



# Earthquake

## I. Purpose

The City of Oakland (City) Earthquake Annex to the Emergency Operations Plan (EOP) provides an overview of considerations for City response to a major earthquake in the Bay Area. The primary purpose of this plan is to support effective management of the initial response to a significant earthquake and the subsequent hazards and threats that may occur because of the earthquake, such as fires and dam failure.

## II. Situation and Assumptions

As demonstrated by past earthquake events, the City of Oakland and the surrounding region are subject to major earthquakes, such as the 1868 Hayward fault earthquake, 1906 San Francisco earthquake, and 1989 Loma Prieta earthquake. **Table 1** shows the hazard analysis for earthquakes, as profiled in **Section 2** of the EOP.

**Table 1: Earthquake Hazard Analysis**

Frequency	Warning Lead Times	Consequences	Population/Area at Risk
High (Annual)	Minutes/none	High  (Moderate to high citywide impact. May require county, state, or federal assistance.)	High

Earthquakes are the result of the release of seismic energy and shifting of layers of rock beneath the surface that generally create a shaking motion at the surface. These events are largely unpredictable, providing little to no advance warning, and tend to vary in terms of intensity and duration. Each year, there are thousands of small, indiscernible earthquakes occur in and around the Bay Area. While most of these earthquakes go unnoticed, the U.S. Geological Survey (USGS) estimates that there is a 72 percent chance that a moment magnitude (M) 6.7 or larger earthquake will occur on one of the Bay Area's faults before 2046.

Magnitude is the most common measure of an earthquake's size. Magnitude measures the energy released at the source of the earthquake. Intensity measures the strength of shaking produced by the earthquake at a certain location. Intensity is determined from effects on people, human structures, and the natural environment. The Richter scale is a standard scale used to measure the magnitude of earthquakes while the Modified Mercalli Intensity Scale is used to measure the intensity of an earthquake. **Table 2** and **Table 3** describe how earthquakes are measured.

Oakland, in particular, is subject to great risk because it lies on the Hayward fault. USGS scientists have theorized that because the Hayward fault is located at the urban heart of the Bay Area, it may be the nation's most dangerous fault for two reasons:

- It is the single most urbanized earthquake fault in the United States. More than 2.4 million people live near the Hayward fault. Hundreds of homes and other structures are built directly on the fault itself, and mass transit corridors, major freeways, and many roadways cross it at numerous locations. Critical regional gas and water pipelines and electrical transmission lines cross the fault as well.<sup>1</sup>
- Scientists estimate that the Hayward fault is at a point where a powerful, damaging earthquake can be expected at any time. USGS scientists have found evidence for 12 earthquakes on the southern Hayward fault during the past 1,900 years. The past five incidents occurred with an average interval of about 140 years, with the last major seismic incident occurring in 1868<sup>2</sup>.

The **Richter scale** measures an earthquake's magnitude at the source. It is a logarithmic scale, meaning that the numbers on the scale measure factors of 10. So, for example, an earthquake that measures 4.0 on the Richter scale is 10 times larger than one that measures 3.0. On the Richter scale, anything below 2.0 is undetectable to a normal person and is called a microquake. Moderate earthquakes measure less than 6.0 on the Richter scale. Earthquakes measuring more than 6.0 can cause significant damage. The maximum quake rating ever measured is about 8.9.

The **Modified Mercalli Intensity Scale** uses Roman Numerals from I to XII to describe different earthquake effects.

**Table 2: Modified Mercalli Intensity Scale**

Abbreviated Modified Mercalli Intensity Scale	
I	Not felt except by a very few under especially favorable conditions.
II	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.

<sup>1</sup> United States Geological Survey (2008). *The Hayward Fault—Is It Due for a Repeat of the Powerful 1868 Earthquake?* USGS Fact Sheet 2008–3019. Retrieved from: <http://pubs.usgs.gov/fs/2008/3019/fs2008-3019.pdf>

<sup>2</sup> The past five major earthquakes on the southern Hayward fault occurred in 1315, 1470, 1630, 1725, and 1868.

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Abbreviated Modified Mercalli Intensity Scale	
IV	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
XIII	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

The following table gives intensities that are typically observed near the epicenter of earthquakes of different magnitude.

**Table 3: Magnitude / Intensity Comparison**

Magnitude	Typical Maximum Modified Mercalli Intensity
1.0 - 3.0	I
3.0 - 3.9	II – III
4.0 - 4.9	IV – V
5.0 - 5.9	VI – VII
6.0 - 6.9	VII – IX
7.0 and higher	VIII or higher

Urban areas stand to suffer the greatest amount of damage as population and infrastructure density is higher than that of a rural areas. Earthquakes often cause cascading effects such as landslides, utility interruption, hazardous materials releases, dam failure, transportation infrastructure interruption, and fires. Fires resulting from earthquakes are a particular concern

in the Bay Area, where such conflagrations have historically caused more damage than the earthquake itself. For example, following the 1906 San Francisco Earthquake, there were 50 reported initial fire outbreaks and an estimated loss that was 10 times larger than the one directly induced by the ground motion (28,000 buildings were destroyed).<sup>3</sup>

### A. Assumptions

#### General Planning Assumptions

Refer to **Section 1.4.2** of the Oakland EOP for overarching emergency management assumptions. In addition, the following assumptions have been used to develop this annex:

- The Earthquake Annex to the EOP is based on a “no-notice” catastrophic earthquake.
- Aftershocks will occur following an earthquake and can potentially be as large if not larger than the initial quake. Aftershocks are known to occur for many months past the initial earthquake.
  - The cumulative impact of large aftershocks will be to cause additional structural damage and necessitate additional safety assessment inspections (for aftershocks over 5.0).
  - Residents will be afraid to stay indoors because of the potential for aftershocks
- The initial earthquake and/or aftershocks will trigger secondary disasters such as fires or dam/levee breaches that will cause significant damage and potentially compromise the safety of response and recovery personnel or degrade the response effort.
- A major earthquake in the Bay Area will result in a presidential disaster declaration. Within 24 hours:
  - The City will proclaim a local emergency.
  - The Governor will declare a state of emergency and request a presidential declaration.
  - The President will declare a disaster, and the federal government will implement the National Response Framework (NRF).
- Neighboring jurisdictions will suffer the same effects of a catastrophic earthquake and resources will be scarce.
- State and federal assistance will be required to carry out response and short-term recovery efforts to save lives, reduce human suffering, and reduce damage to property. These

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<sup>3</sup> Botting, R., and Buchanan, A. (2000). Building Design for Fire after *Earthquake*, Proceedings from the 12 World Conference on Earthquake Engineering

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resources may take longer to arrive than anticipated due to shortages and inability to access the area.

- Normal means of communication, transportation, and infrastructure capability will be severely disrupted in areas within and beyond the immediate affected area(s) of a catastrophic earthquake. Bringing in response resources will be difficult.
- Damage to Oakland government facilities, such as the Emergency Operations Center (EOC), Department Operations Centers (DOCs), and fire and police stations, will require alternative arrangements for management of response services.
- Planning for recovery must be immediate. A recovery structure must be implemented to begin coordinating issues of community recovery, business recovery, re-establishing government services, and transition to interim and long-term housing solutions. The City's Disaster Recovery Framework (DRF) will serve as a guide for making decisions regarding the recovery structure based on the situation and needs.

### Earthquake Impact Assumptions

The following assumptions on the effects of an earthquake provide responders with an understanding of the type of preparedness, response, recovery, and mitigation actions that they should implement.

- Approximately 15 percent of all of Oakland's housing units will become uninhabitable, mostly apartments and condos. Damage due to shaking will be severe.
  - Structural damage is likely to be worst in areas of soft soils or unconsolidated fill. Refer to **Section 2.1** of the EOP for maps of seismic hazard zones, which include liquefaction.
  - Thousands of buildings will experience total structural failure.
  - Nonstructural damage will be widespread and will cause a number of buildings to be unusable even if the structure is deemed sound.
- Thousands of residents, as well as tourists and commuters trapped in the City due to transportation system failure will require shelter because their dwellings are damaged. A study conducted by USGS and the Association of Bay Area Governments (ABAG) in 2009 estimated that approximately 21,500 individuals will require shelter.
- Depending on the magnitude of the earthquake, hundreds of people may be trapped in collapsed structures.
- Thousands of injuries and deaths will occur. If the earthquake occurs during midday, the number of casualties will likely be greater as the working population is affected.
- Local medical facilities may be damaged. Surviving hospital capacity may be inadequate to treat casualties and other medical emergencies, requiring that some severely injured patients be relocated to facilities outside the Bay Area. However, relocation may be limited by impacts to the transportation system.
- The earthquake will cause immediate, simultaneous ignitions. Dozens of structure fires will ignite throughout the city. Fires will continue to ignite as power is restored, a process that could take several weeks.

- Disruption of vital services such as water, sewer, power, gas, and transportation will likely occur.
  - East Bay Municipal Utility District (EBMUD) water, waste management plants, and sewage lines would likely be damaged and could create a back-flow of raw sewage, which would escape through manholes and flow onto surface streets. Water main breaks may result in a loss of potable water for approximately 800,000 EMBUD customers throughout the Bay Area and will take approximately six months to repair.
  - Water shortages can become a significant limiting factor for hospitals, jails, and 24-hour care facilities, as well as for the general public.
  - Public telephone systems, including wireless systems, will be damaged or overloaded and may take several weeks to restore.
- Most fatalities will occur in the first 48 hours, but recovery of those buried in debris may continue for weeks.
- Major transportation facilities and systems will be damaged or disrupted and take months or longer to repair. This includes:
  - Major bridges and highways
  - Mass transit systems
  - Airports
  - City streets and roads
- The earthquake will generate millions of tons of debris. Initially, collapsed buildings and other structures will block roads and limit movement for evacuees and response personnel and vehicles.
- Massive assistance in the form of convergent volunteers, equipment, materials, and money will continue to flow to the Bay Area, providing urgently needed resources but creating coordination and logistical support challenges.
- A 7.0 or greater earthquake has the potential to generate a tsunami affecting the entire west coast.

### **B. Resource Requests**

Regardless of preparation, the City of Oakland will experience shortages of critical resources necessary to respond to the earthquake. A major earthquake will overwhelm local, operational area, and regional resources. The following are anticipated resources shortages that may be available through the mutual aid system, the state and federal governments, or the private sector. The City will submit resource request for these capabilities immediately following a major earthquake.

#### **Personnel**

- Teams to support firefighting operations and search and rescue (SAR)
- Law enforcement resources for security
- Medical health professionals, disaster medical assistance teams (DMATs), and National Disaster Medical System (NDMS) resources

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- Mental health professionals and counselors
- Building inspectors
- Qualified emergency managers and other staff to support EOC and DOC operations
- Public Information Officers (PIOs)
- Interpreters and translators
- Structural and civil engineers
- Utility restoration teams (power, gas, water, sewer)
- Communication restoration teams (satellite, cellular, wired, voice/data/video)

### Services and Transportation

- Vehicles to move first responders, evacuees, and displaced residents
- Vehicles to move the injured and medically fragile
- Air assets for reconnaissance and medical transport
- Additional shelter space outside of the city

### Equipment, Supplies, and Commodities

- Bedding, food, water, generators, medical supplies, sanitation supplies, qualified staff, and security for shelters
- Heavy equipment and operators for emergency shoring and debris removal, reduction, transport, and disposal
- Equipment, staff, and supplies for handling fatalities, such as DMORTs and portable morgue units
- Water, food, supplies, sanitation facilities, and generators to support emergency operations and to support residents
- Fuel

## III. Concept of Operations

Oakland's emergency response system is described in **Section 3** of the City of Oakland EOP. As with any other type of disaster, the City will respond in accordance with the California's Standardized Emergency Management System (SEMS), the National Incident Management System (NIMS), and the Incident Command System (ICS). These key operational concepts can be found in the EOP.

### A. Operational Priorities

The operational priorities as outlined in **Section 3.7** of the EOP will apply. The following response priorities listed below are specifically relevant to an earthquake scenario:

- Damage in high-rise buildings will generate the need to respond to fires on upper floors, people trapped in elevators, people with mobility challenges who need to evacuate but



cannot use steps, and injuries in high-rise buildings caused by falling glass and other debris. Rescue attempts will be prioritized based on:

- Number of people trapped in a particular site
  - Potential risk to responders
  - Probability of successful rescue
- Law enforcement response should be generally prioritized as follows and in accordance with Oakland Police Department's general orders:
  - Respond to those in immediate need of life-saving assistance
  - Prevent criminal activity
  - Assess and report damage or incidents
  - Provide organized perimeter control for identified sites
- It will be necessary to assess and remove debris from critical transportation routes, buildings, and facilities to allow emergency response operations to occur safely in the following priority:
  - Main transportation and evacuation routes
  - Secondary transportation routes and staging areas
  - Tertiary transportation routes and staging areas
- The priorities for route recovery, including debris clearance of routes, should be as follows:
  - Evacuation routes
  - Routes between the worst impacted areas to operating hospitals and casualty collection points
  - Routes between the worst impacted areas and Oakland Fire Department (OFD) response operations
  - Routes that link staging areas for mutual aid resources (including route to ports, airports, and to support other jurisdictional response activities.)
  - Routes necessary to allow movement of Oakland Public Works Department (OPW) field units to get to their DOCs and other staging areas, yards, and main shops.
- Restoration of Critical Infrastructure (in order of priority):
  - Power Restoration
  - Potable water
  - Waste water treatment facilities and equipment
  - Telecommunications
- It will be necessary to assess thousands of buildings, public and private, to determine whether they are safe and to assess requirements for repair.
- Reassessment may be needed following aftershocks with a magnitude greater than 5.0.
- Resources for debris removal and sanitation will initially be limited as the City mobilizes its own forces and available contractors.

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- Assessment, debris removal, and sanitation clean up should be conducted in the following order of priority:
  - Hospitals, skilled nursing, and other medical care facilities
  - Evacuation centers and emergency shelters
  - Response sites, including staging areas, casualty collection points, and incident command posts
  - High-occupancy government facilities, including jails
- Work with the Alameda County Operational Area/Alameda County Public Health to establish casualty collection points for on-scene treatment based on the location of:
  - Concentrations of injured
  - Operational status of local hospitals
  - Available sites and transportation routes
- Work with the Alameda County Operational Area/Alameda County Public Health to implement a plan for regional treatment of mass casualties, to include:
  - Regionally available resources for treatment
  - Deployment of NDMS assets and DMATs
  - Priorities for evacuation
  - Transportation resources

### B. Initial Response Actions (First 72 Hours)

In accordance with the City's operational priorities – life saving and addressing human needs – the table below shows the initial response objectives for City following a large earthquake:

Time	Response Actions
First 4 hours	Respond to the immediate known effects of the earthquake: <ul style="list-style-type: none"><li>• Direct and assist immediate life-saving rescue operations.</li><li>• Direct fire suppression for existing structure fires and anticipate fire spread based on conditions and historic precedent.</li><li>• Deploy law enforcement resources to support response activities and maintain law and order.</li><li>• Deploy emergency medical services to major incidents.</li><li>• Establish casualty collection points for initial treatment of the injured.</li><li>• Identify potential sites for evacuation centers to accommodate displaced populations while emergency shelters are being opened.</li><li>• Identify at-risk populations, notify them, and begin to evacuate if warranted.</li></ul>
	Initiate activities to activate and staff the EOC.

Time	Response Actions
	Obtain situational awareness of: <ul style="list-style-type: none"> <li>• Situation at critical facilities, including DOCs and hospitals</li> <li>• Situation in areas not reporting</li> <li>• Condition of emergency communications systems</li> </ul>
	Complete an initial damage assessment of the city, identifying areas affected, major incidents, and operational status of critical services.
	Create consolidated situation assessment and declare a state of emergency.
	Recall essential personnel.
	Begin public information messaging regarding recommended personal protective actions, safe congregation points, and community assistance needed.
First 12 Hours	Assemble resources for sustained response and for providing basic services to the community.
	Assess critical resource shortfalls and begin requesting support through mutual aid and the Operational Area. <ul style="list-style-type: none"> <li>• Consider a 14-day period. Assess condition of transportation system and develop alternatives for moving critical resources into the city.</li> </ul>
	Establish perimeter control around unsafe areas.
	Establish security at critical facilities.
	Assess conditions at designated emergency shelter sites and begin to supply with beds, water, food, medical support, generators, sanitation, and facility security, and begin to open emergency shelters to residents and Disaster Service Workers (DSWs).
	Open evacuation centers.
	Identify people with special support requirements, including individuals with disabilities and others with access and functional needs, and transfer to appropriate care facilities.
	Designate primary routes and implement debris clearance, route recovery, and traffic control.
	Initiate a regular status reporting and resource requesting process between area commands (if established), major incident commands (if established), and state/federal counterparts offering coordinated assistance.
	Obtain hospital status from Alameda County Operational Area/Alameda County Public Health. <ul style="list-style-type: none"> <li>• Monitor and address identified issues regarding patient load balancing between hospitals and the related patient transport system challenges.</li> </ul>
	Assess the need to activate the Joint Information Center.
	Determine if a curfew should be established.

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Time	Response Actions
Through 24 hours	Consolidate systems for sustaining emergency response operations.
	Concentrate the City's emergency management efforts on supporting ongoing on-scene incident management at major incidents, reinforcing the logistical support being requested.
	Commit resources to support public safety by assisting incoming employees and gathering/distributing convergent resources from less-affected parts of the region and out-of-area state and federal resources.
	Designate staging areas and begin planning to accommodate support personnel.
	Ensure that an adequate system is in place to fuel and maintain generators providing power to critical facilities.
	Coordinate with the Alameda County Operational Area to establish temporary morgues and begin process of collecting remains.
	Conduct outreach for situation status and resource needs for affected facilities needing support from the City, including ancillary medical institutions, transit sites, educational centers, commercial buildings, and sites of historic/cultural significance.
	Initiate regular news briefings to inform residents on City operations, steps they can take, services available to them, ongoing rumor control efforts, and ways in which the community can help.

### C. Sustained Operations

As the third 24-hour period concludes, the EOC should be supporting three primary areas of operation:

- Ongoing rescue operations and other emergency measures
- Transitioning near-complete response efforts to sustained emergency operations, typically addressing remaining earthquake effects that do not require public safety technical skills
- Preparing for ongoing major recovery efforts focusing on restoration of services

EOC activities for Days 3 through 7 are outlined below. Some of these objectives may occur immediately or in phases; objectives must be identified and prioritized based on overall need and resources available to respond.

Time	Response Actions
Days 3 – 7	Establish plan and begin widespread safety/damage assessment of public infrastructure, such as public right-of-way (roads and sidewalks), bridges, tunnels, and retaining walls.
	Establish teams to visit shelters to identify people that require special support that need to be relocated into other types of care facilities and to identify site modifications that should be made to better accommodate residents with sight, hearing, mobility, or other limitations.
	Begin locating and opening relief supply and food distribution points, such as C-PODs, other than the evacuation centers/shelters.

Time	Response Actions
	Reinforce cost tracking guidance for responders.
	Establish responder mental health support program.
	Establish portable toilet sanitation stations around the city and related cleaning and pumping program.
	Work with American Red Cross and other organizations to provide information to support their Disaster Welfare Inquiry Program.
	Coordinate with the business community regarding the time of their business resumption activities.
	Begin widespread safety/damage inspections of homes and businesses.
	Produce, regularly update, and distribute a disaster “Fact Sheet” to the media, people in shelters, field response personnel, and residents.
	Ensure that air quality, hazardous materials spills, and other environmental situations are monitored and risks addressed.
	Evaluate the need to designate specific routes into the city for critical relief supplies. Designating specific lanes for express bus service should also be considered.
	Survey all licensed food establishments, including the emergency shelter/evacuation centers, feeding sites, and disaster kitchens to ensure there are no unsafe food handling or other sanitation or safety concerns.
	Relocate displaced City staff and departments.
	Implement a process to allow limited entry (where safe) for recovery of personal items and mental health counseling for people whose homes have been red-tagged.
	Implement public information phone bank operations.

During a major earthquake all emergency support functions will be critical and will be supported by established Emergency Support Functions (ESFs), annexes to the EOP.

Functions	Incident Conditions
<b>Route Recovery and Traffic Control</b> <b>(ESF #1 – Transportation, ESF #3 – Public Works and Engineering, and ESF #13 – Law Enforcement)</b>	<ul style="list-style-type: none"> <li>Assessing, clearing, and repairing surface transportation routes will be critical for response and recovery operations. It is anticipated that personnel and equipment to assess, clear, and repair roadways will be insufficient. ESF #1 – Transportation, in coordination with EOC Management, will have to prioritize routes.</li> <li>As routes are restored, traffic control will become increasingly important. Traffic signals may be inoperable due to power shortages. ESF# 1 – Transportation and ESF #13 – Law</li> </ul>

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Functions	Incident Conditions
	Enforcement will have to work together to coordinate traffic control measures.
<b>Communications</b> (ESF #2 – Communications)	<ul style="list-style-type: none"> <li>The earthquake will most likely damage communication infrastructure and systems while the demand for communications will increase significantly. ESF #2 – Communications will be responsible for repairing damaged communication capabilities as well as identifying and obtaining additional communication resources/capabilities to fill emerging needs.</li> <li>For systems that are operational, lack of electrical power to charge batteries on radios, cell phones, and satellite phones will also be a challenge.</li> </ul>
<b>Damage Assessments, Sanitation, Environmental Health, Debris Removal, and Utility Restoration</b> (ESF #3 – Public Works and Engineering and ESF #12 – Utilities)	<ul style="list-style-type: none"> <li>Safety and damage assessments and debris removal will be needed immediately to support response operations.</li> <li>Damaged structures and facilities may require emergency shoring to prevent additional injuries or deaths or to allow it to be used for response operations.</li> <li>Restoration of critical utilities (power and water) is a high priority to support response operations</li> </ul>
<b>Fire Suppression and Hazardous Materials Response</b> (ESF #4 – Firefighting and ESF #10 – Hazardous Materials)	<ul style="list-style-type: none"> <li>Fire suppression will be critical following an earthquake. As power and gas are restored, additional fires will break out.</li> <li>The City will immediately request assistance from the California Governor’s Office of Emergency Services (Cal OES) Region II Fire Mutual Aid through the Operational Area Fire Mutual Aid Coordinator.</li> </ul>
<b>Mass Care, Housing, and Human Services</b> (ESF #6 – Mass Care and Shelter, ESF #8 – Public Health and Medical, and ESF # 11 – Food, Agriculture, and Animal Services)	<ul style="list-style-type: none"> <li>Scenario models estimate that approximately 21,500 individuals will require shelter. Shelters will have to be inspected for damage, staffed and equipped, and opened. Structural modifications may have to be made to support populations with disabilities and others with access and functional needs. Nonprofit partners, such as the American Red Cross, that supply equipment and personnel to support Oakland’s shelters will be also asked to support neighboring jurisdictions. There is insufficient shelter space, shelter personnel, and shelter equipment (cots, blanket, food, and medical supplies) to meet the estimated need.</li> </ul>

Functions	Incident Conditions
	<ul style="list-style-type: none"> <li>• Evacuation centers, or temporary basic shelters, will be identified and opened until more traditional shelters can be opened.</li> <li>• Shelters must provide an equitable space and level of service to the general population and to individuals with access and functional needs.</li> <li>• Individuals may have service animals that they will bring into the shelters.</li> <li>• Individuals with domestic animals/pets will seek shelter options that can accommodate or co-locate with pets.</li> <li>• Individuals requiring medical care will also present themselves at shelters and evacuation centers.</li> <li>• Lack of critical utilities (power and water) and basic supplies (food) as well as fear of aftershocks may prevent residents from occupying their homes even if their residence is not damaged. To reduce the burden on shelters, ESF #6 – Mass Care and Shelter and ESF # 11 – Food, Agriculture, and Animal Services will coordinate with EOC Management to identify ways to distribute basic supplies to affected residents.</li> <li>• Children and unaccompanied minors are expected either due to fatality or because there are separated from their family.</li> <li>• Mental health support will be needed at shelters.</li> <li>• Security will be necessary at shelters and other mass care sites.</li> </ul>
<b>Logistics and Supplies</b> (ESF #7 – Resources)	<ul style="list-style-type: none"> <li>• Requests for resources will be overwhelming and the ability to request resources using communication equipment will be severely compromised.</li> <li>• All types of resources will be scarce. There will be intensive competition for any resource from any source.</li> <li>• Getting resources into the City will also be difficult. Coordination with ESF #1 – Transportation and ESF #3 – Public Works and Engineering will be critical to clear routes to and from staging areas.</li> <li>• Emergency responders and DSWs may not be able to get in and out of the City and thus require housing, meals, and</li> </ul>

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Functions	Incident Conditions
	additional support. They may also require support for their families so they are able to come to work.
<b>Public Health, Medical, and Mass Fatality Services</b> (ESF #8 – Public Health and Medical)	<ul style="list-style-type: none"> <li>Thousands of individuals will have minor to severe injuries. Damage to hospitals and other medical facilities, shortage of transportation, trained medical personnel, and medical supplies are all anticipated.</li> <li>With compromised sanitation, additional illnesses are anticipated beyond damage from the earthquake.</li> <li>The public as well as responders will require mental health support.</li> <li>The earthquake will overwhelm the Operational Area's capability to investigate and oversee the casualties. Public health concerns resulting from the presence and deterioration of human and animal remains will cause additional public health outbreaks.</li> </ul>
<b>Search and Rescue</b> (ESF #9 –Search and Rescue)	<ul style="list-style-type: none"> <li>The earthquake will cause significant damage to thousands of buildings trapping people inside. Reports on trapped individuals will come in from multiple sources. Search and rescue teams in the field will also receive request directly from the public.</li> <li>The City will immediately request assistance for deployment of federal urban search and rescue teams and structural engineering support from the U.S. Army Corps of Engineers.</li> </ul>
<b>Animal Response</b> (ESF #11 – Food, Agriculture, and Animal Services)	<ul style="list-style-type: none"> <li>Animals will be separate from their owners and require capture and shelter.</li> <li>Animal remains will have to be collected and disposed of in a timely manner to reduce public health impacts.</li> <li>Food sources may be contaminated due to hazardous material releases as a result of the earthquake.</li> </ul>
<b>Law Enforcement, Traffic, and Evacuation Services</b> (ESF #1 – Transportation, ESF #13 – Law Enforcement, and ESF # 16 – Evacuation)	<ul style="list-style-type: none"> <li>Evacuation of the public who are in immediate danger will be a key priority for the Oakland Police Department (OPD).</li> <li>OPD will also need to maintain public order, traffic control, accompany and assist field teams (fire suppression, search and rescue, damage assessments, and utility), and secure hazardous or life-threatening areas.</li> </ul>



Functions	Incident Conditions
	<ul style="list-style-type: none"> <li>There will be insufficient number of law enforcement personnel to support all of the response operations. The City will request law enforcement support from the Operational Area Law Enforcement Mutual Aid Coordinator.</li> </ul>
<b>Recovery</b> (ESF # 5 – Management and ESF #14: – Recovery)	<ul style="list-style-type: none"> <li>Recovery operations will start as soon as immediate danger – life saving – has been accomplished. Recovery will likely take years and require significant regional involvement by the entire community and all levels of government.</li> <li>Initial recovery efforts will focus on debris removal, housing, utility restoration, and provision of disaster assistance for the public.</li> </ul>
<b>Emergency Public Information</b> (ESF #15 – Public Information)	<ul style="list-style-type: none"> <li>Lack of electrical power will make it difficult to distribute public safety information and warnings to the public.</li> <li>There will be a broad range of information that needs to be communicated: safety information, public health, curfews, guidelines on how to cope with the disaster, and how the public can help with the response are just a few of the areas that will need to be communicated in a timely manner using multiple sources, mechanisms, and in multiple languages.</li> </ul>
<b>Volunteers and Donations</b> (ESF #17 – Volunteer and Donations Management)	<ul style="list-style-type: none"> <li>Massive assistance in the form of convergent volunteers, equipment, materials, and money will continue to flow to the region, providing urgently needed resources but creating coordination and logistical support challenges.</li> </ul>

## IV. Operational Roles and Responsibilities

The following describes roles and responsibilities *specific* to earthquake activities. Primary departments identified to lead each ESF are responsible for coordinating and/or delegating the activities of the ESF. Additional roles and responsibilities to support associated emergency response efforts are described in the specific ESFs. Refer to the specific ESF for more information.

ESF #1 – TRANSPORTATION
<b>Primary Department: Oakland Department of Transportation</b>
<b>Preparedness (Pre-event)</b>
<input type="checkbox"/> Identify priority routes and essential lifelines. <input type="checkbox"/> Inventory equipment for debris removal and road repair.

## Earthquake

ESF #1 – TRANSPORTATION	
<ul style="list-style-type: none"><li><input type="checkbox"/> Store additional supplies (for example, asphalt, shoring equipment) to respond to emergencies if possible.</li><li><input type="checkbox"/> Identify contracts for additional supplies (asphalt, shoring equipment, etc.) and establish agreements.</li></ul>	
Response	
<ul style="list-style-type: none"><li><input type="checkbox"/> Coordinate with OPD, OFD, and the Alameda County Operational Area to conduct surface (windshield surveys) and aerial assessments.</li><li><input type="checkbox"/> Develop a priority list for assessment, debris clearance, and repair based on operational priorities.</li><li><input type="checkbox"/> Coordinate clearance and repair activities with Operational Area, regional, state, and federal transportation organizations to time route openings with those being cleared and repaired by these organizations.</li><li><input type="checkbox"/> Coordinate with ESF #3 – Public Works and Engineering to identify temporary debris storage sites.</li><li><input type="checkbox"/> Maintain and repair damaged traffic control devices.</li><li><input type="checkbox"/> Establish a transportation plan for:<ul style="list-style-type: none"><li>○ Movement of personnel, supplies, and equipment to the EOC and field units</li><li>○ Movement of individuals to medical facilities</li><li>○ Movement of survivors from the incident area</li><li>○ Placement of barricades outside of the affected areas</li><li>○ Detour routes around the impacted area</li></ul></li><li><input type="checkbox"/> Coordinate with ESF #13 – Law Enforcement to establish traffic control points.</li><li><input type="checkbox"/> Coordinate with ESF # 6 – Mass Care and Shelter, ESF #8 – Public Health and Medical, and the Emergency Functional Needs Coordinator (E-FNC) on the movement of populations, including those with disabilities and others with access and functional needs, to evacuation centers and shelter sites.</li></ul>	
Recovery	
<ul style="list-style-type: none"><li><input type="checkbox"/> Assess and document damage to transportation infrastructure. Provide the documentation to the EOC Planning and Intelligence Section.</li><li><input type="checkbox"/> Identify and repair transportation infrastructure.</li><li><input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements.</li><li><input type="checkbox"/> Participate in the After Action Report.</li></ul>	

ESF #2 – COMMUNICATIONS	
<b>Primary Department: Oakland Information Technology Department</b>	
Preparedness (Pre-event)	
<ul style="list-style-type: none"><li><input type="checkbox"/> Identify and obtain redundant communication capabilities including obtaining mobile communication technology that can be deployed when and where it is needed.</li></ul>	

<input type="checkbox"/> Have sufficient additional communication equipment (phones, radios, batteries) to fill additional needs during emergencies. <input type="checkbox"/> Identify and establish priority service with vendors. <input type="checkbox"/> Understand vendors risk and vulnerabilities and capabilities to repair communication infrastructure.
<b>Response</b>
<input type="checkbox"/> Work with the EOC Operations Section to identify and implement measures to reduce communication system overload and set communication priorities. <ul style="list-style-type: none"> <li>○ Request additional frequencies (e.g., request that Cal OES allow Oakland to use designated mutual aid frequencies).</li> <li>○ Spread frequency load to talk groups.</li> <li>○ Activate communication support for other response organizations (e.g., those supporting mass care and shelter, public health and medical etc.).</li> <li>○ Coordinate the activation of patches between talk groups in accordance with the City's Tactical Interoperable Communications Plan.</li> </ul> <input type="checkbox"/> Assess and prioritize communication system damage and repair. <input type="checkbox"/> Work with communication vendors to obtain, repair, and restore communication capabilities. <input type="checkbox"/> Obtain, distribute, and train individuals on how to use communication tools. <input type="checkbox"/> Provide technical communication support as needed.
<b>Recovery</b>
<input type="checkbox"/> Identify and repair damaged infrastructure. <input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.

<b>ESF #3 – PUBLIC WORKS</b>
<b>Primary Department: Oakland Public Works Department</b>
<b>Preparedness (Pre-event)</b>
<input type="checkbox"/> Identify and harden critical infrastructure. <input type="checkbox"/> Identify priority for damage assessment, debris clearance, and repair. <input type="checkbox"/> Develop a debris plan and identify vendors to support debris removal and debris monitoring.
<b>Response</b>

## Earthquake

- ☐ Conduct damage assessments in three phases: 1) initial windshield survey, 2) rapid evaluation, and 3) detailed evaluation of high priority structures with significant damage.
  - ☐ Conduct evaluations based on established organizational guidelines (e.g., the Applied Technology Council 20 Procedures for Post-Earthquake Safety Evaluation of Buildings, Cal OES Safety Assessment Program [SAP] guidelines, etc.).
- ☐ “Shore-up” structures that have been evaluated and identified as needed to support response operations or for life safety.
- ☐ Provide support to ESF #9 – Search and Rescue to help with their response efforts to remove trapped individuals.
- ☐ Implement debris removal in phases:
  - ☐ Push aside debris to clear the path or demolish or secure sites until debris removal is possible.
  - ☐ Remove debris to a temporary debris site.
  - ☐ Move debris from temporary sites to final debris management/sorting sites.
- ☐ Obtain and help OPD set up signs and barricades (e.g., traffic cones, pedestrian barriers, caution tape, etc.).
- ☐ Coordinate utilities to help with repair and restoration.
- ☐ Document damages assessments and estimates from field personnel.

### Recovery

- ☐ Assess and record damage to public infrastructure and provide this information to the EOC Planning and Intelligence Section.
- ☐ Identify and repair damaged infrastructure.
- ☐ Complete required administrative and financial forms for reimbursement and to meet legal requirements.
- ☐ Participate in the After Action Report.

### ESF #4 – FIREFIGHTING

#### Primary Department: Oakland Department of Transportation

#### Preparedness (Pre-event)

- ☐ Harden fire stations and ensure an adequate supply of equipment if possible.
- ☐ Identify sites that could be used as staging areas for firefighting operations.

#### Response

ESF #4 – FIREFIGHTING
<b>Primary Department: Oakland Department of Transportation</b>
<input type="checkbox"/> Conduct an assessment of fire suppression requirements (number and severity of incidents). <input type="checkbox"/> Assess capabilities (personnel, water supply, equipment, facilities). <input type="checkbox"/> Prioritize fire suppression activities. <input type="checkbox"/> Coordinate with utilities regarding restoration of power and natural gas to reduce the likelihood of additional fire outbreaks.
Recovery
<input type="checkbox"/> Release excess personnel and equipment according to demobilization plan. <input type="checkbox"/> Document and provide damage assessments of City infrastructure to the EOC. <input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.

ESF #5 – MANAGEMENT
<b>Primary Departments: Emergency Management Services Division &amp; City Administrator's Office</b>
Preparedness (Pre-event)
<input type="checkbox"/> Bring together relevant stakeholders to develop detailed standard operating procedures (SOPs) for how to respond to earthquakes. <input type="checkbox"/> Work with ESFs to identify priorities for damage assessment, debris clearance, and repair.
Response
<input type="checkbox"/> Obtain situational awareness (see Figure 1 on critical information requirements for the first 24-hours). <input type="checkbox"/> Coordinate with the Policy Group, EOC Operations Section, and ESF # 15 – Public Information to develop response and policy actions: <ul style="list-style-type: none"> <li>○ Establish evacuation orders.</li> <li>○ Request emergency proclamation.</li> <li>○ Establish curfew.</li> <li>○ Provide information to the public.</li> </ul> <input type="checkbox"/> Coordinate response actions as described in the concepts of operations sections (above) as appropriate.

## Earthquake

ESF #5 – MANAGEMENT
<b>Primary Departments: Emergency Management Services Division &amp; City Administrator's Office</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Contact and coordinate with local, Operational Area, regional, state, and federal emergency management departments.</li><li><input type="checkbox"/> Activate outdoor warning sirens and other public notification systems.</li><li><input type="checkbox"/> Coordinate monitoring and surveillance including aerial surveillance.</li><li><input type="checkbox"/> Provide coordination for disaster recovery activities and departments.</li></ul>
<b>Recovery</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Coordinate the documentation of damage assessments with reporting departments and develop a combined report.</li><li><input type="checkbox"/> Provide coordination for recovery activities.</li><li><input type="checkbox"/> Ensure all response and EOC personnel complete all required administrative and financial forms for reimbursement and to meet legal requirements.</li><li><input type="checkbox"/> Facilitate post-incident analysis and conduct the After Action Report.</li><li><input type="checkbox"/> Revise EOP and/or any annexes or procedures as necessary and informed by the incident.</li></ul>

ESF #6 – MASS CARE AND SHELTER
<b>Primary Department: Oakland Parks, Recreation, and Youth Development Department</b>
<b>Preparedness (Pre-event)</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Identify and harden shelter locations.</li><li><input type="checkbox"/> Identify and harden evacuation centers.</li><li><input type="checkbox"/> Obtain additional resources to support estimated shelter needs.</li><li><input type="checkbox"/> Establish a point of distribution plan to provide essential commodities to the public.</li></ul>
<b>Response</b>

ESF #6 – MASS CARE AND SHELTER	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Open evacuation centers and provide basic first aid, register individuals, and identify those that have specific functional or support needs.</li> <li><input type="checkbox"/> Coordinate the opening and staffing of shelters within the City.</li> <li><input type="checkbox"/> Coordinate with ESF #3 – Public Works and Engineering to adapt locations to make them suitable to be used as evacuation centers or shelters.</li> <li><input type="checkbox"/> Work with ESF # 8 – Public Health and Medical, ESF #11 – Food, Agriculture, and Animal Services, the E-FNC, nonprofits, and other groups to obtain the necessary support services, personnel, equipment, and commodities.</li> <li><input type="checkbox"/> Coordinate with the E-FNC and the shelter functional needs coordinator (S-FNC) to ensure that populations with disabilities and others with access and functional needs have their needs met.</li> <li><input type="checkbox"/> Continue to assess the need for shelters and provide on-going analysis to the EOC.</li> <li><input type="checkbox"/> Work with ESF # 11 – Food, Agriculture, and Animal Services to provide essential commodities to the public.</li> <li><input type="checkbox"/> Work with ESF # 15 – Public Information to provide information on the status of shelters and to encourage the public to stay in their residence if at all possible.</li> </ul>	
Recovery	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Close evacuation sites and shelter locations as sheltering needs are resolved.</li> <li><input type="checkbox"/> Provide information on disaster assistance (housing, disaster grants).</li> <li><input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements.</li> <li><input type="checkbox"/> Participate in the After Action Report.</li> </ul>	

ESF #7 – RESOURCES	
Primary Department: City Administrator's Office	
Preparedness (Pre-event)	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Establish a list of potential sources of identified equipment, personnel, and supplies that may be need to support earthquake response.</li> <li><input type="checkbox"/> Create caches of necessary supplies and equipment that may be needed.</li> <li><input type="checkbox"/> Identify staging areas and locations that can be used for points of distribution.</li> <li><input type="checkbox"/> Develop and maintain an inventory of city owned resources and equipment that will be needed for earthquake response operations.</li> </ul>	
Response	

## Earthquake

ESF #7 – RESOURCES
<b>Primary Department: City Administrator's Office</b>
<input type="checkbox"/> Submit resource requests through the operational area for identified resources (see resource request section above). <input type="checkbox"/> Coordinate with ESF #1 – Transportation, ESF #3 – Public Works, and Engineering and ESF #13 – Law Enforcement to clear roads, and obtain transportation, equipment, and security for staging areas. <input type="checkbox"/> Obtain resources to support operational priorities. <input type="checkbox"/> Provide resource support for emergency responders and their families. <input type="checkbox"/> Obtain commodities such as water, food, tarps, and other essential items and distribute to the public.
<b>Recovery</b>
<input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.

ESF #8 – PUBLIC HEALTH AND MEDICAL
(Please refer to ESF #8 – Public Health and Medical for detailed responsibilities as well as the Alameda County Health and Medical Agency plans for detailed information)
<b>Primary Departments: Human Services Department &amp; Oakland Fire Department</b>
<b>Preparedness (Pre-event)</b>
<input type="checkbox"/> Discuss how to modify EMS tactics and protocols to fit earthquake response. <input type="checkbox"/> Work with the Alameda County Operational Area/Alameda County Public Health to build caches of medical supplies and equipment. <input type="checkbox"/> Work with the Alameda County Operational Area/Alameda County Public Health on medical surge, mass fatality, and alternate standard of care plans and protocols.
<b>Response</b>
<input type="checkbox"/> Establish and maintain operational awareness of Oakland public health and medical services through direct communications links with operational units (Incident Command in the field, hospitals, nursing homes, health care facilities, DOCs, etc.) in the field and/or their appropriate coordinating entities. <input type="checkbox"/> Provide primary coordination with Alameda County Health Care Services Agency. <input type="checkbox"/> Coordinate with Alameda County Health Care Services Agency for the implementation of the Operational Area Disaster Medical Health Plan and surge capacity plans, including assessments of immediate medical needs as well as the following activities:



ESF #8 – PUBLIC HEALTH AND MEDICAL	
(Please refer to ESF #8 – Public Health and Medical for detailed responsibilities as well as the Alameda County Health and Medical Agency plans for detailed information)	
	<ul style="list-style-type: none"> <li>○ Provide on-scene triage, treatment, and stabilization in coordination with field units.</li> <li>○ Activate field treatment sites.</li> <li>○ Track patients transported through EMS.</li> <li>○ Assign patients to available hospital service in accordance with established protocols.</li> <li>○ Support surge implementation throughout the medical system.</li> <li>○ Request NDMS support if needed.</li> <li>○ Request the Medical Health Mutual Aid System activation through the Oakland EOC if needed.</li> </ul>
<input type="checkbox"/>	Request police escort for all ESF #8 – Public Health and Medical personnel performing response actions.
<input type="checkbox"/>	Work with the Alameda County Operational Area/Alameda County Public Health to prevent or mitigate against public health outbreaks in the general public or in evacuation centers and shelters.
<input type="checkbox"/>	Provide guidance and advice on potential health impacts.
Recovery	
<input type="checkbox"/>	Complete required administrative and financial forms for reimbursement and to meet legal requirements.
<input type="checkbox"/>	Participate in the After Action Report.

ESF #9 – SEARCH AND RESCUE
<b>Primary Department: Oakland Fire Department</b>
Preparedness (Pre-event)
<input type="checkbox"/> Increase the City's search and rescue capabilities by training more personnel.
Response

## Earthquake

ESF #9 – SEARCH AND RESCUE
<b>Primary Department: Oakland Fire Department</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Prioritize rescue attempts.</li><li><input type="checkbox"/> Request security support for ESF # 13 – Law Enforcement if needed.</li><li><input type="checkbox"/> Engage volunteers and Communities of Oakland Responding to Emergencies (CORE) teams as appropriate to support search and rescue efforts under the direction of a trained supervisor.</li><li><input type="checkbox"/> Provide assessments to the EOC on damages,</li><li><input type="checkbox"/> Report potential hazardous materials and fire suppression incidents to OFD.</li></ul>
<b>Recovery</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Release excess personnel and equipment according to demobilization plan.</li><li><input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements.</li><li><input type="checkbox"/> Participate in after action analysis.</li></ul>

ESF #10 – HAZARDOUS MATERIALS
<b>Primary Department: Oakland Fire Department</b>
<b>Preparedness (Pre-event)</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Continue to locate potential hazardous material sites and work with the owner/operator to harden these facilities.</li></ul>
<b>Response</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Prioritize hazardous materials response.</li><li><input type="checkbox"/> Coordinate hazardous materials response action with firefighting operations.</li><li><input type="checkbox"/> Conduct analysis of the hazardous material impact.</li><li><input type="checkbox"/> Support decontamination activities.</li></ul>
<b>Recovery</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Release excess personnel and equipment according to demobilization plan.</li><li><input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements.</li><li><input type="checkbox"/> Participate in the After Action Report.</li></ul>

ESF #11 – FOOD, AGRICULTURE, AND ANIMAL SERVICES
<b>Primary Departments: Human Services Department &amp; Oakland Animal Services Department</b>
<b>Preparedness (Pre-event)</b>

ESF #11 – FOOD, AGRICULTURE, AND ANIMAL SERVICES	
Primary Departments: Human Services Department & Oakland Animal Services Department	
<input type="checkbox"/> Identify vendors that will be able to provide food and animal supplies during a disasters for shelters and affected residents. <input type="checkbox"/> Coordinate with owners and operators of agricultural facilities within tsunami inundation area to develop plans and procedures for the evacuation of livestock.	
Response	
<input type="checkbox"/> Coordinate the delivery of food and water to shelters for people and pets. <input type="checkbox"/> Coordinate the safe disposal of animal remains. <input type="checkbox"/> Coordinate the capture of animals without owners. <input type="checkbox"/> Coordinate with ESF #10 – Hazardous Materials and ESF #8 – Public Health and Medical regarding the safety of agricultural food supplies.	
Recovery	
<input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.	

ESF #12 – UTILITIES	
Primary Department: Oakland Public Works Department	
Preparedness (Pre-event)	
<input type="checkbox"/> Identify and harden critical infrastructure against potential earthquake damage. <input type="checkbox"/> Develop response plans that outline restoration priorities to support lifelines.	
Response	
<input type="checkbox"/> Conduct damage assessment of critical infrastructure. <input type="checkbox"/> Establish a hotline for the public to notify the City and utilities of outages and infrastructure damage. <input type="checkbox"/> Coordinate with responders on repair and restoration including access to facilities, repair, and restoration priorities. <input type="checkbox"/> Coordinate with OFD and OPD for the restoration of power, natural gas, water, and communication systems to support response operations. <input type="checkbox"/> Provide ongoing status updates on restoration timeline to the public.	
Recovery	

## Earthquake

ESF #12 – UTILITIES
<b>Primary Department: Oakland Public Works Department</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements.</li><li><input type="checkbox"/> Participate in the After Action Report.</li></ul>

ESF #13 – LAW ENFORCEMENT
<b>Primary Department: Oakland Police Department</b>
<b>Preparedness (Pre-event)</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Identify sites that could be used as staging areas for law enforcement operations.</li></ul>
<b>Response</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Coordinate evacuation of risk areas.</li><li><input type="checkbox"/> Establish traffic and perimeter control and on-scene security.</li><li><input type="checkbox"/> Notify and deploy special officers and units.</li><li><input type="checkbox"/> Notify Regional Law Enforcement Mutual Aid Coordinator (Alameda County Sheriff) of impending and/or actual need for law enforcement mutual aid.</li><li><input type="checkbox"/> Provide security for response operations (fire suppression, hospitals, damage assessment teams, shelters, evacuation centers).</li><li><input type="checkbox"/> Establish Unified Command with other affected jurisdictions as appropriate.</li><li><input type="checkbox"/> In coordination with ESF #3 – Public Works and Engineering, assess damage to department resources and facilities.</li></ul>
<b>Recovery</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Release excess personnel and equipment according to demobilization plan.</li><li><input type="checkbox"/> Assess with damage assessment for the City's infrastructure.</li><li><input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements.</li><li><input type="checkbox"/> Conduct after action reports.</li></ul>

ESF #14 – RECOVERY
<b>Primary Department: City Administrator's Office &amp; Emergency Management Services Division</b>
<b>Preparedness (Pre-event)</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Establish recovery priorities and a recovery team made up of members from the whole community.</li></ul>

ESF #14 – RECOVERY	
Response	
<input type="checkbox"/> Support short-term recovery efforts. <input type="checkbox"/> Initiate intermediate and long-term recovery planning activities once life-safety issues have been stabilized. <input type="checkbox"/> Support damage assessment, debris removal, and infrastructure repair activities. <input type="checkbox"/> Identify interim housing locations. <input type="checkbox"/> Coordinate restoration of government services - especially social and health services. <input type="checkbox"/> Establish new ordinance governing rebuilding. <input type="checkbox"/> Review and revise building standards as necessary. <input type="checkbox"/> Work with the private sector to help them recover their operations. <input type="checkbox"/> Identify interim sites that support economic recovery.	
Recovery	
<input type="checkbox"/> Maintain awareness of the restoration of critical infrastructure (i.e., transportation, communication etc.). <input type="checkbox"/> Establish policies that mitigate against the consequences of future earthquakes. <input type="checkbox"/> Support and encourage commercial enterprises to return to the City. <input type="checkbox"/> Identify and obtain recovery assistance. <input type="checkbox"/> Transition to a Long Term Recovery Organization, as necessary. Refer to the DRF.	

ESF #15 – PUBLIC INFORMATION	
Primary Department: City Administrator’s Office	
Preparedness (Pre-event)	
<input type="checkbox"/> Develop messages and standard operating procedures for earthquakes. <input type="checkbox"/> Provide general information to 2-1-1 and other public information sources as described in established procedures.	
Response	

## Earthquake

ESF #15 – PUBLIC INFORMATION
<ul style="list-style-type: none"><li><input type="checkbox"/> Activate the Emergency Public Information Team (EPIT).</li><li><input type="checkbox"/> Provide life safety and warning information.</li><li><input type="checkbox"/> Prepare instructions for the media on actions taken by the City of Oakland to respond to the incident.</li><li><input type="checkbox"/> Work with other EOC Section and Unit leaders to develop verified fact sheets regarding the scope of the event.</li><li><input type="checkbox"/> Release information to the public on potential health issues.</li><li><input type="checkbox"/> Monitor broadcast media, and use information to develop follow-up news releases and rumor control.</li></ul>
Recovery
<ul style="list-style-type: none"><li><input type="checkbox"/> Participate in after action report.</li><li><input type="checkbox"/> Coordinate with ESF # 3 – Public Works and Engineering to obtain a hotline for the public to call to report damages and schedule for debris pick up.</li><li><input type="checkbox"/> Notify the public of their responsibility to repair their buildings and remove debris.</li><li><input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements.</li><li><input type="checkbox"/> Participate in the After Action Report.</li></ul>

ESF #16 – EVACUATION
Primary Departments: Oakland Police Department & Oakland Fire Department
Preparedness (Pre-event)
<ul style="list-style-type: none"><li><input type="checkbox"/> Identify potential evacuation routes and pick up locations.</li><li><input type="checkbox"/> Identify transportation resources, equipment, and personnel needed to support evacuation.</li><li><input type="checkbox"/> Work with ESF # 15 – Public Information to inform the public on evacuation issues prior to the event.</li></ul>
Response
<ul style="list-style-type: none"><li><input type="checkbox"/> Provide a recommendation to EOC management on if an evacuation order should be implemented.</li><li><input type="checkbox"/> Prioritize which locations should be evacuated.</li><li><input type="checkbox"/> Coordinate evacuation of the public.</li></ul>
Recovery
<ul style="list-style-type: none"><li><input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements.</li><li><input type="checkbox"/> Participate in the After Action Report.</li></ul>

ESF #17 – VOLUNTEER AND DONATION MANAGEMENT	
Primary Departments Human Resources Management Department & Finance Department	
<b>Preparedness (Pre-event)</b>	
<input type="checkbox"/> Maintain the City’s volunteer and donations management plan. <input type="checkbox"/> Recruit and provide additional training for emergency volunteer groups such as CORE. <input type="checkbox"/> Identify locations and system to receive, store, track, and distribute donations. <input type="checkbox"/> Identify a system to register, assign, train, and demobilize volunteers (both affiliated and spontaneous).	
<b>Response</b>	
<input type="checkbox"/> Identify volunteer and donation needs. <input type="checkbox"/> Provide information to ESF # 15 – Public Information. <input type="checkbox"/> Coordinate with nonprofits such as American Red Cross to manage volunteers and donations. <input type="checkbox"/> Recommend cash donations in lieu of supplies or equipment if appropriate. <input type="checkbox"/> Track volunteer and donations that can be used for the non-federal match for disaster funding.	
<b>Recovery</b>	
<input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.	

## V. Critical Information Needed in the First 24 Hours

Figure 1 provides a list of critical information needed within the first 24-hours.

Figure 1: Critical Information Needed in the First 24-Hours
<ul style="list-style-type: none"> <li>• Number and locations of deaths and injuries</li> <li>• Location and extent of secondary events, including fires, landslides, and hazardous materials events</li> <li>• Location of severely damaged or collapsed structures</li> <li>• Location and estimated number of people trapped in collapsed structures</li> <li>• Requirements for major evacuations and estimated number of people displaced</li> <li>• Status of communication systems, including:               <ul style="list-style-type: none"> <li>◦ Public telephone and wireless systems</li> <li>◦ Emergency radio systems</li> <li>◦ 2-1-1 Call Center</li> </ul> </li> </ul>

## Earthquake

- 911 dispatch systems
- Damage to critical public buildings and other infrastructure, including:
  - Police and fire facilities
  - Hospitals and skilled nursing facilities
  - Schools
  - Jails
  - DOC facilities
- Critical resource shortfalls impacting public safety
- Status (open, partial closure, or full closure) of roads, bridges, major surface streets, and public transportation systems
- Status of and damage to major utility systems, including:
  - Water
  - Sewer
  - Power
  - Natural gas
- Results of preliminary structural assessment of designated emergency shelters
- Location and operational status of all DOCs

## VI. Policies

The following agreements, procedures, plans, and guidelines apply to the execution of the Earthquake Annex:

- The City will assist in coordination with impacted departments without regard to race, color, national origin, religion, nationality, sex, age, disability, limited English proficiency, economic status, or sexual orientation.
- This appendix will not supersede the existing City of Oakland codes, regulations, and compliance standards for emergency response.

## VII. References

The following agreements, procedure, plans, and guidelines apply to the execution of the Earthquake Annex, in addition to references listed in the EOP and ESFs associated with this Annex:

- City of Oakland Emergency Operations Plan
- City of Oakland Functional Needs Annex
- City of Oakland Animal Care Annex
- City of Oakland Parks and Recreation Disaster Manual
- Department of Human Services Manual



- City of Oakland 2021 – 2026 Local Hazard Mitigation Plan
- Article 15 of the California Emergency Services Act (Chapter 7, Division 1, Title 2 of the Government Code)
- Cal OES guidance document, “Legal Guidelines for Controlling Movement of People and Property During an Emergency”