

**2019**  
**Los Alamos**  
**County**  
**Threat and**  
**Hazard**  
**Identification and**  
**Risk Assessment**



## Los Alamos County Threat and Hazard Identification and Risk Assessment (THIRA)

In accordance with state guidance, a THIRA has been developed and identifies a limited list of Core Capacities to be addressed in 2018 and beyond.

This THIRA provides a comprehensive overview of assessed risks and associated impacts for the Incorporated County of Los Alamos. It expands on existing Hazard Identification and Risk Assessments (HIRAs) and other risk methodologies by broadening the factors considered in the process, incorporating the whole community throughout the process and by accounting for important community specific factors.

- Step One assessed the various threats and hazards
- Step Two assessed the vulnerability to the hazards using varying time, season, location and community factors
- Steps Three and Four estimated the consequences of those threats and hazards impacting Los Alamos County and established capabilities targets.
- Step Five captures the results of the THIRA process to set an informed foundation for planning and preparedness activities across prevention, protection, mitigation, response and recovery.

THIRA-informed planning is consistent with and expands on nationally accepted emergency management standards, which have long required using risk assessments, such as HIRAs, as the basis for planning across the mission areas. A continuous cycle of assessing capabilities, plans, and programs and incorporating the results into future THIRAs allows the Urban Area to manage changes to its risk landscape. It also provides the means to educate and update individuals, families, businesses, organizations, community leaders, and senior officials on the risks facing a community. An informed public is the best advocate for building required capabilities and creating a secure and resilient community.

### THIRA Threats and Context Statements

Natural	Technological	Human Caused
• Wildfire	• Dam Failure	• Terrorism
• Earthquake	• Hazardous Materials Incidents	• Disease Outbreak
• Flooding		• Active Shooter

## Hazard Descriptions

Natural	
Wildfire	A wildfire starts near Santa Fe National Forest (Frijoles Canon and Bandelier National Forest) quickly develops into a catastrophic fire that destroys property within Los Alamos County (White Rock); limits including economic enterprises (LANL, tourism, hikers); and public infrastructure such as schools, fire station, public works, and critical watersheds. The incident will require evacuation of Los Alamos County and surrounding communities. Adjacent tribal partners need support to evacuate residents; and protect sacred grounds and tribal economic infrastructure. Both livestock and residents are trapped within remote canyons.
Earthquake	A magnitude 7.0 earthquake occurred that impacts Los Alamos County. Substantial damage is sustained with collapse of multiple buildings (both in the County and at LANL); damage to roads and bridges; and water, power, and communications systems. Travel into and out of the area is restricted. Search and Rescue (SAR) operations are underway. Calls into 9-1-1 are sporadic; however those calls actually received indicate numerous casualties.
Flood	In September, in the days following moderate-to-heavy rainfall, a stalled frontal system sits over Los Alamos County dumping very heavy precipitation across the area for a three-day period. Stream flows overwhelm the channels and flood stages are exacerbated by excess water making its way down the canyons. Inundation reaches the 500-year floodplains in the County. Medical facility is severely impacted causing patient relocation.
Technological	
Dam Failure	A weakness in the dam system reaches failure point releasing thousands of gallons of water down Los Alamos Canyon. Immediately utility lines and water delivery systems are heavily impacted or completely inoperable. Citizens at the ice rink have little or no warning of the event and immediately require swift water rescue. Estimated economic losses are expected to be in the millions with recovery operations lasting multiple years.
Hazardous Materials Incident	A chemical spill involving sulfuric acid being transported on forklift at Los Alamos National Laboratory occurs during the noon lunch hour. High winds generate a corrosive plume moving north east from the accident site into areas with a high daytime population.

Human Caused	
Terrorism	An unknown terrorist group conducts an attack using vehicle-borne improvised explosive devices (VBIED) (4,000 lbs.) with explosion at the LANL picnic being held at the soccer field near UNMLA. The attack occurred at 1200 on a Saturday morning during peak occupancy times.
	The attack resulted in significant loss of life of high-ranking LANL and DOE officials, family members and children, with over 500 injured or killed at the picnic site/soccer field.
	There is major structural damage to the buildings located adjacent to the soccer field (including UNMLA administrative offices and the Los Alamos Public Health Office).
Disease Outbreak	Infections with a novel, highly pathogenic influenza virus, followed by the onset of Methicillin-resistant Staphylococcus aureus pneumonia spreads among the region's population.
	First Wave: The first wave begins in October, and the last cases appear in late March. The first wave produces a 20 percent infection rate in the general population. A vaccine becomes available in late February, and the region conducts a mass vaccination campaign to vaccinate up to 100 percent of the eligible population.
	Second Wave: The second wave is modeled after the 1918 influenza pandemic. The virus mutates between the first and second wave, becoming more virulent in the process. Exposure to or vaccination against the first wave's virus provides partial immunity to the mutated form of the virus. The second wave begins in May and lasts until late August. During the second wave, 20 percent of the population becomes infected (a rate that would have been higher without the partial immunity developed after infection with or vaccination against the first wave's virus). An updated vaccine becomes available in late September, and a second mass vaccination campaign occurs.
Active Shooter	<p>An active shooter event consisting of disgruntled students actively engaged in killing or attempting to kill people in populated areas using firearms at Los Alamos Public Schools.</p> <p>The situation is dynamic and rapidly evolving, demanding immediate deployment of law enforcement resources to stop the shooting and mitigate harm to innocent victims. There is no pattern or method to their selection of victims.</p>

## Desired Outcomes for Los Alamos County

	Core Capability	Desired Outcome
Common	Planning	<p>Maintain, every five years, an all-hazards emergency operations plan and hazard mitigation plan that address functional areas with specific annexes as required.</p> <p>Maintain scenario-specific, stand-alone plans every two years.</p> <p>Maintain, a Continuity of Operations (COOP)/Continuity of Government Plan (COG) plan for all County owned critical infrastructure.</p>
	Public Information and Warning	<p>Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, culturally and linguistically appropriate methods, including social media, to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance that is being made available.</p>
	Operational Coordination	<p>During response operations, within three hours of the decision to activate the Emergency Operations Center, establish and maintain a National Incident Management System (NIMS) compliant operational structure and process which integrates all critical stakeholders in order to stabilize an incident within 72 hours and effectively support and manage the execution of capabilities and supporting activities.</p>
Prevention	Forensics and Attribution	<p>Prioritize evidence collection and analysis to assist in preventing initial or follow-on terrorist acts.</p>
Prevention and Protection	Intelligence and Information Sharing	<p>Promptly share relevant, timely, and actionable information and analysis with federal, state, local, tribal and private partners with appropriate classified/unclassified products in accordance with established protocols.</p>
	Interdiction and Disruption	<p>Interdict 100% of specific conveyances, cargo and persons associated with an imminent threat to the County of Los Alamos.</p>

	<b>Screening, Search, and Detection</b>	<b>Screen 100% of targeted conveyances, cargo and persons associated with imminent terrorist threat using all means.</b>
<b>Protection</b>	<b>Access Control and Identity Verification</b>	<b>Ensure 100% verification of identity to authorize, grant, or deny physical and cyber access to specific locations, information and networks.</b>
	<b>Cybersecurity</b>	<b>Detect 100% of malicious activity directed against all critical infrastructure, key resources, and networks. Educate workforce on proper security protocol.</b>
	<b>Physical Protective Measures</b>	<b>Protect people, structures, materials, products and systems of key operational activities and critical infrastructure sectors against an identified or perceived threat.</b>
	<b>Risk Management for Protection Programs and Activities</b>	<b>Complete risk assessments for 100% of prioritized critical infrastructure assets.</b>
	<b>Supply Chain Integrity and Security</b>	<b>Secure all identified priority supply routes, transit methods, and materials.</b>
<b>Mitigation</b>	<b>Community Resilience</b>	<b>Implement hazard mitigation plans with highest risk through partnerships with whole community representatives. Identify opportunities to mitigate risk through public education, effective code policies and enforcement, project development, and implementation.</b>
	<b>Long-term Vulnerability Reduction</b>	<b>Achieve decrease in the long-term vulnerability posed by an increased risk to a similar incident. Ensure that long term community development plans and design incorporate hazard and risk information into consideration and encourage development of appropriate ordinances and resources to implement risk reduction activities for similar future events.</b>
	<b>Risk and Disaster Resilience</b>	<b>Provide technical assistance to the whole community and to other NM jurisdictions to identify, analyze, and maintain a risk assessment that include information about localized vulnerabilities and consequences.</b>
	<b>Threats and Hazard Identification</b>	<b>Identify threats and hazards in collaboration with whole community partners and incorporate findings into analysis and planning process for all mission areas.</b>

Response	<b>Critical Transportation</b>	Ensure multi-modal transportation access is established in support of response operations, transportation of vital response personnel, equipment, and services into the affected area is provided, and accessible transportation services are available to support the evacuation of people and animals.
	<b>Environmental Response/Health Safety</b>	Provide both guidance and resources to address environmental issues/health and safety issues during a disaster response, whether the disaster is man-made or natural, that can impact both responders and affected community members.
	<b>Fatality Management Services</b>	Coordinate and provide temporary mortuary solution and fatality management services, including support in identifying location of remains, remains processing, victim identification as well as provide professional counseling to the bereaved and reunification with family members and caregivers.
	<b>Mass Care Services</b>	Coordinate and ensure that timely life-sustaining services are provided to the affected population, to include providing food, water, shelter and other essential commodities and life sustaining services to those who have the most need, and support the re-entry operations and family reunification efforts.
	<b>Mass Search and Rescue Operations</b>	Using pre-existing teams and resources, deliver timely SAR capabilities to disaster survivors in need, including personnel, services, animals, and assets, with the goal of saving the greatest number of endangered lives in the shortest time possible.
	<b>On-Scene Security and Protection</b>	Ensure a safe and secure environment for response personnel engaged in lifesaving and life-sustaining operations and will also support efforts to provide a safe and secure environment for people and communities located within the affected area or locale.
	<b>Operational Communications</b>	Ensure that interoperable voice and data communications are established and maintained among and between all response forces as they activate and deploy forward, whether mobile or fixed, and between affected communities in support of operations, security, and situational awareness.
	<b>Public and Private Services and Resources</b>	In support of state partners, FEMA R6 will coordinate with state to provide essential public and private services and resources to the affected population and surrounding communities, to include emergency power to critical facilities, fuel support for emergency responder, access to essential services, and access to fire and other first response services.

	Public Health and Medical Services	In support of state partners, FEMA R6 will coordinate with state to ensure that lifesaving medical treatment, emergency medical services, and related operations are provided to the affected population during a disaster and that steps are taken to avoid additional disease and injury by providing targeted public health and medical support and products to people in need within the affected area.
	Situational Assessment	In support of state partners, FEMA R6, in coordination with state reporting processes, will provide relevant, accurate, consistent, and timely information to decision makers at all levels and across all federal agencies regarding damage assessments, anticipated resource needs, and the status of all response operations.
Response and Recovery	Infrastructure Systems	In support of state partners, FEMA R6 will coordinate with state to identify, stabilize, and report immediate infrastructure threats. FEMA R6 will stabilize critical infrastructure functions, minimize health and safety threats, and efficiently restore and revitalize infrastructure systems and related services to support response operations and to assist the affected community in recovering from infrastructure damage and cascading effects. An Infrastructure Systems Mission Scoping Assessment Report (MSAR) will be conducted within 60 days of an incident to determine breadth of support needed for the Recovery Support Functions and identify jurisdictions which will require enhanced federal support.
Recovery	Economic Recovery	An Economic Recovery Mission Scoping Assessment Report (MSAR) will be conducted within 60 days of an incident to determine breadth of support needed for the Recovery Support Functions and identify jurisdictions which will require enhanced federal support.
	Health and Social Services	A Health and Social Services Mission Scoping Assessment Report (MSAR) will be conducted within 60 days of an incident to determine breadth of support needed for the Recovery Support Functions and identify jurisdictions which will require enhanced federal support.
	Housing	A Housing Mission Scoping Assessment Report (MSAR) will be conducted within 60 days of an incident to determine breadth of support needed for the Recovery Support Functions and identify jurisdictions which will require enhanced federal support.
	Natural and Cultural Resources	A Natural and Cultural Resources Mission Scoping Assessment Report (MSAR) will be conducted within 60 days of an incident to determine breadth of support needed for the Recovery Support Functions and identify jurisdictions which will require enhanced federal support.

## Estimated Impacts Based on Threat and Hazard Descriptions

	Common			Prevention	Prevention/Protection		
	Planning	Public Information and Warning	Operational Coordination	Forensics and Attribution	Intelligence and Information Sharing	Interdiction and Disruption	Screening, Search and Detection
Wildfire	Create Emergency Action Plans in response to specific flooding threats in order to stabilize the incident within 72 hours.	Warn an estimated 18000 residents of Los Alamos County and LANL through various methods.	Support Los Alamos County through coordinated EOC operations, IMAS and mutual aid agreements.	N/A	For all hazards Fusion Center at DHSEM: establish and gather intelligence and information requirements. Deliver intelligence and information products as well as acquire feedback on data provided. Continually assess threat information to inform continued prevention operations.	N/A	N/A

		Protection			Mitigation				
Access Control and Identity Verification	Cyber-security	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification	
Wildfire	Control and limit access to critical locations and systems to authorized individuals.	N/A	Identify and prioritize assets, systems, networks, and functions that need to be protected.	Gather required data in a timely and accurate manner in order to effectively identify risks.	Integrate security processes into supply chain operations to identify items of concern and resolve them as early in the process as possible.	Work with local, county, state, LANL and Federal Government to ensure Hazard Mitigation Plans are in place; verify flood ordinances and latest maps available.	Continue to work with all levels of government, LANL, and private industry to ensure flood mitigation strategies are being implemented.	Continue to work with all levels of government, LANL and private partners to assess community resilience and identify weakness for risk reduction.	Continue to work with all levels of government, LANL and private partners to update threat/hazard identification and prioritization.
			Identify needed physical protections, countermeasures, and policies through a risk assessment of key operational activities and infrastructure.	Obtain and utilize appropriate threat, vulnerability, and consequence tools to identify and assess threats and consequences.	Use risk management principles to identify, mitigate vulnerabilities, and protect key assets, infrastructure, and support systems.	Coordinate efforts with Utilities on LA Canyon Dam.			

		Protection				Mitigation				
		Access Control and Identity Verification	Cyber-security	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
Wildfire				Develop and implement risk-based security measures, countermeasures, policies and procedures.	Conduct vulnerability assessments and risk analysis of appropriate assets, systems, networks, functions and their interdependencies and shared vulnerabilities.	Implement physical protections, countermeasures, and policies to secure and make resilient transportation nodes and materials in transit.				
				Implement training for workers focused on awareness and response.	Update risk assessments based on changes in: physical environment, aging infrastructure, new development, and new mitigation projects.					

Response							
Critical Transportation	Environmental Response/Health and Safety	Fatality Management Services	Mass Care	Mass Search and Rescue Operations	On-Scene Security and Protection	Operational Communication	
Wildfire	Debris or high water blocking transportation. Potential for permanent destruction of roadways that will require time to repair. Alternative transportation routes should be established.	Ensure health and safety precautions are being taken for responders and residents involved in response operations.	Maximum of 100 fatalities.	1000 seeking shelter. 150 functional needs. 200 pets.	Multiple operations required in several jurisdictions and/or counties requiring the request of mutual aid.	250 law enforcement personnel to prevent re-entry into flooded areas.	Damage to cellular towers in affected areas. Nearby towers are overloaded resulting in complete loss of cell service in and near affected areas.
						Develop system to verify credentials of first responders from other jurisdictions.	Landline telephone network destroyed and unusable for two months in Los Alamos County.
							Public safety radio system performance degraded by damage to towers and landline telephone system.

	Response			Response/Recovery	Recovery			
	Public and Private Services and Resources	Public Health and Medical Services	Situational Assessment	Infrastructure Systems	Economic Recovery	Health and Social Services	Housing	Natural and Cultural Resources
Wildfire	Resources: -1000 meals 3x day - 14000 gallons of water -37500 lbs. of ice -1000 sets of blankets, cots and personal hygiene kits - 13 portable generators of various sizes	LAMC loses power and water supply. Hospital evacuated until utilities restored.	Initial reports are from media due to scope of damage.	2 facilities greater than 50% damage.	\$15M in uninsured damages	Social Service demands far exceed resources.	Permanent housing in areas becomes impossible to find within 24 hours.	3 cultural landmarks significantly affected.
		Potential public health emergency due to water borne disease acerbated by deceased animals in affected area.	Accurate reports from affected areas difficult to receive due to damage.	50% of critical infrastructure in inundation area destroyed. Communications is affected and limited to sporadic public safety radio and runners	LAC tax base affected (LANL).	External (State/Federal) resources unable to arrive for 36 hours due to infrastructure damage and large number of evacuees on roadways.	250 individuals require long-term housing options.	25000 cubic yards of debris for disposal.
		Insect vectors cannot be controlled due to large area that was flooded.	Multijurisdictional nature of event makes situational assessment very difficult.	Transportation in affected area is by helicopter or foot only.			1500 households require mid-term housing options during housing repairs.	

	Common			Prevention	Prevention/Protection		
	Planning	Public Information and Warning	Operational Coordination	Forensics and Attribution	Intelligence and Information Sharing	Interdiction and Disruption	Screening, Search and Detection
Earthquake	Create Emergency Action Plans in response to earthquake in order to stabilize the incident within 72 hours.	Warn an estimated 18000 residents of Los Alamos County and LANL through various methods.	Support Los Alamos County through coordinated EOC operations, IMAS and mutual aid agreements.	N/A	For all hazards Fusion Center at DHSEM: establish and gather intelligence and information requirements. Deliver intelligence and information products as well as acquire feedback on data provided. Continually assess threat information to inform continued prevention operations.	N/A	N/A

		Protection				Mitigation				
		Access Control and Identity Verification	Cyber-security	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
Earthquake	Control and limit access to critical locations and systems to authorized individuals.	N/A	Identify and prioritize assets, systems, networks, and functions that need to be protected.	Gather required data in a timely and accurate manner in order to effectively identify risks.	Integrate security processes into supply chain operations to identify items of concern and resolve them as early in the process as possible.	Work with local, county, state, LANL and Federal Government to ensure Hazard Mitigation Plans are in place; verify latest maps available.	Continue to work with all levels of government, LANL, and private industry to ensure mitigation strategies are being implemented.	Continue to work with all levels of government, LANL and private partners to assess community resilience and identify weakness for risk reduction.	Continue to work with all levels of government, LANL and private partners to update threat/hazard identification and prioritization.	
		Identify needed physical protections, countermeasures, and policies through a risk assessment of key operational activities and infrastructure.	Obtain and utilize appropriate threat, vulnerability, and consequence tools to identify and assess threats, vulnerabilities and consequences.	Use risk management principles to identify, mitigate vulnerabilities, and protect key assets, infrastructure, and support systems.	Coordinate efforts with state, local, LANL and other federal authorities.					

		Protection				Mitigation				
		Access Control and Identity Verification	Cyber-security	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
Earthquake				Develop and implement risk-based security measures, countermeasures, policies and procedures.	Conduct vulnerability assessments and risk analysis of appropriate assets, systems, networks, functions and their interdependencies and shared vulnerabilities.	Implement physical protections, countermeasures, and policies to secure and make resilient transportation nodes and materials in transit.				
				Implement training for workers focused on awareness and response.	Update risk assessments based on changes in: physical environment, aging infrastructure, new development, and new mitigation projects.					

Response							
	Critical Transportation	Environmental Response/Health and Safety	Fatality Management Services	Mass Care	Mass Search and Rescue Operations	On-Scene Security and Protection	Operational Communication
Earthquake	Debris blocking transportation. Potential for permanent destruction of roadways that will require time to repair. Alternative transportation routes should be established.	Ensure health and safety precautions are being taken for responders and residents involved in response operations.	Maximum of 100 fatalities.	1000 seeking shelter. 150 functional needs. 200 pets.	Multiple operations required in several jurisdictions and/or counties requiring the request of mutual aid.	250 law enforcement personnel to prevent re-entry into damaged areas.	Damage to cellular towers in affected areas. Nearby towers are overloaded resulting in complete loss of cell service in and near affected areas.
						Develop system to verify credentials of first responders from other jurisdictions.	Landline telephone network destroyed and unusable for two months in Los Alamos County.
							Public safety radio system performance degraded by damage to towers and landline telephone system.

		Response		Response/Recovery	Recovery			
Public and Private Services and Resources		Public Health and Medical Services	Situational Assessment	Infrastructure Systems	Economic Recovery	Health and Social Services	Housing	Natural and Cultural Resources
Earthquake	Resources: -1000 meals 3x day -14000 gallons of water -37500 lbs. of ice -1000 sets of blankets, cots and personal hygiene kits - 13 portable generators of various sizes	LAMC partially destroyed, loses power and water supply. Hospital evacuated until building stabilized and utilities restored.	Initial reports are from media due to scope of damage.	2 facilities greater than 50% damage.	\$15M in uninsured damages	Social Service demands far exceed resources.	Permanent housing in areas becomes impossible to find within 24 hours.	3 cultural landmarks significantly affected.
		Potential public health emergency due to destruction and outbreaks/diseases acerbated by deceased animals in affected area.	Accurate reports from affected areas difficult to receive due to damage.	50% of critical infrastructure in inundation area destroyed.	LAC tax base affected (LANL).	External (State/Federal) resources unable to arrive for 36 hours due to infrastructure damage and large number of evacuees on roadways.	250 individuals require long-term housing options.	25000 cubic yards of debris for disposal.

	Response			Response/Recovery	Recovery			
	Public and Private Services and Resources	Public Health and Medical Services	Situational Assessment	Infrastructure Systems	Economic Recovery	Health and Social Services	Housing	Natural and Cultural Resources
Earthquake		Insect vectors cannot be controlled due to large area that was damaged and affected animals.	Multi-jurisdictional nature of event makes situational assessment very difficult.	Transportation in affected area is by helicopter or foot only.			1500 households require mid-term housing options during housing repairs.	
				Communications in affected areas is limited to sporadic public safety radio or runners.				

	Common			Prevention	Prevention/Protection		
	Planning	Public Information and Warning	Operational Coordination	Forensics and Attribution	Intelligence and Information Sharing	Interdiction and Disruption	Screening, Search and Detection
Flood	Create Emergency Action Plans in response to specific flooding threats in order to stabilize the incident within 72 hours.	Warn an estimated 18000 residents of Los Alamos County and LANL through various methods.	Support Los Alamos County through coordinated EOC operations, IMAS and mutual aid agreements.	N/A	For all hazards Fusion Center at DHSEM: establish and gather intelligence and information requirements. Deliver intelligence and information products as wells as acquire feedback on data provided. Continually assess threat information to inform continued prevention operations.	N/A	N/A

		Protection			Mitigation				
Access Control and Identity Verification	Cybersecurity	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification	
Flood	Control and limit access to critical locations and systems to authorized individuals.	N/A	Identify and prioritize assets, systems, networks, and functions that need to be protected.	Gather required data in a timely and accurate manner in order to effectively identify risks.	Integrate security processes into supply chain operations to identify items of concern and resolve them as early in the process as possible.	Work with local, county, state, LANL and Federal Government to ensure Hazard Mitigation Plans are in place; verify flood ordinances and latest maps available.	Continue to work with all levels of government, LANL, and private industry to ensure flood mitigation strategies are being implemented.	Continue to work with all levels of government, LANL and private partners to assess community resilience and identify weakness for risk reduction.	Continue to work with all levels of government, LANL and private partners to update threat/hazard identification and prioritization.
			Identify needed physical protections, countermeasures, and policies through a risk assessment of key operational activities and infrastructure.	Obtain and utilize appropriate threat, vulnerability, and consequence tools to identify and assess threats, vulnerabilities and consequences.	Use risk management principles to identify, mitigate vulnerabilities, and protect key assets, infrastructure, and support systems.				

Protection					Mitigation			
Access Control and Identity Verification	Cybersecurity	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
Flood		Develop and implement risk-based security measures, counter-measures, policies and procedures.	Conduct vulnerability assessments and risk analysis of appropriate assets, systems, networks, functions and their inter-dependencies and shared vulnerabilities.	Implement physical protections, counter-measures, and policies to secure and make resilient transportation nodes and materials in transit.				
		Implement training for workers focused on awareness and response.	Update risk assessments based on changes in: physical environment, ageing infrastructure, new development, and new mitigation projects.					

Response							
	Critical Transportation	Environmental Response/Health and Safety	Fatality Management Services	Mass Care	Mass Search and Rescue Operations	On-Scene Security and Protection	Operational Communication
Flood	Debris or high water blocking transportation. Potential for permanent destruction of roadways that will require time to repair. Alternative transportation routes should be established.	Ensure health and safety precautions are being taken for responders and residents involved in response operations.	Maximum of 10 fatalities.	500 seeking shelter. 75 functional needs. 100 pets.	Multiple operations required in several jurisdictions and/or counties requiring the request of mutual aid.	50 law enforcement personnel to prevent re-entry into flooded areas.	Damage to cellular towers in affected areas. Nearby towers are overloaded resulting in complete loss of cell service in and near affected areas.
						Develop system to verify credentials of first responders from other jurisdictions.	Landline telephone network destroyed and unusable for two months in Los Alamos County.
							Public safety radio system performance degraded by damage to towers and landline telephone system.

	Response			Response/Recovery	Recovery			
	Public and Private Services and Resources	Public Health and Medical Services	Situational Assessment	Infrastructure Systems	Economic Recovery	Health and Social Services	Housing	Natural and Cultural Resources
Flood	Resources: -500 meals 3x day -7000 gallons of water -18750 lbs. of ice -500 sets of blankets, cots and personal hygiene kits - 7 portable generators of various sizes	LAMC loses power and water supply. Hospital evacuated until utilities restored.	Initial reports are from media due to scope of damage.	2 facilities greater than 50% damage.	\$15M in uninsured damages	Social Service demands far exceed resources.	Permanent housing in areas becomes impossible to find within 24 hours.	3 cultural landmarks significant affected.
		Potential public health emergency due to water borne disease acerbated by deceased animals in affected area.	Accurate reports from affected areas difficult to receive due to damage.	50% of critical infrastructure in inundation area destroyed. Communications in affected areas is limited to sporadic public safety radio or runners.	LAC tax base affected (LANL).	External (State/Federal) resources unable to arrive for 36 hours due to infrastructure damage and large number of evacuees on roadways.	250 individuals require long-term housing options.	25000 cubic yards of debris for disposal.
		Insect vectors cannot be controlled due to large area that was flooded.	Multi-jurisdictional nature of event makes situational assessment very difficult.	Transportation in affected area is by helicopter or foot only.			1500 households require mid-term housing options during housing repairs.	

	Common			Prevention	Prevention/Protection		
	Planning	Public Information and Warning	Operational Coordination	Forensics and Attribution	Intelligence and Information Sharing	Interdiction and Disruption	Screening, Search and Detection
<b>Dam Failure</b>	Update Dam Safety Plans prior to incident.	Warn 18000 people in timely manner	Support EOC activation with multiple simultaneous resource requests	Determine whether incident is intentional through subject matter expert and law enforcement agencies. If intentional determine the identities of attackers.	Receive classified and unclassified information. Relay pertinent information to key agencies.	Coordinate with incident site personnel, LANL, local/state and federal law enforcement	Establish security screening measures as necessary at public sites including shelters, hospital, and JIC.
	Update Incident Action Plans in response to specific potential dam failure incidents.	Provide timely, accurate, and understandable protective action recommendations.					
	Develop and maintain inundation studies for all significant dams.			Identify and process field intelligence collected from the scene.			

		Protection				Mitigation			
		Access Control and Identity Verification	Cybersecurity	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
Dam Failure	Establish, staff, and coordinate 5 access control points for responders, media, and critical infrastructure operations.	Ensure employee-only access to SCADA controls.	Identify and prioritize assets, systems, networks and functions to be protected.	West Road destroyed and not rebuilt for 3 months.	Skate Rink destroyed.	Work with all levels of government and LANL to ensure flood mitigation strategies are being implemented.	Overworked local government staff tasked to work with state and federal government agencies as well as LANL to assess community ability to resume normal activities and identify weakness for risk reduction action.	Work with all levels of government, LANL, and private industry to update threat/hazard identification and prioritization.	
			Harden or relocate critical infrastructure and key resources.	Utility system within affected area disrupted for weeks.	75 automobiles flooded.				Reinforce commercial structures in the inundation areas.
			Identify alternate sources and locations of essential services and resources.			Reservoir destroyed. West Road and NM-4 affected.			Locate critical equipment (e.g., ice resurfacer, generators), above inundation levels.

		Response								
		Critical Transportation	Environmental Response/Health and Safety	Fatality Management Services	Mass Care	Mass Search and Rescue Operations	On-Scene Security and Protection	Operational Communication		
Dam Failure	Debris or high water blocking critical transportation route (NM-4)	Water and sewer systems are damaged within the affected areas.	Fatalities could reach 100.	Shelter, feeding and hydration for 2,000 households.	Multiple operations required in multiple areas of Los Alamos and White Rock exceeding locally available resources.	250 law enforcement personnel to prevent re-entry into flooded areas.	Damage to cellular towers in affected areas. Nearby towers are overloaded resulting in complete loss of cell service in and near affected areas.			
	Damage to roadways that will require months to repair. Alternative transportation routes difficult to establish due to damage.	Hazardous Materials released by damage to buildings, pipelines, vehicles and other facilities.		Up to 15% functional needs				Swift water rescue and/or high water rescue for 350 people	Develop system to verify credentials of first responders from other jurisdictions.	Landline telephone network destroyed and unusable for two months in White Rock.
				Care needed for 200 pets				Technical Rescue of 150 people in damaged buildings.		Public safety radio system performance degraded by damage to towers and landline telephones.

	Response			Response/Recovery	Recovery			
	Public and Private Services and Resources	Public Health and Medical Services	Situational Assessment	Infrastructure Systems	Economic Recovery	Health and Social Services	Housing	Natural and Cultural Resources
Dam Failure	10% of local fire, police, and other response personnel and officials are victims of flooding and are unable to respond.	N/A	Reports from affected areas may be slow due to scope of damage.	Utilities critical infrastructure affected.	N/A	N/A	N/A	Flooding impacting NM State Road 4 will affect Pueblo land.
	Private sector resources are unable to meet demand.							
	Additional damage in downstream jurisdictions (pueblos, forest service, national parks) competes for resources.							

	Common			Prevention	Prevention/Protection		
	Planning	Public Information and Warning	Operational Coordination	Forensics and Attribution	Intelligence and Information Sharing	Interdiction and Disruption	Screening, Search and Detection
Hazardous Materials Incident	JEOC will be activated (LANL and LAC)	Warn population in and around the incident.	Establish ICP and integrate all critical stakeholders.	N/A	Gather the current information from the scene and relay it to the JEOC and related partners.	N/A	N/A
	Incident Action Plan will need to be prepared	Utilize all forms of public communications to the public, schools, businesses and LANL in the affected area.	Make plans to establish ICPs in other jurisdictions should the incident progress out of county.		Map potential areas where incident could possibly spread.		
	Contact DHSEM	Activate the JIC.	Planning for additional mutual aid responders.				

		Protection				Mitigation				
		Access Control and Identity Verification	Cybersecurity	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
Hazardous Materials Incident	Secure the incident scene for limited access. Establish roadblocks at critical locations to secure limited access.	N/A	Locate and prioritize assets, systems, networks, and functions that need to be protected. Make plans to accomplish tasks.	N/A	All routes will be inoperable around the affected areas of the incident.	Ensure Hazard Mitigation Plans are current and in place.	N/A	Work to evaluate similar incidents and implement a plan to withstand similar incidents in the future.	Localize area around incident is under imminent threat from spilled chemical and possible spread due to canyons and winds. All outdoor activities and travel will be eliminated in affected areas.	
	Consider multiple critical locations to be secured as incident progresses.									

Response								
Critical Transportation	Environmental Response/Health and Safety	Fatality Management Services	Mass Care	Mass Search and Rescue Operations	On-Scene Security and Protection	Operational Communication		
Hazardous Materials Incident	Identify possible response routes for potential responders to gain access to the incident.	Assess the environmental issues/health and safety issues then provide the resources to address the incident.	Two (2) fatalities	Sheltered in place for most of the incident. Traffic will need to be rerouted away from the areas affected.	There may be a need for SAR to assist (trails, canyons). Consideration of a long term search and rescue needs to be understood.	A large are of the incident will need On Scene security and protection for an extended period of time. Coordination with ICP as incident progresses.	Interoperable radio communications in effect.	

	Response			Response/Recovery	Recovery			
	Public and Private Services and Resources	Public Health and Medical Services	Situational Assessment	Infrastructure Systems	Economic Recovery	Health and Social Services	Housing	Natural and Cultural Resources
Hazardous Materials Incident	Contact with DHSEM, Red Cross and VOAD may be required if incident continues for an extended period of time.	Maintain contact with local hospitals and clinics to determine levels of care and inform them of possible panic of the public. Ensure that overall there is adequate medical treatment available.	ICP should provide continual situation assessments to the EOC for long term planning and assessment.	Identify possible damage and repairs needed for transportation routes. Report all other critical damage that needs repairing in order to not delay business in the affected incident area.	Damage Assessment may be needed for assessment of economic loss and recovery plans dependent on the incident site and affected area(s).	Post incident services with Public Health and VOAD may be required.	N/A	Once incident is cleared, assessments of natural and cultural resources can be conducted. Recovery Strategy Plans will be developed to mitigate the impacts of the incident to restore or replace damaged/destroyed areas.

	Common			Prevention	Prevention/Protection		
	Planning	Public Information and Warning	Operational Coordination	Forensics and Attribution	Intelligence and Information Sharing	Interdiction and Disruption	Screening, Search and Detection
<b>Terrorism (Multiple IED)</b>	Utilize existing EOP guidelines and LAPD Unusual Occurrence Manual to develop Incident Action Plans in order to stabilize the incident within 24 hours.	Warn citizens in each of the affected areas through media, CodeRed, reverse 911 and social media.	EOC (LAC and LANL) will coordinate efforts and report	Conduct site analysis for evidence. Conduct physical evidence analysis. Conduct biometric and DNA analysis. Assess capabilities of likely terrorist(s).	Establish the intelligence and information requirements.	Interdict conveyances, cargo and persons associated with imminent terrorist threat.	Locate persons and networks associated with imminent terrorist threats.
	Contact DHSEM	Activate the JIC. Provide public information through press conferences and media releases.	Public Information will be coordinate through the JIC.	Deploy investigators and technical assets to identify the attacks perpetrators(s).	Gather the required raw data to produce the desired finished intelligence and information products and convert raw data into comprehensible information.	Strategically deploy assets to deter or disrupt the threat from reaching potential target(s).	Conduct physical searches.

	Common			Prevention	Prevention/Protection		
	Planning	Public Information and Warning	Operational Coordination	Forensics and Attribution	Intelligence and Information Sharing	Interdiction and Disruption	Screening, Search and Detection
Terrorism (Multiple IED)				Interview witnesses, potential associates, and/or perpetrator(s) if possible.	Develop finished product and deliver to applicable recipients.		Employ wide-area search and detection assets in targeted region in concert with state, local, LANL and other federal agencies.
				Examine intelligence and forensics to refine/confirm attribution leads. And communicate results to decision makers.	Continually assess threat information to inform continued prevention operations.		

		Protection				Mitigation				
		Access Control and Identity Verification	Cyber-security	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
Terrorism (Multiple IED)	Control and limit access to critical locations and systems to authorized individuals carrying out legitimate activities.	N/A	Identify and prioritize assets, systems, networks and functions that require protection.	Gather required data in a timely and accurate manner in order to effectively identify risks.	Integrate security processes into supply chain operations to identify items of concern and resolve them as early in the process as possible.	Work with local, county, state, LANL and Federal Government to ensure vulnerability assessments have been conducted and plans are in place.	Provide guidance to ensure post-disaster grants can be utilized.	Continue to work with all levels of government, LANL and private partners to assess community resilience and identify weakness for risk reduction.	Continue to work with all levels of government, LANL and private partners to update threat/hazard identification and prioritization.	
		Identify needed physical protections, countermeasures and policies through a risk assessment of key operational activities and infrastructure.	Obtain and utilize appropriate threat, vulnerability and consequence tools to identify and assess threats, vulnerabilities, and consequences.							

		Protection				Mitigation				
		Access Control and Identity Verification	Cyber-security	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
Terrorism (Multiple IED)			Implement training for workers focused on awareness and response.	Conduct vulnerability assessments and risk analysis of appropriate assets, systems, networks, functions and their interdependencies and shared vulnerabilities.	Implement physical protections, countermeasures, and policies to secure and make resilient transportation nodes and materials in transit.	Update risk assessments based on changes in: physical environment, ageing infrastructure, new development, and new mitigation projects.				

Response							
	Critical Transportation	Environmental Response/Health and Safety	Fatality Management Services	Mass Care	Mass Search and Rescue Operations	On-Scene Security and Protection	Operational Communication
<b>Terrorism (Multiple IED)</b>	Clear debris from damaged or destroyed buildings. Clear blockages to incident sites and roadways.	N/A	Potential for up to 15 fatalities.	Short term shelter may be required for victims or families needing reunification.	Multiple sites affected necessitation need for evacuations and SAR operations.	Affected sites will require some form of security and protection for populations and responders.	Affected sites may require some form of disaster communications support. Cell communications will be impacted due to volume of usage.

	Response			Response/Recovery	Recovery			
	Public and Private Services and Resources	Public Health and Medical Services	Situational Assessment	Infrastructure Systems	Economic Recovery	Health and Social Services	Housing	Natural and Cultural Resources
Terrorism (Multiple IED)	Private sector and LANL resources may be needed for evidence collection, attribution, victim support and physical security services.	Assumption is 35 injuries. Activation of DHSEM EOC and operation of BHEM/Coalition Duty Officer may be necessary.	Situation reports will be distributed via EOC. E-team will serve as primary situational awareness link for DHSEM.	Numerous facilities damaged. Some may require long term repair.	Estimated \$3.5M in infrastructure damage.	Increased capacity needed for health and social services.	N/A	Once incident is cleared, assessments of natural and cultural resources can be conducted. Recovery Strategy Plans will be developed to mitigate the impacts of the incident to restore or replace damaged and/or destroyed areas.
				Roads will need to be cleared of any debris to support response activities.		Mutual aid activated.		

	Common			Prevention	Prevention/Protection		
	Planning	Public Information and Warning	Operational Coordination	Forensics and Attribution	Intelligence and Information Sharing	Interdiction and Disruption	Screening, Search and Detection
Disease Outbreak	<p>Los Alamos County EOP covers:</p> <ul style="list-style-type: none"> <li>-Volunteer Management Plan</li> </ul> <p>Los Alamos Medical Center EOP covers:</p> <ul style="list-style-type: none"> <li>- Mortuary Services Plan</li> <li>-Pandemic Influenza Plan</li> </ul>	<p>Public Health PIOs in Santa Fe and Albuquerque will coordinate PSA's and news convergences by utilizing conventional and social media. Health alerts will be sent to hospitals &amp; health care providers through the Health Alert Network (HAN).</p>	<p>Local health departments will coordinate with their local emergency medical centers, physicians, offices and DOH in a disease outbreak scenario.</p>	<p>N/A</p>	<p>Epidemiology surveillance (DOH) will monitor for disease outbreak and provide case reports through NM National Electronic Telecommunication System for Surveillance (NETSS) and New Mexico Electronic Disease Surveillance System (NM-EDSS).</p>	<p>Social distancing, isolation &amp; quarantine protocols and personal health wellness promotion (i.e., cover your cough, hands washing) will be implemented as necessary.</p>	<p>Local Health departments will utilize Epidemiology and/or environmental health to investigate source case data.</p>
					<p>The CDCs National Electronic Disease Surveillance System (NEDSS) will also provide surveillance reports.</p>		<p>LAMC will test biological specimens and forward to Scientific Laboratory (Lab Response Network) for confirmation testing.</p>

	Protection					Mitigation			
	Access Control and Identity Verification	Cybersecurity	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
<b>Disease Outbreak</b>	Local law enforcement will provide POD site security. Site Access control will be monitored through ID badge and verification at registration & check in points prior to entry in the facility.	N/A	Medical Staff and First Responders will be advised by their local public health authorities regarding PPE as needed.	Non-pharmaceutical interventions: Public schools and mass event venues (summer concerts, 4th July, County Fair, etc.) will need to be evaluated for transmission potential.	Points of Dispensing Operations Sites (PODS) will require receipt, staging, storage, and inventory control of SNS assets to include cold-chain management and supply chain tracking.	Determine Risks to the health of the jurisdiction.	Maintain epidemiology surveillance programs.	Public Health Risk Assessments have identified Biological Disease outbreak along with pandemic influenza in the top 5 health impact hazards in addition to emerging infectious diseases (MERS, H1N1, H5N1, and H7N9).	In addition to Disease outbreak, also identified in the HVA were biological terrorism, tornado, wildfire, terrorism, hazardous materials, food borne illnesses, flood, fires and chemical terrorism.

Protection					Mitigation			
Access Control and Identity Verification	Cybersecurity	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
Disease Outbreak			Continuity Operations planning essential for public health services such as Preparedness, Epidemiology, Environmental health and laboratory services will be implemented.		Build community partnerships to support health preparedness. Coordinate training to ensure community engagement in preparedness and train & recruit volunteers (MRC).	Exercise SNS plans with local stakeholders; follow HSEEP guidelines for AAR protocols and the implementation and tracking of corrective action plans.		
					Engage Community organizations to foster public health, medical, and mental/behavioral health social networks.			

Response							
	Critical Transportation	Environmental Response/Health and Safety	Fatality Management Services	Mass Care	Mass Search and Rescue Operations	On-Scene Security and Protection	Operational Communication
Disease Outbreak	Travel advisory information will be coordinated with CDC and made available to PIOs.	Transport of bio matter/lab samples must follow safety procedures and requirements.	Coordinate with lead jurisdictional authority (e.g., OMI).	In conjunction with ESF #6- Mass Care, ESF #8- Public Health and Medical Services and #11-Agriculture and Natural Resources partners to determine mass care needs of the impacted population.	N/A	N/A	N/A
	Informational materials and guidance would be provided for public transit agencies (Atomic City Transit, Park and Ride, etc.) for dissemination to passengers.	Follow recommended quarantine measures.  Recommendations on healthy habits such as coughing in your sleeve, hand washing and using hand sanitizer would be issued.	Assist in the collection and dissemination of ante mortem data.	Coordination will be made with LAMC, DHSEM and BHEM (Coalition Duty Officer) on the activation and management of alternate care sites.			

		Response		Response/Recovery	Recovery				
		Public and Private Services and Resources	Public Health and Medical Services	Situational Assessment	Infrastructure Systems	Economic Recovery	Health and Social Services	Housing	Natural and Cultural Resources
Disease Outbreak	Vaccines/antivirals, vaccine administration supplies, N-95 respirators, POD kits and supplies.	Medical Countermeasure Dispensing	Monitor and report case numbers to DHSEM.	N/A	Pandemic impact scenarios could impact 30-40% of the population.	Non-pharmaceutical interventions: external decontamination.	N/A	N/A	
	MRC volunteers		Utilize E-team, conference calls, with local EMs and stakeholders to maintain situational awareness.						Mental & Behavioral health services will provide support for responders and the public.
	Security for POD sites								

	Common			Prevention	Prevention/Protection		
	Planning	Public Information and Warning	Operational Coordination	Forensics and Attribution	Intelligence and Information Sharing	Interdiction and Disruption	Screening, Search and Detection
Active Shooter	Utilize existing EOP guidelines and LAPD Unusual Occurrence Manual to develop Incident Action Plans in order to stabilize the incident and begin victim care in less than 20 minutes. The average active shooter incident lasts approximately 12 minutes, while 37 percent last less than 5 min.	Warn citizens in each of the affected areas through media, CodeRed, reverse 911 and social media.	EOC (LAC and/or LANL) will coordinate efforts and report (depending on the threat assessments)	Conduct site analysis for evidence. Conduct physical evidence analysis. Conduct biometric and DNA analysis. Assess capabilities of likely shooter(s).	Establish the intelligence and information requirements.	Interdict social media reports, accounts and persons associated with disgruntled students.	Locate persons and networks associated with imminent threats.
	Contact DHSEM	Activate the JIC. Provide public information through press conferences and media releases.	Public Information will be coordinate through the JIC.	Deploy investigators and technical assets to identify the perpetrators(s).	Gather the required raw data to produce the desired finished intelligence and information products	Strategically deploy assets to deter or disrupt the threat from reaching potential target(s).	Conduct physical searches.

	Common			Prevention	Prevention/Protection		
	Planning	Public Information and Warning	Operational Coordination	Forensics and Attribution	Intelligence and Information Sharing	Interdiction and Disruption	Screening, Search and Detection
Active Shooter				Interview witnesses, potential associates, and/or shooter(s) if possible.	Develop finished product and deliver to applicable recipients.		Employ wide-area search and detection assets in targeted region in concert with state, local, and other federal agencies.
				Examine intelligence and forensics to refine/confirm attribution leads. And communicate results to decision makers.	Continually assess threat information to inform continued prevention operations.		

Protection					Mitigation			
Access Control and Identity Verification	Cyber-security	Physical Protective Measures	Risk Management for Protection Programs and Activities	Supply Chain Integrity and Security	Community Resilience	Long-Term Vulnerability Reduction	Risk and Disaster Resilience Assessment	Threats and Hazards Identification
Active Shooter	N/A	Identify and prioritize locations, systems, and events that require protection.	Gather required data in a timely and accurate manner in order to effectively identify risks.	Implement physical protections, countermeasures, and policies to secure and make resilient transportation nodes.	Work with public schools, local, county, state and LANL to ensure vulnerability assessments have been conducted and plans are in place.	Provide active shooter guidance and training to entire jurisdiction.	Continue to work with all levels of government, LAPS, LANL and private partners to assess community resilience and identify weakness for risk reduction.	Continue to work with all levels of government, LAPS, LANL and private partners to update threat/hazard identification and prioritization.
		Identify needed physical protections, countermeasures and policies through a risk assessment of key operational activities and infrastructure.	Obtain/utilize appropriate threat, vulnerability and consequence tools to identify and assess threats.	Use risk management principles to identify, mitigate vulnerabilities, and protect public schools.	Update risk assessments based on changes in: physical environment and ageing infrastructures.			

Response							
	Critical Transportation	Environmental Response/Health and Safety	Fatality Management Services	Mass Care	Mass Search and Rescue Operations	On-Scene Security and Protection	Operational Communication
Active Shooter	Implement traffic control. Clear blockages to incident sites and roadways. Additional EMS resources will be requested.	N/A	Potential for up to 20 fatalities.	Short term shelter may be required for victims or families needing reunification.	Multiple sites within school may be affected necessitating need for evacuations and Tactical Response Force operations.	Affected sites will require some form of security and protection for populations, media and responders.	Affected sites may require some form of disaster communications support. Cell communications will be impacted due to volume of usage.

	Response			Response/Recovery	Recovery			
	Public and Private Services and Resources	Public Health and Medical Services	Situational Assessment	Infrastructure Systems	Economic Recovery	Health and Social Services	Housing	Natural and Cultural Resources
Active Shooter	Private sector and LANL resources may be needed for evidence collection, attribution, victim support and physical security services.	Assumption is 35 injuries. Activation of DHSEM EOC and operation of BHEM/Coalition Duty Officer may be necessary.	Situation reports will be distributed via EOC. E-team will serve as primary situational awareness link for DHSEM.	Numerous facilities damaged. Some may require long term repair.	Estimated \$1M in infrastructure damage. Psychological impact may necessitate leveling school and rebuilding elsewhere	Increased capacity needed for health and social services. Psychological impact will be severe.	N/A	Once incident is cleared, assessments of natural and cultural resources can be conducted. Recovery Strategy Plans will be developed to mitigate the impacts of the incident to restore or replace damaged and/or destroyed areas.
				Traffic will need to be diverted and roads will need to be cleared of any debris to support response activities.				Mutual aid activated.

## Los Alamos County Capability Targets

	Core Capability	Desired Outcome
Common	Planning	Maintain, every five years, an all-hazards emergency operations plan and hazard mitigation plan that address functional areas with specific annexes as required.
		Maintain scenario-specific, stand-alone plans every two years.
		Maintain, a Continuity of Operations (COOP)/Continuity of Government Plan (COG) plan for all County owned critical infrastructure.
	<b>Greatest Estimated Impacts:</b> Create immediate Crisis Action Plans in response to specific threats in order to stabilize the incident within 72 hours.	
	<p><b>Capability Target:</b></p> <p>Response: Execute emergency operation and specific plans(s) and associated annexes within one hour of impact from a natural, technological or manmade hazard.</p> <p>Mitigation: Ensure Hazard Mitigation plans are in effect and assess identified threats and hazards, identify risk patterns and create strategy to reduce risk.</p> <p>Recovery: Execute a recovery plan within 60-days of incident.</p>	
Public Information and Warning	Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, culturally and linguistically appropriate methods, including social media, to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance that is being made available.	
<b>Greatest Estimated Impacts:</b> Simultaneously warn 36,000 residents/workers before or during an event.		

Common	<p><b>Capability Target:</b>  Protection: Provide warning leading up to the expected impacts of an incident using Code Red, e911, social, print, and audio/visual media.  Response: During the first 72 hours of an incident's impact, inform citizens by all means necessary, including accessible tools to take appropriate actions.  Mitigation: Provide access to risk data and maps and conduct risk assessments and strategies to avoid or reduce loss of life and property.  Recovery: Sustain Public Information and warning systems to be able to provide general recovery information to citizens.</p>	
	Operational Coordination	During response operations within three hours of the decision to activate the Emergency Operations Center establish and maintain a National Incident Management System (NIMS) compliant operational structure and process which integrates all critical stakeholders in order to stabilize an incident within 72 hours and effectively support and manage the execution of capabilities and supporting activities.
	<p><b>Greatest Estimated Impacts:</b> Support multiple Incident Command Posts, Emergency Operations Centers, Incident Management Teams, and Joint Information Centers in response to a multi-jurisdictional impact event.</p>	
	<p><b>Capability Target:</b>  Response: Establish and maintain unified and coordinated operational structure and process in county within 12 hours of an incident</p>	
Prevention	Forensics and Attribution	Prioritize evidence collection and analysis to assist in preventing initial or follow-on terrorist acts.
	<p><b>Greatest Estimated Impacts:</b> Multiple events affecting various sites that would cause a major strain on the law enforcement community on providing timely forensics and attribution support.</p>	
	<p><b>Capability Target:</b>  Conducting evidence collection at multiple sites would cause a major strain on the law enforcement community on providing timely forensics and attribution support.</p>	
Prevention and Protection	Intelligence and Information Sharing	Promptly share relevant, timely, and actionable information and analysis with federal, state, local, tribal and private partners with appropriate classified/unclassified products in accordance with established protocols.
	<p><b>Greatest Estimated Impacts:</b> Establish the information and intelligence requirements.</p>	
	<p><b>Capability Target:</b>  In the initial hour of an event be able to provide relevant, timely and actionable information to the established emergency management and intelligence community within established protocols.</p>	
	Interdiction and Disruption	Interdict 100% of specific conveyances, cargo and persons associated with an imminent threat to the County of Los Alamos.
<p><b>Greatest Estimated Impacts:</b> Prevent material from reaching its target.</p>		

	<b>Capability Target:</b> Prior to the execution of a terrorist event interdict 100% of specific conveyances, cargo and persons associated with the possible threat against the county.
	<b>Screening, Search, and Detection</b>   Screen 100% of targeted conveyances, cargo and persons associated with imminent terrorist threat using all means.
	<b>Greatest Estimated Impacts:</b> Locate persons and networks associated with imminent terrorist threats.
	<b>Capability Target:</b> Prior to the execution of a terrorist event interdict 100% of specific conveyances, cargo and persons associated with the possible threat against the county.
Protection	<b>Access Control and Identity Verification</b>   Ensure 100% verification of identity to authorize, grant, or deny physical and cyber access to specific locations, information and networks.
	<b>Greatest Estimated Impacts:</b> Control and limit access to critical locations and systems to authorized individuals carrying out legitimate activities.
	<b>Capability Target:</b> Prior to the execution of a cyber access to critical infrastructure, ensure 100% of identity verification to deter further impact.
	<b>Cybersecurity</b>   Detect 100% of malicious activity directed against all critical infrastructure, key resources, and networks. Educate workforce on proper security protocol.
	<b>Greatest Estimated Impacts:</b> Multiple cyber-attacks within the region specifically targeting critical infrastructure such as power and water systems.
	<b>Capability Target:</b> Prior to the execution of a cyber-attack, have the ability to detect 100% of malicious activity directed against all critical infrastructures, key resources and networks.
	<b>Physical Protective Measures</b>   Protect people, structures, materials, products and systems of key operational activities and critical infrastructure sectors against an identified or perceived threat.
	<b>Greatest Estimated Impacts:</b> Prioritize assets, systems, networks, and functions which are vulnerable and compromised.
	<b>Capability Target:</b> Implement training for workers, focused on awareness and response.
	<b>Risk Management for Protection Programs and Activities</b>   Complete risk assessments for 100% of prioritized critical infrastructure assets.
	<b>Greatest Estimated Impacts:</b> Risk programs do not adequately address changing hazards or assesses impacts to critical infrastructures.

Mitigation	<b>Capability Target:</b> Obtain and utilize appropriate threat, vulnerability, and consequence tools to identify and assess threats, vulnerabilities and consequences.	
	<b>Supply Chain Integrity and Security</b>	Secure all identified priority supply routes, transit methods, and materials.
	<b>Greatest Estimated Impacts:</b> Highway lines become inoperable due to hazard impacts.	
	<b>Capability Target:</b> Identify, mitigate vulnerabilities, and protect key assets, infrastructure, and support systems.	
	<b>Community Resilience</b>	Implement hazard mitigation plans with highest risk through partnerships with whole community representatives. Identify opportunities to mitigate risk through public education, effective code policies and enforcement, project development, and implementation.
	<b>Greatest Estimated Impacts:</b> Emergency event impacts community centers such as: hospitals, faith-based facilities, shopping centers, and business venues. Creating a strain on citizens and the local community.	
	<b>Capability Target:</b> Work with local businesses, county officials, and citizens to ensure Vulnerability assessments are in place, and use findings to develop plans for long term recovery.	
	<b>Long-term Vulnerability Reduction</b>	Achieve decrease in the long-term vulnerability posed by an increased risk to a similar incident. Ensure that long term community development plans and design incorporate hazard and risk information into consideration and encourage development of appropriate ordinances and resources to implement risk reduction activities for similar future events.
	<b>Greatest Estimated Impacts:</b> No existing hazard vulnerability assessments.	
	<b>Capability Target:</b> Achieve integrated long-term risk reduction in Los Alamos County. Provide technical assistance to update hazard mitigation plans, utilize federal grant opportunities, produce studies (as appropriate), work together to determine resources available to communities, provide guidance for recovery programs and policies.	
<b>Risk and Disaster Resilience</b>	Provide technical assistance to the whole community and to other NM jurisdictions to identify, analyze, and maintain a risk assessment that include information about localized vulnerabilities and consequences.	
<b>Greatest Estimated Impacts:</b> Assessments are not complete to ensure reconstitution of normal to identify weaknesses for risk reduction action and action to be taken.		
<b>Capability Target:</b> Ensure ability to withstand similar incident and take appropriate action to mitigate that risk, create defensible space for all hazards, and implement smart growth policies.		

<b>Response</b>	<b>Threats and Hazard Identification</b>	Identify threats and hazards in collaboration with whole community partners and incorporate findings into analysis and planning process for all mission areas.
	<b>Greatest Estimated Impacts:</b> Results from Hazard Mitigation process to be assessed against existing capabilities to identify gaps in current planning.	
	<b>Capability Target:</b> Ensure all probable threats and hazards are identified, assessed and prioritized and integrated into hazard mitigation plan.	

	Core Capability	Desired Outcome
<b>Response</b>	<b>Critical Transportation</b>	Ensure multi-modal transportation access is established in support of response operations, transportation of vital response personnel, equipment, and services into the affected area is provided, and accessible transportation services are available to support the evacuation of people and animals.
	<b>Greatest Estimated Impacts:</b> Road and bridges impede traffic and mass transportation inhibiting transportation of resources, personnel and supplies.	
	<b>Capability Target:</b> During the first 72 hours of an incident, clear debris from damaged or destroyed building, clear blockage on roadways and incident site(s).	
	<b>Environmental Response/Health Safety</b>	Provide both guidance and resources to address environmental issues/health and safety issues during a disaster response, whether the disaster is man-made or natural, that can impact both responders and affected community members.
	<b>Greatest Estimated Impacts:</b> A massive amount of uncollected debris poses a threat to the health and safety of the environment and to citizens and responders.	
	<b>Capability Target:</b> Within 72 hours, identify critical and hazardous infrastructure sites affected by threat or hazard and prioritize clean-up. Within 30 days clear debris to support environmental health and safety actions for response personnel and the affected population.	
<b>Fatality Management Services</b>	Coordinate and provide temporary mortuary solution and fatality management services, including support in identifying location of remains, remains processing, victim identification as well as provide professional counseling to the bereaved and reunification with family members and caregivers.	
<b>Greatest Estimated Impact:</b> Multiple events create more than 100 fatalities.		

Response	<b>Capability Target:</b> During first 72 hours of an incident, conduct operations to recover approximately 100 fatalities.	
	<b>Mass Care Services</b>	Coordinate and ensure that timely life-sustaining services are provided to the affected population, to include providing food, water, shelter and other essential commodities and life sustaining services to those who have the most need, and support the re-entry operations and family reunification efforts.
	<b>Greatest Estimated Impacts:</b> 1000 people require shelter, 10% have functional needs.	
	<b>Capability Target:</b> During the first 72 hours of an incident, shelter 1000 people to meet the needs of disaster survivors, including individuals with access and functional needs and others who may be considered at-risk. During the first 72 hours, feed 4000 people to meet the needs of disaster survivors, including individuals with access and functional needs and others who may be considered at risk.	

	Core Capability	Desired Outcome
Response	<b>Mass Search and Rescue Operations</b>	Using pre-existing teams and resources, deliver timely SAR capabilities to disaster survivors in need, including personnel, services, animals, and assets, with the goal of saving the greatest number of endangered lives in the shortest time possible.
	<b>Greatest Estimated Impact:</b> A catastrophic event occurs with such force that all access to the affected area is removed and only limited resources can be provided.	
	<b>Capability Target:</b> During the first 72 hours of an incident, conduct search and rescue operations within Los Alamos County residential neighborhoods and critical infrastructure facilities.	
	<b>On-Scene Security and Protection</b>	Ensure a safe and secure environment for response personnel engaged in lifesaving and life-sustaining operations and will also support efforts to provide a safe and secure environment for people and communities located within the affected communities.
	<b>Greatest Estimated Impact:</b> A secondary event occurs within an event, directed towards the LANL.	
	<b>Capability Target:</b> During the first 72 hours establish a safe and secure area for townsite, residents and employees.	
<b>Operational Communications</b>	Ensure that interoperable voice and data communications are established and maintained among and between all response forces as they activate and deploy forward, whether mobile or fixed, and between affected communities in support of operations, security, and situational awareness.	

Response	<b>Greatest Estimated Impact:</b> Multiple wide-spread catastrophic events that destroy key communication areas within the County causing a strain on the communications grid causing collapse.	
	<b>Capability Target:</b> During the first 72 hours of an incident, restore damaged repeaters to ensure capacity to communicate with both the public safety community and the affected populations is sufficient, establish interoperable voice communications between responders.	
	<b>Public and Private Services and Resources</b>	In support of state partners, FEMA R6 will coordinate with state to provide essential public and private services and resources to the affected population and surrounding communities, to include emergency power to critical facilities, fuel support for emergency responder, access to essential services, and access to fire and other first response services.
	<b>Greatest Estimated Impact:</b> Initial resource requests are unable to be filled by the locals and county. Affected populations are unable to procure essential supplies or equipment.	
	<b>Capability Target:</b> During the first 72 hours of an incident, mobilize and deliver governmental, nongovernmental, and private sector resources within and outside the affected area by restoring damaged critical facilities to save lives, sustain lives, meet basic human needs, stabilize the incident and transition to recovery.	
	<b>Public Health and Medical Services</b>	In support of state partners, FEMA R6 will coordinate with state to ensure that lifesaving medical treatment, emergency medical services, and related operations are provided to the affected population during a disaster and that steps are taken to avoid additional disease and injury by providing targeted public health and medical support and products to people in need within the affected area.
	<b>Greatest Estimated Impact:</b> A wide spread pandemic creates panic and overfill at LAMC causing those with legitimate life threatening ailments to not receive adequate levels of care.	
	<b>Capability Target:</b> During the first 72 hours of an incident, establish locations to distribute Medical Countermeasures.	
	<b>Situational Assessment</b>	In support of state partners, FEMA R6, in coordination with state reporting processes, will provide relevant, accurate, consistent, and timely information to decision makers at all levels and across all federal agencies regarding damage assessments, anticipated resource needs, and the status of all response operations.
	<b>Greatest Estimated Impact:</b> Widespread impacts of threat does not allow for a common operating picture or initial situation summary to be developed. Rumor spreading via media and social networks causes shaken confidence with local government.	
<b>Capability Target:</b> During the first 72 hours of an incident, restore critical nodes (internet, phone, tele/video conferencing) that provide situational awareness in order to deliver information sufficient to inform decision making regarding immediate lifesaving and life sustaining activities and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs and stabilize the incident.		

<b>Response and Recovery</b>	<b>Infrastructure Systems</b>	In support of state partners, FEMA R6 will coordinate with state to identify, stabilize, and report immediate infrastructure threats. FEMA R6 will stabilize critical infrastructure functions, minimize health and safety threats, and efficiently restore and revitalize infrastructure systems and related services to support response operations and to assist the affected community in recovering from infrastructure damage and cascading effects. An Infrastructure Systems Mission Scoping Assessment Report (MSAR) will be conducted within 60 days of an incident to determine breadth of support needed for the Recovery Support Functions and identify jurisdictions which will require enhanced federal support.
	<b>Greatest Estimated Impact:</b> Utilities (electricity, water and sewer) delivery is compromised.	
	<b>Capability Target:</b> During the first 72 hours of an incident, stabilize immediate critical infrastructure for life safety and life sustainability. Post 72-hour priorities and restore critical facilities and utilities (hospital, water treatment plant and public buildings).	

	Core Capability	Desired Outcome
<b>Recovery</b>	<b>Economic Recovery</b>	An Economic Recovery Mission Scoping Assessment Report (MSAR) will be conducted within 60 days of an incident to determine breadth of support needed for the Recovery Support Functions and identify jurisdictions which will require enhanced federal support.
	<b>Greatest Estimated Impact:</b> Loss of tax base and business failure.	
	<b>Capability Target:</b> Within 90 days of an incident, develop a Recovery Strategy in concert with community partners, with a timeframe to restore community infrastructure sites to contribute to resiliency, accessibility and sustainability.	
	<b>Health and Social Services</b>	A Health and Social Services Mission Scoping Assessment Report (MSAR) will be conducted within 60 days of an incident to determine breadth of support needed for the Recovery Support Functions and identify jurisdictions which will require enhanced federal support.
	<b>Greatest Estimated Impact:</b> Impacts of emergency event critically damages LAMC causing hospital to divert patients.	
	<b>Capability Target:</b> Within 30 days of an incident, develop a Recovery Strategy to restore LAMC other social services to restore basic health and social services functions to include mental health.	
<b>Housing</b>	A Housing Mission Scoping Assessment Report (MSAR) will be conducted within 60 days of an incident to determine breadth of support needed for the Recovery Support Functions and identify jurisdictions which will require enhanced federal support.	
<b>Greatest Estimated Impact:</b> Impacts of emergency event displace 600 citizens for periods of more than 90 days.		

	<b>Capability Target:</b> Within 90 days of an incident, develop a Recovery Strategy to identify housing needs and determine available options for temporary housing for people sheltered and develop plans for permanent housing.	
	<b>Natural and Cultural Resources</b>	A Natural and Cultural Resources Mission Scoping Assessment Report (MSAR) will be conducted within 60 days of an incident to determine breadth of support needed for the Recovery Support Functions and identify jurisdictions which will require enhanced federal support.
	<b>Greatest Estimated Impact:</b> Impacts of emergency damage or destroy historic sites, cultural resources, vital records or landmarks. Event may also displace or affect endangered species.	
	<b>Capability Target:</b> Within 90 days of an incident, develop a Recovery Strategy to mitigate impacts and stabilize natural and cultural resources by removing debris, repairing historic sites, and restoring staff/community records/key documents that were destroyed.	

## Los Alamos County Capability Estimates

Core Capability: Critical Transportation	
<b>Capability Target</b>	Ensure multi-modal transportation access is established in support of response operations, transportation of vital response personnel, equipment, and services into affected area is provided, and accessible transportation services are available to support the evacuation of people, service animals and domestic pets.
Resource Requirement	
Resources	Number Required
Type 3 Evacuation Team Leader	2
Type 3- Information Technology Specialist	2
Type 3 Transportation Specialist	2

Core Capability: Environmental Response/Health and Safety	
<b>Capability Target</b>	Within 72 hours, identify critical and hazardous infrastructure sites affected by threat or hazard and prioritize clean-up. Within 30 days, clear debris to support environmental health and safety actions for response personnel and the affected population.
Resource Requirement	
Resources	Number Required
Type 1 Environmental Health Team	1
Rapid Needs Assessment Team	1
Type 3 Environmental Assessment Team	3

Core Capability: Fatality Management Services	
<b>Capability Target</b>	During the first 72 hours of the incident, conduct operations to recover approximately 100 fatalities.
Resource Requirement	
Resources	Number Required
Type 3 Human Remains Recovery Team	5
Type 3- Morgue Services Team	5

Core Capability: Infrastructure Systems	
<b>Capability Target</b>	During first 72-hours of an incident, stabilize immediate critical infrastructure for life safety and life sustainability. Post 72-hours prioritize and restore critical facilities and utilities (LAMC, water treatment plant and public buildings)
Resource Requirement	
Resources	Number Required
Type 3 Emergency Support Team - Water/Wastewater	2
Type 3 Telecommunicator Emergency Response Team	2
Collapse Search and Rescue Team	2
USAR Incident Support Team	2

Core Capability: Mass Care Services	
<b>Capability Target</b>	During the first 72 hours of an incident, shelter 1000 people to meet the needs of disaster survivors, including individuals with access and functional needs and others who may be considered at-risk. During the first 72 hours, feed 4000 people to meet the needs of disaster survivors, including individuals with access and functional needs and others who may be considered at risk.
Resource Requirement	
Resources	Number Required
Public Health Epidemiology Team	2
Public Health Environmental Health Team	2
Public Health Mass Dispensing Team	1
Emergency Medical Task Force	5

Core Capability: Mass Search and Rescue Operations	
<b>Capability Target</b>	During the first 72 hours of the incident, conduct search and rescue operations for 1000 people.
Resource Requirement	
Resources	Number Required
Type 3 Human Remains Recovery Team	5
USAR Task Forces	1
USAR Incident Support Team	1
Mobile Communications Center	1
Evacuations Liaison Team	1
Evacuation Coordination Team	1
Collapse Search and Rescue Team	2
Small Animal Sheltering and Rescue Team	2

Core Capability: On -Scene Security and Protection	
<b>Capability Target</b>	During the first 72 hours establish a safe and secure area for townsite, residents and employees.
Resource Requirement	
Resources	Number Required
Type III Law Enforcement Patrol Strike Team	4

Core Capability: Operational Communications	
<b>Capability Target</b>	During the first 72 hours of an incident, restore damaged repeaters to ensure capacity to communicate with both the public safety community and the affected populations is sufficient, establish interoperable voice communications between responders.
Resource Requirement	
Resources	Number Required
Type 1 Communications Support Team	3
Type I Mobile Communications Units	1
Type II Telecommunicator Emergency Response Taskforce.	1

Core Capability: Public and Private Services and Resources	
<b>Capability Target</b>	During the first 72 hours of an incident, mobilize and deliver governmental, nongovernmental, and private sector resources within and outside the affected area by restoring damaged critical facilities to save lives, sustain lives, meet basic human needs, stabilize the incident and transition to recovery.
Resource Requirement	
Resources	Number Required
Type II Incident Management Team	1
Type I Individual Assistance Disaster Assessment Team	1
Type II Volunteer Agency Liaison	1

Core Capability: Public Health & Medical Services	
<b>Capability Target</b>	During the first 72 hours of an incident, establish locations to distribute Medical Countermeasures.
Resource Requirement	
Resources	Number Required
Type I Point of Dispensing Teams	10
Type I Mass Prophylaxis Doses	720,000
Type I POD Kits	27

Core Capability: Housing	
<b>Capability Target</b>	Within 90 days of an incident, develop a Recovery Strategy to identify housing needs and determine available options for temporary housing for people sheltered and develop plans for permanent housing.
Resource Requirement	
Resources	Number Required
Type I Housing Task Force	7

Core Capability: Situational Assessment	
<b>Capability Target</b>	During the first 72 hours of an incident, restore critical nodes (internet, phone, tele/video conferencing) that provide situational awareness in order to deliver information sufficient to inform decision making regarding immediate lifesaving and life sustaining activities and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs and stabilize the incident.
Resource Requirement	
Resources	Number Required
Type I Incident Management Team	1
Type III Incident Management Team	1
Type I Communications Support Team	1
Type I Individual Assistance Disaster Assessment Team	2
Type I Public Assistance Disaster Assessment Team	2
Type 1 Mobile EOC	1

Core Capability: Health and Social Services	
<b>Capability Target</b>	During the first 72 hours of an incident, mobilize and deliver governmental, nongovernmental, and private sector resources within and outside the affected area by restoring damaged critical facilities to save lives, sustain lives, meet basic human needs, stabilize the incident and transition to recovery.
Resource Requirement	
Resources	Number Required
Type I Public Health Response Team	7
Type I Team Leader	7
Type I IT Specialist	14
Type I Data Entry Staff	14
Type I Epidemiology Interviews	21