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IA 5 – Earthquake/Seismic Activity

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IA 5. Earthquake/Seismic Activity**1 Purpose**

- To provide for the coordinated and safe response to earthquake incidents within Klamath County.
- To provide procedures for the timely and efficient response by County personnel to earthquakes, including associated landslides, fires, explosions, hazardous materials incidents, and flooding due to dam failure.

2 Situation and Assumptions**2.1 Situation**

- All facilities, including public schools, libraries, reservoirs, and recreation facilities are subject to damage from even a moderate earthquake.
- Klamath County, like the rest of Oregon, is considered a high-risk area for seismic activity. For further information, refer to the following:
 - Planning for Natural Hazards: Oregon Technical Resource Guide. Partnership for Disaster Resilience.
 - Hazards, Risks and Vulnerabilities Facing Klamath County, Oregon, 2001.
- Aftershocks will cause additional damages and hinder response capabilities and operations.

2.2 Assumptions

- In addition to structural damage to bridges, buildings, utilities, and communications systems, an earthquake of 6.0 to 7.0 on the Richter scale may be expected to result in:
 - Additional natural/environmental emergencies such as landslides;
 - Industrial/technological emergencies such as fires, explosions, and hazardous materials incidents;
 - Disruption of vital services such as water, sewer, power, gas and transportation
 - Damage to, and disruption of, emergency response capabilities (facilities, resources, and systems);
 - Loss of businesses and industries, reducing the County's economic base; and

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- Civil unrest and political emergencies.
- Depending on when the earthquake occurs, a large number of County employees may be unable to make it to work or to the Emergency Operations Center (EOC).
- Field units may need to self-initiate responses and work independently until centralized command, control, and communications can be reestablished.

3 Roles and Responsibilities

3.1 General

It may be assumed that a major earthquake will produce widespread damage and injuries requiring the services of a multitude of public and private entities. Thus a Joint Command ICS structure will be established.

3.2 Departmental and Agency Actions

A severe earthquake can create the need for long periods of repair and restoration and may necessitate the commitment of personnel, equipment, materials, and supplies for long periods after the earthquake itself. The following are checklists of tasks that may need to be accomplished during response to, and recovery from, an earthquake. They should not be considered all-inclusive. Some emergencies will not require that all tasks be accomplished; others will require tasks that are not listed. The checklists are divided according to County Departments and EOC staff.

3.2.1 Public Works

Response

- Account for all department employees on duty; report missing employees to the EOC (if activated) and the County Human Resources Department.
- Briefly assess damage to resources/communications systems under control of Public Works
- Assign Engineers to perform damage assessment according to priorities established by Standard Operating Procedures (Uniform Code for the Abatement of Dangerous Buildings) and/or the EOC. (The placard inventory is maintained by the Sheriff's Office)
- Recommend relocation of EOC activities if necessary.
- Condemn structures judged unsafe.
- Maintain documentation of condemned structures.

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- Keep other departments informed of changes in conditions that will affect County operations.
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- Provide protective action information and guidance to Public Information Officer (PIO).
- Upon EOC and/or ICS activation, provide the Planning Section with a list of resources both deployed and available, in response to the incident.
- Upon EOC and/or ICS activation, provide the Logistics Section with a list of needed supplies and resources.
- Maintain expenditure and time records for presentation to the EOC ICS Finance Section upon their activation.
- Make personnel available for assignment to Situation Unit Leader to assist with situation analysis.
- Coordinate use of emergent volunteers with the Resource Unit Leader.
- Document all major decisions and actions in ICS-214, Unit Log.

Recovery

- Provide personnel to lead (Federal) damage assessment teams.
- Release excess personnel and equipment when advised to do so by the Logistics Section chief.
- Assist in compiling damage estimates of, roads, bridges, etc. to support request for disaster assistance.
- Assign personnel to monitor and direct the long-term recovery process (responsibility may be shared with Finance Section Chief).
- Complete required paperwork and reports.
- Participate in critique.

3.2.2 Maintenance Department**Response**

- Account for all employees on duty; report missing employees to the EOC (if activated) and the County Human Resources Department.
- Briefly assess damage to resources/communications systems under control of Public Works.

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- Recommend relocation of EOC activities, if necessary.
- Keep other departments informed of changes in conditions that will affect County operations.
- Provide protective action information and guidance to the PIO.
- Upon EOC and/or ICS activation, provide the Planning Section with a list of resources both deployed and available, in response to the incident.
- Upon EOC and/or ICS activation, provide the Logistics Section with a list of needed supplies and resources.
- Maintain expenditure and time records for presentation to the EOC ICS Finance Section upon their activation.
- Make personnel available for assignment to the Situation Unit Leader to assist with situation analysis.
- Coordinate use of emergent volunteers with the Resource Unit Leader.
- Document all major decisions and actions in ICS-214, Unit Log.

Recovery

- Provide personnel to join (Federal) damage assessment teams.
- Release excess personnel and equipment when advised to do so by Logistics Section chief.
- Assist in compiling damage estimates of structures, utilities, etc. to support request for disaster assistance.
- Assign personnel to monitor and direct the long-term recovery process (responsibility may be shared with Finance Section Chief).
- Complete required paperwork and reports.
- Participate in critique.

3.2.3 Community Development Department Response

- Account for all employees on duty; report missing employees to the EOC (if activated) and the County Human Resources Department.
- Briefly assess damage to resources/communications systems under the control of Community Development.

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- Assign Building Official, Plan Reviewers and Building Inspectors to perform damage assessment according to priorities established by Standard Operating Procedures and/or the Incident Commander (IC) EOC. Recommend relocation of EOC activities, if necessary.
- Condemn structures judged unsafe.
- Maintain documentation of condemned structures.
- Keep other departments informed of changes in conditions that will affect County operations.
- Coordinate inspections of electric, gas, and water systems with appropriate utilities and agencies
- Provide protective action information and guidance to the PIO.
- Upon EOC and/or ICS activation, provide Planning Section with a list of resources both deployed and available, in response to the incident.
- Upon EOC and/or ICS activation, provide the Logistics Section with a list of needed supplies and resources.
- Maintain expenditure and time records for presentation to the EOC and/or ICS Finance Section upon their activation.
- Make personnel available for assignment to Situation Unit Leader to assist with situation analysis.
- Coordinate use of emergent volunteers with the Resource Unit Leader.
- Document all major decisions and actions in ICS-214, Unit Log.

Recovery

- Provide personnel to join (Federal) damage assessment teams.
- Release excess personnel and equipment when advised to do so by Logistics Section chief.
- Assist in compiling damage estimates of structures, utilities, roads, bridges, etc. to support request for disaster assistance.
- Assign personnel to monitor and direct the long-term recovery process (responsibility may be shared with Finance Section Chief).
- Complete required paperwork and reports.
- Participate in critique.

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**3.2.4 Fire Services
Response**

- Establish communications with field units.
- Account for all employees on duty.
- Briefly assess damage to workplaces.
- Assess damage to department resources and communications systems and to fire fighting water delivery systems.
- Participate in damage assessment to determine the extent of fires and hazardous materials involvement.
- Provide a representative to the EOC (may recommend establishment of Unified Command with such agencies as Oregon State Police, United States Forest Service (USFS), National Parks Service (NPS), and Bureau of Land Management (BLM), and various state and local agencies.
- May provide ICS positions such as Operations Section Chief from fire agencies to ICS organizations.
- Direct urban search and rescue according to priorities established by the IC or Unified Command (UC) and Standard Operating Procedures. The priority during this phase is restoring County emergency response capability and implementing life-saving measures. Fires and hazardous materials incidents that are not life-threatening have a lower priority than search and rescue.
- Consider the capability to maintain medical response.
- Assess staffing:
 - Urban search and rescue following a severe earthquake may require the commitment of all department personnel, including volunteers and groups such as Explorer Scouts.
 - Consider staffing stations with additional emergency medical technicians (EMTs) to handle walk-in injured.
 - Augment administrative staff to respond to direct calls for assistance.
- Determine alternate sources of water for fire suppression if water systems have been damaged.

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- Keep informed regarding road conditions and use appropriate access routes as conditions change. Keep other departments apprised of changes in use of such routes.
- Upon EOC activation, as requested by UC, provide Incident Command with a list of resources deployed in response to the incident and with a list of available resources.
- Upon EOC activation, as requested by UC, provide Incident Command with a list of needed supplies and resources.
- Maintain expenditure and time records for presentation to the Incident Command Finance Section upon their activation.
- Coordinate the use of emergent volunteers with the Support Branch Director.
- Document all major decisions and actions in ICS-214, Unit Log.

Recovery

- Assist in inspections and damage assessment as requested.
- Complete necessary paperwork and reports.
- Participate in critique.

3.2.5 Law Enforcement Response

- Establish and maintain communication with field units.
- Account for all employees on duty.
- Briefly assess damage to workplaces.
- Assess damage to department resources and communications systems.
- Assess staffing. Augment records staff to respond to direct calls for assistance.
- Coordinate with Fire and Public Works to develop evacuation and emergency access routes in affected areas.
- Direct search and rescue.
- Keep informed regarding road conditions and use appropriate access routes as conditions change. Keep other departments apprised of changes in use of such routes.

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- Cordon hazardous areas as necessary and limit travel inside those cordons.
- Maintain perimeters and patrol evacuated areas as necessary.
- Provide Incident Command with a list of resources deployed in response to the incident.
- Provide the Logistics Section with a list of needed supplies and resources.
- Maintain expenditure and time records for presentation to the Finance Section upon their activation.
- Document all major decisions and actions in ICS-214, Unit Log.

Recovery

- Assist in inspections and damage assessment as requested.
- Complete necessary paperwork and reports.
- Participate in after action evaluation.

3.2.6 Emergency Management Response

- Assess impact to emergency response and communications capability. Assist in developing and implementing alternative communications systems as necessary.
- Consider immediate activation of the EOC.
- Consider activation of Klamath County Amateur Radio Emergency Services (ARES)/Radio Amateur Civil Emergency Services (RACES) if appropriate.
- Keep information on conditions up to date including detailed activity log (ICS Form 209, Incident Status Summary).
- Make recommendations to the Board of County Commissioners (BOCC) regarding establishing ICS, Delegation of Authority and the Incident Commander (IC) regarding the establishment of public information systems as well as systems to keep incident personnel and other concerned agencies and officials informed. (UC should have PIO function.)
- Establish and maintain reporting and coordination contact with cooperating jurisdictions and State and volunteer agencies.

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- Assist departments as requested/needed by UC.
- Brief the BOCC, EOC, UC and/or IC regarding current conditions, capabilities, and activities.
- Provide the Planning Section with a list of resources deployed in response to the incident and those available for assignment.
- Provide Logistics Section with list of outstanding or en route requests for additional supplies and resources.
- Maintain expenditure and time records for use by the Finance Section.
- Document all major decisions and actions in ICS-214, Unit Log.

Recovery

- Assist in assessment of damages.
- Provide coordination point for disaster recovery activities and agencies.
- Complete necessary paperwork and reports.
- Participate in critique.
- Revise and update the Comprehensive Emergency Management Plan as indicated.
- Schedule appointments between managers of damaged businesses and facilities and Federal Emergency Management Agency (FEMA)/State Damage Assessment Teams.

3.2.7 County Counsel**Response**

- Account for all department employees on duty.
- Assess damage to resources and workplace.
- Assess staffing. Unless specifically advised otherwise, all County employees are expected to report for work according to normal schedules.
- Provide support to BOCC, other departments and EOC, UC and/or IC, as requested.

Recovery

- Complete required reports and paperwork.

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- Participate in after action evaluation.
- Ensure that meetings and records comply with public meetings and records restrictions.

3.2.8 Finance

Tracking the financial impact of the disaster is a shared responsibility between all departments, including the Finance, and Accounting; Treasurer; Assessor; and Community Development departments. These departments will need to provide staff to the Finance Section in the EOC, UC and/or IC.

Response

- Account for all employees on duty.
- Assess damage to workplace and resources.
- Assess staffing. Unless specific instructions are given to the contrary, all County personnel are expected to report for work according to normal schedules.
- Assign personnel to staff the Finance Section in the EOC UC. Begin supporting documentation for a disaster declaration and assistance, as indicated by the severity of the incident. As part of UC, consider requesting a technical assistant from FEMA, through Oregon Emergency Management (OEM), to begin the secondary assessment process.

Recovery

- Assign personnel to provide long-term financial tracking of the disaster recovery process and to administer disaster assistance funding.
- Provide monetary figures necessary to support a request for a Disaster Declaration.
- Complete necessary reports and paperwork.
- Participate in after action evaluation.
- Document all major decisions and actions in ICS-214, Unit Log.

3.2.9 Human Resources and Risk Management**Response**

- Account for all department employees on duty.
- Assess damage to department workplace and resources.

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- Assess staffing. Consider the need for additional personnel. Unless specifically advised otherwise, all County personnel are expected to report to work according to normal schedules.
- Provide staff to the Logistics Section to assist with the coordination and assignment of resources.

Recovery

- Assist in the hiring of temporary employees and private contractors as necessary.
- Complete necessary reports and paperwork.
- Participate in after action evaluation.

3.3 Incident Command Actions**3.3.1 Command and General Staff**

In addition to the general guidance provided in the Basic Plan section and the Emergency Support Function (ESF) Annexes, an earthquake may require the following tasks:

- If not already established, initiate an employee status reporting process.
- Assign Safety Officer(s) to monitor overall safety of operations, including the need for critical incident stress defusing and debriefings.
- If earthquake conditions hamper or overload response capabilities, determine priorities and cost restrictions on the basis of policy decisions made by the BOCC and Delegation of Authority issued by the BOCC. Keep in mind the number of lives that may be saved, risk to response personnel, accessibility to the scene, and the amount of time needed to accomplish the mission.
- Determine functions to be performed by the ICP and those to be done at the EOC (request establishment of EOC if desired). Establish clear lines of communication between ICP and EOC.
- Establish a system for citizens to report damage (volunteer call center operation may be an option).
- Establish and implement a policy for identifying, organizing, and assigning emergent volunteers.
- Ensure that the Initial Damage Assessment is completed.

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- Consult with the Policy Group and County Council regarding the need for additional emergency ordinances.
- Ensure that IO staff establishes system to manage visits by VIPs.
- Establish a procedure for emergency demolition of buildings.
- Assign personnel to confirm the status of families of on-duty staff.

3.3.2 Operations Section

- Deploy resources to meet defined strategy. Perform search and rescue, clear roads, repair facilities, etc., according to priorities established by UC.
- Assist Planning Section with the Initial Damage Assessment.
- Consider the need to provide security for damaged businesses.
- Consider the need for additional technical expertise to assist with structural rescue.
- Establish a method for tracking requests for inspections. It is likely that more than one request will be received per facility.
- Ensure that access to damaged buildings is determined according to the degree of damage.
- Determine whether search and rescue can safely be conducted.
- Confirm procedure on emergency demolition of buildings.

3.3.3 Planning Section

- Assess the earthquake situation with respect to areas affected; damage to response and communications systems, utilities, and other property; casualties; requirements for rescue or evacuation; etc.
- Keep Command, Operations, and other Sections advised.
- Establish a schedule for requesting updated weather and aftershock information.
- Provide the Command Staff an evaluation of reports and overall conditions to determine whether local resources can meet requirements; whether mutual aid is feasible; whether additional emergency personnel, equipment, and supplies should be acquired; and whether EOC UC staffing should be increased.

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- Develop and keep up-to-date information about conditions of routes, damage and status of relief efforts.
- Keep other Staff informed, both at Planning meetings and as significant events arise.
- Gather lists and display resources committed to the incident and those available for assignment.
- Ensure that all responding personnel, including volunteers, are checked into and out of the incident.
- Evaluate the overall County situation and augment weather reports with other reports to maintain a continuing assessment of the situation.
- Map the incident (city maps may be useful in this effort). Include sewer, water, storm drain, and neighboring 1/4 section maps.
- Conduct Planning meetings each shift.
- Develop and reproduce a written Incident Action Plan (IAP).
- Establish check-in points for citizens wishing to assist, organized volunteer agencies, and other responding resources.
- Provide a list of available resources to Operations and other Sections.
- Document all major decisions in ICS-214, Unit Log.

3.3.4 Logistics Section

- Establish and maintain coordination with cooperating jurisdictions, and determine procedure for requesting additional resources.
- Attend Planning meetings.
- Receive and process requests for outside assistance.
- Determine the needs of the American Red Cross and other human services for transportation, communications, etc. Assist as possible.
- Assess the adequacy of communications systems. Consider activating ARES/RACES communications and/or requesting additional cellular or satellite phones.
- Assess adequacy of transportation resources.
- Assess the adequacy of incident facilities. Consider additional activations, if necessary. These may include medical assessment facilities, Disaster Application Centers, and temporary morgues.

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- Assess general resource needs of the incident. Resources that may be required in response to a major earthquake include search dog teams, potable water, heavy rescue teams, field hospitals, heavy equipment, generators, lighting equipment, large quantities of plywood, lumber for shoring, chain link fencing, etc.
- Coordinate with the Finance Section for needed funds.
- Provide the Planning and Operations Sections with status reports and estimated times of arrival of outstanding resource requests.
- Document all major decisions and actions in ICS-214, Unit Log.
- Determine support needs of the incident. This may include childcare for EOC and other incident facilities, additional facilities for press and volunteers, warehouses for requested and donated equipment and materials, etc.
- Establish a method for screening and assigning volunteer resources, including personnel, equipment, and material. Coordinate with the Operations and Planning Sections.

3.3.5 Finance Section

- If conditions warrant, gather supporting documentation for Declaration of Emergency. Provide information to Command Staff and the Planning Section, and advise as necessary.
- Assess financial tracking needs of the incident. Provide staff and procedures to ensure adequate financial records are kept. Since the ability of the County to survive the financial impact of the disaster may depend upon Federal reimbursement for expenditures, timely and accurate record keeping is essential.
- Obtain detailed data on property damage and local financial resources expended in support of the incident.
- Assign representatives to secondary damage assessment teams.
- Oversee preparation of necessary damage and funding reports.
- Document all major decisions and actions in ICS-214, Unit Log.

4 Concept of Operations**4.1 General**

- Some basic procedures required for response to, and recovery from, earthquakes are covered in the Basic Plan and ESF Annexes of the

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County Emergency Operations Plan (EOP). These are functionally based plans organized by agency or function such as fire, police, etc.

- The initial concerns in the event of an earthquake are:
 - Emergency response,
 - Situation analysis/damage assessment, and
 - Continuity of government.
- Aftershocks may generate additional incidents/emergencies, fatalities, injuries, and unsafe structures.
- Action should be taken to protect resources that survived the initial earthquake from damage due to aftershocks.
- Follow-up critical facility, damage, and building safety assessments may need to be conducted following an aftershock.

4.2 Emergency Response

- Emergency response actions are those taken immediately after an earthquake to save lives, alleviate suffering, and prevent further damage.
- The emergency response phase of a major earthquake can be expected to last at least 72 hours, during which emergency services in Klamath County will be overwhelmed by demand.
 - One of the most difficult aspects of emergency response after an earthquake will be identifying the specific types and locations of incidents that were caused by the earthquake and prioritizing available resources to respond to them.
 - Sources of information about incident locations and the overall extent of damages may be received through various means, including:
 - Calls to 9-1-1 Dispatch ;
 - Reports over the radio system from Fire Districts and Law Enforcement agencies;
 - Calls to other call-taking points in the county and cities, e.g., Commissioners' office, a Mayor's office, Public Works, EOC;
 - Amateur Radio (Hams);
 - CB radio;

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- News reports; and
- Damage Assessment Teams.
- 9-1-1 Dispatch will prioritize the calls they receive in accordance with their established protocols.
- The basic priorities for response are:
 - Life Safety,
 - First Responders,
 - Threatened public,
 - General public,
 - Protection of property, and
 - Protection of environment
- Field units may need to self-initiate responses and work independently until centralized command, control and communications can be reestablished.

4.3 Situational Analysis and Damage Assessments

Concurrent with emergency response activities is the need to gather information to provide an overall situation analysis and, secondarily, to gather information about damage sustained during the earthquake.

4.3.1 Situation Assessment

- The ability to obtain an initial situation analysis will depend on resources available and the viability of communications.
- Initial information gathered will focus on identification of situations requiring emergency response and the condition of critical facilities, including roadways, bridges, and utilities.
 - The most likely sources of information will be on-duty fire and police responders and a limited number of 9-1-1 Dispatch calls.
 - As field responders assess their response areas for emergency situations, they will also, to the greatest extent possible, gather information about the overall situation and relay it to their appropriate commanders or control centers. This report should attempt to provide a general description of the area according to:
 - Nature of damage,
 - Severity of damage,

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- Extent of damage, and
- Estimated number of people affected.

4.3.2 Critical Facility “Drive-by Surveys”

- Immediately after a seismic event, a “drive-by” survey of all “Critical Facilities” should be conducted.
- These reviews will help identify major problems so that 9-1-1 Dispatch and other operational control centers, such as EOCs, can prioritize limited resources and direct them to areas with the greatest need.
- Critical Facility windshield drive-bys will be a countywide cooperative effort by agreement. Responsibilities for specific facilities are assigned to different agencies, such as the American Red Cross, fire departments, etc. by Incident Command.
- County and city engineers have the authority to condemn a structure as unsafe for occupation following an earthquake (Uniform Code for the Abatement of Dangerous Buildings).

4.4 Earthquake Unique Planning Considerations**4.4.1 Damage Assessment**

- Conduct ground and aerial surveys to determine the scope of damage, number of casualties, and the status of key facilities.
- It is essential for emergency response personnel to take immediate action to gather damage assessment information. This information is needed to determine the severity and extent of injuries and damages.
- These data provide much of the information that decision makers need to implement and prioritize response actions for the following:
 - Urban Search and Rescue (USAR) activities;
 - Access control and re-entry to the impacted area;
 - Debris clearance;
 - Restoration of utilities and lifeline repairs; and
 - Inspection, condemnation, and/or demolition of buildings and other structures.

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- Remove trapped and injured people from landslides and building collapses and administer first aid.
- Assist in transporting the seriously injured to medical facilities.
- This activity will depend upon the use of both professional and volunteer search teams, including search dogs.
- Consideration should be given to the following:
 - Use of damage assessment information to identify the facilities and areas where USAR operations are to be conducted and to establish a priority for conduct of those operations; and
 - Request for Federal assistance to perform USAR operations (these teams are available to State and local jurisdictions upon request and are covered in the Federal Response Plan's ESF-9).

4.4.3 Access Control and Re-Entry

Relevant considerations for the IC or Joint Command include (but are not limited to) the following:

- Control of access to the area until it is made safe (only those directly involved in emergency response operations should be allowed to enter); and
- Establishment of a protocol for determining the appropriate time to allow evacuees and the general public to re-enter the area that was severely impacted.

4.4.4 Debris Clearance

The identification, removal, and disposal of rubble, landslides, wreckage, and other material that blocks or hampers the performance of emergency response functions should be a high priority and may include:

- Demolition and other actions to clear obstructed roads,
- Repair or temporary reinforcement of roads and bridges, and
- Construction of emergency detours and access roads.

4.4.5 Inspection, Condemnation and Demolition

Inspection of buildings and other structures will be needed for Incident Command to determine whether it is safe to inhabit or use them. Inspection may include the following activities:

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- Inspection of buildings and structures that are critical to emergency services operations and mass care activities (designate those that may be occupied as well as those that are unsafe - by use of signs)
Inspection of other buildings and structures that may threaten public safety and marking them with signs;
- Inspection of dams and levees (sometimes incorrectly referred to as “dikes”); and
- Arrangement for the demolition of condemned structures

4.4.6 Utilities and Lifeline Repairs

- Restore and repair electrical power, natural gas, water, sewer, and telephone and other communications systems to minimize the impact on critical services and the public.

4.4.7 Emergency Public Information

The flow of accurate and timely emergency notifications, updates, warnings, and instructional messages is critical to protection of lives and property in the wake of a catastrophic earthquake. Examples of this information include:

- Survival tips for people regarding what to do during and immediately after an earthquake; and
- Warnings and advice regarding the continuing threat of fire, unsafe areas to avoid, building collapses, aftershocks, and other hazards.

4.4.8 Evacuation

Immediately following an earthquake, people may need to be evacuated from structures that have been damaged and are likely to receive more damage when hit by one or more aftershocks. Managers and administrators of custodial facilities, e.g., hospitals, jails, mental health facilities, nursing homes, and retirement homes, should have plans established for moving their residents.

5 Incident Annex Review and Maintenance

See Basic Plan.

6 Appendices

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Appendix A – Earthquake/Seismic Incident Checklist

Phase of Activity	Action Items	Supplemental Information
PRE-INCIDENT PHASE	<input type="checkbox"/> Continue to maintain and revise, as needed, applicable response plans pertaining to earthquakes and other seismic activity, including the EOP and supporting procedures and plans.	
	<input type="checkbox"/> Pre-designate evacuation routes and alternate routes for areas vulnerable to earthquakes.	
	<input type="checkbox"/> Conduct pre-incident planning for sheltering and evacuation related to earthquakes. This information will supplement ESF-1, Transportation and ESF-6, Mass Care, Emergency Assistance, Housing, and Human Services.	
	<ul style="list-style-type: none"> - Prepare map(s) and script to be used on local television station(s) for emergency broadcast. Include release instructions. 	
	<ul style="list-style-type: none"> - Prepare radio messaging to be used by local radio stations for emergency broadcast. 	
	<input type="checkbox"/> Have personnel participate in necessary training and exercises, as determined by Emergency Management.	
	<input type="checkbox"/> Participate in earthquake preparedness activities, seeking understanding of interactions with participating agencies in an earthquake scenario.	
	<input type="checkbox"/> Ensure that emergency contact lists are updated and establish a pre-event duty roster allowing for 24/7 operational support for the County and City EOCs.	
	<input type="checkbox"/> Ensure that earthquake response equipment and personnel inventories are updated. Test and maintain response and communications equipment. Keep a stock of necessary response supplies.	
	<input type="checkbox"/> Inform Emergency Management of any major developments that could adversely affect response operations (e.g., personnel shortages, loss of firefighting equipment, etc.).	
	<input type="checkbox"/> Work with planning department and local planning commissions to establish appropriate infrastructure protection measures in landslide-prone areas.	
	<ul style="list-style-type: none"> - Implement seismic inspection procedures on a regular basis and incorporate improvements to structures, while also updating appropriate mitigation plans. 	
	<input type="checkbox"/> Provide public safety information and educational programs regarding emergency preparedness and response.	

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Phase of Activity	Action Items	Supplemental Information
RESPONSE PHASE	<input type="checkbox"/> Activate the EOP when earthquake and/or seismic incidents pose threats.	
	<input type="checkbox"/> If the situation warrants, request activation of the County EOC via the IC through the Emergency Manager.	
	<input type="checkbox"/> Activate the appropriate EOCs and establish Incident Command. For larger events that cross multiple jurisdictions, establish a Unified Command. The City and/or the County EOC may be staffed. Staffing levels vary with the complexity and needs of the response. At a minimum, the IC, all Command and General Staff positions will most likely be needed.	
	<input type="checkbox"/> Estimate emergency staffing levels and request personnel support.	
	<input type="checkbox"/> Ensure that action is taken to protect personnel and emergency equipment from possible damage by earthquake, also being cognizant of aftershocks.	
	<input type="checkbox"/> Develop work assignments for ICS positions (<i>recurring</i>).	<i>ICS Form 203: Organization Assignment List</i>
	<input type="checkbox"/> Notify supporting agencies. <ul style="list-style-type: none"> - Identify local, regional, State, and Federal agencies/entities that may be able to mobilize resources to support local response efforts and EOC staffing. 	
	<input type="checkbox"/> Determine the type, scope, and extent of the incident (<i>recurring</i>). Verify reports and obtain estimates of the area that may be affected. Obtain status of impacts within the jurisdiction.	<i>ICS Form 209: Incident Status Summary.</i>
	<ul style="list-style-type: none"> - Notify command and general staff, support agencies, adjacent jurisdictions, ESF leads/coordinators, and liaisons of any situational changes. 	
	<input type="checkbox"/> Develop and initiate shift rotation plans, including briefing of replacements during shift changes.	
	<ul style="list-style-type: none"> - Dedicate time during each shift to preparing for shift change briefings. 	<i>ICS Form 201: Incident Briefing</i>
	<input type="checkbox"/> Confirm or establish communications links among local and county EOCs, other AOCs, and the state ECC. Confirm operable phone numbers and verify functionality of alternate communications resources.	
	<input type="checkbox"/> Ensure that all required notifications have been completed. Consider other local, regional, tribal, state, and Federal agencies/entities that may be affected by the incident. Notify them of the status.	<i>Established emergency contact lists maintained at the EOC</i>
	<input type="checkbox"/> Manage and coordinate interagency functions. Providing multi-agency coordination is the primary goal. Assimilate into a UC structure if the scope of the incident so dictates.	

IA 5. Earthquake/Seismic Activity

Phase of Activity	Action Items	Supplemental Information
	<input type="checkbox"/> Implement local plans and procedures for earthquake operations. Ensure that copies of all documents are available to response personnel. Implement agency-specific protocols and SOPs.	<i>Local, agency, and facility-specific Standard Operating Procedures</i>
	<input type="checkbox"/> Conduct and obtain current damage reports and determine the affected area (<i>recurring</i>).	
	<input type="checkbox"/> Determine the need to conduct evacuations and sheltering activities (<i>recurring</i>). Evacuation activities will be coordinated among ESF-1, Transportation, ESF-5, Emergency Management, ESF-6, Mass Care, Housing, and Human Services, and ESF-15, Public Information and External Affairs	
	<input type="checkbox"/> Determine the need for additional resources and request as necessary through appropriate channels (<i>recurring</i>).	
	<input type="checkbox"/> Submit a request for emergency/disaster declaration, as applicable.	
	<input type="checkbox"/> Activate mutual aid agreements. Activation includes placing backup teams on standby and alerting resource suppliers of both potential and current needs.	
	<input type="checkbox"/> Coordinate resource access, deployment, and storage in the operational area. Resources to coordinate include equipment, personnel, facilities, supplies, procedures, and communications. Track resources as they are dispatched and/or used.	<i>ICS Resource Tracking Forms</i>
	<input type="checkbox"/> Develop plans and procedures for registering mutual aid and other first responders as they arrive on the scene and receive deployment orders.	
	<input type="checkbox"/> Establish a JIC and designate a lead PIO for the jurisdiction.	
	<input type="checkbox"/> Formulate emergency public information messages and media responses, utilizing “one message, many voices” concepts (<i>recurring</i>).	
	- Public information will be reviewed by the IC (or designee). Information will be approved for release by the IC and lead PIO prior to dissemination to the public.	
	<input type="checkbox"/> Record all EOC and individual personnel activities (<i>recurring</i>). All assignments, person(s) responsible, and actions taken should be documented in logbooks.	<i>Emergency Operations Plan</i>
	<input type="checkbox"/> Record all incoming and outgoing messages (<i>recurring</i>). All messages, and the names of those sending and receiving them, should be documented as part of the EOC log.	
	<input type="checkbox"/> Develop and deliver situation reports (<i>recurring</i>). At regular intervals, the IC/EOC Manager and staff will assemble a situation report.	
	<input type="checkbox"/> Develop and update the Incident Action Plan (IAP) (<i>recurring</i>). This document is developed by the Planning Section and approved by the IC. The IAP should be discussed at regular intervals and modified as the situation changes.	<i>ICS Form 202: Incident Objectives.</i>
	<input type="checkbox"/> Implement objectives and tasks outlined in the IAP (<i>recurring</i>).	

IA 5. Earthquake/Seismic Activity

Phase of Activity	Action Items	Supplemental Information
	<ul style="list-style-type: none"> <input type="checkbox"/> Coordinate with private sector partners as needed. <input type="checkbox"/> Ensure that all reports of injuries, deaths, and major equipment damage accrued during response activities are communicated to the IC and/or the Safety Officer. 	
RECOVERY/ DEMOBILIZATION PHASE	<ul style="list-style-type: none"> <input type="checkbox"/> Ensure an orderly demobilization of emergency operations, in accordance with current demobilization plans. 	
	<ul style="list-style-type: none"> <input type="checkbox"/> Once the threat the public safety is eliminated, conduct and/or coordinate cleanup and recovery operations. 	
	<ul style="list-style-type: none"> <input type="checkbox"/> Activate, if necessary, the appropriate recovery strategies, continuity of operations plans, and/or continuity of government plans. 	
	<ul style="list-style-type: none"> <input type="checkbox"/> Release mutual aid resources as soon as possible. 	
	<ul style="list-style-type: none"> <input type="checkbox"/> Conduct a post-event debriefing to identify success stories, opportunities for improvement, and development of the After Action Report/Improvement Plan. 	
	<ul style="list-style-type: none"> <input type="checkbox"/> Deactivate/demobilize EOCs, AOCs, and command posts. 	
	<ul style="list-style-type: none"> <input type="checkbox"/> Correct response deficiencies reflected in the Improvement Plan. 	
	<ul style="list-style-type: none"> <input type="checkbox"/> Revise any applicable emergency response plans based on the success stories and/or lessons learned during the response. 	
<ul style="list-style-type: none"> <input type="checkbox"/> Submit valuable success stories and/or lessons learned to the Lessons Learned Information Sharing website (www.llis.gov) 		

NOTE: This annex also includes landslides as a secondary hazard.

An earthquake of 5 or greater on the Richter Scale may or may not cause widespread damage, but it is a situation that would warrant activating the EOC to better coordinate the flow of information and damage assessment.

Initially, the lead agencies for earthquake response will be the Sheriff's Department and the Fire Service. As the initial assessment to determine the extent of damage, injury, and loss of life has been accomplished, the ICS/Operations section lead may transition to the fire service.