and Hail)

Community	Date	Detailed Description
Village of Corona	6/21/2011	A strong back door cold front brought moisture into eastern New Mexico and up against the east slopes of the central mountains. The combination of moisture, lift and instability triggered showers and thunderstorms over the eastern half of the state, with a couple of storms turning severe. The magnitude of hail was 0.88 in. with \$0 property damage.
Lincoln County	8/12/2011	A strong thunderstorm with very heavy rain moved squarely over the White Fire burn scar dumping up to 2 inches per radar estimates. A few hours later, a seemingly typical afternoon thunderstorm north of Clovis produced violent wind gusts as the storm quickly collapsed. \$10K in property damage was reported.
Village of Ruidoso	5/21/2012	Numerous reports of severe thunderstorm wind gusts, large hail, and even funnel clouds were received. Quarter size hail reported 2 miles southeast of Ruidoso. No property damage was reported.

Community	Date	Detailed Description
City of Ruidoso Downs	6/16/2012	A complex of thunderstorms that developed over northeastern New Mexico moved southeast and produced a large scale severe outflow boundary with winds of 60 to 70 mph. Hail magnitude was 1.00 in. and no property damage was reported.
Lincoln County	6/22/2012	Slow moving showers and thunderstorms developed early in the afternoon over the Little Bear burn scar. Heavy and prolonged rain was received over portions of a recent wildfire burn scar leading to flash flooding. Three hundred yards of forest service road 107 washed out between Runnels Stables on northwest end of Little Bear burn scar and Bonito Lake. \$50K in property damage was reported.
Lincoln County	7/5/2012	This pattern maintained a persistent south to north steering component within a deep monsoonal moisture plume over the state. Precipitable water values were 150-200% of normal. Narrow stream channels quickly rose with water levels reaching a depth of 4 feet. the flood waters moved debris and boulders the size of car tires 10 to 15 feet downstream. \$10K in property damage was reported.
Lincoln County	7/7/2012	Monsoonal moisture plume over much of western and central portions of the state led to continued development of isolated to scattered showers and thunderstorms across much of the area. Development of storms to the north of the Little Bear Fire burn scar led to flooding in portions of the scarred area. A partial road collapse occurred along Old Bonito Lake Rd due to flash flood undercuts and encroachments. \$25K in property damage was reported.
Lincoln County	9/6/2012	A weak back door cold front pushed into the state ushering in lower level moisture and creating a favorable environment for afternoon shower and thunderstorm development. Large rocks and boulders were washed over portions of Forest Road 107 making it impassable. Rainfall amounts of nearly one inch were reported near the area where the flash flooding took place. \$2K in property damage was reported.

Community	Date	Detailed Description
Lincoln County	6/7/2013	Severe outflow winds, localized wind damage, large hail, locally heavy rainfall, and significant blowing dust were reported with some of these storms. The most severe thunderstorms produced baseball size hail around Arabela and damaging wind in excess of 70mph. The magnitude of the hail was 2.15 in. and the property damage was \$1k.
Lincoln County	7/2/2013	Showers and thunderstorms initially developed over the peaks of the northern high terrain and drifted south throughout the day as storms increased in both coverage and intensity. The magnitude of the hail was 1.75 in. and caused \$1K in property damage.
Lincoln County	8/1/2013	A persistent area of training thunderstorms over south-central Lincoln County produced heavy rainfall over the Little Bear burn scar. The first round of heavy rainfall dumped around 1 inch of rainfall in the area from the White burn scar west across Ruidoso to the Little Bear burn scar. \$1K in property damage was reported.
Ruidoso Downs	8/31/2013	A strong thunderstorm that developed around the Ruidoso area produced pea to nickel size hail and heavy rainfall.
Village of Capitan	5/23/2014	Showers and thunderstorms developed over the high plains and moved east as a squall line through the early morning hours on the 24 th . Several reports of pea to quarter size hail, strong damaging winds, and flooding were received across eastern New Mexico. \$0 in property damage was reported.
Village of Corona	6/7/2014	Deep moisture and instability aided in the development of supercell thunderstorms during the afternoon and evening hours along the east slopes of the central mountain chain that moved into the eastern plains. Large, damaging hail, strong winds, heavy downpours, and tornadoes were reported. Hail ranging from 2 to 4 inches in diameter. \$50K property damage was reported.
Lincoln County	9/4/2014	A monsoon moisture surge containing the remnants of two tropical systems moved into the state from the south and southwest. Mud and debris was reported on State Road 107 west of Bonito Lake. \$0 in property damage.

Community	Date	Detailed Description
Lincoln County	9/24/2014	A strong back door cold front shifted southwest over eastern New Mexico on the 24th, setting the stage for severe thunderstorms and more heavy rainfall. Large rocks that disrupted traffic were swept onto US 380 due to intense runoff. no property damage was reported.
Village of Capitan	5/15/2015	Scattered showers and thunderstorms moved northeast over the region, some of which became strong to severe. Quarter size hail was reported at Pep. Unfortunately, a woman was struck by lightning and later passed away.
Village of Corona	10/20/2015	A widespread burst of showers and thunderstorms with heavy rainfall and severe weather surged across much of the area along and south of Interstate 40. Numerous reports of large hail and flooding were received. Magnitude of hail was 1.00 in., and \$0 property damage was reported in this event.

B-4 Winter Storms

Community	Date 1/2010- 1/2016	Detailed Description
Upper Tularosa Valley – covers the region of the Town of Carrizozo	7 reported events	These severe winter storm events consisted of heavy snow ranging from moderate 1 in. to 8 in. \$0 in property damage was reported.
South Central Mountains – covers the region of the Villages of Capitan and Corona	18 reported events	These severe winter storm events consisted of heavy snow ranging from moderate 1 in. to 16 in. \$0 in property damage was reported.
Eastern Lincoln County	16 reported events	These severe winter storm events consisted of heavy snow ranging from moderate 1 in. to 15 in. \$0 in property damage was reported in all events, except for the severe winter storm listed below.
Eastern Lincoln County	12/26/2015	Heavy snow and high winds paralyzed much of eastern Lincoln County through the 30th. Snowfall amounts averaged 12 to 15 inches. The NM EOC reported that a several mile stretch of State Road 246 was buried in a drift up to 15 feet. All roads were closed across this area for a couple days. A large amount of livestock and range land animals were expected to have perished in this event. \$1M in property damage was reported.

B-5 Drought

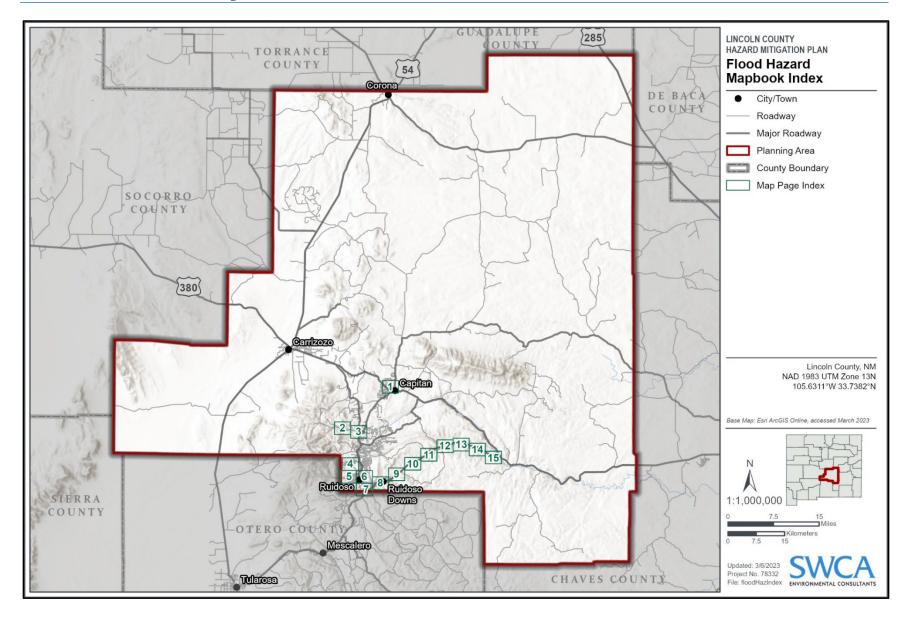
The count of Drought events listed here is based on the U.S. Department of Agriculture emergency declarations.

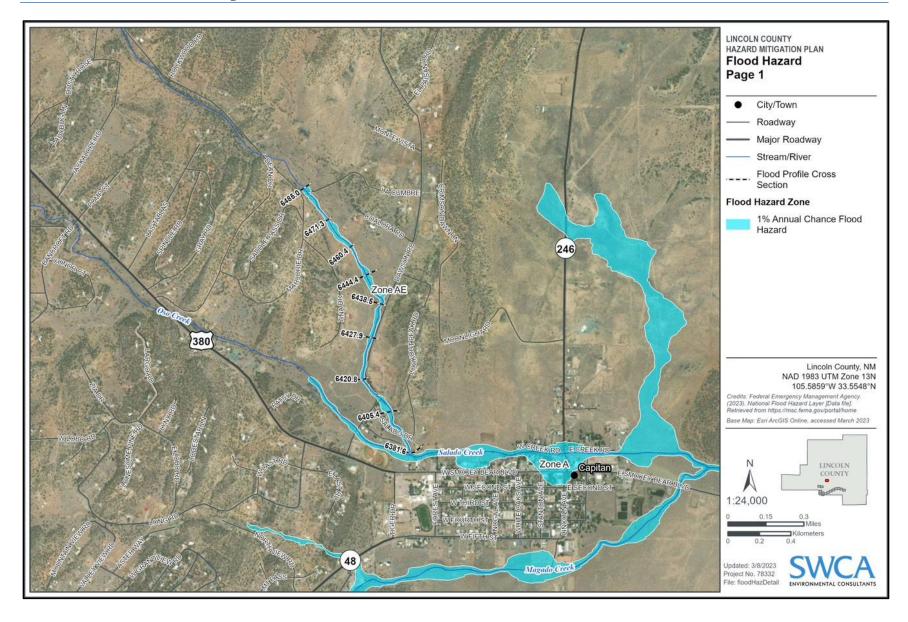
Drought	Date 2010-2016	Detailed Description
South Central Highlands – covers the region of the Villages of Corona and Capitan	62 reported events	These reported drought events ranged from moderate drought (D1, Palmer Drought Severity Index (PDSI) between -2.0 and -2.9), severe drought (D2, PDSI between -3.0 and -3.9), extreme drought (D3, PDSI between -4.0 and -4.9), and exceptional drought (D4, PDSI between -5.0 and -5.9).
Upper Tularosa Valley – covers the region of the Town of Carrizozo	55 reported events	These reported drought events ranged from moderate drought (D1, PDSI between -2.0 and -2.9), severe drought (D2, PDSI between -3.0 and -3.9), extreme drought (D3, PDSI between -4.0 and -4.9), and exceptional drought (D4, PDSI between -5.0 and -5.9).
South Central Mountains – covers the region of the Village of Ruidoso and City of Ruidoso Downs	55 reported events	These reported drought events ranged from moderate drought (D1, PDSI between -2.0 and -2.9), severe drought (D2, PDSI between -3.0 and -3.9), extreme drought (D3, PDSI between -4.0 and -4.9), and exceptional drought (D4, PDSI between -5.0 and - 5.9).
Eastern Lincoln County – covers the region east of the Sacramento Mountains.	55 reported events	These reported drought events ranged from moderate drought (D1, PDSI between -2.0 and -2.9), severe drought (D2, PDSI between -3.0 and -3.9), extreme drought (D3, PDSI between -4.0 and -4.9), and exceptional drought (D4, PDSI between -5.0 and - 5.9).

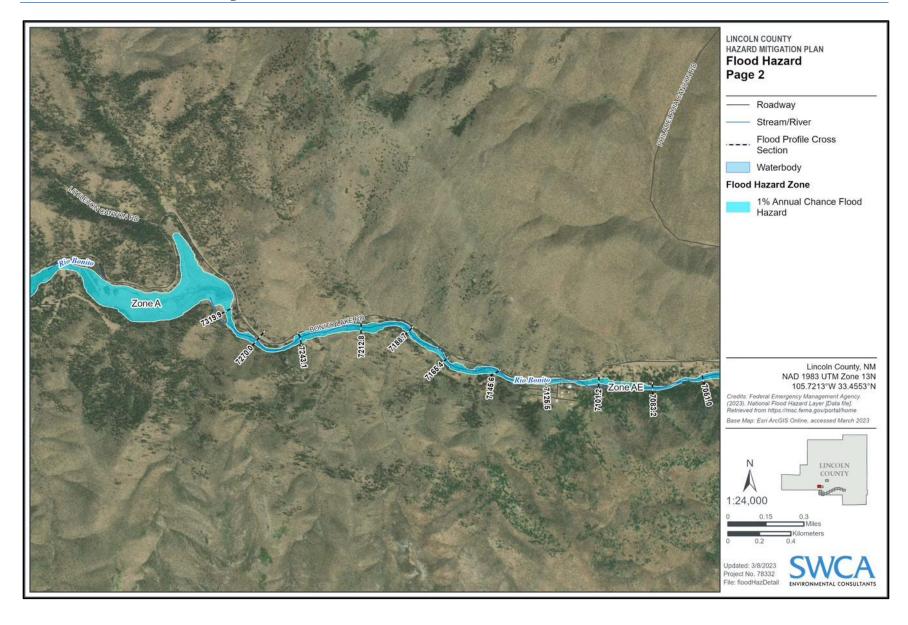
APPENDIX C Flood Hazard Mapbook

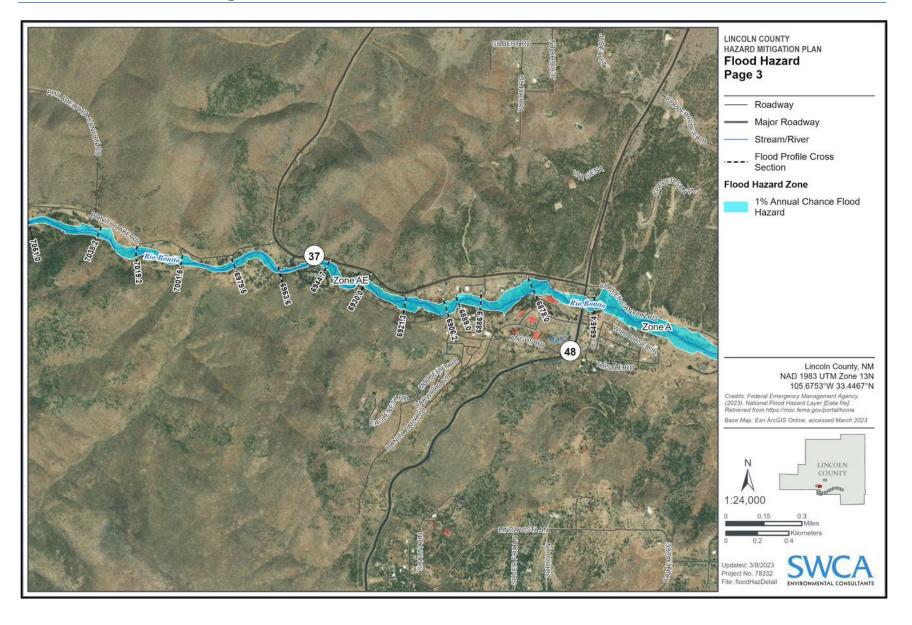
This page intentionally left blank.

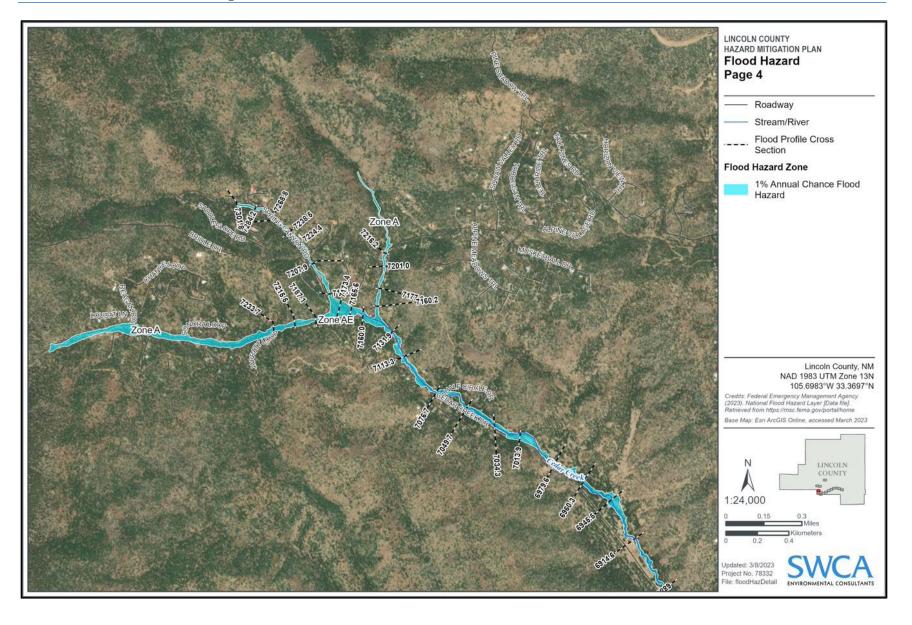


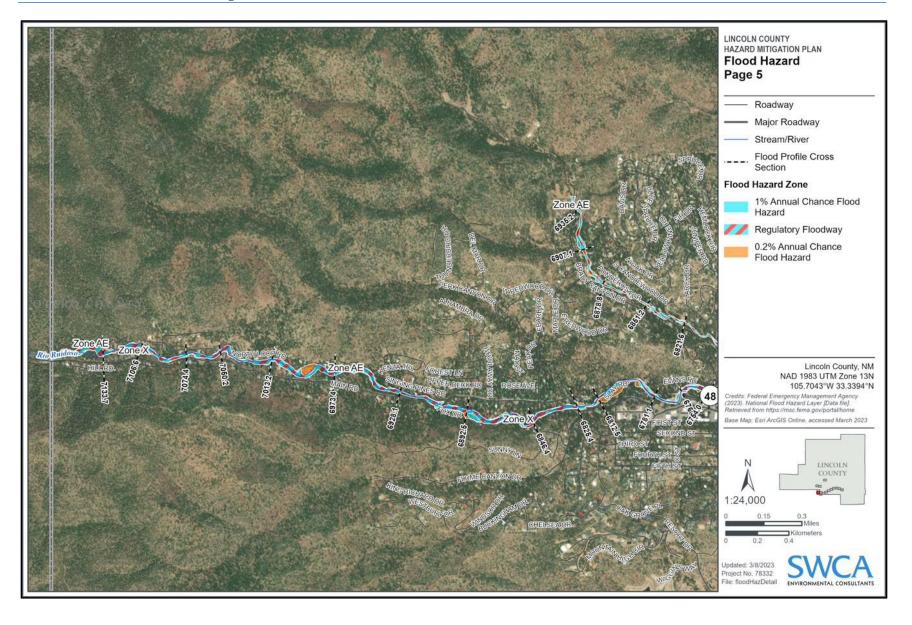


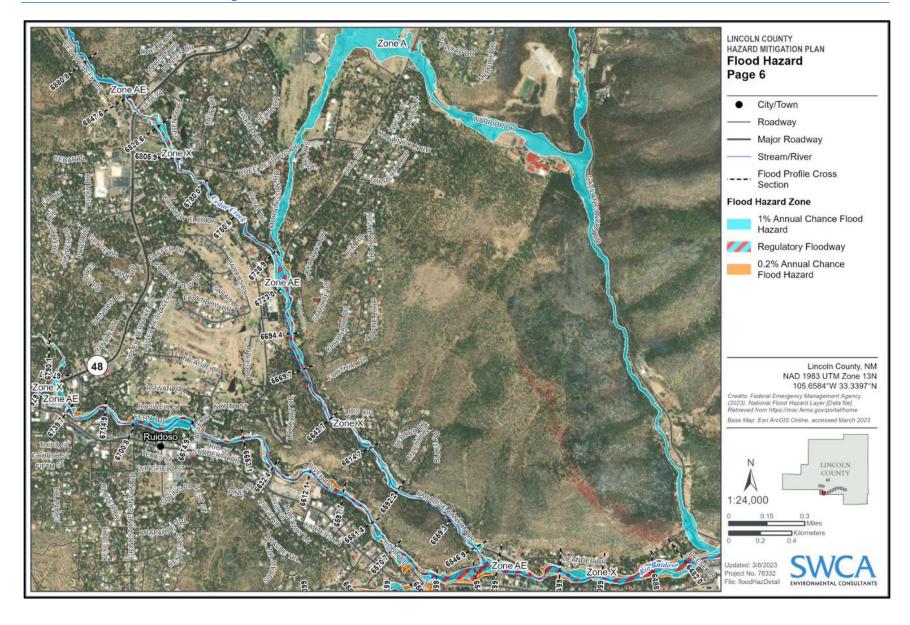


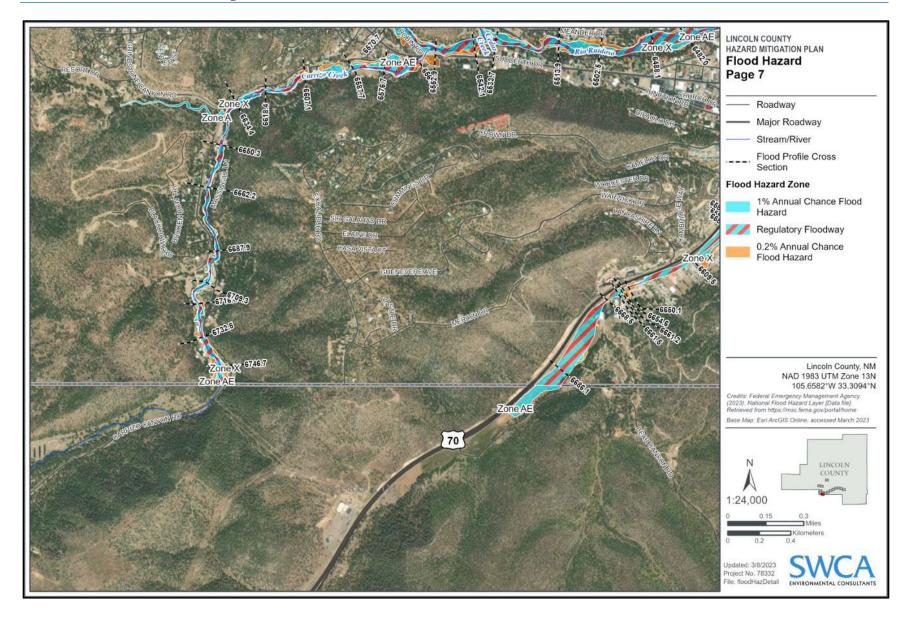


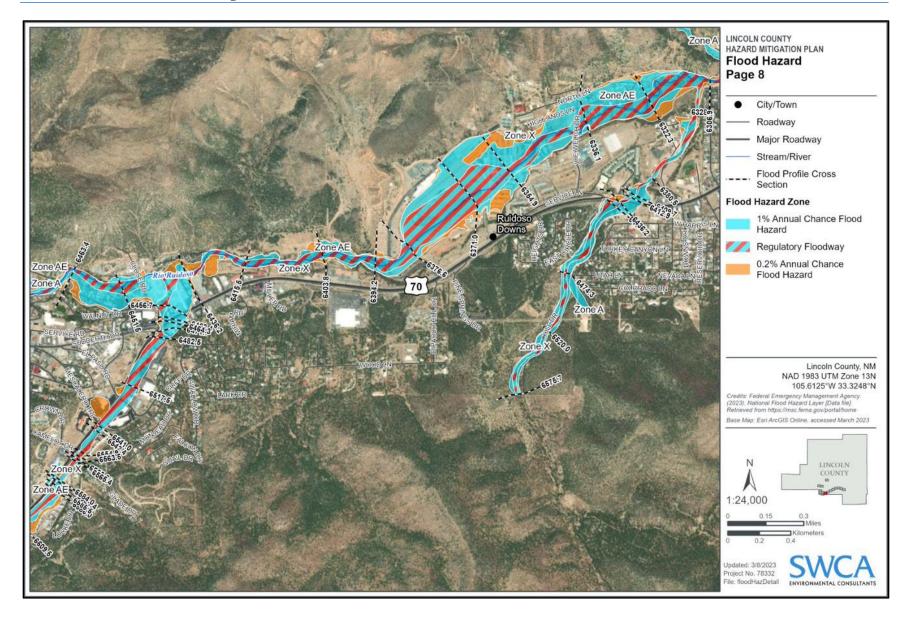


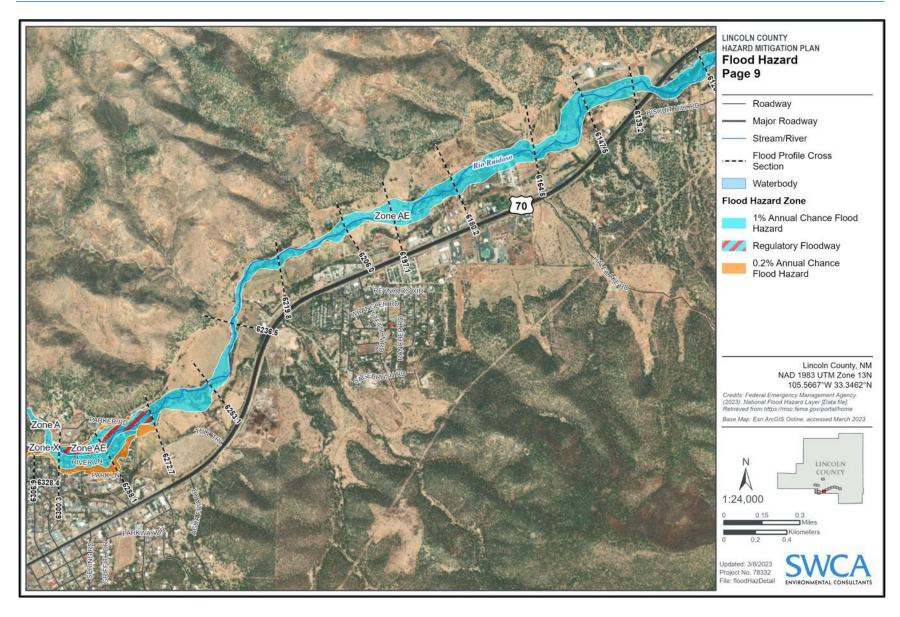


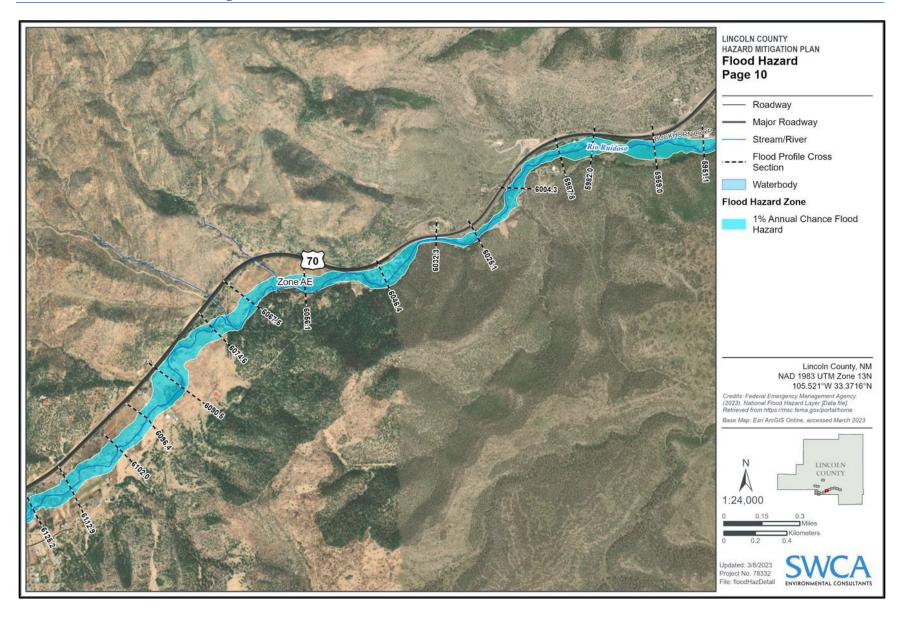


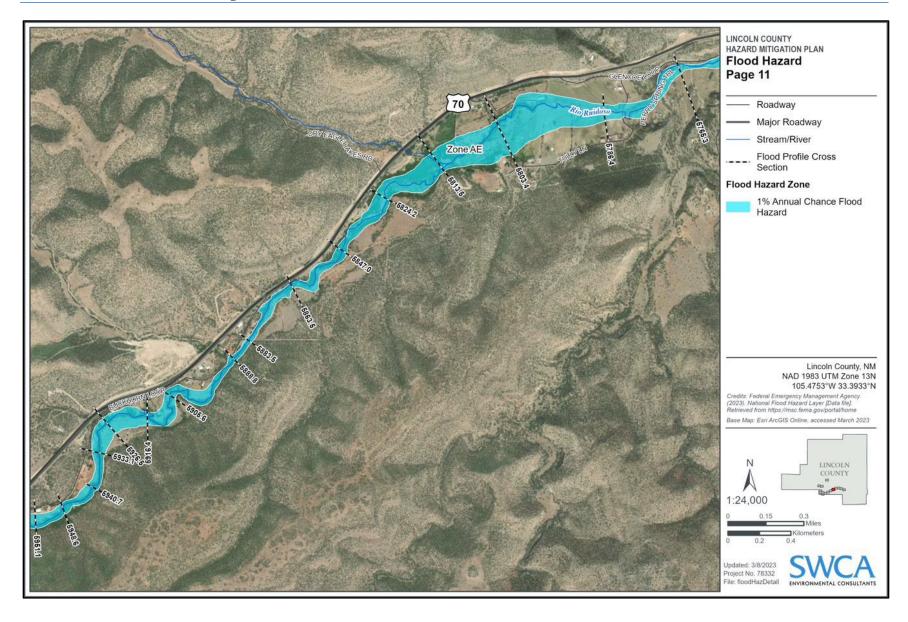


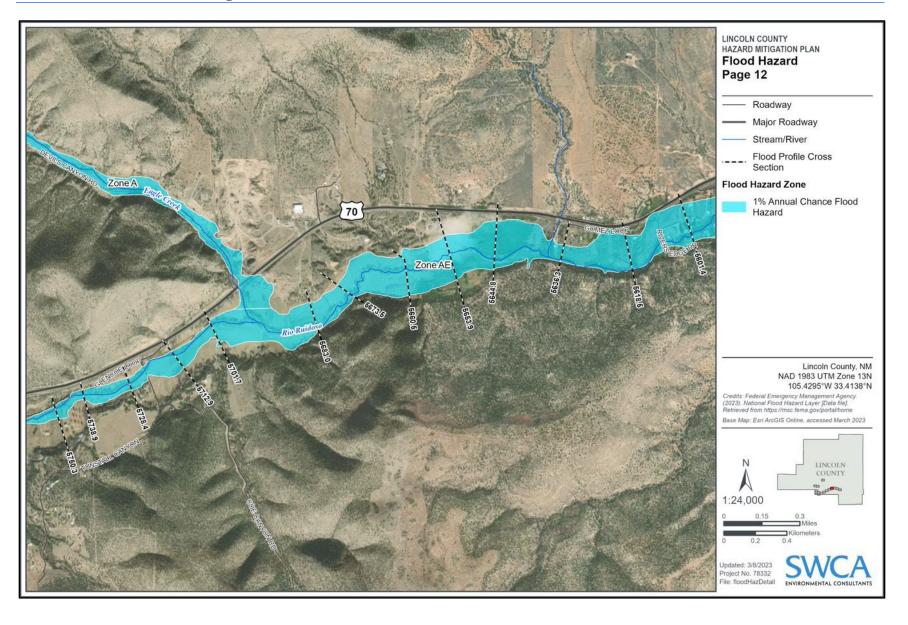


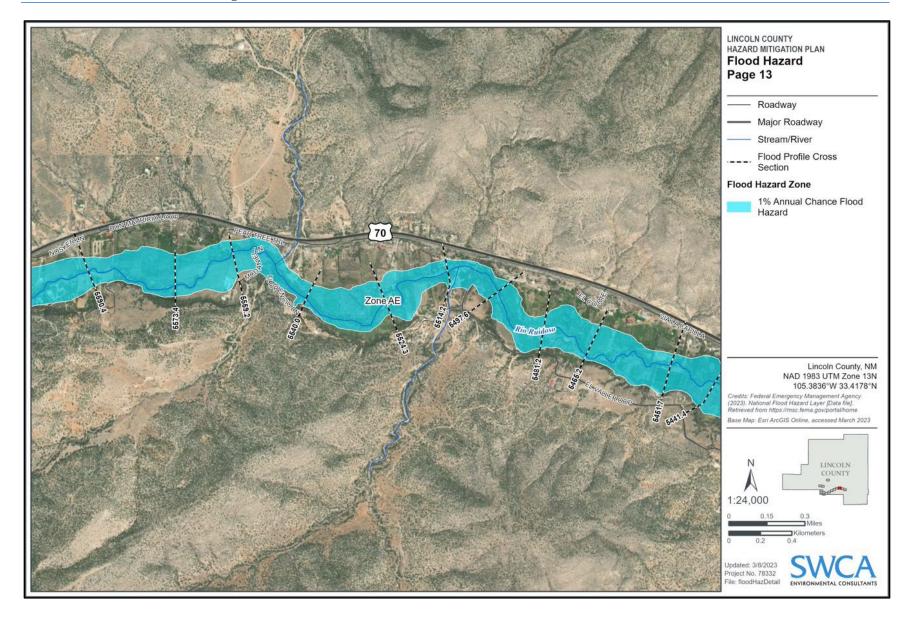


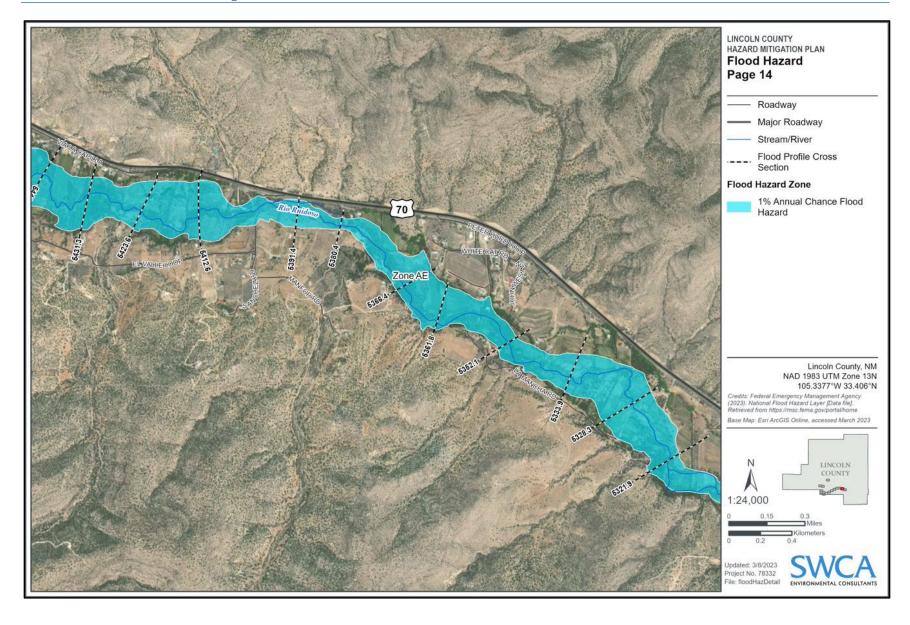


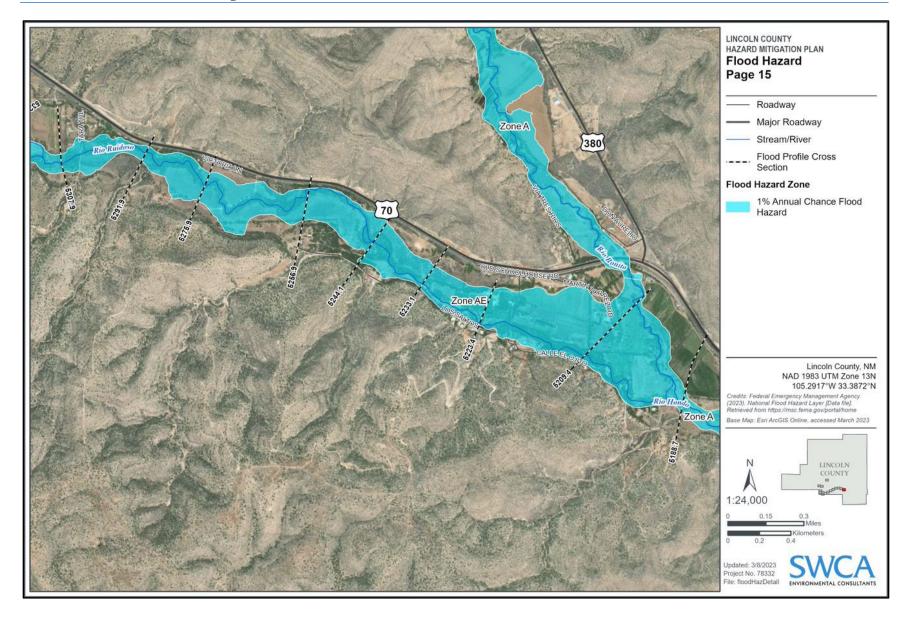












APPENDIX D Village of Ruidoso Fuels Ordinance

This page intentionally left blank.



VILLAGE OF RUIDOSO FUELS MANAGEMENT ORDINANCE

Sec. 42-80. Fuels management standards.

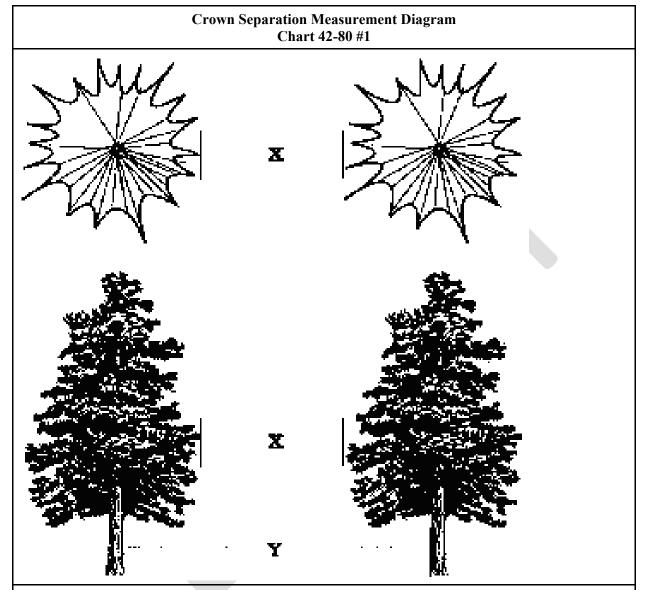
The intent of these standards is to reduce the potential for a catastrophic crown fire within the village while preserving the forested appearance of the village. The goal is to retain a forest environment with a 40 square foot per acre minimum basal area density of mature trees. This translates to 40, 14-inch diameter trees per acre. When computing minimum required basal area, trees smaller than 14-inch diameter will be projected to grow to 14-inch diameter.

- (a) All properties shall meet the following requirements for each particular zone. Upon determination by the village that a property is in compliance, the village will issue a letter to the property owner. Initial thinning should normally last a period of ten years before ladder fuels and tree growth are sufficient to require a maintenance thinning. Maintenance activities such as pine needle raking and ladder fuel removal shall be conducted on a yearly basis. However, circumstances such as drought and bark beetle mortality can cause a property to deviate from these standards and become non-compliant. Should a property not be maintained or otherwise become non-compliant, the property owner will be notified to correct the problem and be given a timeframe for coming back into compliance. Should compliance not be obtained in the established timeframe, the property shall be designated non-compliant and the landowner of record will be assessed a fine, increase in billing, or other penalties that are in effect until such time as the property is again in compliance.
 - (1) Zone 1 Structure Protection (zero to ten feet from structure or deck). This zone should be devoid of flammable vegetation as much as possible. Trees within this zone shall be considered a part of the structure and the zone extended accordingly.
 - a. Remove all non-decomposing pine needles, flammable ground materials and activity slash. Pine needles are to be raked and placed appropriately for Village removal.
 - b. Remove all ladder fuels including shrubs beneath the crown of conifers.
 - c. Separation between crowns is per chart 42-80 #2.
 - d. Maximum of five similar sized trees with overlapping crowns then there must be separation as per chart 42-80 #2.
 - e. Prune all species at least 15 feet above ground and, if tree height permits, ten feet above structure eave.
 - f. Ornamental spruce and planted tree-form conifers that can't be trimmed to structure eave shall be removed or modified through mitigation measures as approved by the Village of Ruidoso such as xeriscaping or vertical and horizontal spacing to reduce ignition risk.
 - g. Removal of any live tree greater than 20 DBH requires a permit.
 - h. No wood chips allowed except in planting beds.
 - i. No firewood stored unless covered by approved fire retardant cover.
 - j. No flammable construction material stored unless covered by fire retardant cover.
 - k. No standing dead trees allowed.
 - 1. Grass and common weeds shall be trimmed low to ground or eliminated.
 - m. Planted vegetation shall be fire resistant and low growing.

- n. There shall be no low growing flammable vegetation such as juniper (including ornamental juniper).
- o. Roofs and gutters shall be kept free of pine needles and other debris.
- (2) Zone 2 Defensible Space (greater than ten feet up to 200 feet from structure or deck as dictated by slope chart 42-80 #3). The intent of this zone is to reduce the threat to a structure from an advancing wildfire.
 - a. Remove all non-decomposing pine needles, flammable ground materials and activity slash within 30 feet of a structure,
 - b. Remove all ladder fuels including brush beneath crowns.
 - c. Minimum crowns separation of trees or "clumps" (maximum five similar sized trees per clump) as per chart 42-80 #2.
 - d. Separation of brush species shall be as per chart 42-80 #2.
 - e. Pine needles and grasses on vacant properties adjacent to residences and within residential areas shall be removed on a yearly basis so as not to provide a continuous fuel source in the event of a wildfire.
 - f. Prune all species a minimum of ten feet from ground within 30 feet of structure or one third of tree height, whichever is less. Ornamental conifers such as Blue Spruce may be left untrimmed providing spacing and low ground fuels are maintained to minimize ignition potential.
 - g. Minimum ten feet recommended between planting beds.
 - h. Removal of any live tree greater than 20 inches DBH requires a permit.
 - i. No wood chips allowed except in planting beds within 30 feet of structure.
 - j. No firewood stacked within 20 feet of structures unless under approved fire retardant cover. All firewood must comply with the beetle habitat reduction requirements contained in subsection 54-133(c)(5)c. Firewood must be stacked with no more than two cords per stack.
 - k. No flammable conifers less than eave height within 20 feet of vents, windows or doors.
 - 1. No standing dead trees within 60 feet of structure
- (3) Zone 3 Forest Woodlands (from the end of zone 2 to the edge of the property). This zone includes vacant lots and properties less than five acres in size. Where the property is within the defensible space of another property, zone 2 standards shall apply. This zone shall maintain an open forested appearance with well-spaced trees and openings. The zone should contain a variety of tree species of various ages. Groups of trees should be of similar ages and heights. Different groups will provide the multiple age structure and size structure.
 - a. Remove all ladder fuels.
 - b. Separation shall be as per chart 42-80 #2.
 - c. Every effort shall be made to remove and utilize bole wood over six inches in diameter.
 - d. Trim all species to six feet or one-third the height of the tree, whichever is less, measuring from the uphill side of the tree. Insure that shorter tree groups are upwind of taller tree groups (acts as ladder fuel).

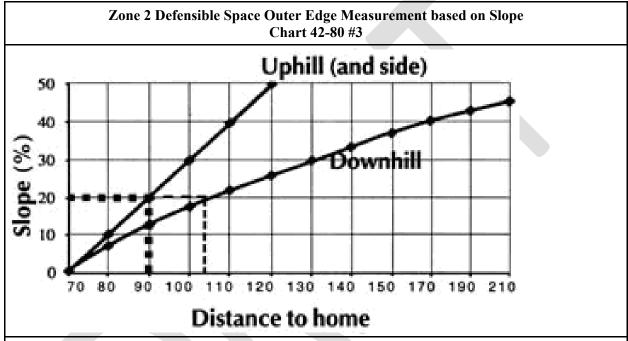
- e. Except when the property has a fuels management plan approved by the director of forestry, removal of any live tree greater than 20 DBH requires a permit.
- f. Mastication and chipping of slash are allowed for slash disposal. Wood depth shall not exceed two inches. Bole wood over six inches in diameter shall be removed.
- g. Where possible all slash shall be removed, masticated or chipped. On steep slopes or where access is limited, alternative fuels management slash treatments may be approved by the director of forestry.
- h. Green wood retained for firewood shall be treated for beetle habitat per subsection 54-133(c)(5)c.
- i. Up to three, 12-inch DBH or larger non-hazardous standing dead trees may be retained per acre for wildlife habitat. Recent beetle killed trees must be harvested and removed or treated as per subsection 54-133(c)(5)c.
- j. All non-decomposing ground debris greater than five inches in diameter shall be removed, except up to five downed logs per acre greater than 12 inches in diameter may be retained for wildlife habitat.
- (4) Large tracts (more than five acres with or without structures). A fuels reduction plan shall be prepared and/or approved on a case by case basis by the director of forestry. Where structures are involved they shall be treated as in zones 1 and 2. The zone shall have an open forested appearance. These properties shall be treated with the intent to keep a wildfire on the ground to minimize spotting potential. The goal of treatment is to prevent a stand replacing crown fire. Some untreated areas may remain to meet agreed upon objectives providing there is sufficient treated area surrounding the untreated areas to mitigate crown fire spread.
 - a. Treated areas of the properties shall have no ladder fuels.
 - b. Separation of trees shall be as per chart 42-80 #2 as near as possible. Modification of this Separation may be approved by the director of forestry to meet specific objectives.
 - c. Perimeter thinning shall be of sufficient width to prevent a sustainable crown fire from advancing to an adjacent property.
 - d. Every effort shall be made to remove and utilize bole wood over five inches in diameter. Bole wood not removed shall be felled along the contour or otherwise treated upon direction of the director of forestry.
 - e. Except when the property has a fuels management plan approved by the director of forestry, removal of any live tree greater than 20 DBH requires a permit.
 - f. Where possible, slash shall be treated with full removal, mastication or chipping. Lop and scatter may be used as a less desirable alternative.
 - g. If lop and scatter is allowed, slash shall be lopped and scattered to less than two feet in depth to accelerate decomposition. Lopped and scattered slash shall not be placed under the drip line of residual trees.
 - h. No standing dead trees are allowed within 150 feet of the property perimeter.
 - i. Trees shall be pruned where appropriate to meet objectives but may be left un-pruned if Separation is adequate to prevent fire movement from tree to tree.

j. If a zone 4 property is used for a commercial purpose, a fuels management plan shall be developed in partnership with the landowner to meet the commercial objectives and manage fuels on the site. The signed plan will be an agreement between the director of forestry and the landowner for the certification period. If the director of forestry and the landowner cannot come to agreement, the matter will be presented to the planning and zoning commission for resolution.



Measure crown separation (X) from the outside of the crown of one tree or clump of trees to the outside of the crown of the next tree.

Minimum Tree Crown and Shrub Clump Separation Chart 42-80 #2								
Percent (%) Slope	Individual Tree Crown Separation	Tree Group Crown Separation	Brush and Shrub Clump Separation in feet					
0-10 %	10′	15'	2½ times shrub height					
11-20%	15′	20′	3 times shrub height					
21-40%	20′	25′	4 times shrub height					
40%	30′	35'	6 times shrub height					



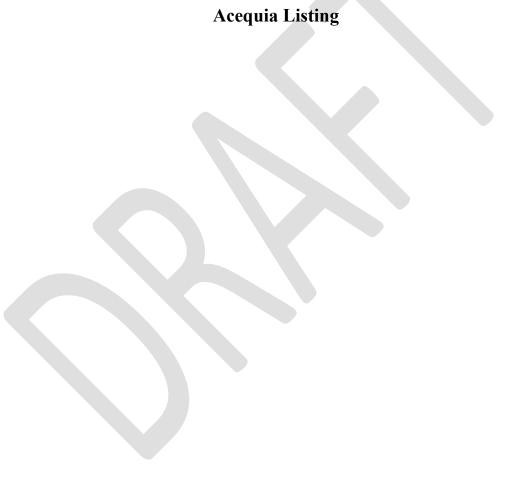
This chart indicates the minimum recommended dimensions for defensible space from the home to the outer edge of zone 2. For example: if the home is situated on a 20-percent slope, the minimum defensible space dimensions would be 90 feet uphill and to the sides of the home and 104 feet downhill from the home.

(Ord. No. 2002-04, 6-25-02; Ord. No. 2002-06, 6-25-02; Ord. No. 2004-04, 5-11-04; Ord. No. 2006-04, 6-27-06; Ord. No. 2013-06, 7-9-13; Ord. No. 2016-05, 3-8-16)

This page intentionally left blank.



APPENDIX E



This page intentionally left blank.



ACEQUIA LISTING FOR LINCOLN COUNTY

#	Acequia Name	Stream System	Total in System
1	Lincoln Acequia Water Users	Rio Bonita	
2	Government Springs Ditch	Rio Bonita	
3	Providencia Ditch	Rio Bonita	
4	Gonzales Ditch	Rio Bonita	
5	Sedillo Ditch	Rio Bonita	
6	Lutz Ditch	Rio Bonita	
7	Cruz de Jara Ditch	Rio Bonita	
8	Protectora Ditch	Rio Bonita	
9	Lincoln Ditch (underground pipe)	Rio Bonita	
10	Titsworth Dith	Rio Bonita	
11	Laws Ditch North	Rio Bonita	
12	Laws Ditch South	Rio Bonita	
13	Hulbert Ditch	Rio Bonita	
14	F. Chavez Ditch (Dow)	Rio Bonita	
15	Emil Fritz Ditch	Rio Bonita	
16	Las Chosas Ditch	Rio Bonita	
17	Elena Vigil Ditch	Rio Bonita	
18	Bradstreet & Vorwerk Ditch	Rio Bonita	
19	Kirkland Ditch	Rio Bonita	19
1	J & P Analla Ditch	Rio Hondo	
2	F & M Analla Ditch	Rio Hondo	
3	Serrano Ditch	Rio Hondo	
4	Picacho Ditch	Rio Hondo	
5	P. Chavez Spring Ditch	Rio Hondo	
6	Analla Spring Ditch	Rio Hondo	
7	Pas Torrez Ditch	Rio Hondo	
8	Casey & Ramon Vigil Ditch	Rio Hondo	
9	Buck Guyse Ditch (South Side Casey)	Rio Hondo	
10	Picacho Ditch	Rio Hondo	

#	Acequia Name	Stream System	Total in System
11	Kline Ditch	Rio Hondo	
12	Circle Diamond Ditch	Rio Hondo	
13	Michaelis Ditch	Rio Hondo	
14	Montano Ditch	Rio Hondo	
15	Main Ditch	Rio Hondo	
16	Diamond A	Rio Hondo	
17	High Line Ditch	Rio Hondo	
18	Bloom Ditch	Rio Hondo	18
1	Ambrocio/Pablo Chavez Ditch	Rio Ruidoso	
2	Ambrocio Chavez Ditch No. 1	Rio Ruidoso	
3	Maxwell Ditch	Rio Ruidoso	
4	San Patricio Ditch	Rio Ruidoso	
5	Pablo Chavez Ditch	Rio Ruidoso	
6	Chosas North Ditch (A. Sanchez Community Ditch)	Rio Ruidoso	
7	Hale North Ditch	Rio Ruidoso	
8	Hale South Ditch	Rio Ruidoso	
9	Avent Ditch	Rio Ruidoso	
10	Bracken Ditch	Rio Ruidoso	
11	A. Sanchez Ditch	Rio Ruidoso	
12	Storm Ditch	Rio Ruidoso	
13	F. Sanchez North Ditch	Rio Ruidoso	
14	F. Sanchez South Ditch	Rio Ruidoso	
15	Hewitt Ditch	Rio Ruidoso	
16	L. Gallegos Ditch	Rio Ruidoso	
17	Barragon and West Ditch aka Newcomb Ditch	Rio Ruidoso	
18	Leopoldo Gonzales Ditch	Rio Ruidoso	
19	Chosas South Ditch	Rio Ruidoso	
20	Lower Chosas South Ditch	Rio Ruidoso	
21	F. Herrera South Ditch (Gomez Ditch)	Rio Ruidoso	
22	J. Tully Ditch North	Rio Ruidoso	

#	Acequia Name	Stream System	Total in System
23	J. Tully Ditch South	Rio Ruidoso	
24	Mes Ditch	Rio Ruidoso	
25	Upper Chosas South Ditch	Rio Ruidoso	
26	Analla-Barragon Community Ditch	Rio Ruidoso	
27	Limacher Ditch	Rio Ruidoso	
28	C. Hilbern Ditch	Rio Ruidoso	
29	F. Hilbern Ditch	Rio Ruidoso	
30	F. Coe Ditch North	Rio Ruidoso	
31	F. Coe Ditch South	Rio Ruidoso	
32	P. Gallegos Ditch	Rio Ruidoso	
33	G. Coe Ditch	Rio Ruidoso	
34	R. Coe Ditch	Rio Ruidoso	
35	R. Herrera Ditch	Rio Ruidoso	
36	Miller Ditch	Rio Ruidoso	
37	Frank Allison Ditch	Rio Ruidoso	
38	Pope Ditch	Rio Ruidoso	
39	Mirabel & Norman Ditch	Rio Ruidoso	
40	E Silva Ditch	Rio Ruidoso	
41	P. Gonzales Ditch	Rio Ruidoso	
42	J & P Analla Ditch	Rio Ruidoso	42
	Total Acequias in County		79

This page intentionally left blank.



APPENDIX F Planning Team Meetings

This page intentionally left blank.



Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #1 Agenda

1 to 3pm February 28, 2023 Council Chambers, Ruidoso Village Hall

I. Introduction

- a. Village of Ruidoso as lead for contract
- b. Participants
- c. Planning Team List for comment

II. Plan Update Process and Overview

- a. Description of hazard mitigation
- b. Status of the 2018 Hazard Mitigation Plan
- c. General Overview of Plan contents
- d. 2023 Plan Update timeline
- e. FEMA Guidance and federal regulations

III. Roles and Responsibilities

- a. Planning Team Members
- b. Subject Matter Experts
- c. Stakeholders
- d. Members of the Public

IV. Planning Process for 2023 Update

- a. Overview of 2018 Planning Process
- b. Recommendations for change
- c. Input and Direction for Implementation

V. Reference Materials Integrated into the 2018 HMP

- a. Review 2018 Plan materials
- b. Identify additional or updated reference materials
- c. Community Descriptions Overview and Input

VI. Hazard Identification and Risk Assessment

- a. Focus for next Planning Team Meeting
- b. Review of Hazards per Jurisdiction from 2018 Plan
- c. Overview of research to be conducted for 2023 Update

VII. Next Steps

- a. Follow-up from this Meeting
- b. Planning Team Activities
 - Provide feedback on Planning Team, Subject Matter Experts, and Stakeholders by March 8th
 - Submit reference materials for each jurisdiction by March 8th
 - Submit updated information for Community Descriptions by March 15th
- c. Schedule date/time for next Planning Team Meeting

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #1 Meeting Notes

I. Introduction

- This planning process will update the 2018 Lincoln County Multi-jurisdictional Hazard Mitigation Plan for another 5-year approval cycle.
- The Village of Ruidoso hired SWCA Environmental Consultants (SWCA) to facilitate the update process, using funds from the Building Resilient Infrastructure and Communities (BRIC) Federal Emergency Management (FEMA) grant.
- There were more than 12 participants in the meeting with representation from the Village of Ruidoso, Lincoln County, City of Ruidoso Downs, Town of Carrizozo, and Village of Capitan. See the attached sign-in sheet for the full list of participants.

II. Plan Update Process and Overview

- Successful natural hazard mitigation planning and implementation lessens the impact of natural disasters; therefore it lessens emergency response time, speeds recovery, and creates better prepared more resilient communities.
- The 2018 HMP expires 7/24/2023 and data collection ended in January 2017.
- The HMP will include the following sections in order to meet the federal requirements, planning process, hazard identification, risk assessment, mitigation strategy, and plan maintenance procedures.
- The planning process is expected to take 10-months. February to June will be focused on data collection, draft edits, and community involvement occurring. July to November will be focused on State and FEMA review plus individual community adoption.
- Federal requirements for local hazard mitigation plans are found in 44 Code of Federal Regulations, Section 201.6. Each individual participating community must meet each federal requirement.
- New FEMA Guidance for local HMPS goes into effect April 2023. The three primary changes that will need to be addressed in the HMP Update are:
 - o Inclusion of climate change impacts on the risk assessment;
 - o Invitation for socially vulnerable populations to participate in the planning process; and
 - o Optional inclusion of compliance with High Hazard Potential Dams (HHPD) requirements.
- A concern was raised about the advantages of this HMP if it is specific for FEMA funding ('relationship with FEMA isn't stellar'). The SWCA response included
 - Additional funding opportunities will be identified for implementation. For example, the new Community Wildfire Defense Grant will also fund updating a Community Wildfire Protection Plan and implement hazardous fuels reduction.
 - Because the HMP is approved by a federal agency and adopted by the local government, actions prioritized for funding will have strong support for any source of funding be it federal, state, private, or non-profit.

III. Roles and Responsibilities

- One primary Planning Team Member for each jurisdiction will coordinate input and feedback from the community. They will provide guidance to other contacts from the community as to what tasks need to be accomplished and the deadlines.
- Subject Matter Experts will be identified by the Planning Team to provide input and feedback on specific topics.

- Stakeholders will be identified that represent different perspectives throughout the community. Examples of Stakeholders to include are:
 - Neighboring Communities
 - Mescalero Apache Tribe
 - Adjacent Counties (Guadalupe, De Baca, Chaves, Otero, Sierra, Socorro, Torrance)
 - o Local/regional agencies involved in hazard mitigation
 - Dam owners and managers (including City of Alamogordo for Bonito Dam)
 - School Districts
 - New Mexico Workforce Connection at ENMU (outreach recommendations on socially vulnerable community contacts)
 - Other private and non-profit interests
 - Lincoln County Medical Center
 - Community Foundation of Lincoln County (on outreach recommendations on socially vulnerable community contacts)
 - Insurance Agents
 - Realtors
 - o Academia
 - Eastern New Mexico University
- Planning Team to identify additional categories of stakeholders such as, agencies that regulate development and businesses.

IV. Planning Process for 2023 Update

- An overview of 2018 Planning Process was provided with recommendations for modifications.
- The Planning Team agreed to the following approach for the 2023 HMP Update.
 - o There will be one Planning Team (not an additional local planning team in each community) with one primary point of contact for each jurisdiction. Throughout the planning process, that individual will coordinate with the other contacts for that jurisdiction.
 - o Four Planning Team Meetings will be held to address each Section of the HMP.
 - o In March (or April depending on scheduling), SWCA will provide a 10-15 minute elected/appointed officials' presentation for each jurisdiction. Based on scheduling, this presentation may need to be in a virtual format.
 - This presentation will provide an overview of mitigation and describe the HMP Update planning process recommended by the Planning Team.
 - Each jurisdiction point of contact will coordinate with SWCA to schedule this presentation.
 - SWCA will confirm the preferred approach for each community. The following preferences were identified in the meeting.
 - Carrizozo may add/prefer a roundtable format and include information in the community newsletter
 - Ruidoso Downs prefers presentation at the City Council Meeting
 - Lincoln County prefers presentation to the County Commission
 - Capitan may add/prefer to including information in the Mayor's letter that gets sent in the monthly water bills.
 - Ruidoso prefers presentation to the Village Council and a public meeting for community members from all jurisdictions to be introduced to the HMP Update.
 - Stakeholders and the community will be notified and encouraged to participate.
 - o One 90-minute technical assistance meeting by SWCA with each jurisdiction to provide guidance on updating the mitigation action section for the individual jurisdiction.

- o Stakeholder engagement will consist of the following:
 - Encourage participation through email notification.
 - Contact specific stakeholder groups by individual phone call to encourage participation on relevant sections of the plan. SWCA will take the lead on these tasks with contact information being provided by the Planning Team.
 - The SWCA Team will participate in existing stakeholder meetings to provide an overview of the HMP Update and encourage input.
- o Broader community involvement will consist of the following:
 - Encourage participation in the appointed/elected officials' presentations through Press releases and community notifications. SWCA to draft the Press Release. Each jurisdiction will notify their community as deemed appropriate (Press Release, notification on community web site, Mayor's newsletter, or similar).
 - In May, implement a community meeting to provide an overview of the HMP Update to the general public (likely at the Village of Ruidoso Convention Center).
 - All jurisdictions would be invited to participate in this meeting.
 - Planning Team Members would be present to encourage community input and answer questions.
 - This alternative was preferred to having an Open House format.
- o In May, SWCA will provide a 10-15 minute elected/appointed officials' presentation for each jurisdiction. Based on scheduling, this presentation may need to be in a virtual format.
 - This presentation will be part of the community outreach to encourage review of the HMP Update in June.
 - Each jurisdiction point of contact will coordinate with SWCA to schedule this presentation.
 - Stakeholders and the community will be notified and encouraged to participate.
- In June, post the draft HMP Update on the Village of Ruidoso and Lincoln County websites.
 - SWCA to provide a 10-15 minute webinar overview of the HMP Update and prepare a survey (or similar) to facilitate broader input.
 - The public review period would be a minimum of two-weeks.

V. Reference Materials Integrated into the 2018 HMP

- An example of the reference materials included in the 2018 HMP for Lincoln County was described.
 - o SWCA will send each jurisdiction the list of reference materials identified in the 2018 HMP.
 - Each jurisdiction will send the reference materials, including any updated or new information to SWCA to be included in the HMP Update.
- A review of the Community description from the 2018 HMP was described.
 - SWCA will send each jurisdiction the Community Description Section of the 2018 HMP with the relevant page numbers identified.
 - Each jurisdiction will direct SWCA to the reference materials that can be utilized to update the individual jurisdiction community profiles and identify the location of relevant information.

VI. Hazard identification and Risk Assessment (HIRA)

- This Section will be the focus for the next Planning Team Meeting.
- A review of the hazards profiled in the 2018 HMP was reviewed along with the justification for removing several hazards that had been included in the 2012 HMP.
 - o The Planning Team agreed they wanted to add back high wind.

- o Hazardous Materials was identified by the Town of Carrizozo as a potential hazard to add back to the plan.
 - Since hazardous materials are not considered a natural hazard, it is likely more effectively addressed in a different planning process and with the appropriate subject matter experts.
 - It was agreed that high wind causing train derailment could be addressed under the highwind hazard and trains sparking wildfire could be addressed under the wildfire hazard.
 - Additional discussion on this topic will continue with the Town of Carrizozo and the Local Emergency Preparedness Committee (note: this is a different entity than the Community Emergency Response Team, CERT, that was referenced during the Planning Team Meeting).
- Hazards to be included for each jurisdiction will be confirmed at the next Planning Team Meeting.
- An overview was presented on research to be conducted for 2023 Update and input from the Planning Team. The Planning Team agreed to the following direction:
 - Utilize the existing national data base information for hazard previous occurrence and impacts.
 - Utilize the Resilience Analysis Planning Tool (RAPT) for additional information on hazards and for population, demographics, and economic data.
 - It was noted that there may not be complete data for Lincoln County because RAPT is based on Census data.
 - The Planning Team wanted to see an example of how the critical infrastructure layers accessible through RAPT compares with the critical infrastructure (assets) identified in the 2018 HMP for each community.
 - After the Planning Team can see the comparison, they will provide direction on which approach to use for the HMP Update.

VII. Next Steps

- Planning Team contact for each jurisdiction will take these follow-up actions: (note: after the Meeting, the dates were extended)
 - By March 10th, coordinate with SWCA to schedule the elected/appointed officials' introductory presentation. SWCA will initiate this discussion by email. Planning Team contact will coordinate notification to encourage stakeholder and public participation.
 - By March 10th provide feedback on additional Planning Team members, Subject Matter Experts, and Stakeholders. Name, agency/organization, email, and phone will be provided for each contact.
 - By March 10th, submit research and reference materials, including any updated or new information with guidance on where to locate the relevant information for the HMP Update. SWCA will provide the 2018 HMP listing to each jurisdiction by email.
 - By March 17th, submit updated information for the Community Descriptions. SWCA will provide the 2018 HMP Community Description Section by email.

• SWCA will:

- o Provide meeting notes and the PowerPoint presentation by email to the Planning Team.
- Send the 2018 HMP reference listing and Community Description Section to the primary contact for each jurisdiction.
- Coordinate with the primary contact from each jurisdiction on scheduling the elected/appointed officials' presentation, review the preferred public outreach strategy, and coordinate on the Planning Team actions described above.
- o Coordinate scheduling for the next Planning Team Meeting to be held the week of March

20th.

- The Planning Team agreed they would prefer information sharing by email attachment and not using a data sharing platform. SWCA will utilize a SharePoint link to provide Sections of the HMP that are too large to share by email.
- Note: after the Planning Team Meeting, it was determined that the next meeting will be scheduled for the week of March 20th in a virtual format

Attachments

• Sign-in sheet

2023 Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update
Planning Team Meeting #1
1-3pm February 28, 2023, Ruidoso Village Hall

Name	Agency/Organization	Phone	Email
Jennifer Thomas	Forest Service	575-361-1562	Jenniter. r, thomas @ usda, gov
ROBERT HAILY	POBERT KNIGHT RUIDOSO DOWNS P.D.	675-975-1679	RKNINT CRUDOSODONS-US
Aden Sandur	Village ot Rudoso	475 932-0544	adam Sancher 2 Ivilasa - Mr. 500
Dick Cooke	Village of Ruides	575 937 3891	Dick cooke @ Ruidosu-NM, Gov
Joe Karbosa,	von Firehick	-11	Jekas boski Drudoso um
1 PKeN7111P	OEM Lincinco,	575-336-8600	JKENNOSCE LINCHNOUNTYNWSOU
KEVIN KENNEDY	UMBGEOFCAPITEU TRe Use F/ EMERMAN		Wenney & VII lage of lago ten one
LAWRENCE T. CHAVEZ	VILLAGE OF AUTONSO	515-913-4610	Lawrence chase 2 (D roidoso 11 M), God
Ira Parson	Lincoln Manager 675-808-13-79	675-808-1379	ipeenson @ Incomeany
Wendy Blackwell	SWCA Emironmendal Casultants 505-469-8683	15 505-469-8683	wendy. blackwell @swca.com

SIGN-IN SHEET

2023 Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update
Planning Team Meeting #1
1-3pm February 28, 2023, Ruidoso Village Hall

	12 PA	7					
Email	Chustele smus cruidosonnas	John. McCoyo USDA. GOV		sam.lashluy@swca.com			
Phone	575	245-808-545	DOWNS 575+378-4462	wts 406-478-2602			
Agency/Organization	Village of Rudoso	LIS FOREST SERVICES Smokey BEAR R.D.	CITY OF AUIDOSO DOU	SWCA Enchanneutal Cansultants 406-478-2602			
Name	Chusella Amis		2	on toom: Sam Lashley			

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #2 Agenda

1 to 3pm March 22, 2023 via Zoom

VIII. Introduction

- a. Review of Agenda
- b. Focus on Hazard Identification and Risk Assessment

IX. Planning Process for 2023 Update

- a. Overview of 2023 process as directed in last meeting
- b. Community Involvement
 - Elected/appointed Officials presentation status
 - Stakeholder outreach approach
 - Community Meeting
 - Introductory Press Release for dissemination
- c. Confirmation on direction

X. Hazard Identification and Risk Assessment

- a. Hazard screening
 - Review process from 2018 Plan and confirm direction for 2023
 - Finalize hazards for each jurisdiction
- b. Review of hazard profile example
- c. Present example hazard maps
- d. Changes in land development since 2018 Plan
- e. Critical facilities and assets mapping
 - Data challenges and recommended approach
 - Provide direction on 2023 approach
- f. Priority Risk Index
 - Review process from 2018 Plan and recommendations for change
 - Provide direction on 2023 approach
- g. Loss and Exposure Estimates
 - Review process from 2018 Plan and recommendations for change
 - Provide direction on 2023 approach

XI. Review of assignments

- a. SWCA
 - By March 28th provide meeting notes and Press Release draft
 - By April 10th provide draft Planning Process and HIRA Sections for comment
- b. Planning Team
 - By March 31st provide additional or updated reference materials
 - By March 31st provide land development changes description
 - Provide edits or additions to contact lists

XII. Next Steps

a. Schedule date/time for next Planning Team Meeting

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #2 Meeting Notes

1 to 3pm March 22, 2023 via Zoom

VIII. Introduction

- Two new members of the consulting team were introduced. Sarah Pritchard is with SWCA and will be assisting with meeting prep and follow-up tasks, note taking, and research. Candace Dahozy is with High Water Mark LLC and will be working on research and outreach tasks.
- o There were more than 12 participants in the meeting with representation from the Village of Ruidoso, Lincoln County, City of Ruidoso Downs, and the U.S. Forest Service. See the attached sign-in sheet for the full list of participants.

IX. Planning Process for 2023 Update

- The revised Planning Process was presented and there was consensus from the Planning Team that no additional changes were needed.
- o The introductory Press Release will be prepared with direction from the Ruidoso Public Information Officer. The final will be sent to the Planning Team by March 31st. It will be distributed by the Village of Ruidoso and all other jurisdictions will disseminate it following their own processes.
- o Add the new Fire Chief in Ruidoso Downs to the Planning Team List.
- o For the Stakeholder List, add the following entities:
 - o Claunch Pinto Soil Conservation District
 - o TJustin Riggs from the Las Cruses branch of the U.S. Army Corps of Engineers
 - o Las Cruses Office of New Mexico Construction Industries Division

X. Hazard Identification and Risk Assessment

- The Planning Team agreed to use the general hazard screening process from the 2018 HMP with possible modifications to the criteria. They may choose to modify the criteria 'Any dollar amount in property or crop damages'.
- o The Hazard Recorded Events table will incorporate all events between 1950 − 2022 rather than simply including the events since the last update. The years of data for each hazard will be identified in the chart as not all records go back to 1950.
- o The following hazards were addressed during the screening process:
 - o High Winds hazard was added for each jurisdiction.
 - o Winter Storms will be included for Ruidoso as there was approximately \$80,000 in damages in winter storms during the 2018-2019 season.
 - o Ruidoso Downs will confirm if they want to include winter storms as there were events but no damages reported.
 - o Carrizozo, Capitan, and Corona will confirm if they will include flood as a hazard as there are past events listed for each community. Damages are listed for Carrizozo and Capitan.
 - High Hazard Dam was added for Lincoln County and Ruidoso. This hazard is only for the communities
 that have a high hazard dam in the jurisdiction. Risk of impacts from a dam failure are reflected in the
 "Dam Failure" hazard category.
- O Planning Team members identified several gaps in the recorded events data, based on institutional knowledge. Drought, flood, and wildfire gaps are noted in the hazard-specific bullets below.
 - The Planning Team requested confirmation on the inclusion of the county-wide freeze event in 2011 and Winter Storm Goliath in 2015 for the Winter Storm hazard profile.
- o For the Drought hazards, the Planning Team agreed to the following:
 - o Use the "moderate drought" classification and higher for analysis and impacts.

- Use Drought Monitor data from June of each of the past 6 years for analysis, as the end of May and June are typically the time of year that drought is most severe.
- o The following statement is still true
 - "Drought events during 2016 through 2022 for Lincoln County have been recorded by the NCDC, but no deaths, injuries, or estimated monetary damages were recorded. Even though the details regarding these events were lacking in the NCDC data, according to the planning team, Lincoln County has experienced losses from drought events."

o Flood Hazard Maps

- o FEMA Flood Insurance Rate Map flood zones are shown on one set of maps for each community. Flood depth is shown for the four communities that have 'non-regulatory' data available (Lincoln County, Ruidoso, Ruidoso Downs, and Capitan). These maps will be included in the body of the HMP. A 'storybook' was prepared for high density flood data locations; the map Index and 15 maps showing greater resolution will be included in the Appendix.
- According to the Planning Team, there were fatalities from flooding events in 1980, 2008, 2021.
 However, the NOAA data from 1950-2022 indicates a total of three fatalities throughout that entire timeframe. Research will confirm if the number of fatalities needs to be modified.

Wildfire Maps

- A series of previous occurrence wildfire maps will be included in the HMP. The Planning Team identified the following as fires that do not appear in the previous occurrence maps. This information will be incorporated in the narrative listing of previous occurrences. If GIS files can be located, the data will be added to the maps.
 - McBride Fire (two fatalities)
 - Moon Mountain Fire (140-160 acres)
 - Swallow Fire (approximately 10 acres with 9 structures lost)
 - Ballpark Fire (approximately 20 acres in about 2017 2022)
- The Fire Threat map uses data from the 2020 State Forest Action Plan, which is a different and more up to date dataset than what was used for the County's CWPP in 2019. The Planning Team agreed to proceed with this dataset.
- The Planning Team agreed to use the recommended Wildfire Hazard Threat thresholds based on criteria outlined in the presentation.
 - Low = up to 29%
 - Medium = 30-59%
 - High = 60-100%

Cascading Events

- At the suggestion of the Planning Team, a narrative will be included that describes the impact of cascading events. Examples are:
 - more intensive drought conditions drought conditions have led to bark beetle infestation causing a decrease forest health which leads to higher severity wildfire and more damaging post-fire floods
 - wet spring and summer leads to more flashy fuels which increase occurrence and severity of wildfire
- To map critical infrastructure and perform the vulnerability analysis, the Planning Team agreed on the following approach.
 - The Critical Facilities charts from the 2018 HMP will not be updated as source data has not been identified and updated information is not available from the communities.
 - o The HMP will include a narrative summary of a digital analysis that compares the infrastructure layers and the mapped hazards. The narrative will include the same terminology for Impact as defined in the Priority Risk Index, when appropriate (minor, limited, critical, catastrophic). The Planning Team will review and edit the narrative, as with all sections of the HMP Update.

- o The term 'critical infrastructure' will be used to describe both facilities and infrastructure in the vulnerability analysis. For consistency, the terms 'critical facilities' and 'assets' will not be used.
- Note: After the meeting, Village of Ruidoso confirmed that mapped acequias should be included in the critical infrastructure mapping.
- o Narrative that addresses changes in land development is required for the HMP Update, with a focus on changes in development that have occurred in hazard-prone areas.
 - Each community will provide information explaining the changes in development including a description of how the changes have increased or decreased vulnerability.
 - o As an example, the following narrative was included in the 2018 HMP.
 - "Regarding changes in development within the last five years, Lincoln County has shown minimal commercial and residential development with a decrease in population, which is anticipated to continue within the next five years. Therefore, there has been no change to the vulnerability of the severe weather hazards."
 - Modifications in fuel loads can also decrease vulnerability. The 475-acre thinning project near the airport is one example.
- The Priority Risk Index provides an opportunity to compare the hazards to each other so the communities can have a relative hierarchy of importance for each hazard.
 - o There are five categories in the Priority Risk Index: Probability, Impact, Spatial Extent, Warning Time, and Duration. A value for each hazard for each community is assigned for the five categories. The calculator then applies the assigned weight to obtain the Priority Risk Index Value for each hazard for each community.
 - o The Planning team agreed to keep all weights and definitions for Impact, Warning Time, and Duration. For Impact, the narrative will clarify that only one of the criteria must be met to assign the particular level (injury, property damage, critical infrastructure loss of service).
 - The Planning Team agreed to change the Probability level criteria as follows:
 - Unlikely = up to 15% (no events in the past 6-years)
 - Possible = 16 to 33% (1 or 2 events in the past 6-years)
 - Likely = 34 to 82% (3 or 4 events in the past 6-years)
 - Highly Likely = 83 to 100% (5 or more events in the past 6-years)
 - o The Planning Team agreed to change the Spatial Extent level criteria as follows:
 - Negligible = up to 1%
 - Small = 2 to 10%
 - Moderate = 11 to 50%
 - Large = 51 to 100%
- For every hazard, the Loss and Exposure table provides community-specific information on how potential hazards could impact replacement costs and exposed vulnerable populations. The Planning Team agreed to the following approach:
 - Use median home prices rather than average home prices, which is a more appropriate approach for data sets that have a wide range of values with 'outliers'.
 - o Include value of land and structures when looking at residential/commercial property values.
 - o Confirmation by each jurisdiction on the percent damaged/destroyed for each hazard.
 - o Calculate loss estimate based on the assessor's valuations for residential, commercial, and industrial values as available.
 - o Human impact will be determined using FEMA's Resilience and Adaptation Planning Tool (RAPT) or census data. Topics may not be consistent with 2018 Loss and Exposure Estimates.

XI. Review of Assignments

o Planning Team:

- o By March 31st
 - Provide additional or updated reference materials.
 - Submit description of change in development that has occurred in hazard-prone areas plus a discussion on how the changes have increased or decreased vulnerability.
 - Confirm loss and exposure percentage estimates.
- o By April 7th distribute Press Release to respective communities.
- o Provide edits or additions to Planning Team and Stakeholder lists.

o SWCA:

- o By March 28th, provide meeting notes, draft press release, and revised PRI Chart to Planning Team.
- o By April 10th, provide the draft Planning Process and Hazard Identification sections of the plan to the Planning Team for comment.
- o Contact stakeholders for input and feedback.

XII. Next Steps

• The next Planning Team Meeting will be held via Zoom on Wednesday, April 19th from 1 to 3pm

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #2 Sign-in Sheet (via Zoom)

First Name	Last Name	Organization	Title
Joe (JP)	Kenmore	Lincoln County	Emergency Services Director
Ira	Pearson	Lincoln County	Manager
Robert	Knight	Ruidoso Downs, City of	Deputy Police Chief
Dick	Cooke	Ruidoso, Village of	Director of Forestry
Joe	Kasuboski	Ruidoso, Village of	Fire Chief
Steven	Minner	Ruidoso, Village of	Deputy Police Chief
Adam	Sanchez	Ruidoso, Village of	Public Works Director
Samantha	Serna	Ruidoso, Village of	Community Development Director
Thomas	Jennifer	U.S. Forest Service	Smokey Bear District Ranger
Consultants:			
Candace	Dahozy	High Water Mark	Project Manager
		SWCA Environmental	
Wendy	Blackwell	Consultants	Project Manager
		SWCA Environmental	
Sarah	Pritchard	Consultants	Assistant Project Manager

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #3 Agenda

1 to 3pm April 19, 2023 via Zoom

XIII. Introduction

- a. Review of Agenda
- b. Focus on Vulnerability and Capability

XIV. Planning Process for 2023 Update

- a. Section 3 distributed April 11th for review and comment
- b. Review of format

XV. Hazard Identification and Risk Assessment (HIRA)

- a. Section 5 distributed April 17th for review and comment
- b. Review format
- c. Review of hazard profile and vulnerability example
- d. Priority Risk Index Assignment

XVI. Capabilities

- a. Review 2018 approach
- b. Recommendations for 2023 approach
- c. Capabilities Assignment

XVII. Mitigation Strategy

- a. Review 2018 Approach
- b. Recommendations for 2023
- c. Technical Assistance meeting for each jurisdiction week of May 1st

XVIII. Review of assignments

- a. SWCA
 - By April 25th provide meeting notes, Capability Section for each jurisdiction
 - By May 5th conduct technical assistance sessions on mitigation strategy
- b. Planning Team
 - By April 28th fill-out one Priority Risk Index for each hazard for each jurisdiction
 - By May 5th provide edits and responses to questions on Section 5 and participate in technical assistance session on mitigation strategy
 - By May 12th provide Capability Section up-dates and edits for Section 3
 - Provide edits or additions to contact lists

XIX. Next Steps

- a. Overview of project schedule
- b. Schedule date/time for next Planning Team Meeting

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #3 Meeting Notes

1 to 3pm April 19, 2023 via Zoom

XX. Introduction

- a. Members of the SWCA Team were introduced to the Planning Team.
- b. There were 14 participants in the meeting with representation from the Village of Ruidoso, Lincoln County, Village of Capitan, and Town of Carrizozo. Listing is included at the end of these notes.

XXI. Planning Process (HMP Section 3)

- a. The general format and organization of the Planning Process (Section 3 of the HMP) was reviewed and there was consensus among the Planning Team that the format was appropriate.
- b. Integration is a key component within Section 3.
 - Integration occurs by including information from existing plans into the HMP and by integrating information from the HMP Update into future local plans.
 - Need more examples of plans for integration into the HMP. The two current examples are the 2019 County CWPP and the 2019 Village of Ruidoso Comprehensive Plan.
- c. Updates were provided for the Planning Team Listing (Table 3-1).
- d. Section 3 was sent to the Planning Team for feedback on April 11th. Feedback and comments are due back by May 12th.
 - Edits to the document must be made in track changes to identify who is providing feedback.
 - There are comments within the document which identify questions for the Planning Team.

XXII. Hazard Identification and Risk Assessment (HMP Section 5)

- a. Format
 - The general format and organization of the hazard identification and risk assessment (Section 5 of the HMP) was reviewed and there was consensus among the Planning Team that the general format was appropriate.
 - •The Planning Team agreed to maintain the community order listed on the cover of the 2018 HMP with Lincoln County being listed first. This order will be applied throughout the HMP.
 - •The order of hazards will be determined after the Priority Risk Index results are tallied.
 - Previous occurrence data for each hazard will be listed chronologically from oldest to most recent and will include all communities profiled by the plan (not be broken up by community).
 - Events that occurred prior to January 2017 will be included in an Appendix.
 - However, significant events that occurred prior to January 2017 will be addressed in the narrative of the document.
 - The Planning Team agreed to label all tables, graphics, photos, and charts in the HMP generally as 'Graphic'. Additionally, numbering will start over in each section (example, Section 3 would start with 'Graphic 3-1').
- b. Hazard Identification and Profiles
 - The list of hazards to be profiled has been updated as two communities have expressed a desire to add floods (Capitan and Carrizozo) and one added winter storms (Ruidoso).
 - The seven hazard risk profiles are the bulk of the content in this section. Each hazard contains six subsections: description, previous occurrence, location, extent, probability, and climate change.
 - The High Hazard Potential Dam (HHPD) grant eligibility requires that the State establish specific aspects of the program prior to local communities being able to add this component to the HMP.

Because of this new information, the HMP will not include information on eligibility requirements for the HHPD grant, but the narrative will highlight that dam owners in the County are interested in the funding.

- The Planning Team agreed to use the recommended updates to the probability tables and probability trends comparison for each hazard.
 - Annual probability has been added to the probability charts in order to compare the likelihood of different hazards occurring on an annual basis.
 - The annual probability percentage was calculated by dividing the number of occurrences by the number of years analyzed.
- Vulnerability, Critical Infrastructure
 - The Planning Team agreed on the definition of "Critical Infrastructure" based on the definition listed in the 2018 State HMP. The team found the definition to be simple, straightforward, and desirable moving forward.
 - This definition is focused more on the built environment than the natural environment.
 - Ruidoso Forestry Director noted that hazard mitigation efforts like debris removal/thinning should be considered as 'infrastructure'.
 - •SWCA will follow-up regarding how this could be incorporated into both critical infrastructure and the vulnerability section of the plan.
 - The Critical Infrastructure Maps highlight 40 different infrastructure categories.
 - New categories including government buildings and senior centers were incorporated into the map based on feedback from Chief Kennedy.
 - If any member of the Planning Team has feedback or proposed changes to the critical infrastructure maps, this information needs to be provided to SWCA as soon as possible since these facilities impact analyses performed elsewhere in the plan.
 - Several edits to the Critical Infrastructure Maps were requested by the Planning Team
 - Change the aviation facility icon below the police station in Ruidoso as it is a golf course.
 - Include water facilities such as water towers, wells, water tanks, water treatment facilities, and distribution centers.
 - Remove all EPA site points (EPA EIS Site, EPA TSCA Facility, and EPA FRS site).
 - Remove the USACE "IRM Property" points if there are none within the County. *Note: After the meeting it was confirmed that no IRM Property locations are in the County.*
 - SWCA GIS staff will include locations that are publicly available in digital format. Locations not available digitally will be described in narrative based on the Planning identifying the locations.
 - The new Consolidated Dispatch Building and the new District Court building in the Village of Ruidoso will be discussed in the critical infrastructure narrative but will not be added to the Critical Infrastructure Map.
 - Critical infrastructure occurrences were analyzed per hazard type to determine the vulnerability of different infrastructure types in each community. This information is highlighted in a table and coupled with a narrative indicating opportunities for mitigating impacts to critical facilities.
 - The Planning Team agreed to accept all of the recommendations presented regarding critical infrastructure analyses.
- Vulnerability, Loss/Damage Estimates
 - The Loss/Damage Estimates table was revised to include parcel and structure values as one record for both residential properties and for commercial properties. The value for utilities is also included (without the parcel value).
 - o The Planning Team agreed to use the same damage percentage for residential, commercial, and

utilities when analyzing the loss/damage estimates for each community.

Social Vulnerability

- Based on the April 2022 HMP Guidance from FEMA, "Social Vulnerability is the potential for loss within an individual or social group, recognizing that some characteristics influence an individual's or group's ability to prepare, respond, cope, or recover from an event. These characteristics can overlap within populations to create heightened vulnerability, which may be compounded by infrastructure deficiencies within communities and historic or existing discriminatory government policies."
- o Center for Disease Control (CDC) Social Vulnerability Index (SVI) is a standard used by FEMA and other federal agencies to compare the relative vulnerability of census tracts nation-wide.
 - Social vulnerability analyses are performed at the census tract level and include 15 characteristics to determine an average social vulnerability figure.
 - Social vulnerability ratings can be used for grant eligibility or priority under the Biden Administration's Justice 40 initiative.'
 - SVI ranges are not specific and are only divided into four categories. However, there may be a way for us to locally be able to highlight the specific number for each community.
 - Note: After the meeting, SWCA identified the following nation-wide SVI ratings for each community. Lincoln County: 71.07%, Ruidoso: 62.40%, Ruidoso Downs: 60.51%, Carrizozo: 77.47%, Capitan: 47.16%, Corona: 77.47%
- Ruidoso Forestry Director asked if the SVI considers industries like tourism that could be impacted by hazards.
 - SVI does not consider impacts of a potential hazard on the tourism economy, however, a short narrative on this topic will be integrated into the HMP.
- o In addition to describing the CDC SVI for each community, the HMP will include six indicators for each jurisdiction (% below poverty, % without health insurance, %65 and older, % with a disability, % of households with a Smartphone, and % of householders with a broadband subscription). These indicators were selected based on how they relate to hazard risk reduction.
- The Planning Team agreed to incorporate the six SVI indicators into the plan and to include a narrative with examples for how decision makers can use this information to change policy, procedures, or services.

• Priority Risk Index (PRI)

- Each community will fill out one PRI Calculator spreadsheet for each hazard by April 28th so that the remaining Sections of the HMP can reference the results.
- o The last two pages of Section 5 includes PRI summary charts. There is a chart for each community which shows the rankings for each of the five criteria. There is also a summary chart showing the ratings for each hazard for each community.
- c. Section 5 was sent to the Planning Team for feedback on April 17th. Feedback and comments are due back by May 5th.
 - Edits to the document must be made in track changes to identify who is providing feedback.
 - There are comments within the document requesting specific information from the Planning Team.

XXIII. Capabilities (within HMP Section 7)

- a. The general format and organization of the capabilities section was reviewed.
- b. Capabilities are the resources each community has to mitigate the risk of disaster. The capabilities section of the HMP includes legal and regulatory capabilities, fiscal capabilities, and technical staff and personnel capabilities.
- c. The Planning Team agreed with the recommendations to update the existing community-specific charts and add narrative summaries for the key plans and programs.

XXIV. Mitigation Strategy (HMP Section 7)

- a. The general format and organization of the remainder of the Mitigation Strategy section was reviewed.
- •Goals and Objectives
- •Status of the 2018 Actions
- •2023 Action descriptions
- Prioritization
- b. Each jurisdiction will review, approve, and update each sub-section based on the specific community's accomplishments, priorities, and interests.
- c. SWCA will conduct a Technical Assistance meeting with each jurisdiction to get this task assignment started.

XXV. Review of assignments

- a. SWCA
 - o By April 25th provide meeting notes, Capability Section for each jurisdiction.
 - o By April 28th schedule technical assistance sessions with each jurisdiction.
 - o By May 5th conduct technical assistance sessions on mitigation strategy.
 - b. Planning Team
 - o By April 28th fill-out one Priority Risk Index for each hazard for each jurisdiction.
 - o By May 5th provide edits and responses to questions on the HIRA (Section 5), submit edits for the Critical Infrastructure Maps, and participate in the mitigation strategy technical assistance session.
 - o By May 12th provide Capability Section up-dates and edits for Planning Process (Section 3).

XXVI. Next Steps

- a. The next Planning Team Meeting will be held via Zoom on Thursday, May 24^{th} from 10 am -12 pm.
- b. The in-person community meeting for mid-June will be planned using an email survey to the Planning Team.

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #3 Sign-in Sheet (via Zoom)

First Name	Last Name	Organization	Title
Dick	Cooke	Ruidoso, Village of	Director of Forestry
Joe	Kasuboski	Ruidoso, Village of	Fire Chief
Joe (JP)	Kenmore	Lincoln County	Emergency Services Director
Kevin	Kennedy	Capitan, Village of	Fire Chief
Lisa	Maue	Carrizozo, Town of	Administrative Assistant
Steven	Minner	Ruidoso, Village of	Deputy Police Chief
Consultants:			
Wendy	Blackwell	SWCA Environmental Consultants	Project Manager
Candace	Dahozy	High Water Mark	Project Manager
Sam	Lashley	SWCA Environmental Consultants	Researcher and Author

Sarah	Pritchard	SWCA Environmental Consultants	Assistant Project Manager
Phoebe	Suina	High Water Mark	Owner, Hydrologist
Tom	Teegarden	High Water Mark	Vice President
Christian	Testerman	SWCA Environmental Consultants	Lead Author and Researcher
Edmund	Vandever	High Water Mark	Technical Specialist

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #4

10am to noon May 25, 2023 via Zoom

I. Introduction

- a. Review of Agenda
- b. Focus on Mitigation Strategy and Plan Maintenance

II. Priority Risk Index Results

III. Review Sections 1 through 5

- a. Executive Summary
- b. Approvals (Section 1)
- c. Introduction (Section 2)
- d. Planning Process (Section 3)
- e. Community Profiles (Section 4)
- f. Hazard Identification and Risk Assessment (HIRA, Section 5)
- g. Capabilities (beginning of Section 6)

IV. Mitigation Strategy (Section 6)

- a. Finalize Goals and Objectives
- b. Review 2018 HMP Action Status
- c. Finalize Approach for 2023
- d. Finalize Prioritization Process

V. Plan Maintenance (Section 7)

- a. Review Status of 2018 through 2023 Commitments
- b. Plan Maintenance for 2024 through 2028

VI. Formatting

- a. Review document Table of Contents
- b. Order of Hazards

VII. Review of Assignments and Due Dates

- a. SWCA
 - By May 26th provide final Prioritization Form
 - By May 31st provide meeting notes
 - By June 2nd provide Sections 6 and 7 for review and comment
 - By June 12th provide complete document for comment
- b. Planning Team
 - By May 30th provide finalized actions with priority identified
 - By June 2nd provide edits and responses for Executive Summary, Sections1 through 5
 - By June 9th provide edits and responses for Sections 6 and 7
 - By June 16th provide final edits prior to release to the public

VIII. Next Steps

- a. Overview of remaining project schedule
- b. Additional Planning Team Meeting and correspondence

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #4

10am to noon May 25, 2023 via Zoom

I. Introduction

- Introduced Eric Queller, Emergency Manager for the Village of Ruidoso, and Emmi Berski the new SWCA Climate and Resilience Intern.
- Focus of this meeting is on Mitigation Strategy and Plan Maintenance.

II. Priority Risk Index Results

a. Discussed as part of Section 5 slides.

III. Review Sections 1 through 5

- The Planning Team will provide edits and feedback for the Executive Summary and Sections 1 through 5 by June 2nd. Although small wording changes or edits can be done after this point, the Planning Team will provide all known edits by June 2nd, allowing SWCA to complete final formatting the week of June 5th.
- The full formatted HMP (cover through Appendices) will be provided to the Planning Team on June 12th. By June 16th, the Planning Team will identify any 'red flags' that need editing prior to release to the public.
- Executive Summary Tasks for the Planning Team are shown in slide 4.
 - o The Planning Team agreed not to include additional paragraphs in the Executive Summary.
- Adoptions and Approval (Section 1) and Introduction (Section 2) Tasks for the Planning Team are shown in slide 5.
- Planning Process (Section 3) Tasks for the Planning Team are shown in slide 6.
 - Sections 3.6.2 and 3.6.3 will be moved to Section 7 (Plan Maintenance), as this information relates to integrating the 2023 HMP into other planning mechanisms over the next 5-year plan approval cycle.
 - o The public comment period will last two weeks. It will begin June 26th and end July 9th.
 - The draft HMP, feedback survey, and introductory webinar will be posted to the Ruidoso website on June 26th.
 - The County-wide community meeting will be held at the Ruidoso Convention Center on June 27th from 5:30 to 6:30pm.
 - SWCA will distribute the community meeting announcement flyer right away so that it can be included in utility billing or newsletter mailings to community members.
 - □ Planning Team members will
 - print and distribute the hard copy flyer between June 12th and 16th;
 - post the flyer and encourage participation on social media platforms between June 12th and 27th; and
 - participate in the community meeting (if possible).
- Community Profiles (Section 4) Tasks for the Planning Team are shown in slide 8.
 - o The Planning Team agreed to remove the per month per community temperature chart.
 - o The Planning Team agreed to remove the racial statistics from each community profile.
- Hazard Identification and Risk Assessment (HIRA, Section 5) Tasks for the Planning Team are shown in slide 11.
 - o The Planning Team agreed that hazards would be ordered throughout the HMP according to

the County's Priority Risk Index (PRI) ranking.

- Errors of hazard listing order and PRI ranking were shown on slide 10. The correct hazard order and associated County PRI rating is Wildfire (3.8), Flood (3.7), Thunderstorm (3.5), Winter Storms, (3.3), High Wind (2.8) Drought (2.7), and Dam Failure (2.5).
- Although the order is not the same as each individual community's PRI rankings, the Planning Team agreed that for consistency and simplicity for reference, the County's PRI order would be used throughout the HMP.
- Capabilities (beginning of Section 6) Direction and tasks for the Planning Team are shown in slide 12.
 - o The Planning Team will provide edits to the Capabilities Section by May 30th.

IV. Mitigation Strategy (Section 6)

- The Planning Team had no edits for the goals and objectives from the 2018 HMP. The wording will remain as is for the 2023 HMP.
- The Planning Team agreed to make the following changes to the Action chart format.
 - o Add a column to number the actions for reference purposes.
 - For each community, actions will be grouped by hazard type first in order of the Lincoln County PRI ranking and then in priority order (high, medium, low).
 - Letters will be used to identify the community name.
 - Numbers will be sequential starting with wildfire hazard and ending with Dam Failure.
 - Example: RD1 would mean Ruidoso Downs' first high priority wildfire action.
 - o Remove the "Community Assets Mitigated" column.
 - Change the "Estimated Cost" column to "Cost Effectiveness". Definition for cost effectiveness was agreed to be:
 - Low means benefits may not equal the costs or more research is needed.
 - Medium means benefits are estimated to equal the costs.
 - High means benefits are estimated to exceed the costs.
 - o Remove the "Planning Mechanism(s)" column.
 - Change the "Anticipated Completion Date" column to "Duration". Definition for duration was agreed to be:
 - Short-term means one to two years.
 - Medium-term means three to four years.
 - Long-term means five or more years.
 - On-going means a continuing or phased project.
 - Add "2018 Status" column which will include status and disposition. Both definitions were unchanged from the 2018 HMP.
- Funding opportunities for the various actions were described, including FEMA Hazard
 Mitigation Assistance and US Forest Service Community Wildfire Defense Grant. Slides 18 and
 19 provide the summary.
- The Planning Team agreed to use a modified version of the STAPLE+E methodology for action prioritization.
 - The 2012 Lincoln County HMP STAPLE+E description was used as a starting point and was edited by the Planning Team.
 - A chart with summary descriptions for each of the seven STAPLE+E categories plus additional narrative will be included in the HMP Update.
 - o Each community will select the appropriate ranking for each mitigation action. Definitions were agreed to be
 - Low means the action has support in or meets a few (one or two) STAPLE+E characteristics.

- Medium means the action has support in or meets some (three or four) STAPLE+E characteristics.
- High means the action has support in or meets most (five or more) STAPLE+E characteristics.
- Section 6 will be re-written based on Capabilities edits provided by May 30th and the Planning Team's input during this meeting.
 - o The re-written Section 6 will be distributed to the Planning Team on June 2nd.
 - o Edits and feedback will be due by June 9th.

V. Plan Maintenance (Section 7)

- In regard to HMP maintenance and evaluation over the five-year approval cycle, the 2018 HMP Planning Team committed to meet annually and to conduct an annual evaluation using two different forms. One form was for the over-all evaluation of effectiveness and one form related to action progress.
 - The 2023 Planning team confirmed that these steps did not happen due to many large fires, focus on response and public safety, staff turnover, plus personnel changes.
- In regard to on-going public engagement over the five-year approval cycle, the 2018 HMP Planning
 Team committed that communities were to post the completed plan on their website with a link to the
 Ruidoso HMP update page, hard copies of the HMP were to be made available at every library, city
 hall, and courthouse plus the public was invited to give feedback at monthly council or board
 meetings.
 - The 2023 Planning Team confirmed that Ruidoso hosted an HMP-specific section of their website which provided the HMP, related information, and contacts. Corona provided hard copy of the 2018 HMP at the library and Village Hall.
- The 2023 Planning Team agreed to the following changes for the up-coming five-year approval cycle. These changes were made based on more realistic expectations for implementation.
 - o Plan Evaluation and Maintenance
 - A revised evaluation form will be created by SWCA for the Planning Team to use. It will combine the most pertinent information from the two forms referenced in the 2018 HMP and will be included in Section 7 of the 2023 HMP.
 - In year two, the Planning Team contact from each community will facilitate an evaluation of the plan effectiveness, including progress on mitigation actions, using the evaluation form.
 - A summary Memo will be prepared by the Ruidoso and Lincoln County Emergency Managers, to include a description of feedback, updates, or changes from each community plus any changes to the approach.

o Plan Up-date

- The Planning Team will reconvene in year two for evaluation, maintenance, and up-date coordination. Ruidoso and Lincoln County Emergency Managers will take the lead in organizing the meeting.
- In year three, the Ruidoso and Lincoln County Emergency Managers will coordinate on submittal of the application for funding the next HMP update.
- The HMP update will begin in year four to accommodate a 12-month planning process and six-months for review, adoption, and approval.
- o Continued Public Involvement
 - The 2023 HMP will be posted to the Ruidoso website on a dedicated HMP section/page. The section/page will be maintained to post any up-dates, results of the year two evaluation, contact information, and similar. An email address and phone number will be

- included for the public to provide comments, feedback, or questions.
- Each jurisdiction will provide a link to the Ruidoso HMP website section/page.
- Hard copies of the HMP will be available at every jurisdiction's administrative office.
- The public will be invited to give feedback at any of the monthly council or board meetings.
- Jurisdictions that have social media accounts will post at milestones. Examples include FEMA HMP approval, availability of approved HMP on Ruidoso websites and hard copy at administrative buildings, results of year two evaluation, receipt of funding for the next HMP up-date, and kick-off of the 2028 up-date.
- If a major HMP update is proposed based on the evaluation feedback, presentation of the review material will be made to each jurisdiction's council or board.
- Edited versions of Sections 3.6.2 and 3.6.3 will be moved to Section 7 (Plan Maintenance), as this information relates to integrating the 2023 HMP into other planning mechanisms over the five-year plan approval cycle. The Planning Team will provide input on the frequency of various plan updates and the primary contacts for each plan type.
- Section 7 will be re-written based on the Planning Team's input during this meeting.
 - o The re-written Section 7 will be distributed to the Planning Team on June 2nd.
 - o Edits and feedback will be due by June 9th.

VI. Formatting

- The Planning Team approved the Table of Contents format to include all topics through a third numbering sequence. For example, Section 5.2.1 is the HIRA, Hazard Risk Profiles, Wildfire.
- The Planning Team agreed to include only the agendas and notes from each Planning Team Meeting in the Appendices. PowerPoints will be on file with the Village of Ruidoso as the contracting entity for reference.
- The Planning Team generally agreed that the second option for the plan cover was preferred; it includes a photo of Sierra Blanca. The two options are shown in slide 39.

VII. Review of Assignments

- See slide 43 for a summary chart of assignments through mid-July 2023
- SWCA
 - o By May 26th provide final Prioritization Form
 - o By May 31st provide meeting notes
 - o By June 2nd provide Sections 6 and 7 for review and comment
 - o By June 12th provide complete document for comment (cover through Appendices)
- Planning Team
 - o By May 30th provide finalized actions with priority identified and capability edits.
 - o By June 2nd provide edits and responses for Executive Summary, Sections 1 through 5.
 - o By June 9th provide edits and responses for Sections 6 and 7, including plan integration timeline for 2024-2028 plus responsible party.
 - By June 16th provide final edits prior to release to the public, distribute community meeting flyers, and post to social media.
 - o June 27th participate in community meeting at 5:30pm at the Ruidoso Convention Center.
 - o July 10th to 12th participate on Planning Team call (if needed) to resolve community input.

VIII. Next Steps

- See slide 45 for the remaining project schedule from mid-July through December 2023
 - o From August through October, the Planning Team may need to meet to respond to State

- and/or FEMA feedback.
- o In October or November it is anticipated that the Planning Team primary contact for each jurisdiction will bring the HMP to the governing body for adoption.
- On-going correspondence will be by email and phone.

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update Planning Team Meeting #4 Sign-in Sheet (via Zoom)

First Name	Last Name	Organization	Title
Roy	Burkham	Ruidoso Downs, City of	Fire Chief
Dick	Cooke	Ruidoso, Village of	Director of Forestry
Joe	Kasuboski	Ruidoso, Village of	Fire Chief
Joe (JP)	Kenmore	Lincoln County	Emergency Services Director
Kevin	Kennedy	Capitan, Village of	Fire Chief
Lisa	Maue	Carrizozo, Town of	Administrative Assistant
Jim	McCoy	U.S. Forest Service	Deputy Forest Supervisor
Eric	Queller	Ruidoso, Village of	Emergency Manager
Terri	Racher	Corona, Village of	Village Clerk/Treasurer
Consultants:			
Wendy	Blackwell	SWCA Environmental Consultants	Project Manager
Emmi	Berski	SWCA Environmental Consultants	Climate and Resilience Intern
Candace	Dahozy	High Water Mark	Project Manager
Sam	Lashley	SWCA Environmental Consultants	Researcher and Author
Sarah	Pritchard	SWCA Environmental Consultants	Assistant Project Manager
Tom	Teegarden	High Water Mark	Vice President
Edmund	Vandever	High Water Mark	Technical Specialist

APPENDIX G Community Outreach





PUBLIC INFORMATION NOTICE

FOR IMMEDIATE RELEASE

CONTACT: Kerry Gladden

kerry@itstheagency.com 575-937-2664

Lincoln County Multi-jurisdictional Hazard Mitigation Plan Update

RUIDOSO, NM – March 29, 2023 – The five-year update is underway for the Lincoln County Multi-jurisdictional Hazard Mitigation Plan. The planning process for the plan assists the County and all five incorporated jurisdictions to identify the natural hazards that impact each community, analyze the risks, and prioritize actions that can be taken to reduce that risk. Examples of natural hazard mitigation projects are hazardous fuels reduction, drainage improvements, watershed stabilization, and public outreach.

A Planning Team, made up of representatives from the County and the incorporated jurisdictions, is meeting monthly to revise the previous version of the plan. An introductory presentation explaining the update is being provided to the governing bodies of each community in March and April. Community members are invited to provide feedback and input on the draft plan in June after the Planning Team prepares the update. A community meeting will be held in June for in-person participation, and the draft will also be available online for comments to be submitted digitally. Adoption of the plan by the governing bodies will occur after FEMA provides approval of the final draft.

Having the approved hazard mitigation plan provides each jurisdiction with a federal government-approved and locally adopted plan which will support grant applications to implement natural hazard risk reduction projects. The approved plan is a requirement for FEMA hazard mitigation grant funding and can serve as the planning eligibility requirement for other federal grants like the U.S. Forest Service Community Wildfire Defense Grant.

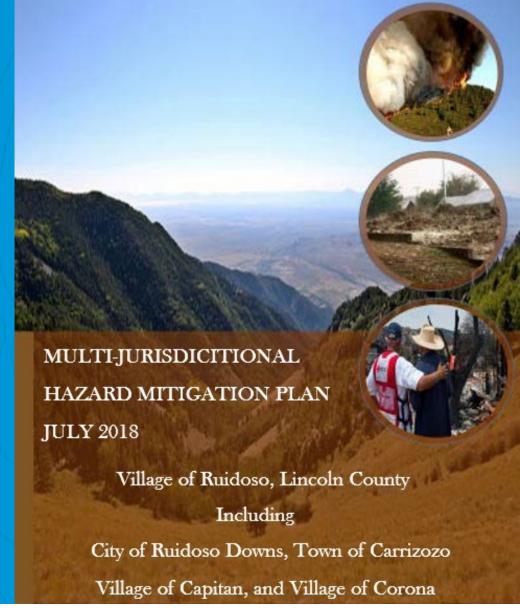
If you have questions or would like to discuss the mitigation planning effort, please contact the following:

- Village of Ruidoso: Joe Kasuboski, Fire Chief, <u>JoeKasuboski@ruidoso-nm.gov</u>
- Lincoln County: Joe Kenmore, Emergency Management Director, IKenmore@lincolncountynm.gov
- City of Ruidoso Downs: Dean Holman, Mayor, DHolman@ruidosodowns.us
- Town of Carrizozo: Ray Dean, Mayor, zozocityhall@tularosa.net
- Village of Capitan: Kevin Kennedy, Fire Chief, KKennedy@villageofcapitan.org
- Village of Corona: Terri Racher, Village Clerk, villageofcorona@plateautel.net

For more information, please visit <u>Ruidoso-nm.gov</u>.



Lincoln County Multi-jurisdictional Hazard Mitigation Plan 2023 Update



Elected/Appointed Officials Presentation March and April 2023

NATURAL HAZARD MITIGATION

Reduces injury and property damage by lessening impact of natural disasters

Reduces impact of natural disasters by supporting protection & prevention activities

Successful mitigation planning & implementation lessens impact of natural disasters, therefore:

Lessen emergency response time

Speeds recovery

Creates better prepared resilient communities

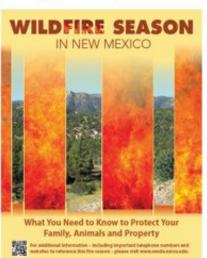


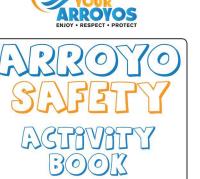


NATURAL HAZARD MITIGATION EXAMPLES









FOR GRADES K-5









ADVANTAGES OF MITIGATION PLAN

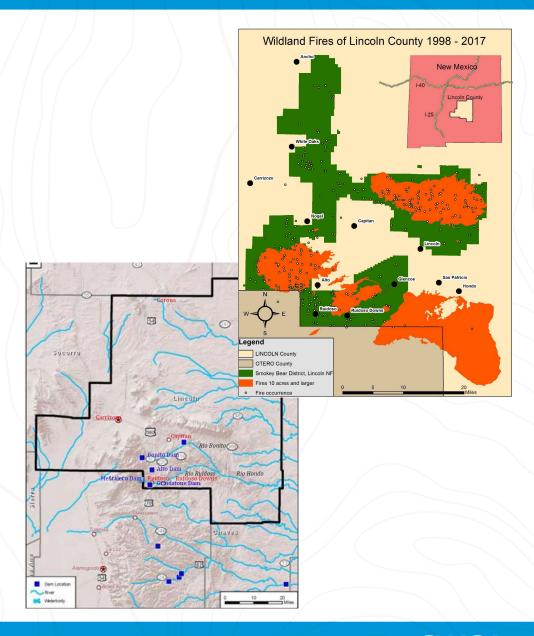
- > For each jurisdiction, the plan
 - ✓ identifies the hazards that impact the community
 - √ analyzes the risks
 - ✓ prioritizes actions to reduce that risk
- ➤ The collaborative multi-jurisdictional Planning Team leads the process
- There is an opportunity for the community to provide input at the drafting stage and prior to final adoption
- ➤ The planning process results in a federal government-approved and locally adopted plan which will support funding requests to implement natural hazard risk reduction projects
- ➤ The approved plan is a requirement for FEMA hazard mitigation grant funding
- The USFS Community Wildfire Defensive Grant recognizes the approved plan as meeting the planning requirement for funding





2018 HAZARD MITIGATION PLAN

- ➤ Meets requirements of 44 Code of Federal Regulations 201.6
- Approved 7/25/2018, Expires 7/24/2023
- > County and five incorporated jurisdictions participated
- Data collection ended in January 2017 (generally)
- > 6 natural hazards
 - ✓ All Communities:
 - Wildfire, Drought, Severe Weather (thunderstorms, winter storms)
 - ✓ County, Ruidoso, Ruidoso Downs:
 - Flood, Dam Failure





WHO PREPARES THE PLAN UPDATE

Planning Team

- ✓ Primary point of contact for each jurisdiction
- ✓ Provides edits and feedback on approach and process

Subject Matter Experts

- ✓ Provides data, edits, and feedback on specific topics
- ✓ Provides reference material

Stakeholders

- ✓ Interested entities not on the Planning Team and not an individual community member
- Examples include academia, regional planning authorities, non-profit organizations, neighboring communities

Members of the Community

- ✓ Provide input based on local knowledge, community interests
- ✓ Resident, property owners, business owners



HMP 3rd Meeting, MPT, photo



MPT photo, HMP 2nd meeting



Timeline is 10 months

- Governing Body presentations March 2023
- Stakeholder engagement throughout
- Community Meeting June 2023
- Governing Body adoption Fall 2023
- FEMA approval anticipated November 2023





2023 HAZARD MITIGATION PLAN - ENHANCEMENTS

- Will include
 - ✓ Data for hazard occurrences since January 2017
 - ✓ mapped hazards and vulnerability analysis
 - √ high wind hazard
- > As per new FEMA guidance, will include
 - ✓ Climate change impacts on natural hazard events
 - ✓ Outreach to socially vulnerable community
 - ✓ High Hazard Potential Dam grant compliance (optional)
- ➤ Will enhance community engagement strategy to include
 - √ in-person community meeting
 - ✓ Video introduction for on-line review of draft
 - ✓ Survey for community input



Local Mitigation Planning Policy Guide

FP 206-21-0002

Released April 19, 2022, Effective April 19, 2023

OMB Collection #1660-0062





Thank you!

Primary Contacts

Village of Ruidoso; Joe Kasuboski, Fire Chief, JoeKasuboski@ruidoso-nm.gov and 575-257-3473

Lincoln County; Joe Kenmore, Emergency Management Director,

JKenmore@lincolncountynm.gov and 575-336-8600

City of Ruidoso Downs; Dean Holman, Mayor, DHolman@ruidosodowns.us and 575-378-4422

Town of Carrizozo; Ray Dean, Mayor, zozocityhall@tularosa.net and 575-921-2762

Village of Capitan; Kevin Kennedy, Fire Chief, KKennedy@villageofcapitan.org and 575-937-0222

Village of Corona; Terri Racher, Village Clerk, villageofcorona@plateautel.net and 575-849-5511







COMMUNITY MEETING

Lincoln County Natural Hazard Mitigation Plan www.Ruidoso-NM.gov

>>> MEETING TOPICS:

- Natural hazard mitigation is planning and project implementation that help to reduce the risk of natural hazard impacts.
- Natural hazards included in the plan are wildfire, flood, high wind, thunderstorms, winter storms, drought, and dam failure.
- A brief presentation explaining the purpose of the Hazard Mitigation Plan and how participants can provide input.
- Participants will provide feedback and input on the Hazard Mitigation Plan.



>>> WHERE:

 Ruidoso Convention Center 111 Sierra Blanca Drive Ruidoso, NM

>>> WHO SHOULD PARTICIPATE:

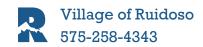
- Residents
- Property owners
- Business owners
- Schools/Universities
- Non-profit organizations and agencies
- Local government officials and representatives
- Neighboring communities
- Anyone interested in natural hazard risk reduction

>>> WHEN:

- Tuesday, June 27, 2023
- 5:30 to 6:30pm

>>> HOW:

- A feedback survey will be available at the meeting
- Starting June 26th, the full Hazard Mitigation Plan, a 10-minute overview webinar, and the feedback survey will be posted online at Ruidoso-NM.gov
- Interested parties can provide feedback online through July 9th.





APPENDIX H Evaluation and Status Form



LINCOLN COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN EVALUATION AND ACTION STATUS FORM

January 2023 through June 2025

Instructions: This Form is to be filled out and submitted by the jurisdiction's primary point of contact on the Planning Team as part of the preparation for the next Planning Team Meeting. It is to be submitted to the Lincoln County Emergency Manager and the Village of Ruidoso Emergency Manager in June 2025. *Note: This Word document will expand as you type your responses (include as descriptive a response as possible).*

Your Name: Jurisdiction: Phone and email: Date Form Completed:

- 1. Planning Process (Section 3): What has been effective and what changes do you recommend? Consider and document:
 - responsibilities and commitments of the Planning Team
 - implemented public involvement activities
 - · decision maker or public support changes

Enter Response Here:

- 2. Hazard Identification and Risk Assessment (Section 5): What has changed that should be added to the hazard profiles and vulnerability assessment? Consider and document:
 - hazard type, date, and impacts starting January 2023 (data collection ended December 2022 for the 2023 HMP)
 - new sources of data, studies, or reference material
 - changes in development trends or critical infrastructure that may impact risk

Enter Response Here:

- 3. Mitigation Strategy (Section 6): What capabilities have changed and what progress has been made on mitigation actions? Consider and document:
 - changes to staffing, contract services, fiscal resources
 - updated plans, policies, regulations
 - individual action progress, accomplishments, challenges

Enter Response Here:

- 4. Plan Maintenance (Section 7): What has worked as expected and what changes do you recommend for the remainder of the planning cycle (through the 2028 HMP Update)? Consider and document:
 - aspects of the 2023 HMP incorporated into other planning mechanism updates
 - Planning Team responsibilities that were implemented
 - recommended changes to the evaluation, maintenance, and update process

Enter Response Here:



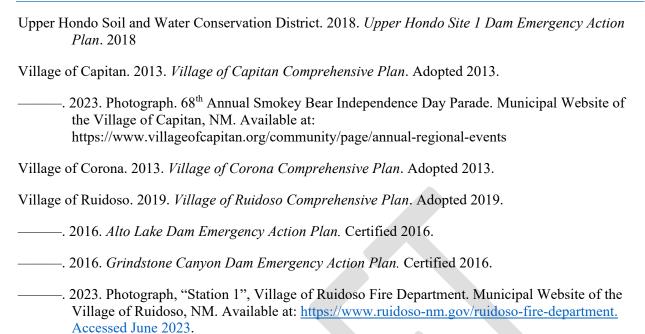
APPENDIX I Literature Cited



LITERATURE CITED

- Agency for Toxic Substances and Disease Registry (ATSDR). 2022. CDC/ATSDR Social Vulnerability Index. Available at: https://www.atsdr.cdc.gov/placeandhealth/svi/index.html. Accessed April 2023.
- Allen, C. 2021."It is kind of crazy": People near Ruidoso react to Ball Field Fire. KRQE News. Available at: https://www.krqe.com/news/wildfires/it-is-kind-of-crazy-people-near-ruidoso-react-to-ball-field-fire/. Accessed May 2023.
- Brittanica. 2021. Lincoln County, New Mexico, United States. Available at: http://www.britannica.com/EBchecked/topic/341673/Lincoln. Accessed May 2023.
- City of Alamogordo. 2023. Bonito Dam Emergency Action Plan. Certification pending.
- City of Ruidoso Downs. 2021. City of Ruidoso Downs Comprehensive Plan. Adopted 2021.
- Discover Riudoso. 2023. Official tourism website for Ruidoso, New Mexico. Available at: https://www.discoverruidoso.com/.
- Earth Data Analysis Center. New Mexico Resource Geographic Information site. Available at: https://rgis.unm.edu/
- Federal Emergency Management Agency (FEMA). 2023. Local Mitigation Planning Policy Guide. OMB Collection #1660-0062. Available at: https://www.fema.gov/sites/default/files/documents/fema_local-mitigation-planning-policy-guide_042022.pdf. Accessed March 2023.
- Garfin, Gregg. 2013. Assessment of Climate Change in the Southwest United States. Prepared for the National Climate Assessment. Available at: SW-NCA-color-FINALweb.pdf. Accessed March 2023.
- interFire. 2023. Fire services website. Available at: https://www.interfire.org/. Accessed May 2023.
- Lincoln County. 2007. *Lincoln County Comprehensive Plan*. Available at: https://cms5.revize.com/revize/lincolncounty/Document_Center/Services/Public%20Works/Plan ning/Final Comp-2.pdf. Accessed May 2023.
- Mason, W. 2018. Wildfire Update: 246 Fire—Lincoln County—04/14/18. New Mexico Wildfire Information. Available at: https://nmfireinfo.com/2018/04/14/wildfire-update-246-fire-lincoln-county-04-14-18/. Accessed May 2023.
- McCabe, G.J., M.A. Palecki, and J.L. Betancourt. 2004. Pacific and Atlantic Ocean influences on multidecadal drought frequency in the United States. *Proceedings of the National Academy of Science of the United State of America*. Available at: https://pubs.er.usgs.gov/publication/70026918. Accessed May 2023.
- National Drought Mitigation Center. 2023. U.S. Drought Monitor Map Archive. Available at: https://droughtmonitor.unl.edu/Maps/MapArchive.aspx. Accessed March 2023.

- National Fire Protection Association (NFPA). 2023. Firewise USA. Available at: https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA. Accessed May 2023.
- National Oceanic and Atmospheric Administration (NOAA). 2021. U.S. Climate Normals Database. Available at: https://www.ncei.noaa.gov/access/us-climate-normals/#dataset=normals-annualseasonal&timeframe=30&station=US1NMLN0014. Accessed May 2023.
- ——. 2023. National Centers for Environmental Information. Available at: www.ncdc.noaa.gov. Accessed May 2023.
- National Research Council. 2008. Observing Weather and Climate from the Ground Up: A Nationwide Network of Networks. Available at: mesoscale_final.pdf (nationalacademies.org). Accessed June 2023.
- National Weather Service. Year. NWS ABQ Public Zone Descriptions. Available at: https://www.weather.gov/abq/forecasts-local-zonedescription. Accessed May 2023.
- ——. 2023. Storm Events Database. Available at: https://www.ncdc.noaa.gov/stormevents/. Accessed May 2023.
- New Mexico Bureau of Geology and Mineral Resources (NMGMR). 2017. *Collapsible Soil Susceptibility Map for New Mexico (1:750,000) Based on Multiple Proxies*. Open-File Report OFR-593. Available at: https://geoinfo.nmt.edu/publications/openfile/downloads/500-599/593/OFR-593_Report.pdf. Accessed April 2013.
- ———. 2022. Climate Change and New Mexico's Water Resources: A 50-Year Outlook. Available at: https://nmlegis.gov/handouts/WNR%20072522%20Item%205%20Gutzler1.pdf. Accessed May 2023.
- New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division. 2021. 2020 New Mexico Forest Action Plan. Available at: https://www.emnrd.nm.gov/sfd/wp-content/uploads/sites/4/NMFAP_2020_v1-1_2021_03_12b_web.pdf. Accessed April 2023.
- Town of Carrizozo. 2021. Town of Carrizozo Comprehensive Plan. Adopted 2021.
- United States Census Bureau. 2020. American Communities Survey. Available at: https://data.census.gov/. Accessed April 2023.
- U.S. Census Bureau. 2021. American Community Survey. Available at: https://www.census.gov/programs-surveys/acs. Accessed April 2023.
- U.S. Environmental Protection Agency. 2016. What Climate Change Means For New Mexico. Available at: https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-nm.pdf. Accessed March 2023.
- U.S. Global Change Research Program. 2018. *Impacts, Risks, and Adaptation in the United States Fourth National Climate Assessment*, Vol. II. *Southwest*. Available at: https://nca2018.globalchange.gov/downloads/NCA4_Ch25_Southwest_Full.pdf. Accessed March 2023.



Wikimedia Commons. 2021. Photograph, Valley of Fire State Park with sign. Available at: https://commons.wikimedia.org/wiki/Category:Valley of Fire. Accessed 2017.



APPENDIX J Adoption Resolutions



APPENDIX K FEMA Approved Plan Review Tool

