Regional Catastrophic Incident Mass Fatality Plan

Annex to the San Francisco Bay Area Regional Emergency Coordination Plan

August 2011

Prepared by:

California Emergency Management Agency

Cities of Oakland, San Francisco, and San Jose

Counties of Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma

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Prepared for:

Bay Area Urban Area Security Initiative

With support from:

This project was supported by the California Emergency Management Agency under FY 07/08 RCPGP #2008-CP-T8-0018, OES ID 075-95017, awarded by the U.S. Department of Homeland Security.

This document was prepared under a grant from the FEMA National Preparedness Directorate, U.S. Department of Homeland Security. Points of view or opinions expressed in this document are those of the authors and do not necessarily represent the official position or policies of the FEMA National Preparedness Directorate or the U.S. Department of Homeland Security.

This plan has been prepared for the Bay Area Urban Area Security Initiative Approval Authority (Approval Authority) on behalf of the counties and cities within the 12-county Bay Area region. The plan describes the general strategy for emergency response to an incident with regional impact. The plan has been prepared in accordance with the standards of the National Incident Management System, the California Standardized Emergency Management System, and other Federal and State requirements and standards for emergency response plans applicable as of the date of the plan's preparation.

The plan provides guidance only; it is intended for use in further development of response capabilities, implementation of training and exercises, and defining the general approach to incident response. The actual response to an incident, whether at the regional, county, or city level, is dependent on:

- The specific conditions of the incident, including the incident type, geographic extent, severity, timing, and duration
- The availability of resources for response at the time of the incident
- Decisions of Incident Commanders and political leadership
- Actions taken by neighboring jurisdictions, the State, and the Federal Government

These and other factors may result in unforeseen circumstances, prevent the implementation of plan components, or require actions that are significantly different from those described in the plan. The Approval Authority and its contractors; the counties, cities, and other organizations that have participated in plan development; the State; and the Federal Government are not responsible for circumstances related to the implementation of the plan during an incident.

The plan is not applicable outside the 12-county region that comprises the planning area.

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Foreword

The San Francisco Bay Area's vulnerability to earthquakes is well known. According to the 2008 Uniform California Earthquake Rupture Forecast,[1] the probability of a magnitude 6.7 or greater earthquake in the Bay Area within the next 30 years is 63 percent. An earthquake of this magnitude results in widespread and catastrophic damage.

A catastrophic earthquake in the Bay Area immediately overwhelms local, regional, and State emergency response capabilities. The region needs massive, rapid support from the Federal Government, other local governments in California, other states, and nonprofit and private-sector organizations. The speed and effectiveness of the region's response to the disaster affect s the long-term recovery of the region's communities and economy. An effective response is possible only if comprehensive planning has taken place.

The Federal Government provides funding under the Regional Catastrophic Preparedness Grant Program (RCPGP) to selected metropolitan areas throughout the United States to assist those areas in planning for catastrophic events. The San Francisco Bay Area is one of the selected metropolitan areas. The Federal Emergency Management Agency (FEMA) administers the program. The Bay Area Urban Area Security Initiative (UASI) Program manages the RCPGP for 12 counties and two cities[2] in the Bay Area. For fiscal year 2007/2008, the UASI Program used RCPGP funding to prepare plans in five functional areas: Debris Removal, Mass Care and Sheltering, Mass Fatality, Mass Transportation/Evacuation, and Volunteer Management.

This document, the Regional Catastrophic Incident Mass Fatality Plan, has been prepared under the RCPGP with the assistance of the California Emergency Management Agency (Cal EMA). The proper care and management of the deceased resulting from a catastrophic earthquake in the San Francisco Bay Area is a critical component of disaster response operations.

This document was developed with the participation of the following:

- Alameda County Sheriff's Office
- Alameda County Sheriff's Office, Coroners Bureau
- American Red Cross
- California Emergency Management Agency
- California Emergency Management Agency, Coastal Region
- City of Oakland Fire Department, Office of Emergency Services
- Marin County Sheriff, Office of Emergency Services

[1] Edward H. Field, et al., *The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2)*, (U.S. Geological Survey Open File Report 2007-1437, 2008). Available at http://pubs.usgs.gov/of/2007/1437/of2007-1437_text.pdf.

[2] Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma counties and the cities of Oakland and San Jose

- San Francisco Department of Emergency Management
- San Francisco Office of the Chief Medical Examiner
- Santa Clara County, Office of Emergency Services
- ValleyCare Health System

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Executive Summary

This document, the Regional Catastrophic Incident Mass Fatality Plan (Plan) is a scenario-driven, function-specific operations plan that describes mass fatality management operations in the aftermath of a catastrophic earthquake in the Bay Area. The Plan is:

- An annex to the San Francisco Bay Area Regional Emergency Coordination Plan (RECP), prepared by the California Emergency Management Agency (Cal EMA)
- Consistent with the San Francisco Bay Area Earthquake Readiness Response, Concept of Operations Plan, prepared by the Federal Emergency Management Agency (FEMA) and Cal EMA

ES-1 Scope

This Plan:

- Addresses the response to a moment magnitude (**M**) 7.9 earthquake on the San Andreas Fault
- Is applicable to the response during the first 60 days after the earthquake
- Applies to the 12-county Bay Area region
- Describes mass fatality management operations occurring within the region

ES-2 Catastrophic Nature of the Earthquake

Threats and hazards resulting from the earthquake include structural and nonstructural damage to buildings and infrastructure, fires, subsidence and loss of soil-bearing capacity, landslides, hazardous materials spills and incidents, dam/ levee failure resulting in flooding, and civil disorder.

The earthquake significantly affects all regional transportation networks; large portions of the transportation infrastructure are likely to be damaged or destroyed. The earthquake also results in:

- 7,000 fatalities
- 1.8 million households without potable water
- 500,000 households without electricity
- 300,000 people seeking shelter
- 50 million tons of debris

ES-3 Coroner/Medical Examiner Responsibilities

The management of the estimated 7,000 fatalities is the responsibility of county Coroners/Medical Examiners with support from local, regional, State, and Federal agencies and private-sector entities. The primary responsibilities of the Coroner/ Medical Examiner are to:

- Serve as the lead agency for the management of mass fatalities occurring in the Operational Area
- Manage/coordinate the recovery, storage, transport, processing, and final disposition of human remains
- Coordinate the activation of the Family Assistance Center
- Sign death certificates for all incident-related fatalities

ES-4 State Agency Responsibilities

The State agencies with primary roles in mass fatality management operations are as follows:

- California Emergency Management Agency
  - Serves as the lead State agency for emergency management response
  - Ensures the State is ready and able to mitigate against, prepare for, respond to, and recover from the effects of emergencies that threaten lives, property, and the environment
  - Mobilizes State resources and obtains Federal resources while maintaining oversight of the Mutual Aid System
  - Coordinates integration of out of region resources into response and recovery operations
- Cal EMA, Law Enforcement Branch, Coroners' Group Supervisor
  - Serves as custodian of the Coroners' Mutual Aid Plan
  - Serves as point-of-contact for the coordination of inter-regional Coroner mutual aid, State agency resource mutual aid allocation, and out-of-state resource coordination, and the use of Federal resources
- California Department of Justice
  - Assists California law enforcement agencies and official emergency services agencies in the physical or dental identification of missing or unidentified deceased persons through the comparison and matching of reports and records
  - Provides expertise in the operation of the National Crime Information Center's Missing and Unidentified Persons System
  - Collects, documents, and submits biological samples of unidentified remains and samples from family members or personal articles of a missing person for DNA analysis
- California National Guard
  - Provides personnel and equipment support to local authorities to collect, identify, transport, and store the deceased
  - Assists with protection of life and property
  - Conducts search and rescue

ES-5 Federal Agency Responsibilities

The Federal agencies with primary roles in mass fatality operations are as follows:

- Federal Emergency Management Agency (FEMA)
  - Implements the Public Assistance Program with Cal EMA to reimburse local and State government agencies for mass fatality operations
  - Mobilizes Federal resources to the disaster area
- U.S. Department of Health and Human Services
  - Serves as Federal Emergency Support Function (ESF) #8 (Public Health and Medical Services) lead with oversight of all Federal ESF #8 activities
  - Deploys ESF #8 personnel appropriate to the response requirements, which may include Regional Emergency Coordinators, subject matter experts, Incident Response Coordination Teams, and Disaster Mortuary Operational Response Teams (DMORTs)
  - Requests ESF #8 partners to activate and deploy health and medical personnel, equipment, and supplies in response to requests for Federal public health and medical equipment
- DMORTs
  - At the request of the Coroner/Medical Examiner, supports designated Incident Morgue(s)
  - At the request of the Coroner/Medical Examiner, assists in the organization and operation of the Family Assistance Center
- U.S. Department of Homeland Security, Urban Search & Rescue Response System
  - Develops protocol with the Coroner/Medical Examiner, local Emergency Medical Services, or law enforcement through FEMA ESF #9 for identifying and tracking the probable locations of remains as described in the FEMA National Urban Search and Rescue System Memorandum of Understanding
  - Provides advice and assistance in handling and disposing of radiologically contaminated remains
- U.S. Department of Defense
  - Provides assistance for human remains processing, including identification
  - Provides information regarding chemical agents and their associated risks
  - Provides hazardous materials expertise and agent detection and identification
  - Provides nonrefrigeration transportation assets

ES-6 Priorities for Response

Mass fatality response priorities are as follows:

- Determine the number of fatalities and identify the locations of the deceased
- Recover human remains and personal effects
- Process all human remains and personal effects
- Provide family assistance services
- Facilitate final disposition of human remains

ES-7 Mass Fatality Operations

Mass fatality operations include the following phases:

1. **Notification.** Disaster notification to the Coroner/Medical Examiner is typically routed through routine law enforcement, Emergency Operations Center channels, or news media broadcasts in advance of a request to transport human remains.
2. **Scene Evaluation and Organization.** The Coroner/Medical Examiner determines the most effective and efficient approach for managing human remains by conducting an initial situation assessment. The mass fatality response organization is greatly influenced by the assessment.
3. **Recovery of Remains.** The Coroner/Medical Examiner oversees human remains recovery with the goal of establishing a confirmed identification for each decedent, associating each body part with a particular decedent, documenting any injury pattern, and completing required investigations.
4. **Fatality Collection Point.** Fatality collection points provide short-term shelter, privacy, and security of human remains and associated evidence until transportation to the Incident Morgue is arranged.
5. **Level 1 Transportation and Temporary Storage.** Level 1 transportation and temporary storage refers to the movement of the human remains from the fatality collection point to the Incident Morgue.
6. **Morgue Operations.** Morgue operations are conducted at the Incident Morgue. A menu of fatality management options is in **Appendix D**. Morgue operation objectives are to:
   - Document the cause, manner, and method of death
   - Confirm the identity of the deceased
   - Provide a physical accounting for all the deceased directly affected by the incident
   - Provide death notification, submit a death certificate, and release the deceased and associated personal effects to the next of kin for final disposition
7. **Level 2 Transportation and Temporary Storage.** Level 2 transportation and temporary storage refers to the temporary storage and transport of human remains between morgue facilities and locations of final disposition.

8. **Final Disposition.** Final disposition options include individual burial, State-sponsored individual burial, entombment, temporary interment, voluntary cremation, and involuntary cremation. The Coroner/Medical Examiner facilitates the release and final disposition of all human remains.
9. **Demobilization.** When the majority of remains have been recovered, documented, and released, the Coroner/Medical Examiners begin to demobilize the designated Incident Morgue(s) and transition morgue operations back to the county morgue of each respective jurisdiction.

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1 Introduction

The Regional Catastrophic Incident Mass Fatality Plan (Plan) is a scenario-driven, function-specific operations plan for the 12 counties of the San Francisco Bay Area region that describes mass fatality management operations in the aftermath of a catastrophic earthquake on the San Andreas Fault. The Plan is an annex to the San Francisco Bay Area Regional Emergency Coordination Plan (RECP). The Plan recognizes that Operational Area fatality management responsibilities may reside with a Sheriff–Coroner, Coroner, or Medical Examiner. For purposes of this Plan and ease of reading, Coroner/Medical Examiner represents all three professions.

The Plan assists in leveraging regional expertise and resources to more effectively manage and process decedents resulting from a catastrophic mass fatality incident through the following:

- Coordinating effort among several Coroners/Medical Examiner offices that are simultaneously impacted by the disaster, requiring unity of effort all levels of government
- Enhancing Coroner/Medical Examiner interoperability
- Effectively communicating and integrating subject matter expert advisory support
- Maximizing the specialized use of resources
- Avoiding duplication of effort
- Providing multiple options for responding to a catastrophic event

1.1 Purpose

The purpose of the Plan is to provide a guide for regional coordination of resources to support mass fatality operations occurring within the region, such as recovery, transport, storage, and processing of human remains and personal effects.

The Plan provides operational details for:

- Notification
- Scene evaluation and organization
- Recovery of remains
- Fatality Collection Points
- Transportation and temporary storage
- Morgue operations
- Family Assistance Center operations
- Final disposition
- Demobilization

1.2 Objectives

Objectives for the Plan are as follows:

- Project the catastrophic impacts of the earthquake—as well as the impacts of a chemical, biological, radiological, nuclear, or high-yield explosive (CBRNE) incident and a pandemic influenza—on the region
- Define the planning assumptions
- Identify agencies with roles in mass fatality management operations and define their roles
- Describe the resources required for mass fatality operations and mechanisms for integrating State and Federal resources into mass fatality operations in the region
- Identify recommended priorities
- Identify recommended, time-based objectives to guide regional coordination
- Establish a response timeline for coordinating regional mass fatality operations

1.3 Scope

The Plan describes mass fatality management operations being conducted by local governments in the region. Is also describes Operational Area and regional coordination to support those operations. The objectives and activities in the response timeline reflect those taken by local governments or by agencies coordinating support for operations conducted within the region.

For definitions of the acronyms and key terms that are used in the Plan, see **Appendix A**.

1.3.1 Nature and Duration of the Earthquake

The scenario used in the development of the Plan is a moment magnitude (**M**) 7.9 earthquake on the northern segment of the San Andreas Fault. The impacts from the earthquake are catastrophic. Although shaking from the earthquake and the aftershocks lasts only seconds or minutes, recovery can take several years. See **Section 2.1** for more information about the scenario event.

As described in the National Response Framework, a catastrophic event is any natural or human-caused incident including terrorism that results in an extraordinary level of casualties, damage, or disruption that severely affects the population, infrastructure, environment, economy, morale, and government functions of the area in question, and potentially the Nation as a whole.

Two additional scenarios, a CBRNE incident and an influenza pandemic, are addressed in **Appendices G** and **H**, respectively.

1.3.2 Geographic Scope

The Plan includes the following 12 counties (see **Appendix B, Map B-1**):

- Alameda County
- Contra Costa County
- Marin County
- Monterey County
- Napa County
- San Benito County
- San Francisco County
- San Mateo County
- Santa Clara County
- Santa Cruz County
- Solano County
- Sonoma County

These counties are directly affected by damage from the earthquake, regional disruption of critical infrastructure systems, and short- and long-term impacts to the economy. Adjacent counties—such as Mendocino, Sacramento, San Joaquin, and Stanislaus—may be affected directly by damage or indirectly by evacuations and other response actions. An **M** 7.9 earthquake also has significant effects on the rest of California and the nation as a whole.

1.3.3 Time Frame

The time frame for the Plan begins with the occurrence of the earthquake and ends 60 days after the earthquake. The planning periods (phases) are given in hours or days after the earthquake (E).

The Plan does not address preparedness activities that may occur before the incident or long-term activities that occur after 60 days. However, **Section 5.4** provides guidance on long-term mass fatality objectives.

1.4 Applicability

The Plan is consistent with the regional plans described below.

1.4.1 RECP

As stated above, the Plan is a function-specific, incident-specific annex to the RECP. It is consistent with the RECP Law Enforcement and Coroner/Medical Examiner Subsidiary Plan.

The RECP provides an all-hazards framework for collaboration and coordination among responsible entities during events that affect San Francisco Bay Area counties. The RECP defines procedures for regional coordination, collaboration,

decision-making, and resource sharing among emergency response agencies in the Bay Area within the framework of the Standardized Emergency Management System (SEMS).

The RECP describes the formation of a Regional Coordination Group coordinated by the Region. Members may include the Region Administrator, Region staff, representatives from the Operational Areas within the Region, lead agencies for the Bay Area counties, and subject matter experts. Additionally, the RECP Base Plan and Law Enforcement and Coroner/Medical Examiner Subsidiary Plan describe the coordinating role of the Region in regional mass fatality management operations.

1.4.2 CONPLAN

The Plan is also consistent with the San Francisco Bay Area Earthquake Readiness Response: Concept of Operations Plan (CONPLAN), prepared by the Federal Emergency Management Agency (FEMA), and Cal EMA. The CONPLAN describes the joint State–Federal response to an **M** 7.9 earthquake on the San Andreas Fault in the Bay Area and includes an annex describing mass fatality management operations. The CONPLAN describes the establishment of a Joint Field Office (JFO) with a Unified Coordination Group[3] that coordinates joint State–Federal operations in support of the response in the Bay Area.

1.4.3 The California Mass Fatality Management Guide: A Supplement to the State of California Coroners' Mutual Aid Plan

The California Mass Fatality Management Guide provides a framework to facilitate an organized and effective State response to an incident involving catastrophic mass fatalities in California. The guide recognizes the need to identify State resources that may be applied to a mass fatality incident and provides planning guidance to State and local agencies in preparation for and response to the incident.

1.5 Authorities, Regulations, and Requirements

As an annex to the RECP, the Plan reflects the following:

- California Emergency Services Act
- State of California Emergency Plan
- SEMS

The duty of the Coroner/Medical Examiner is defined in Government Code, State of California, Section 27491, and Health and Safety Code Section 102850.

Nothing in this Plan should interfere with or usurp the authority of the local Coroner/ Medical Examiner in carrying out his or her duties and responsibilities.

[3] As described in the CONPLAN, the JFO will be located in or adjacent to one of the affected Bay Area counties. The Unified Coordination Group will include the Federal Coordinating Officer, State Coordinating Officer, and other State and Federal senior leaders representing agencies with significant response and recovery roles.

1.6 Plan Organization

Section 1 provides the scope and applicability of the Plan and the authorities, regulations, and requirements that provide the foundation for the operations that are discussed in the Plan.

Section 2 contains a description of the earthquake and its projected impacts and the assumptions underlying the earthquake and the response to it.

Section 3 contains a description of the roles and responsibilities for coordination between agencies and the different levels of SEMS and for management of the response agencies that respond to the earthquake.

Section 4 contains the response coordination system, activation, and communications for agencies responding to the earthquake.

Section 5 contains the priorities for the response, the objectives that support the priorities, the actions and resources necessary to achieve the objectives and a response timeline for the earthquake.

Section 6 describes how the Plan is maintained, updated, and exercised.

Appendix A is a glossary of acronyms, abbreviations, and key terms.

Appendix B contains the maps that are referenced in the Plan.

Appendix C is a regional information collection plan for fatalities operations.

Appendix D is a menu of mass fatality management options.

Appendix E contains examples of Incident Morgue station protocols.

Appendix F contains Disaster Mortuary Operational Response Team (DMORT) forms.

Appendix G describes the CBRNE scenario incident and the response to it.

Appendix H describes the influenza pandemic scenario event and the response to it.

Appendix I compares normal versus altered standards of death care.

Appendix J contains contact information for the county Coroners/Medical Examiners.

Appendix K includes the Coroners' Mutual Aid Asset Inventory List.

Appendix L lists support agencies for fatality management operations.

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2 Situation and Assumptions

This section contains a description of the earthquake scenario and its projected impacts and the general and mass fatality assumptions that were used in the development of this Plan.

2.1 Scenario Event

The scenario event is an **M** 7.9 earthquake on the northern segment of the San Andreas Fault. The basis for the scenario is a Hazards U.S. (HAZUS) analysis[4] performed by the Earthquake Engineering Research Institute, with support from the U.S. Geological Survey and the California Emergency Management Agency (Cal EMA), beginning in 2005 and modified in 2009 by URS Corporation for the Regional Catastrophic Preparedness Grant Program.

The characteristics of the scenario event and its impacts on the region are:

1. The earthquake occurs in January on a weekday at 1400 hours Pacific Standard Time.
2. A foreshock precedes the main shock by 20 to 25 seconds. There is no other warning.
3. The main shock lasts 45 to 60 seconds.
4. The epicenter is just outside the entrance to the San Francisco Bay, west of the Golden Gate Bridge.
5. The earthquake ruptures approximately 300 miles of the northern segment of the San Andreas Fault, from the San Juan Bautista area in the south to Cape Mendocino in the north.
6. Shaking is felt in Oregon to the north, Los Angeles to the south, and Nevada to the east.
7. The estimated magnitude is **M** 7.9 with a Modified Mercalli (MM) intensity of VIII (severe shaking/moderate to heavy damage) to IX (violent shaking/heavy damage) in widespread areas of the most severely affected counties. Pockets in the affected counties experience instrument intensity of MM X (extreme shaking/ very heavy damage), particularly areas immediately adjacent to the Fault and areas where liquefaction is likely to occur. The shaking intensity and areas where liquefaction is likely to occur are shown in **Appendix B, Maps B-2** and **B-3**, respectively.
8. Ground shaking and damage occur in 19 California counties, from Monterey County in the south to Humboldt County in the north and into the San Joaquin Valley.
9. Damage is catastrophic in the areas that experience shaking intensities of MM IX and X and high or very high levels of susceptibility for liquefaction, which

[4] HAZUS is a loss estimation software program that the National Institute of Building Sciences (NIBS) developed for FEMA. The version used for this analysis (HAZUS-MH MR3) was developed by NIBS in 2003.

are the areas adjacent to the Fault in Marin, San Francisco, San Mateo, Santa Clara, Santa Cruz, and Sonoma counties.

10. Counties along the Fault outside the Bay Area, such as Mendocino, may sustain damage and require response.
11. Central Valley counties such as Sacramento and San Joaquin may be affected immediately by evacuations and other response actions.
12. The rest of California and the Nation are affected significantly by the need to respond; the deaths, injuries, and relocations of Bay Area residents; economic disruption; and media attention.
13. Threats and hazards resulting from shaking, surface fault rupture, and liquefaction include:
    - Structural and nonstructural damage to buildings and infrastructure including widespread collapse of buildings
    - Widespread fires
    - Subsidence and loss of soil-bearing capacity, particularly in areas of liquefaction
    - Displacement along the San Andreas Fault
    - Widespread landslides (see **Appendix B, Map B-4**)
    - Hazardous materials spills and incidents
    - Dam/levee failure, resulting in flooding
    - Civil disorder
14. Threats and hazards resulting from the main shock are aggravated or recur during aftershocks, which continue for months after the main shock.
15. The earthquake does not generate a tsunami or seiche, despite its magnitude.
16. Potable water supply systems suffer major damage because of the following:
    - Extensive damage to pipelines from ground deformation
    - Interruption of pumps and treatment due to power outages
    - Damage to treatment facilities, storage facilities, and distribution infrastructure
    - Contamination of potable water systems because of damaged lines
17. The earthquake results in massive power outages, and auxiliary power systems and generators are not sufficient to meet critical needs.

2.2 General Planning Assumptions

The general planning assumptions that drive the mass fatality response are:

1. Within 24 hours:[5]
   - County chief executives and city mayors proclaim Local Emergencies.
   - The Governor of California proclaims a State of Emergency and requests that the President declare a disaster.
   - The President declares a Major Disaster, making Federal assistance available under the Stafford Act.
   - The U.S. Department of Homeland Security and FEMA implement the Catastrophic Incident Supplement to the National Response Framework and begin mobilizing Federal resources.
2. Because of extensive damage to building and transportation infrastructure in Oakland, the Cal EMA Coastal Regional Emergency Operations Center (REOC) in Oakland may not be functional. The regional function within SEMS may be assumed by:
   - An alternate REOC outside the region
   - The State Operations Center (SOC)
   - The Joint Field Office, once it is established

   Cal EMA notifies Operational Areas in the Region of the appropriate channels for communication with the regional function of SEMS, once it has been established.
3. On a statewide basis, all elements of SEMS are functional, including communications and mutual aid systems.
4. The response capabilities and resources of the local governments and the State in the region are quickly overwhelmed or exhausted.
5. A detailed and credible common operating picture cannot be achieved for 24 to 48 hours (or longer) after the disaster. As a result, response activities begin without the benefit of a detailed or complete situation and critical needs assessment.
6. First responders, providers of recovery services, and other critical response personnel are personally affected by the disaster and may be unable to report to their posts for days because of the damaged transportation infrastructure. First responders who are on duty may be held over for additional shift coverage.
7. Once the President declares a disaster and commits Federal resources, the State and Federal governments establish joint operations to provide assistance to local jurisdictions.
8. Massive assistance in the form of response teams, equipment, materials, and volunteers begins to flow toward the region, providing urgently needed resources but creating coordination and logistical support challenges.

[5] Emergency Proclamation/Declaration decisions occur within 24 hours but may not occur in the order listed here.

9. Because of damage to the transportation infrastructure (see **Appendix B, Map B-5**), out-of-region mutual aid, State and Federal resources, and resources from other states cannot begin to arrive for up to 72 hours.
10. Local Emergency Operations Centers (EOCs) experience some damage but are partly operational. All other local government functions are severely compromised or focused entirely on response to the earthquake.
11. Local EOCs are overwhelmed and are challenged to manage the response effectively.

2.3 Mass Fatality Management Assumptions

1. The number of immediate fatalities across the Bay Area region is approximately 6,645.
2. The number of delayed fatalities across the region is approximately 395.
3. Higher concentrations of fatalities are located in San Francisco, Alameda, Santa Clara, and San Mateo counties.
4. Widespread geographical dispersion of fatalities and a significant number of hidden and some destroyed human remains hinder accurate and timely confirmation of fatalities and locations.
5. Determining the jurisdiction of a fatality may present unforeseen complexities as military, private, foreign consulate, and tribal issues may generate jurisdictional and/or political challenges.
6. Coroners/Medical Examiners are challenged by insufficient mass fatality management response capabilities and resources.
7. Coroners/Medical Examiners require mutual aid beyond the Region and significant response assistance from State and Federal entities.
8. Damage to systems and infrastructure significantly affects mass fatality operations, as follows:
   - Local response capabilities are likely to be compromised.
   - California's Coroner Mutual Aid System is activated immediately. However, inbound mutual aid regional, State, and Federal mass fatality management response resources are delayed, including Disaster Mortuary Operational Response Teams, which take longer than 48 hours to arrive.
   - The inventory of Coroner/Medical Examiner supplies and equipment needed to respond effectively may not be readily available.
   - Loss of power and water supply and crippled communications systems significantly impede efforts to effectively and expeditiously recover and manage the large volume of dead and render pre-identified mass fatality facilities unfit for operations.
   - Initial notification of field response personnel, local Coroners/Medical Examiners, and all levels of government may be disrupted because of damage to communications systems.

- Fatality management personnel and other emergency workers may not report to duty because of injuries, death, or the need to attend to their families.
- Supply lines may be disrupted, and other disaster response disciplines compete for just-in-time supplies and services.
- Resources for remains processing, death certificate issuance, and compliance with environmental and building code regulations are significantly constrained and require official recognition and resolution.

9. Mutual aid, regulatory remedy, and/or State and Federal support are requested by local governments to support hospitals and the death care industry, which is overburdened due to a shortage of facilities and resources.
10. Local Coroners/Medical Examiners, hospitals, the death care industry, and all emergency response agencies, continue to experience daily case loads.
11. Hospitals significantly expand morgue capacities by adapting alternative space to accommodate the surge in mortality rates.
12. Most hospital emergency preparedness efforts focus on doing the greatest good for the greatest number of living patients. Care for the deceased may not necessarily be a priority.
13. The public brings human remains to hospitals and/or morgues (see **Appendix B, Map B-6**).
14. The State provides assistance in the form of aerial reconnaissance and transportation for effective situational awareness and scene evaluation.
15. The State assists in deploying heavy equipment and assists in the establishment of alternate and temporary power, water, and communications utilities.
16. Local and State agencies coordinate and develop risk communication messages to address public fear that a disease epidemic may be caused by dead bodies.
17. Regional transportation, human remains and personal effects tracking systems, supplies and equipment, and qualified personnel needed to operate designated Incident Morgue and storage facilities may be insufficient or missing.
18. The lack of a standardized and institutionalized human remains tracking system is problematic.
19. The supply of refrigerated trucks may not meet the demand, making it difficult to ensure proper storage/transportation for the deceased.
20. Loss of power or the lack of generators/fuel affects the ability to cold store human remains.
21. In-state and out-of-state forensic pathologists or other medical professionals/ morgue operations personnel are needed.
22. The lack of a standardized and institutionalized credentialing system for mass fatality management response personnel is problematic.
23. Local and State officials seek waivers of selective regulatory codes/statutes pertaining to day-to-day Coroner/Medical Examiner operations to allow for effective and timely mass fatality management.

24. Federal, State, and local governments coordinate environmental special disaster activity permitting to stay within the intent of the regulations.
25. The State amends/suspends Title 22 of the California Code of Regulations so that bio-waste and other bodily fluids from human remains are not declared hazardous materials.
26. The Governor issues, amends, or rescinds Executive Orders, proclamations, or statutes to deal with the disposition of human remains.
27. The need to consider the varied cultural/religious practices may impede the task of final disposition of human remains.
28. Local Health Departments and the California Department of Public Health (CDPH) coordinate to streamline the process for issuing death certificates and permits for final disposition.
29. Local and State agencies coordinate to provide timely and accurate information to the media, the public, and the political leadership regarding the processing of death certificates and permits for final disposition.
30. State, Federal, and private-sector entities assist the Coroner/Medical Examiner in planning, conducting, and developing special memorial services and sites.
31. The State coordinates the repatriation of deceased nonresidents and foreign nationals.

2.4 Data Assumptions

Table 2-1 estimates total fatalities by county/city based on HAZUS analysis.

Table 2-1. Number of fatalities by county/city.

County	Immediate Fatalities	Delayed[1] Fatalities	Total Fatalities
Alameda	1,400	100	1,500
Contra Costa	200	10	210
Marin	100	10	110
Monterey	20	0	20
Napa	40	5	45
San Benito	5	0	5
San Francisco	2,100	100	2,200
San Mateo	900	50	950
Santa Clara	1,600	100	1,700
Santa Cruz	40	5	45
Solano	40	5	45
Sonoma	200	10	210
Regional Totals	**6,645**	**395**	**7,040**
Oakland	500	30	530
San Jose	900	50	950

Source: URS HAZUS analysis (2009)

[1] Delayed fatalities projections are based on a general medical industry rule-of-thumb estimation that approximately 10% of Severity 3 injuries result in delayed fatalities because of the lack of access to immediate hospitalization and medical treatment. HAZUS defines Severity 3 injuries as those that require hospitalization and can become life threatening if not promptly treated.

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3 Roles and Responsibilities

This section defines the role each agency plays in the response to a disaster and the responsibilities associated with the role and describes organizations with a role in mass fatality management.

3.1 Operational Area

Table 3-1 lists agencies with a role in managing the local response to a disaster, including roles and responsibilities in allocating local resources.

3.2 Region

Table 3-2 lists agencies with a role in managing regional coordination for the earthquake, including roles and responsibilities in allocating resources.

3.3 State

Table 3-3 lists State agencies with a role in managing the regional and State response to a disaster and their roles and responsibilities in allocating State and regional resources.

3.4 Federal

Table 3-4 lists Federal agencies with a role in managing the Federal response to a disaster and their roles and responsibilities in allocating Federal resources.

3.5 NGO and Private-Sector Entities

Table 3-5 lists various nongovernmental (NGO) organizations and private-sector entities that play significant roles in the planning and response to a disaster.

Table 3-1. Operational Area agencies with mass fatality responsibilities.

Operational Area Agency	Responsibilities
Coroner/Medical Examiner	• **Serves** as the lead agency for the management of mass fatalities for the Operational Area • **Manages/coordinates** the recovery, storage, transport, processing and final disposition of human remains • **Coordinates** the activation of the FAC • **Signs** death certificates for all incident cause fatalities • **Assesses** capabilities, limitations, and resources needed and makes formal request for additional resources when necessary • **Requests** mutual aid as necessary • **Manages** and oversee FAC • **Designates** representative for the management of the FAC and collection of antemortem data
Environmental Health	• **Evaluates** operation impacts on the environment • **Contains** and **disposes** of contaminated water run off • **Collects** waste resulting from Coroner/Medical Examiner operations
Executive/Chief Elected Official	• **Provides** direction for the overall Operational Area coordination of Local Emergency response efforts • **Issues** proclamation of a Local Emergency
Fire and Rescue	• **Activates** USAR teams • **Assists** with search, rescue, and recovery operations • **Assists** with search and recovery operations • **Assists** with decontamination operations
Hazardous Materials Teams	• **Provides** expertise on hazardous materials • **Recovers** contaminated human remains and personal effects • **Conducts** decontamination of live persons and human remains
Law Enforcement	• **Provides** security and perimeter control at sites where remains are collected, stored, or processed • **Collects/secures** evidence gathered from remains when applicable • **Provides** escort for the transportation of human remains, when appropriate
Mental Health	• **Provides** counselors at FAC for the decedents' family members and response personnel • **Disseminates** information to the community on stress management through the Operational Area JIC
Office of Emergency Services	• **Coordinates** the establishment of the JIC • **Makes** appropriate notifications including the death care industry

Table 3-1. Operational Area agencies with mass fatality responsibilities.

Operational Area Agency	Responsibilities
Public Administrator	**Is responsible** for decedent affairs when: • No next of kin are known or come forward • Next of kin reside outside the United States or decline to act for the decedent • Assets are "subject to loss, injury, waste, or misappropriation . . . ." (Probate Code §7601[a]) • The appointed administrator or executor fails to act (properly)
Public Health	• **Provides** technical guidance to prevent the spread of disease • **Provides** information on infection control measures • **Assists** with FAC operations including vital records maintenance • **Provides** public information and information control
Social Services Department	• As directed by the Coroner/Medical Examiner, **operates** the local level FAC, at the request of the Coroner/Medical Examiner, with significant support from the American Red Cross, Mental Health, and other county/city departments and NGOs

Source: URS analysis (2009)
FAC = Family Assistance Center
JIC = Joint Information Center

Table 3-2. Regional agencies with mass fatality responsibilities.

Regional Agency	Responsibilities
Region II Coroner/Medical Examiner Mutual Aid Coordinator	• **Supports** Operational Area Coroner/Medical Examiner Mutual Aid Coordinators by filling or forwarding resource requests • **Allocates** unassigned resources deployed to the region (see **Appendix B**, **Map B-7**) • **Provides** status of resource requests and allocations to the REOC Coroner/Medical Examiner Group Supervisor
Regional Emergency Operations Center (REOC)	• **Acts** as the State's primary point of contact for Operational Areas and regional partners within the defined region • **Coordinates** regional response to disasters, including collection, verification, and evaluation of situational information and coordinates the allocation of available resources not requested through a defined Mutual Aid System • **Coordinates** resource requests among Operational Areas within the region • **Coordinates** with the SOC on all Federal assistance and EMAC assistance that enters the region • **Provides** assistance to Operational Areas
REOC Coroner/Medical Examiner Group Supervisor	• **Establishes** and **maintains** communications with Coroner/Medical Examiner units at the Operational Areas and with the Region II Coroner/Medical Examiner Mutual Aid Coordinator • **Provides** updates to the REOC Law Enforcement Branch Director about Coroner/Medical Examiner activities and **issues** within Region II • **Tracks** Coroner/Medical Examiner Mutual Aid resource requests and **provides** updates to the REOC Law Enforcement Branch Director • **Coordinates** the provision of non–law-enforcement resources in response to requests received through the Coroner/Medical Examiner Mutual Aid System • **Elevates** resource requests to the SOC, when appropriate, in coordination with the REOC Law Enforcement Branch Director.

Source: URS analysis (2009)
Cal EMA = California Emergency Management Agency
REOC = Regional Emergency Operations Center
SOC = State Operations Center

Table 3-3. State agencies with mass fatality responsibilities.

State Agency	Responsibilities
Cal EMA	• **Serves** as the lead State agency for emergency management response • **Ensures** the State is ready and able to mitigate against, prepare for, respond to, and recover from the effects of emergencies that threaten lives, property, and the environment • **Mobilizes** State resources, obtains Federal resources while maintaining oversight of the Mutual Aid System • **Coordinates** integration of Federal resources into response and recovery operations
Cal EMA, Law Enforcement Division	• **Serves** as the custodian of the Coroners' Mutual Aid Plan • **Manages** the State Law Enforcement, Search and Rescue and Coroner Mutual Aid Systems • **Serves** as the point-of-contact for the coordination of inter-regional Coroner mutual aid, State agency resource mutual aid allocation, and out-of-state resource coordination (EMAC), and the use of Federal resources
Cal EMA State Operations Center (SOC)	• **Approves** all mission taskings to State agencies • **Coordinates** requests for Emergency Management Assistance Compact and Federal assistance and participates with the Federal Government when Federal assistance is provided • **Coordinates** the regional-level response if the REOC is not functional • **Coordinates** the State response, through the SOC and in a joint effort with the Federal Government at the Joint Field Office
California Department of Public Health	• **Assists** the Coroner/Medical Examiner in the notification of spouse or next of kin through the State Registrar • **Assesses** health hazards and ensure compliance with health regulations • **Provides** emergency supplies of death certificates and permits for final disposition and training in their use • **Assists** with determining waivers required for laws and statutes
California Department of Justice	Missing/Unidentified Persons Section • **Assists** California law enforcement agencies and official emergency services agencies in the physical or dental identification of missing or unidentified deceased persons through the comparison and matching of reports and records • **Provides** expertise in the operation of the National Crime Information Center's Missing and Unidentified Persons System

Table 3-3. State agencies with mass fatality responsibilities.

State Agency	Responsibilities
California Department of Justice (cont.)	Bureau of Forensic Services • **Maintains** 10 full-service crime laboratories in California – Crime scene specialists can assist in the collection and analysis of forensic evidence and human remains – Crime laboratory analysis applied to collected evidence • **Examines** and **compares** questioned handwriting and printing on documents DNA Laboratory • **Collects**, **documents**, and **submits** biological samples of unidentified remains and samples from family members or personal articles of a missing person for DNA analysis • **Provides** FAC staff and computerized mass fatality DNA sample submission tracking system • **Provides** media support to Coroner/Medical Examiner to address questions regarding DNA methods used to identify victims
California Department of Motor Vehicles	• **Assists** in identification of deceased by providing photographs, thumbprints, and other identifying information captured in driver license records and vehicle/vessel records Information Service Branch • **Provides** support for the identification of human remains through a search of license plate numbers, VIN numbers, and vehicle makes, models, year • **Provides** all names of individuals residing at a specific address • **Provides** cross-reference of driver's name and driver's license number between a registered owner and a vehicle registration Registration Automation Development Section • **Provides** vehicle description and information pertaining to a specific name or specific address • **Provides** information regarding all inquiries, updates, requests, and responses from all journal tapes
California Military Department/California National Guard	• **Provides** personnel and equipment support to local authorities to collect, identify, transport, and store the deceased • **Assists** with protection of life and property • **Conduct**s search and rescue, recovery, and decontamination • **Assists** with general logistics

Table 3-3. State agencies with mass fatality responsibilities.

State Agency	Responsibilities
California Department of General Services	• **Assists** in the procurement of needed facilities, materials, supplies, and equipment necessary to support mass fatality management operations • **Maintains** list of State facilities and their potential uses to meet emergency requirements and prepares facility plans in coordination with Cal EMA • **Maintains** list of qualified contractors and source equipment, other than heavy engineering contractors and equipment • **Develops** contingency contracts for procurement of services, materials, and supplies

Source: URS analysis (2009)
Cal EMA = California Emergency Management Agency
EMAC = Emergency Management Assistance Compact
FAC = Family Assistance Center

Table 3-4. Federal agencies with mass fatality responsibilities.

Federal Agency	Responsibilities
Agency for International Development, Office of Foreign Disaster Assistance	• **Assists** in the processing of deceased foreign nationals by contacting the deceased foreigner's family through the appropriate embassy
Emergency Management Assistance Compact	• Administered by the National Emergency Management Association • **Stipulates** that licenses, certifications, and permits recognized by the assisting State are recognized by the receiving State, subject to limitations and conditions prescribed by the Governor's executive order
	Member States • **Develop** an emergency plan and procedures for managing and provisioning assistance • **Protect** and **ensure** uninterrupted delivery of services; medicines; water; food; energy and fuel; search and rescue; and critical lifeline equipment, services, and resources • **Inventory** and **set** procedures for interstate loan and delivery of human and material resources, including procedures for reimbursement or forgiveness
Environmental Protection Agency	• **Provides** technical assistance and environmental information • **Performs** environmental assessments when processing chemically contaminated remains
National Transportation Safety Board's Office of Transportation Disaster Assistance	• **Integrates** Federal resources with those of local and State authorities and airlines to meet the needs of aviation disaster victims and their families • **Provides** family/victim support coordination, FACs, forensic services communication with foreign governments and interagency coordination between communities and commercial carriers
U.S. Department of Defense	**Provides** technical assistance teams to assist with the following: • Assistance for human remains processing, including identification • Information regarding chemical agents and their associated risks • Hazardous materials expertise and agent detection and identification • Nonrefrigeration transportation assets
	Office of the Armed Forces Medical Examiner • **Serves** the Army, Navy, and Air Force
	Joint Task Force-Civil Support • **Supports** consequence management response efforts
	54th Quartermaster Company, 246th and the 311th • **Performs** fatality management operations when requested

Table 3-4. Federal agencies with mass fatality responsibilities.

Federal Agency	Responsibilities
U.S. Department of Health and Human Services	• **Serves** as the Federal ESF #8 lead with oversight of all Federal ESF #8 activities • **Deploys** ESF #8 personnel appropriate to the response requirements, which may include Regional Emergency Coordinators, Subject matter Experts, and Incident Response Coordination Teams, and DMORTs to support ESF #8 requests and missions • **Requests** ESF #8 to activate and deploy health and medical personnel, equipment, and supplies in response to requests for Federal public health and medical equipment • **Coordinates** with primary and supporting departments, agencies, and governments throughout the incident including sending Liaison Officers, when appropriate
	National Disaster Medical System • **Provides** medical mutual-aid resources
	DMORT • At the request of the Coroner/Medical Examiner, **supports** morgue operations at the designated Incident Morgue(s) • At the request of the Coroner/Medical Examiner, **assists** in the organization and operation of the FAC • Able to **decontaminate** chemically contaminated remains and **monitor** the remains' level of contamination
	Disaster Medical Assistance Team • **Provides** the triage of patients, providing high-quality medical care despite the adverse and austere environment often found at a disaster site, patient reception at staging facilities and preparing patients for evacuation • **Can support** the Coroner/Medical Examiner by evaluating Coroner/Medical Examiner personnel who enter and exit a disaster site • **Can assist** the Coroner/Medical Examiner prepare for decontaminating chemically contaminated remains by providing decontamination equipment and consultation
	Centers for Disease Control and Prevention • **Diagnoses** biological agents • **Provides** bio-safety and infection control information in cases involving biologically contaminated remains • **Provides** laboratory support for evidence analysis
U.S. Department of Homeland Security	• **Implements** the National Response Framework • **Serves** as the lead agency for consequence management of mass fatality event

Table 3-4. Federal agencies with mass fatality responsibilities.

Federal Agency	Responsibilities
U.S. Department of Homeland Security (cont.)	FEMA • **Coordinates** Presidential Disaster Declaration • **Implements** the Public Assistance Program with Cal EMA to reimburse local and State government agencies for eligible expenses • **Mobilizes** Federal resources to the disaster area
	Urban Search & Rescue Response System • **Supports** recovery of the deceased • **Identifies** probable locations of remains • **Provides** advice and assistance in handling and disposing of radiologically contaminated remains
U.S. Department of Justice, Office of Justice Programs, Office for Victim Assistance	**Coordinates** assistance to victims of terrorism, criminal aviation disasters, and other mass casualty Federal crimes on behalf of the FBI
U.S. Department of Transportation	• **Arranges** for transportation through various modes including air, rail, marine, and motor vehicle • **Provides** refrigerated transportation resources to be used as temporary storage units.
U.S. Department of Veteran Affairs	• **Assists** in managing human remains, including victim identification and disposition • **Provides** small contingent of non-mortuary affairs assets such as dentists and radiologists • **May provide** use of Veteran Affairs cemeteries • **Assists** in preparing new areas as cemeteries

Source: URS analysis (2009)
Cal EMA = California Emergency Management Agency
DMORT = Disaster Mortuary Operational Response Team
ESF = Emergency Support Function
FAC = Family Assistance Center
FBI = Federal Bureau of Investigation
FEMA = Federal Emergency Management Agency

Table 3-5. Nongovernmental organizations and private-sector entities with mass fatality responsibilities

Nongovernmental Organization/Private-Sector Entity	Responsibilities
American Red Cross	• At the Coroners/Medical Examiners request, **supports** Coroner/Medical Examiner in FAC operations • **Provides** mental health professionals • **May provide** additional services such as family escorts, childcare, coordination of therapy dogs, supervision of dining areas, and public affairs. • **Assists** with the planning of Community Remembrance Services
California State Coroners' Association	• **Coordinates** with law enforcement and the Cal EMA Law Enforcement Branch • **Activates** and **facilitates** operations of the Coroners' Mutual Aid Plan • **Assists** in information exchange, provide expertise, training and disaster preparation
California Dental Identification Team	• **Conducts** dental identification of deceased persons who cannot be identified by other means • **Serves** at the pleasure of the Coroner/Medical Examiner and support the forensic odontologist that serves the area
California Funeral Directors Association	• **Facilitates** and **provides** local embalmers and funeral directors to local, State, and Federal agencies for human remains recovery, transportation, and preservation of human remains, support at Family Assistance Centers and final disposition or repatriation through Cal EMA
California Law Enforcement Chaplains Association	• **Expedites** the coordinated response of trained law enforcement chaplains during times of major disasters and/or time of need. • **Maintains** a partnership with the International Conference of Police Chaplains
California State Sheriffs' Association	• **Provides** a liaison to Cal EMA and the California State Coroners' Association
Death care industry (funeral homes, crematoriums, and cemeteries)	Has the capability to **assist** with the following: • Morgue operations • Recovery and transport of human remains and personal effects • Collection of antemortem data • Discussion of final disposition options • Staffing of FACs
Interpol	• **Identifies** victims and their loved ones around the world
International Critical Incident Stress Foundation, Inc.	• **Provides** Critical Incident Stress consultation to first responders on scene and post deployment.

Table 3-5. Nongovernmental organizations and private-sector entities with mass fatality responsibilities

Nongovernmental Organization/Private-Sector Entity	Responsibilities
Healthcare facilities (e.g., hospitals, nursing homes, assisted living)	• **Notifies** Coroner/Medical Examiner on the number of fatalities being temporarily stored at the facility • **Expands** human remains storage capacity to accommodate the increase surge of fatalities • **Notifies** the Operational Area EOC or appropriate DOC when human remains storage capacity has been exceeded • **Coordinates** with Vital Records to have a sub-registrar assigned to hospitals
Human remains removal service	• **Removes** remains from scene as directed by the Coroner/Medical Examiner • **Transports** remains to the location designated by the Coroner/Medical Examiner • **Provides** service for hospitals and private citizens
Salvation Army	• **Assists** in the delivery of services at the FAC as directed by the Coroner/Medical Examiner • **Provides** personnel to support FAC operations • **Provides** food services

Source: URS analysis (2009)
Cal EMA = California Emergency Management Agency
DOC = Department Operations Center
EOC = Emergency Operations Center
FAC = Family Assistance Center

4 Coordination and Communication

This section describes the overall approach to a mass fatality incident activation, coordination and management, and collection and distribution of critical information.

4.1 Activation and Incident Coordination

This section describes how the different levels of government responsible for fatality management activate for response and coordinate with each other during a catastrophic earthquake. This section also provides a summary of the relevant guidance drawn from foundation documents, including the RECP Law Enforcement and Coroner/Medical Examiner Subsidiary Plan, CONPLAN, and the State Emergency Plan (SEP). Additional details regarding interagency coordination can be found in those documents.

4.1.1 Local Governments and the Operational Area

In accordance with SEMS, local governments include the county, cities, towns, special districts, and authorities in an Operational Area. These entities have a wide range of roles during a disaster:

- All local government EOCs coordinate through the Operational Area EOC.
- Local governments initiate localized activities in support of the Coroner/Medical Examiner's responsibility to manage fatalities.
- Special districts, as appropriate, work within their areas of expertise to support fatality management activities as appropriate.

All fatalities resulting from the earthquake and occurring in the county, regardless of the local government jurisdiction in which they are found, are the legal responsibility of the county Coroner/Medical Examiner. When human remains are located within city limits, law enforcement contacts the Coroner/Medical Examiner through the Law Enforcement Branch of the Operational Area EOC or the Coroner/Medical Examiner Department Operations Center, depending how the county has defined the process. After receiving notification regarding the presence of fatalities and basic incident characterization (e.g., number of remains and condition of remains), the Coroner/ Medical Examiner coordinates with the city regarding the actions designated city personnel take in preparation for the Coroner/Medical Examiner to arrive and recover the human remains. See **Table 5-2**, which characterizes the factors in a mass fatality incident.

Operational Areas are the jurisdictions that are responsible for coordinating emergency response within the county area, including cities, special districts, and unincorporated areas of the county. Operational Areas activate their EOCs as soon as practicable in a disaster. In response to a disaster, the affected Operational Areas:

- Assess the need to conduct fatality management operations, the status of human remains and personal effects recovery efforts, and the resources available to support fatality management over an extended period of time
- Forward requests to the REOC when local Coroners/Medical Examiners are unable to provide needed resources, either directly or through mutual aid
- Communicate directly with the SOC in Sacramento until the REOC is activated or if the REOC is incapacitated (the SOC assumes responsibility for REOC functions when the REOC is not operational)
- Provide information and updates about the condition of their affected jurisdictions, including reports on the status of the event, number of fatalities and missing persons, and other pertinent information

The Operational Area Coroner/Medical Examiner Group Supervisor coordinates with other Operational Area EOC functions and tracks Coroner/Medical Examiner resources within the Operational Area. The Operational Area Coroner/Medical Mutual Aid Coordinator coordinates mutual aid requests within the Operational Area and provides resources for other Operational Areas, as requested, if available and appropriate.

4.1.2 Operational Areas and the Region

As described in the SEP, California responds to disasters through an existing statewide emergency management infrastructure that operates according to SEMS. To support the implementation of SEMS, Cal EMA has established REOCs in three administrative regions.

The region affected by the disaster coordinates with Operational Areas to:

- Obtain situation status
- Coordinate requests for resources
- Communicate resource requests to the SOC when the requests cannot be met using resources from within the region

The region coordinates information, resources, and response activities of State and regional agencies. Because of extensive damage to building and transportation infrastructure in Oakland, the regional function typically coordinated through the REOC may be assumed by the Regional Duty Officer until activation of the alternate REOC. The Duty Officer works with the Cal EMA Executive Duty Officer to identify an alternate REOC location.

Activation procedures in support of mass fatality operations include:

- Notifying the affected Operational Areas that the Law Enforcement Branch in the Operations Section of the REOC has been activated
- Confirming the names and contact information of emergency response liaisons for these agencies and establishing their means of coordinating with the REOC
- Evaluating needs and priorities in the region to serve as arbiter among competing requests

- Directing its staff on the response underway
- Maintaining communication with Operational Area EOCs regarding the status of the regional fatality response effort, including number of fatalities, number of missing, damage to infrastructure, closure of facilities such as morgues and hospitals; and capabilities available to respond to the fatality management needs of affected Operational Areas
- Maintaining communication with Operational Areas regarding transportation capabilities, including their efforts to move resources into the designated Incident Morgue of each county
- Coordinating the prioritization of fatality management resource requirements with State and Federal agencies
- Maintaining communication with Operational Areas regarding basic fatality management capabilities and needs
- Coordinating with the State Joint Information Center (JIC), if necessary, on the compilation and distribution of fatality management-related information to be released to the public and media

The Operational Area Coroner/Medical Examiner Group Supervisor and the Operational Area Coroner/Medical Mutual Aid Coordinator operate out of the Operational Area EOC. The Regional Coroner/Medical Examiner Mutual Aid Coordinator and the REOC Law Enforcement Branch are located within the REOC.

Coordination occurs between the Operation Area Coroner/Medical Examiner Mutual Aid Coordinators and the Region II Coroner/Medical Examiner Mutual Aid Coordinator for the submission of Coroner/Medical Examiner Mutual Aid requests. The Region II Coroner/Medical Examiner Coordinator coordinates the collective mutual aid response of agencies within the region and forwards all requests from the Operational Area Coroner/Medical Examiner Mutual Aid Coordinators to the REOC Law Enforcement Branch.

If resources are requested by the Operational Area Coroner/Medical Examiner, the Region II Coroner/Medical Examiner Mutual Aid Coordinator coordinates the consultation meeting/conference call among the impacted Operational Area Coroner/Medical Examiner; Region II Coroner/Medical Examiner Mutual Aid Coordinator, and the State Coroners Mutual Aid Coordinator. Participants collaborate to determine the most appropriate fatality management option given the regional needs. **Table 4-1** presents key Coroner/Medical Examiner positions at local, Operational, Region, and State levels.

4.1.2.1 Operational Area Coroner/Medical Examiner Conference Call

The REOC Law Enforcement Branch may convene a conference call to coordinate regional response requirements, problems, and solutions regarding Coroner/Medical Examiner Mutual Aid. In addition to the REOC Law Enforcement Branch, the conference call may include the Region II Coroner/Medical Examiner Mutual Aid Coordinator and county Coroners/Medical Examiners from affected Operational Areas. Additional agency representatives and subject matter experts may be

included in the call, as needed. The conference call also may involve mutual aid coordinators and/or branch coordinators from other disciplines, as needed, to implement decisions related to the response activities. Procedures for the conference call are located in the RECP Law Enforcement and Coroner/Medical Examiner Subsidiary Plan.

Table 4-1. Key Coroner/Medical Examiner Positions.

Position	Filled By	Responsibilities	Location
Operational Area Coroner/Medical Examiner Mutual Aid Coordinator	County Coroner/Medical Examiner	**Conducts** Coroner/Medical Examiner operations in the Operational Area **Coordinates** mutual aid requests within the Operational Area and **provides** resources for other Operational Area, as requested	If the Operational Area EOC is activated, position may operate from the Operational Area EOC; or Operates from the local DOC and sends a representative to the Operational Area EOC
Operational Area EOC Coroner/Medical Examiner Branch Director (or Group Supervisor)	County Coroner/Medical Examiner or designated representative of the County Coroner/Medical Examiner Office	**Coordinates** with other Operational Area EOC functions and **tracks** Coroner/Medical Examiner resources from the Operational Area EOC	Operational Area EOC Operations Section, under the Law Enforcement Branch
Region II Coroner/Medical Examiner Mutual Aid Coordinator	An Operational Area Coroner/Medical Examiner Mutual Aid Coordinator who is elected by the other Operational Area Coroner/Medical Examiner Mutual Aid Coordinators within Region II	**Coordinates** the collective mutual aid response of agencies within the region	Operates from the local Operational Area EOC or DOC
REOC Coroner/Medical Examiner Group Supervisor	A designated representative of the Cal EMA Law Enforcement Branch	**Reports** to the REOC Law Enforcement Branch Director **Coordinates** and **tracks** Coroner/Medical Examiner resources and information	If activated, Operations Section of the REOC, or depending on the extent of the damage: • An alternate REOC outside of the region • SOC • JFO
State Coroner/Medical Examiner Mutual Aid Coordinator	SOC Law Enforcement Branch Director	**Coordinates** mutual aid response and administrative interaction between state and local law enforcement agencies during emergency and non-emergency situations, in which the mutual aid system is, or could be, involved **Requests** Federal assistance **Requests** assistance through EMAC	SOC JFO

Source: URS analysis (2009)

The objectives of a regional conference call are to:

- Develop consistent regional messages
- Determine how regional resources can be optimized to benefit the region
- Broker the provision of mutual aid resources from Operational Areas within the region
- Determine regional strategies in response to an event with mass fatalities

The REOC Law Enforcement Branch ensures that recommendations made by this group are consistent with the overall regional response strategy as articulated in the REOC Event Action Plan.

4.1.2.2 State Coroner/Medical Examiner Mutual Aid Program Coordinator Conference Call

The State Coroner/Medical Examiner Mutual Aid Coordinator conducts a conference call with all seven Coroner/Medical Examiner Regional Mutual Aid Coordinators to coordinate discuss situational status, place the mutual aid regions on notice for potential requests for personnel and equipment, and coordinate State-wide response.

4.1.2.3 Regional Coordination Group

General coordination with Operational Areas also occurs during Regional Coordination Group conference calls that involve impacted Operational Areas, Mutual Aid Coordinators, Cal EMA state and regional staff, subject matter experts, and other agencies with a critical role in the response.

4.1.3 Region and the State

The Governor may direct State agencies, including the National Guard, to provide resources in support of field-level Incident Command. Lead and support State agencies for specific functions are identified in the SEP. Cal EMA issues mission tasks to direct State agencies to undertake response operations.

California may obtain out-of-state resources through state-to-state arrangements or through the EMAC, to which California is a signatory.

The REOC Law Enforcement Branch facilitates Operation Area resource requests by forwarding all requests that cannot be filed within the region to the State Coroner/ Medical Examiner Mutual Aid Coordinator. The REOC Law Enforcement Branch coordinates resource requests made through the Region II Coroner/Medical Examiner Mutual Aid Coordinator and resource allocations issued through the State Coroner/Medical Examiner Mutual Aid Coordinator.

When resources are allocated either from the region or from the State, the REOC Law Enforcement Branch communicates the resource allocations to the Region II Coroner/Medical Examiner Mutual Aid Coordinator, who then prioritizes resources according to regional priorities.

4.1.4 State and Military Resources

The Governor, either directly or through mission taskings assigned by Cal EMA, may deploy the National Guard to support mass fatality operations. Similarly, Department of Defense (DoD) resources may be activated through mission assignments from FEMA to the Defense Coordinating Officer (DCO) and Defense Coordinating Element (DCE), which are activated to support the DCO. As described above, the DCO and the Adjutant General may represent the DoD and National Guard, respectively, in the Unified Command Group (UCG) to ensure effective coordination of, and use of, State and Federal military resources. DoD and National Guard operations in the field are directed by one or more task forces or joint task forces operating under proper State and Federal authority. Although military resources operate under the authority of a task force or joint task force commander, the commander works with and supports the UCG to achieve unity of effort.

Commanders of DoD installations may act for a limited time under their own authorities to assist local governments in saving lives, protecting public health and safety, and protecting property in the immediate response to a disaster for a limited period. Individual commanders are required by DoD policy to exercise their authorities under “imminent serious” conditions and deploy available resources to save and sustain lives in the immediate vicinity of the installation. However, as for other State and Federal agencies, once the UCG is established, response activity directed under a local commander’s authority should be replaced by the mission assignment process and folded into the overall Federal response.

Requests for support are requested by the SOC and their deployment is coordinated through the REOC Law Enforcement Branch, who coordinates with the Region II Coroner/Medical Examiner Mutual Aid Coordinator, as described in **Section 4.1.3**.The integration of military resources into the local government response is discussed in **Section 5.2.2**.

4.1.5 State and Federal Government

When the State requests support from the Federal government, the coordinated Federal response is implemented through the National Response Framework (NRF). Federal resources may be required in a regional emergency or disaster when local and State capabilities for handling fatalities are exhausted.

When Federal assistance is required, Cal EMA coordinates requests for assistance and participates with the Federal government to establish and operate the JFO. JFO operations are conducted in accordance with the CONOP.

To meet the response needs of a catastrophic event as effectively as possible, the CONOP calls for State and Federal governments to form a UCG to consolidate disaster-related operational elements of the REOC, the SOC, and the Incident Management Assistance Team at the JFO. Forming the UCG is a decisive task that is aimed at achieving effective incident management. The UCG does not assume responsibility for field-level Incident Command activities but provides a structure for the command, control, and coordination of State and Federal resources not yet

delivered to the Operational Areas, field-level Incident Command, or end users. The UCG directs coordinated, combined State and Federal operations in accordance with Unified Command principles.

Upon notification that a disaster has occurred, FEMA immediately activates its nationwide logistics system including standby fatality management support contracts to mobilize resources required for the response. The FEMA/California resource response system includes the following components:

- **Federal Mobilization Centers.** Temporary Federal facilities established for the incident at which commodities, equipment, and personnel can be received and pre-positioned for deployment as required. Resources at these centers remain under the control of the FEMA National Response Coordination Center until deployment to the affected area is required.
- **National Logistic Staging Areas.** Temporary facilities in the vicinity of the affected area at which commodities, equipment, and personnel are received and pre-positioned for deployment upon State request. These resources may be supplied from Logistics Centers, Mobilization Centers, or vendors and are under the control of the Operations Section of the JFO. For the scenario earthquake, the following are potential National Logistic Staging Areas:
  - Travis Air Force Base in Solano County
  - Beale Air Force Base in Yuba County
  - Lemoore Naval Air Station in Kings County
- **State Staging Areas.** Temporary facilities where Federal commodities, equipment, and personnel are received following State requests and the point at which cost-sharing is initiated. For the scenario earthquake, State Staging Areas for fatality management resources are not anticipated. Fatality management resources are routed from operable transportation yards based on availability of services such as fuel.

As the State identifies fatality management resource requirements in the affected area, FEMA may deliver resources and transfer them to State control at any one of the following:

- Where the resource is needed
- Incident Command Post
- State Staging Area
- National Logistics Staging Area
- Mobilization Center

In accordance with the NRF, the Federal Government organizes its resources according to ESFs, each led by a Federal agency. ESF #8, Public Health and Medical Services, provides support for fatality management operations. The U.S. Department of Health and Human Services is the coordinating agency for ESF #8 and is also the primary agency in terms of authorities, resources, and capabilities. In general, all ESFs that support federal response and recovery efforts operate from the JFO once it is activated.

Determining the prioritization and allocation of Federal resources is accomplished as part of the Action Plan process under the direction of the UCG and is based on requests made to Cal EMA by the affected Operational Areas.

4.1.6 Operational Area and Tribal Governments

There are 32 federally recognized Native American tribes in the 16 counties that make up the Cal EMA Coastal Region. Under the Stafford Act (42 U.S.C. § 5122[B]), Indian tribes and other authorized tribal organizations are categorized as local governments. Within SEMS, tribal governments may coordinate their efforts and requests for resources through Operational Area EOCs in their respective counties. Consequently, coordination with the tribes follows that of coordination with other local governments.

Fatalities that occur in tribal communities or tribal-designated areas are the responsibility of the tribal government. The Operational Area Coroner/Medical Examiner coordinates with tribal leaders in the tribal community to assess their capability to manage their deceased.

4.1.7 The State of California and Other State Governments

California may obtain out-of-state resources through state-to-state arrangements or through the Emergency Management Assistance Compact (EMAC), to which California is a signatory. Initially, this process occurs at the SOC where decisions to request resources from other states or through EMAC are made based on whether local, mutual aid, or State agency resources are otherwise available. As the joint State/Federal organization shifts to the JFO, the decision to request resources from other states or through EMAC is made by Cal EMA in concert with the JFO Operations Section as part of the process for evaluating the availability of resources to carry out operational objectives.

4.2 Information and Communication

Protocols have been established for existing State and Federal systems for communications among the Operational Areas; regional, State, and Federal agencies; and other organizations engaged in the response. Disruptions caused by a disaster may make modifications to the protocols necessary. California has established essential communications support procedures among the Operational Area EOCs, Regional, State, and Joint State/Federal EOCs, and other State agencies to provide the information links for elements of the California emergency organization.

Existing communications systems include:

- Amateur Radio Emergency Service
- California Emergency Services Radio System
- CHP Statewide Land Mobile Radio System
- Radio Amateur Civil Emergency Service

The existing capabilities are supplemented through the establishment of systems necessary to support incident-specific facilities such as fatality collection points, designated Incident Morgues, storage facilities, and Family Assistant Centers (FACs).

Details of the State and Federal emergency management communications systems are described in greater detail in the CONOP, Annex C, Operations, and the RECP Communications Subsidiary Plan.

4.2.1 Coroner/Medical Examiner Communication Systems

The Coroner/Medical Examiner relies on the use of radios and cell technology push-to-talk systems for their primary means of communication. After the earthquake, cell phone capabilities may be unavailable and radio repeater sites may experience disruption. The Coroner/Medical Examiner needs the support of alternative technologies such as satellite telephones and Radio Amateur Civilian Emergency Service. The Coroner/Medical Examiner can submit requests for communications support through the Logistics Section of the Operational Area EOC.

4.2.2 Public Information

During an emergency, affected local governments disseminate information about the emergency to keep the public informed about what has happened and the actions of emergency response agencies and to summarize the expected outcomes of the emergency actions. The initial information about fatalities is communicated to local government EOCs. It is then compiled and disseminated to the public through the Joint Information System.

4.2.2.1 PIO

The Cal EMA Public Information Officer coordinates the State's emergency public information efforts and provides support to other State agencies to ensure that the State government issues timely, clear, concise, consistent messages. For mass fatality management operations, information focuses on the number of fatalities by county and the number of people that are missing.

The Cal EMA PIO at the SOC or JFO may disperse public information for local governments when the local government agency is overwhelmed and assistance is requested. Critical information needs to be disseminated quickly. Multiple response agencies and levels of government are involved in the response effort, and consistent emergency information is critical.

4.2.2.2 JIS

Under SEMS, public information is directly managed and controlled by the jurisdictions within each SEMS level as a JIC. Collectively, the activated JICs form the Joint Information System that coordinates and communicates public information to numerous audiences in an accurate, timely, accessible, and consistent manner.

The JIC is a central location that facilitates operation of the Joint Information System and where personnel with public information responsibilities perform critical emergency information functions, crisis communications, and public affairs functions. When a JIC is established, it is staffed with Public Information representatives from the responding agencies, who coordinate as a team to:

- Gather, verify, and produce information for dissemination to the media and general public (such as news releases, background information, fact sheets, public-service announcements, briefings, and news conference materials)
- Respond to media questions and requests
- Schedule media releases, briefings, news conferences, interviews, and public service announcements
- Assign agency representatives to coordinate information from their agencies with other team members before it is released to the public.

The Coroner/Medical Examiner for each county tracks the number of deceased and provides information to the Operational Area JIC. The following information is provided to the public:

- Location(s) of FACs
- Type of services the FACs provide
- Number of fatalities
- Information that assists Coroners/Medical Examiners

4.2.3 Intelligence and Information Sharing

"Intelligence" can be defined as information with value or critical information. Intelligence is information that has been collected, analyzed, vetted, and disseminated in a timely fashion. To be useful to decision-makers, intelligence is tailored to meet articulated requirements. Intelligence is provided to decision-makers in a simple, understandable, and focused manner. Intelligence collection and analysis are among the most critical components of formulating an effective response to a disaster.

After a catastrophic earthquake, the degree to which key decision makers at all levels of government and within interagency structures are able to gain and maintain situational awareness on the scene determines, to a great degree, their ability to anticipate requirements and provide appropriate resources. Real-time situational awareness also facilitates timely and knowledgeable information sharing with elected and appointed officials, the media, and the general public. It is also imperative that leaders at all levels of government and within the interagency structures not only have the same information but also focus on obtaining and maintaining situational awareness based on established priorities. All appropriate sources of information must be included in a comprehensive collection plan. The information collection plan is initially promulgated by the REOC, if functional, and may later move to the joint Planning Section of the JFO.

See **Appendix C, Table C-1,** for a list of critical information, sources of information, and agencies responsible for information collection in support of mass fatality management operations.

5 Operations

This section describes the region's overall approach to mass fatality operations. It defines regional priorities and objectives, resources needed to support operations, operational details about how the response is conducted, guidance for long-term operations, and a projected timeline of actions and observed events that occur after the earthquake.

5.1 Priorities and Objectives

The purpose of this section is to describe the key priorities and objectives for time-based phases of response to mass fatality incidents resulting from a catastrophic earthquake in the Bay Area. The priorities and objectives provide a framework for the development of specific actions that are carried out during the response.

The time-based response objectives apply to the actions that are taken in response to the scenario **M** 7.9 earthquake on the San Andreas Fault. The objectives are categorized according to the general time-based phases of the response. For the Regional Catastrophic Incident Mass Fatality Plan, the phases are:

- Event occurrence (E) to E+72 hours
- E+72 hours to E+14 days
- E+14 days to E+60 days

These phases are consistent with the phases FEMA and Cal EMA established for the CONPLAN. The actual phases after an earthquake are likely to vary from those listed below, and some of the actions described in the plans may be undertaken outside the specified phases. The foreseeable variations of the phases are indicated in this document.

The time-based response objectives described in this document apply to actions at the regional level.

See **Section 5.4** for a comprehensive timeline that shows the tasks and the responsible agencies.

5.1.1 E to E+72 Hours

Operational priorities:

- Estimate the number of fatalities and missing persons and determine potential location for the deceased
- Initiate recovery of human remains and personal effects.
- Establish a FAC to provide family assistance services

Response objectives:

- Establish an incident command system structure that coordinates mass fatality operations and support movement of responders and resources into the area by integrating local, State, and Federal resources.
- Establish interoperable emergency communications among public- and private-sector mass fatality response and death care entities involved in mass fatality operations.
- Obtain situational awareness on earthquake or incident impacts and the potential location(s) of mass fatalities, and on fatality management facilities.
- Identify mass fatality management resource requirements and capabilities.
- Submit initial mass fatality management resource requests.
- Coordinate and initiate dissemination of public information through the Joint Information System (JIS).
- Plan and coordinate mass fatality management operations with appropriate agencies.
- Conduct scene evaluations at all mass fatality locations and establish field-level incident command structure.
- Establish system for the recovery, storage, and processing of human remains.
- Conduct the recovery of human remains and personal effects.
- Establish system to transport human remains and personal effects to the designated Incident Morgue or temporary storage site(s).
- Establish FAC operations

5.1.2 E+72 Hours to E+14 Days

Operational priorities:

- Recover accessible human remains and initiate recovery of hidden and/or destroyed remains.
- Establish capabilities to effectively locate, secure, recover, track, transport, store, process, identify, and conduct final disposition of human remains.
- Provide family assistance services.

Response objectives:

- Recover human remains that are not hidden and/or fragmented.
- Establish system to search and recover hidden and/or fragmented human remains.
- Assess current mass fatality management capabilities and submit request for additional resources.
- Establish and operate designated Incident Morgue
- Provide family assistance services.
- Continue coordination and dissemination of public information through the JIS.

- Establish system for the recovery, storage, processing, and transport of human remains to transport human remains and personal effects to the designated Incident Morgue.
- Establish protocols for the release of human remains and personal effects.
- Facilitate the release and final disposition of human remains.
- Implement stress management and crisis intervention strategies for responders and friends and family of the deceased.

5.1.3 E+14 Days to E+60 Days

Operational priorities:

- Recover accessible human remains and continue recovery of hidden and/or destroyed remains
- Facilitate final disposition of recovered human remains
- Document mass fatality operations

Response objectives:

- Conduct a final assessment of the site(s) to ascertain whether any human remains are still present
- Continue coordination and dissemination of public information through the JIS
- Continue operation of the designated Incident Morgue until the majority of human remains have been processed
- Continue operation of the FAC
- Continue facilitating the release and final disposition of human remains
- Continue to provide stress management and crisis intervention strategies for responders and friends and family of the deceased
- Plan for transition to long-term fatality management operations
- Demobilize unused resources and decontaminate sites and equipment used in response

5.2 Resources to Support Mass Fatality Operations

This section describes the resources that are available within the Operational Areas and resources that are potentially available from other agencies to support mass fatality management operations. Coroner/Medical Examiner resources are requested through the Coroner/Medical Examiner Mutual Aid System as shown in **Figure 5-1**.

5.2.1 Government Resources

The following items are identified in the 2008 Chemical, Biological, Radiological, Nuclear, or Explosive (CBRNE) Capability Assessment and Strategic Plan prepared for the Bay Area Urban Area Security Initiative as resources that each Operational Area has as part of their mass fatality response inventory:

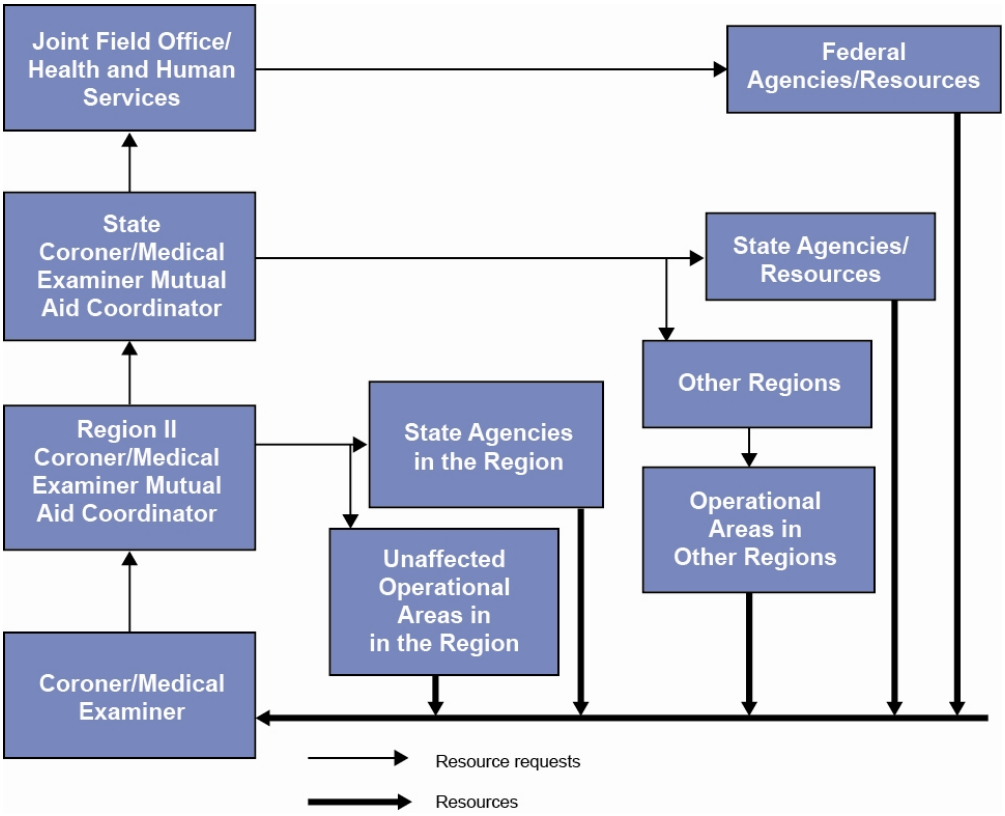

Figure 5-1. Coroner/Medical Examiner Mutual Aid resource request flow.

- Refrigerated Bobtail transport vehicle
- Fifth wheel trailer/equipment carrier
- Body bags (medium-heavy, universal large size)
- Personal protective equipment (PPE) Caches (level C&D) (100 people/cache)
- Litters (combo: collapsible, rigid, and single-wheeled)
- Small portable morgue refrigerated tent (60-person capacity)
- Large portable morgue refrigerated tent (200-person capacity)
- Staff tent
- Coroner recovery team (4 persons to move and 1 person to scribe)
- Bio-seal units (10 rolls and 6 sealers)
- Dedicated mobile command center
- John Deere Gator

It is not assumed that each Operational Area in the region has acquired these items since the CBRNE Capability Assessment and Strategic Plan identified some gaps in the list. Because many jurisdictions still lack some of these resources and because of the high number of deceased resulting from the earthquake, it is assumed that State and Federal resources are needed to respond effectively.

State resources that can be requested through the SOC, and they are described in **Section 3.3** and presented in **Appendix L**.

At the request of the Coroner/Medical Examiner through the Region II Coroner/Medical Examiner Mutual Aid Coordinator, federal mass fatality resources that may be requested by the SOC on behalf of the region and Operational Areas.

The private-sector plays a critical role in the offering of supplies, equipment, facilities, recovery and transportation. The Coroner/Medical Examiner needs to reach out to the private sector through the Logistics Branch of the Operational Area EOC. It is recommended that agreements for the acquisition of private-sector resources be made prior to a catastrophic event.

The private-sector may provide the following resources:

- Refrigerated storage (mobile and fixed units)
- Wooden caskets
- Body bags
- Morgue supplies
- Facilities to host additional Incident Morgues (designated Incident Morgue and Fatality Collection Points)
- Technically skilled personnel

5.2.2 Integration of Resources

Resources from Operational Areas in other Regions, the State, EMAC and the Federal government are allocated to requesting Operational Area through the REOC Law Enforcement Branch per established SEMS protocol. The local Coroner/ Medical Examiner retains oversight of all mass fatality operations within their jurisdiction and provides the construct for integrating external entities into the response effort such as division of labor and organizational chart.

In most cases, outside resources allocated to support Operational Areas in the region, fall under the command of the requesting jurisdiction. When State or Federal teams are allocated and deployed to the Operation Area, they retain operational control over their own personnel and assets, even when they are task-assigned to a Fatality Management Branch, group, unit, teams, task forces within the response organization.

At the request of the Coroner/Medical Examiner, human resources such as DMORTs or other State/Federal fatality response teams support the Coroner/Medical Examiner and work under the jurisdiction of the Coroners/Medical Examiners. Each Coroner/Medical Examiner keeps jurisdiction over the fatalities that occur within their county regardless of the designated Incident Morgue

When military resources are deployed, a military liaison co-locates with the Incident Commander at the Incident Command Post. Military support at all times remains under the military chain of command.

With the over 7000 fatalities spread out among the 12 Bay Area counties, the likelihood of the majority of the Operational Area receiving dedicated support from their own DMORT may be unlikely. If the number of fatalities in an Operational Area greatly exceeds the fatality numbers in other Bay Area counties then that Operational Area may receive their own DMORT and/or other State or Federal fatality response team.

A catastrophic mass fatality event leads to a severe shortage of personnel at all levels of the private sector and the public sector, which may significantly impede recovery efforts.

Additional human resources for expanding the fatality management response workforce may be acquired through the following:

- American Red Cross
- Army Corps of Engineers
- Coroners' Mutual Aid System
- California Dental Identification Team
- California Funeral Directors' Association
- California National Guard
- U.S. Department of Defense
- U.S. Department of Health and Human Services (HHS)
- Disaster Medical Assistance Teams
- HHS-DMORTs
- Emergency Management Assistance Compact
- Private mass fatality incident response companies
- Social Service Agencies

5.3 Voluntary Organizations Active in Disaster Fatality Operations

The management of human remains during a mass fatality event typically includes eight operational phases and an additional end-phase involving demobilization. The objective of this section is to illustrate the various fatality management phases and detail the key fatality operations elements inherent in each phase. **Figure 5-2** presents the phases and operational elements of mass fatality management.

The Coroner/Medical Examiner is the lead for all morgue operations, and in many instances, is part of law enforcement.

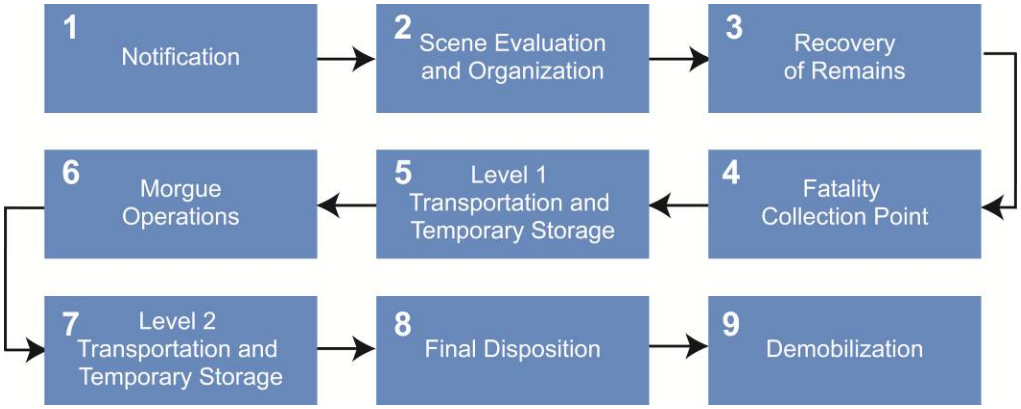

Figure 5-2. Fatality management flow chart.

Major Coroner/Medical Examiner activities include:

- Investigate, recover, and process decedents in a dignified and respectful manner
- Determine cause and manner of death
- Identification of the designated Incident Morgue
- Transport of human remains to the designated Incident Morgue
- Providing families with factual and timely information in a compassionate manner
- Antemortem information collection
- Participation in FAC operations
- Performing accurate and efficient identification of victims
- Return of the decedent and associated personal effects to their legal next of kin
- Providing long-term storage
- Facilitating final disposition of the deceased

Events that may trigger the activation of the Plan include the following:

- A mass fatality incident affecting multiple Coroners/Medical Examiners or presenting regional implication requiring the involvement of multiple Coroner/Medical Examiner offices.
- A mass fatality incident where decedents are contaminated with chemical, biological, or radiological agents or materials.
- A mass fatality incident requiring specialized mass fatality management capabilities.
- When the benefits of establishing a multi-jurisdictional mass fatality management approach at the regional level outweighs individual county management of the mass fatality incident.

5.3.1 Phase 1: Notification

Disaster notification to the Coroner/Medical Examiner is typically routed through routine law enforcement, EOC channels, or news media broadcasts in advance of a request to transport human remains. In rare cases, it is possible that the Coroner/ Medical Examiner would be the first to recognize a cause of death indicating a potential weapon of mass destruction (WMD) release. In such an event, the Coroner/Medical Examiner is the one to initiate notification of appropriate authorities. To obtain supplemental resources, the first step is for the Coroner/Medical Examiner to notify the Operational Area EOC.

Once notified, the Coroner/Medical Examiner gathers as much information as possible about the incident. The Coroner/Medical Examiner identifies the Incident Commander and the level of involvement from other agencies, and how the incident is managed.

When a Coroner/Medical Examiner is notified of a mass fatality incident, notification includes the following information:

- Type of incident
- Location
- Estimated number of fatalities
- Condition of the human remains
- Demographics of those killed
- Ongoing response actions
- Response agencies currently on-scene or en route

5.3.2 Phase 2: Incident Evaluation and Organization

The primary role of the Coroner/Medical Examiner is to determine the most effective and efficient approach for managing human remains. This determination is greatly influenced by the initial situation assessment reported by the Coroner/Medical Examiner Scene Evaluation team. **Figure 5-3** presents a mass fatality initial incident response flow chart.

Upon notification, the Coroner/Medical Examiner designee:

- Meets with current Incident Commander and receives a status briefing
- Observes the incident
- Observes the surrounding area
- Dispatches appropriate field staff to the scene

The answers to the following questions provide information on how long the Coroner/Medical Examiner has to establish mass fatality management operations:

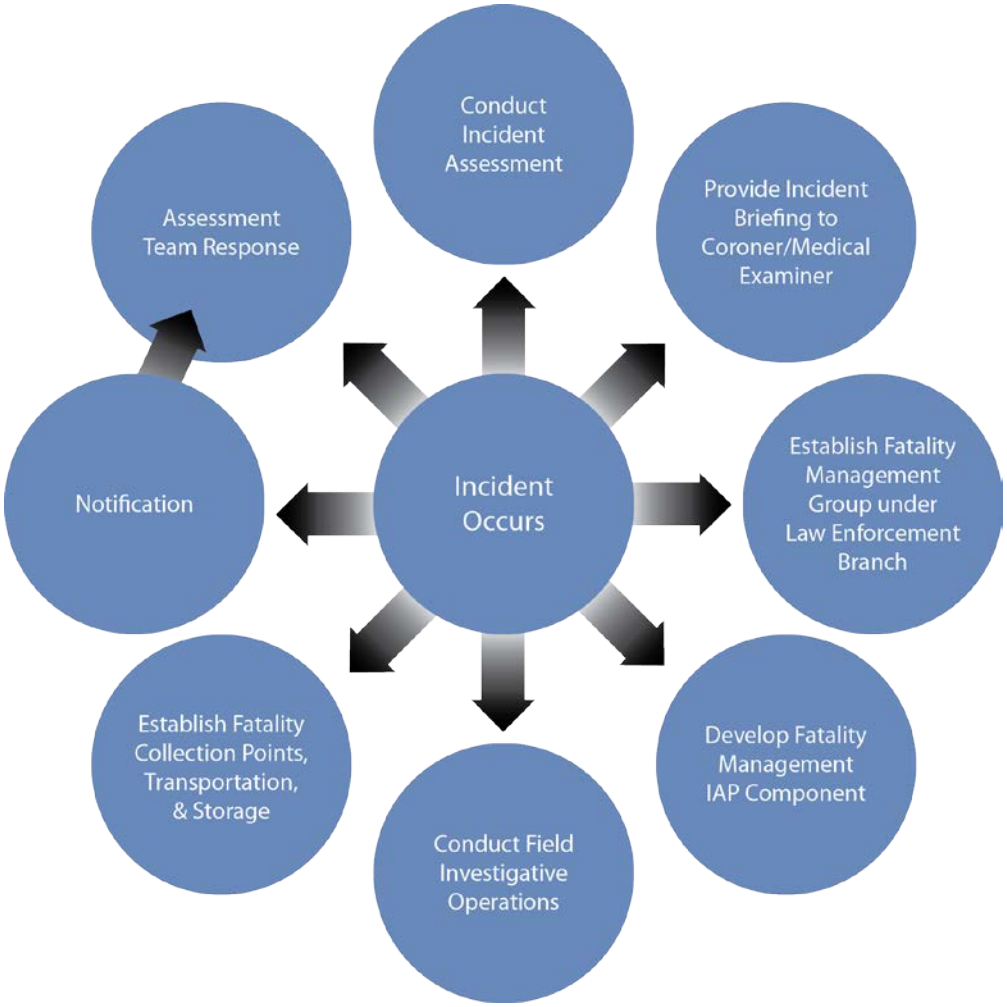

Figure 5-3. Coroner/Medical Examiner Initial Incident Response.

- What is the estimated number of fatalities?
- What are the conditions of the deceased?
- Have the human remains been moved, and if so, where?

The Coroner/Medical Examiner provides guidance to the Incident Commander, assigns team leaders and other positions, and distributes incident priorities and objectives to staff. The Coroner/Medical Examiner is not in charge of specific response areas but focuses on the s fatality management. **Table 5-1** presents critical mass fatality management operations positions and the potential daily position crosswalk. Most Coroners/Medical Examiners normally do not have enough staff to fill all positions, but personnel in the local jurisdiction, Coroners' Mutual Aid System, EMAC, and other State and Federal teams can be used to fill critical position assignments. **Table 5-2** presents the mass fatality incident characterization factors.

5.3.3 Phase 3: Recovery of Remains

5.3.3.1 Initial Site Assessment

Coroners/Medical Examiners are in charge of human remains recovery after the earthquake. The search for human remains and personal effects occurs as part of the search for live victims. Urban Search and Rescue (USAR) teams search for people needing rescue. As the USAR teams locate fatalities, they document the discovery and communicate the location information to Incident Command.

Table 5-1. Coroner/Medical Examiner mass fatality incident operations assignments.

Operation	Personnel Assignment
Incident Morgue	Senior morgue administrator
Search and recovery	Senior death investigator
Family Assistance Center	Senior victim services coordinator or advocate
Media	Public Information Officer, next-senior morgue administrator
Logistical	Senior supply and budget manager
Personal effects	Senior evidence technician

Source: URS analysis (2009)

5.3.3.2 Initial Incident Assessment

The following actions take place before any search-and-recovery operation:

- **Document the entire scene.** The entire scene is photographed using both still and video cameras. Black and white film may be used. Black and white film is specified for litigation purposes; color photos can be considered too shocking for members of a jury.
- **Establish perimeters.** Initial boundaries and perimeters are established several hundred yards away from the specified impact zone.
- **Assessment of hazards.** The search-and-recovery leader meets with the Incident Commander, Safety Officer, and fire and HazMat personnel to identify and assess scene hazards and the actions that are needed to mitigate the hazards.

Potential hazards for the Coroner/Medical Examiner Assessment Teams include:

- Bloodborne pathogens
- Hazardous materials
- Unstable debris and structures
- Harmful animals

Table 5-2. Mass Fatality Incident Characterization: Six Primary Factors.

Incident Type and Conditions	Number of Remains	Rate of Recovery	Manifest	Contamination or Infectious Disease	Condition of Remains
Accident Criminal Natural	Small number	Slow	Yes	Yes	Intact, visually identifiable
Localized or isolated incident (Infrastructure issues?)	Large number	Moderate	No	No	Charred, decomposed, trauma, distorted
Multiple incidents or widespread pandemic	—	Fast	—	—	Fragmented, co-mingled

Source: URS analysis (2009)
— = Not applicable

5.3.3.3 Search and Rescue or Recovery Resources

The plan for the use of local fire and law enforcement personnel for the recovery and/or decontamination of human remains and personal effects is described in the Operational Area mass fatality plans.

In addition to the Coroner/Medical Examiner Recovery Team, the following resources may be requested to support search and recovery operations:

- Army Corps of Engineers
- Funeral directors
- Military
- Volunteer SAR teams
- Cadaver/body dog teams
- Private contractors

5.3.3.4 Coroner/Medical Examiner Recovery Team Positions

The Coroner/Medical Examiner Recovery Teams include people in the following positions:

- **Death Investigator/Team Leader.** Responsible for the search and recovery team, assigning positions, ensuring all needed equipment is available and procedures are followed. Understands Occupational Safety and Health Administration requirements.
- **Team Scribe.** Responsible for issuing case numbers.
- **Search Team Photographer.** Responsible for photographing each body or fragment before and after a case-number tag has been affixed or placed next to it.

- **Searchers.** Responsible for locating human remains, fragments, and personal effects; marking each site with a flag or paint with an assigned case number; placing a tag with case number on the human remains, fragments, and personal effects; placing the remains into a human remains pouch; and marking the human remains pouch with the assigned case number.
- **Recovery Personnel.** Assist with placing the human remains, fragments, and personal effects into the human remains pouches and carrying the litters to the recovery staging area.

5.3.3.5 Search-and-Recovery Sequence

Coroner/Medical Examiner Search and Recovery teams follow up on the fatality discoveries made by the USAR teams, by reviewing global positioning satellite (GPS) information and/or building markings When human remains are located, the Coroner/Medical Examiner oversees their recovery with the goal of establishing a confirmed identification for each decedent and identifying the cause of death.

For locations where victims are not expected to be alive, and therefore have not undergone a search for live victims, the Coroner/Medical Examiner Search and Recovery team leads determine the most appropriate search strategy/pattern to be used. Searches must be systematic and comprehensive, with the goal of removing all human remain, fragments, and personal effects at the incident site.

5.3.3.6 Searching Collapsed Buildings

Remains are often extremely difficult to recover, and those conducting the search and recovery operation are often at risk of serious injury from falling or unstable debris. A plan of the building or buildings to be searched is acquired. If such plans do not exist, they may be developed from interviews with people familiar with the structure.

Survivors of the building collapse are interviewed to determine the usual pre-incident location and the last known pre-incident location of each known or potential victim.

An engineer superimposes the remaining structure onto the floor plan to provide an image of the building as it currently exists, number the remaining major support beams or walls, and place the corresponding number on the floor plan and beams or walls.

Search and recovery can then begin. Search and recovery can start from the top and bottom of the structure at the same time.

5.3.3.7 Recovery Staging Area

The remains, fragments, and personal effects are staged for movement to the fatality collection point.

Before human remains, fragments, and personal effects are moved, Coroners/Medical Examiners consider accomplishing the following tasks:

- The case number on the human remains pouch is checked against the case number attached to the human remains, fragment, or personal effects.
- A log is maintained to record what human remains, fragments, and personal effects left the incident site, what transport vehicle was used (number or license), and the name of the vehicle operator.

5.3.3.8 Gridding

Gridding is the process of establishing the exact locations of human remains, fragments, and personal effects. Gridding helps to determine relationships, if any, among the items, when all items have been plotted. This can assist in the identification of the deceased. Gridding may not be necessary or useful in some situations after the earthquake because the remains are intact and easily located. Gridding is necessary when the human remains are mostly fragmented or are part of a large field of debris.

5.3.3.9 Infection Control

Human remains are generally not contagious after death, but a minimal risk is associated with viruses like the human immunodeficiency virus and hepatitis B and C if universal infection control measures are not implemented when handling human remains.

Standard precautions include the following:

- Airborne precautions are used for pathogens that remain suspended in the air in the form of droplet nuclei that can transmit infection if inhaled.
- Droplet precautions are used for pathogens that are transmitted by large droplets traveling 3 to 6 feet (e.g., from sneezes or coughs) and are no longer transmitted after they fall to the ground.
- Contact precautions are used for pathogens that might be transmitted by contamination of environmental surfaces and equipment

For autopsies, standard precautions typically include proper use of a surgical scrub suit, surgical cap, impervious gown or apron with full sleeve coverage, a form of eye protection (e.g., goggles, face shield), shoe covers, and double surgical gloves with an interposed layer of cut-proof synthetic mesh.

5.3.4 Phase 4: Fatality Collection Point

Fatality collection points are key components in the strategy for managing a surge of decedents. The purpose of the fatality collection point is to provide short-term shelter, privacy, and security of human remains and associated evidence until transportation to the Incident Morgue is arranged.

Human remains, fragments, and personal effects are collected at the fatality collection point(s). The remains are sorted by potential ease of identification (intact bodies versus fragments) and verifying case number. Suspicious deaths are documented for further review at the Incident Morgue.

Drivers are assigned to transport the decedents and personal remains from the fatality collection points to temporary storage at the designated Incident Morgue. The fatality collection point(s) verify driver identification and log information regarding the driver, transport vehicle, and the decedents and personal effects.

5.3.5 Phase 5: Level 1 Transportation and Temporary Storage

Transportation and temporary storage is the movement of the decedent from the fatality collection point to the morgue. Personnel assigned to the transportation coordination establish a schedule with Coroners/Medical Examiners or their designee for transfer of remains to the Incident Morgue. Schedules are arranged and operate on a 24-hour basis. State and Federal Department of Transportation (DOT) requirements must be satisfied for the transportation of human remains. Operational areas have limited numbers of transport vehicles and personnel. Private remains removal services within the Bay Area region are typically small operations with two to three transport vehicles. Unmarked refrigerated trailers, if available, are used for the transport of human remains to minimize the decomposition process.

Transportation logs are maintained to ensure accountability of all remains.

5.3.5.1 Pre-Examination Temporary Storage of Human Remains

During a mass fatality incident, human remains and personal effects may need to be stored for an extended period, until the Coroner/Medical Examiner is able to identify remains, determine cause and manner of death, and submit a death certificate.

When the human remains transport vehicle arrives at the Incident Morgue, the Receiving Station accepts the human remains, fragments, and/or personal effects places the remains in initial temporary storage until all morgue stations are fully operational and/or not overloaded.

When a morgue station is capable of receiving human remains, fragments, and/or personal effects, the decedent is moved from temporary storage by an assigned escort that moves the decedent through each morgue station for processing.

5.3.6 Phase 6: Morgue Operations

The projected number of fatalities in the 12-county region from the earthquake is more than 7,000 (see **Table 2-1)**. Depending on the county, the Coroner/Medical Examiner is responsible for processing between 5 and 2,200 immediate fatalities, which, in most cases, drastically exceeds the fatality management capacity of the county. While some of the county fatality numbers presented may appear to be manageable, Coroners/Medical Examiners often have a diminished workforce and lack of resources. Realistically, managing incident-related fatalities and daily caseloads is likely to result in the county becoming overwhelmed.

The unique composition of the 12 counties considered in this Plan drive the need to present a variety of mass fatality management options with respect to morgue operations.

Each county evaluates its capacity to manage the number and condition of the deceased in a timely and effective manner that meet legal requirements and minimize distress on the families of the deceased and the community. The evaluation process includes staff, facility, and resource capabilities. Day-to-day operations must be kept separate from the mass fatality incident-associated fatalities.

Once the evaluation is complete, the Coroner/Medical Examiner decides the best option for how the county conducts incident-related morgue operations. The menu of mass fatality management options includes any of the following:

- County Morgue
- Temporary incident morgue
- Multi-jurisdictional incident morgue
- Multi-jurisdictional post-processing storage facility

A detailed description of each of the four (4) mass fatality management options can be found in **Appendix D**.

The goals of morgue operations are to:

- Document the cause, manner, and method of death
- Confirm identity of the deceased
- Provide a physical accounting for all deceased directly affected by the incident.
- Provide death notification, submit a death certificate, and release the deceased and associated personal effects to the next of kin for final disposition

Morgue operations begin with transportation of the human remains from the fatality collection point to the Incident Morgue, where the decedent is escorted through a number of stations with the goal of positively identifying the deceased. **Figure 5-4** presents the potential morgue stations and process flow.

A formal triage and post-mortem process/examination process culminates in a detailed postmortem report, which is used as part of the identification process.

An assigned escort stays with the decedent through each of the following mass fatality Incident Morgues including the following stations:

- Administration Station
  - Single point of contact for all morgue operations
  - All antemortem identification records are collected and collated
  - Case file management and administration
  - Status boards for tracking the status of human remains and fragments

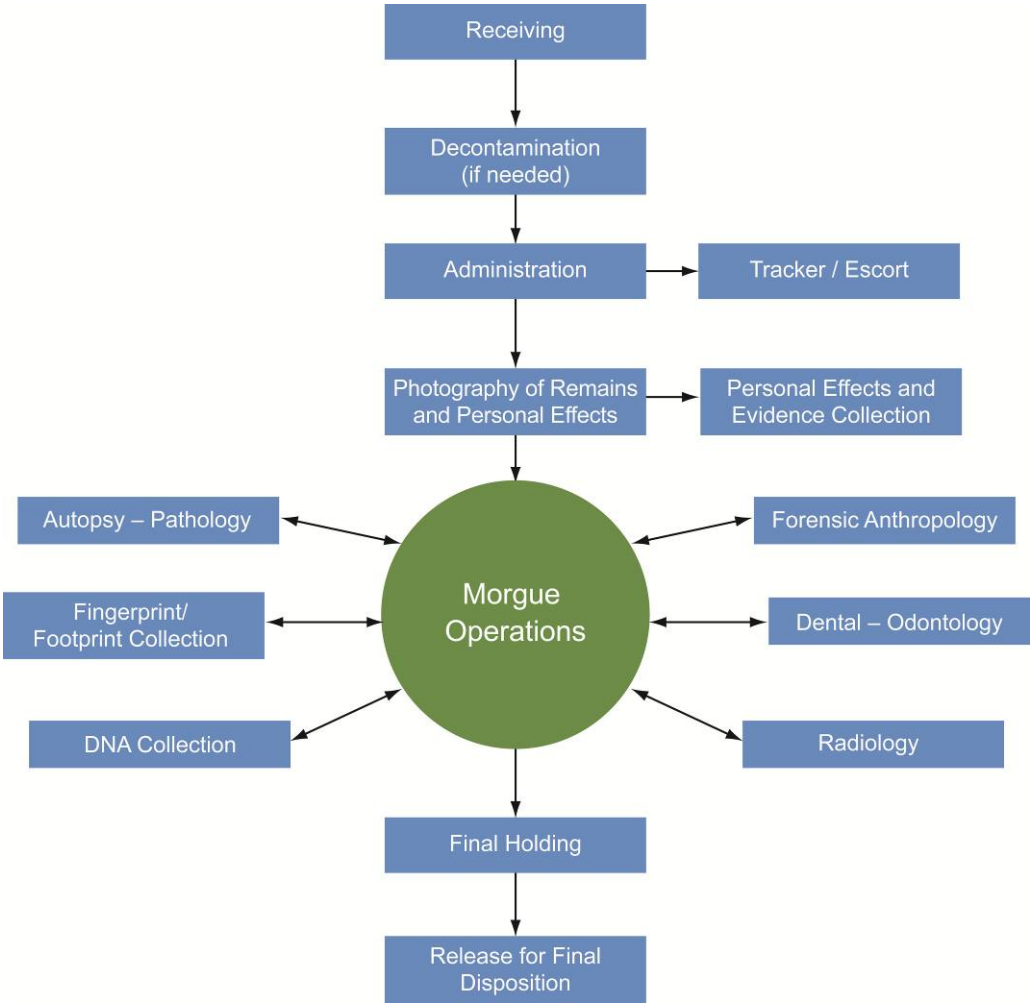

Figure 5-4. Human remains processing: morgue operations.

- Receiving Station
  - Remains or personal effects are received
  - Case file, including case file number, is initiated
  - Remains are placed in temporary refrigerated holding or assigned an escort
  - Spiritual services are arranged for the decedent
- Decontamination Station (if needed)
  - Detailed decontamination of remains, fragments, and/or personal effects are performed
- Photography Station
  - Remains are photographed
- Personal Effects and Evidence Collection Station
  - Removal, inspection, and documentation of personal effects
  - Removal, inspection, and documentation of clothing

- Fingerprinting or Footprinting Station
  - Identification may be established
  - Prints of fingers or feet are taken
- Radiology Station
  - X-ray for foreign objects and teeth encapsulated in human tissue
- Dental – Odontology Station
  - Most common method of establishing a confirmed identification
  - Dentagram is performed
- Autopsy – Pathology Station
  - Remains are weighed
  - Detailed diagram of injury patterns, missing portions, and other artifacts is completed
  - Additional photographs are taken
  - Work at previous morgue stations is reviewed
  - Any external fluid samples are collected
  - A tissue sample, if needed, is collected
  - Human remains are placed into human remains pouches
  - After the medicolegal autopsy or inspection is complete, the forensic pathologist, forensic anthropologist, and criminalist make a determination as to the confirmed identification of the decedent.
- Forensic Anthropology Station
  - Assistance is provided in determining number of fatalities and the sex, age, and race of decedent
  - Forensic anthropologist exam is performed
- DNA Station
  - DNA samples are collected
- Final Holding Station
  - Separate from the initial holding area
  - Files are returned to Administration Station
- Release Area Station
  - Physical location to stage remains for departure from the morgue
  - Legal next of kin's instructions for final disposition received
  - Case file folder is completed
  - Coroner/Medical Examiner signs the death certificate
  - Receiving funeral home or other party is given the time the deceased is to be released to the funeral home

- Case file and written release are provided to station providing the case number, confirmed identification, name of receiving party, and time the remains are to be picked up
- Identification of funeral director verified on arrival
- Remains retrieved from the holding area
- Case number verified on the human remains pouch, coffin, or shipping container
- Receipt document signed by the receiving funeral director or other party

5.3.6.1 DMORT and Regional LRATs

There are a number of State and Federal teams that can assist with one or more aspects of fatality management. DMORT is likely the most well-known Federal asset. Under the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response, the DMORT Disaster Portable Mortuary Unit (DPMU) team has been integrated into the three Regional Logistical Response Assistance Teams (LRATs). The LRATs consist of logistical personnel from throughout NDMS and fall under the leadership of Assistant Secretary of Preparedness and Response (ASPR) Logistics. This team is responsible for maintaining and deploying the equipment cache, which includes 20,000 human remains pouches.

At the request of the Coroner/Medical Examiner, Region IX DMORT members come from California, Arizona, Nevada, and Hawaii. DMORTs are supported by Disaster Medical Assistance Teams on all deployments. DMORTs work in support of the local Coroner/Medical Examiner.

Regardless of the source of these resources, the following concept of operations has been suggested by the Federal ESF #8 Fatality Management Interagency Steering Committee:

- Morgue operations and postmortem processing
- Family assistance, pre-death information that aids identification, data collection, and data management
- Identification
- Death notification, submission of a death certificate, release, and final disposition

DMORTs:

- Provide equipment and resources to establish an Incident Morgue, if requested
- Perform forensic examinations
- Identify remains by fingerprint/footprint, forensic dental, and forensic pathology and anthropology methods
- Establish and assist in operating the family assistance center
- Prepare remains for final disposition (except for cremation)

- Provide decontamination through the DMORT WMD team

Coroners/Medical Examiners:

- Maintain responsibility to coordinate the recovery of remains
- Must determine cause and manner of death
- Sign all death certificates
- Provide for long-term storage, if necessary

A DMORT WMD team is a stand-alone team within the DMORT system that specializes in the scientific and legal recovery and decontamination of human remains.

DMORT forms for the management of a mass fatality event are provided in **Appendix F**.

5.3.6.2 Refrigeration Units

Portable, freestanding refrigerated units with a 500-body capacity per unit are available from multiple sources. Infrastructure and support personnel are provided by the contractor-owner for the maintenance of this capacity for as long as necessary. Additional capacity for human remains storage is in the form of 200 refrigerated trailers which have a total storage capacity of 5,000. The refrigerated trucks transport human remains from fatality collection points to temporary storage, and serve as backup to the free-standing refrigeration units.

5.3.6.3 Security

Morgue operations are secured by local/State law enforcement officers who establish outer perimeter security and also provide internal site security. At locations on military installations, perimeter security is provided by military police. The Federal Protective Service has provided security for DMORT personnel on previous missions.

5.3.6.4 Identification

The identification process is complex and likely to be lengthy. Aggravating circumstances can include loss of medical and dental records, decomposition of remains, and wide geographical dispersal of family members.

The Coroner/Medical Examiner is responsible for establishing the identity of the decedent using the following methods:

- Prints (including fingerprints, handprints, toe prints, and footprints, if indicated)
- Odontology (forensic dental examination)
- Radiology
- DNA analysis
- Permanently installed medical devices with recorded serial numbers

- Distinctive physical characteristics (e.g., ears, scars, moles, tattoos) for which appropriate antemortem photographic documentation can be provided may be used in an exclusionary capacity

5.3.6.5 Autopsies

When responding to a catastrophic mass fatality event, it may not be practical to consider performing a complete autopsy on all remains. The Coroner/Medical Examiner determines which remains require an autopsy (i.e., which remains support the investigation). The number of cases requiring autopsy may exceed the operational capacity of the Coroner/Medical Examiner. The Coroner/Medical Examiner coordinates support from adjoining jurisdictions, States, or from Federal resources, or may need to seek authorization to apply professional discretion to autopsy-only appropriate sample cases. Such authorization may be requested for inclusion in the disaster declaration or executive order covering the state of emergency.

5.3.6.6 Waste Handling

Liquid waste (e.g., body fluids) disposal procedures are reviewed with Environmental Health staff. If substantial volumes are expected, the local wastewater treatment plant personnel are consulted in advance. Solid waste is appropriately contained in biohazard or sharps containers and incinerated in a medical waste incinerator.

5.3.7 Phase 7: Level 2 Transportation and Temporary Storage

This phase involves the temporary storage and transport of human remains between the Incident Morgue and the locations of final disposition. The legal next of kin provide final disposition instructions to the incident morgue. Typically, a funeral home is designated to provide final disposition for the deceased. The morgue coordinates with the funeral home to provide a time for pickup and transport of the decedent for final disposition.

Upon arrival and identity verification, the Release Station turns over to the receiving funeral director, for transport, or to another designated party.

5.3.7.1 Post-Examination Temporary Storage of Human Remains

During a mass fatality incident, human remains and the personal effects of the deceased may need to be stored for an extended period while awaiting final disposition after morgue processing.

Final temporary storage is separate from initial temporary storage. The temporary storage area holds remains until released to the funeral director or other designated party for transportation to an area for final disposition. Remains are held in refrigeration or in caskets or shipping containers. A multi-jurisdictional, post-processing storage facility is detailed in **Appendix D** as a means to manage human remains until final disposition can be provided.

5.3.8 Phase 8: Final Disposition

In a mass fatality event, the death care industry is also likely to be overwhelmed. The Coroner/Medical Examiner must coordinate with the death-care industry to identify strategies they use to manage the final disposition of the deceased.

The following are some strategies to consider:

- Coordinate with the Region and the California Funeral Directors Association to request assistance from funeral homes, cemeteries, and cremation services in neighboring unaffected counties or affected counties that have a much lower death total. This aid could take the form of temporary staff and equipment/ supplies, or of carrying out final disposition for some decedents in neighboring counties.
- Expand refrigerated storage capacity for remains that have been identified and are awaiting final disposition.
- Expedite cremation certificates, burial permits, and transit permits.
- Expedite the embalming process by providing aftercare services (embalming and casketing) at the designated Incident Morgue to reduce the burden on local funeral homes.
- Secure temporary storage for embalmed and casketed remains in vaults using existing vaults and/or creating temporary vaults.

Counties in the region sign Memoranda of Understanding to indicate the funeral homes, cemeteries, and crematoriums in their jurisdictions that agree to the Plan and operate in accordance with it in the event of a mass fatality to the best of their ability and current capabilities.

Final disposition options include individual burial, State-sponsored individual burial, entombment, temporary interment, voluntary cremation, and involuntary cremation. If State-sponsored final disposition is required, the Coroner/Medical Examiner must arrange for transportation and handling of human remains.

5.3.8.1 Family Assistance Center[6]

In the aftermath of a catastrophic earthquake, family and friends frantically seek assistance locating their loved ones. It is most common for family and friends to show up at places their loved ones are likely to have been at the time of the earthquake or to places that may have information about the injured or deceased. The establishment of an FAC provides for two critical needs: it keeps family and friends away from incident locations and hospitals, so first responders can conduct vital life-saving operations without interference, and it provides the communications and support services family and friends desperately seek.

[6] The California Mass Fatality Management Guide: A Supplement to the State of California Coroner's Mutual Aid Plan, prepared by Cal EMA.

Family assistance describes various programs that are provided in a central location to help immediate family, other relatives, and friends of those persons directly affected by the incident.

The term “family” is not limited to those with biological or marital ties and applies to all persons with a common concern or love for the deceased. This loosely defined term includes parents, siblings, grandparents, life partners, spouses, those who are engaged to be married, children, long-term family friends, and even co-workers; those who support the immediate family and provide information to the various response agencies.

There are several goals of family assistance. The first goal is provide a uniform level of immediate help to all survivors and families. This begins with the establishment of a call center. The FAC call center gathers information from callers and enters initial details about the deceased into an information database, sometimes referred to as an information path.

Family assistance includes notification of the deceased’s involvement in the event, providing transport, food, and lodging at or near the disaster area, and establishing a family assistance center with screened and trained individuals that are trained in communication skills, have an understanding of the process, and understand how to work with families of those who have lost someone to a sudden, unexpected death.

The second goal of family assistance is to establish a system for local authorities to quickly collect information from the families of the deceased. This effort includes collecting DNA references from families, gathering dental and medical records, and conducting detailed interviews about the deceased, and is often required to assist in the identification process.

The third goal of family assistance is to provide families with an understanding of what happens with regard to the deceased over the next few weeks and months. This is accomplished through a series of briefings conducted by local, State, and Federal government agencies, and/or the business involved, if the circumstance involves a transportation accident.

5.3.8.2 Site Selection

The traditional FAC is a secure facility established at a centralized location to provide information about missing persons who may be victims of the disaster. For the scenario earthquake over 7,000 fatalities are expected across multiple counties, requiring the establishment of multiple FACs. An FAC is established for each Incident Morgue identified in **Section 5.3.6.4**

Generally, the county Coroner/Medical Examiner is responsible for establishing the FAC. For the catastrophic earthquake scenario and at the request of the Coroner/Medical Examiner, the county Social Services with the support of the American Red Cross is responsible for supporting the FAC. As part of that responsibility, county Social Services and the American Red Cross coordinate to establish FACs.

The FACs are close enough to the Incident Morgue(s) so that the Coroner/Medical Examiner can easily travel between the facilities, but far enough away to ensure that family and friends are not exposed to or interfere with morgue operations.

5.3.8.3 Description of Rooms in the FAC

Operations Center. An operations center is needed to allow the different service groups and organizations to meet, coordinate, and plan so that information can be shared, messaging can be standardized, and services can be efficiently and effectively provided without duplication.

General Assembly Room. A general assembly room is a large room with a public address system for the purpose of providing status updates on the search and recovery process to large gatherings of family and friends. Updates may be given multiple times per day.

Reflection Room. A Reflection Room is available for victims' families and friends to quietly reflect, meditate, pray, seek spiritual guidance, or observe diverse religious practices.

Death Notification Rooms. Several rooms are designated to provide privacy and expedite the notification process to the next of kin that their loved one has been positively identified. However, it is preferable that death notifications be made at the family's residence rather than requiring families come to the FAC.

Counseling Rooms. Several small rooms are available to provide private space where information such as antemortem data can be gathered from families and where families can receive counseling from clergy and mental health professionals. Here they can also receive information on the identification process and be interviewed for baseline information.

Medical Area. The medical area is designated as a place where people can receive medical assistance if friends and family experience health issues during their visits to the FAC.

Reception and Registration for Families. When family members and friends arrive at the FAC, the staff greets them; registers them; and assigns the family and friends an escort who takes them to a designated area where they may be more comfortable and can be located if necessary. When friends and family leave the FAC, they check out and leave their address so that they can be contacted with additional information and support and notification of their loved ones death. When an adequate number of personnel are available, an escort may be assigned to each family group. Escorts may help the families with any need that arises during their time at the FAC.

5.3.8.4 Functions of the FAC

The functions of the FAC are as follows:

- **Collect antemortem data.** Personnel at the FAC are assigned to collect accurate and detailed antemortem information from the friends and families of the victims. If funeral directors are providing this service, it is critical that they act as representatives of the Coroner's/Medical Examiner's office and not as funeral directors. Funeral directors may be selected to perform this service for many reasons, including their training in collecting antemortem information and their experience in dealing with families in crisis.

  Figure 5-5 presents the coordination of information between morgue operations and the FAC below for positive identification of the decedents.

- **Conduct death notifications.** The procedures for death notification are an important component of a sensitive family assistance plan. Whenever possible, death notification is made by a team rather than an individual. The team may consist of a Coroner/Medical Examiner representative, a member of the clergy, a mental health professional, and possibly a medical professional.

The team is given a fact sheet that contains relevant information that they can leave with the family for later reference, because family members may forget to ask questions at the time of the notification.

Next of kin who are out of town are always notified in person. When a death notification must be made in a distant location, the office charged with death notification responsibilities can contact the sheriff or chief of police in the distant community to request coordination of notification. The American Red Cross or the State victim assistance agency can assist in providing a mental health professional. Staff conducting a death notification for a victim whose body is not intact must ask the family at the time of notification if they want to be informed about later identification of common tissue.

- **Establish and share victim's degree of suffering.** The issue of victims' suffering can cause tension. In cases where a criminal investigation is involved, there is a need to preserve evidence that establishes the amount of suffering the victim endured. For cases resulting from a disaster, there is great need to comfort families and answer their questions about how much their loved ones suffered before dying.

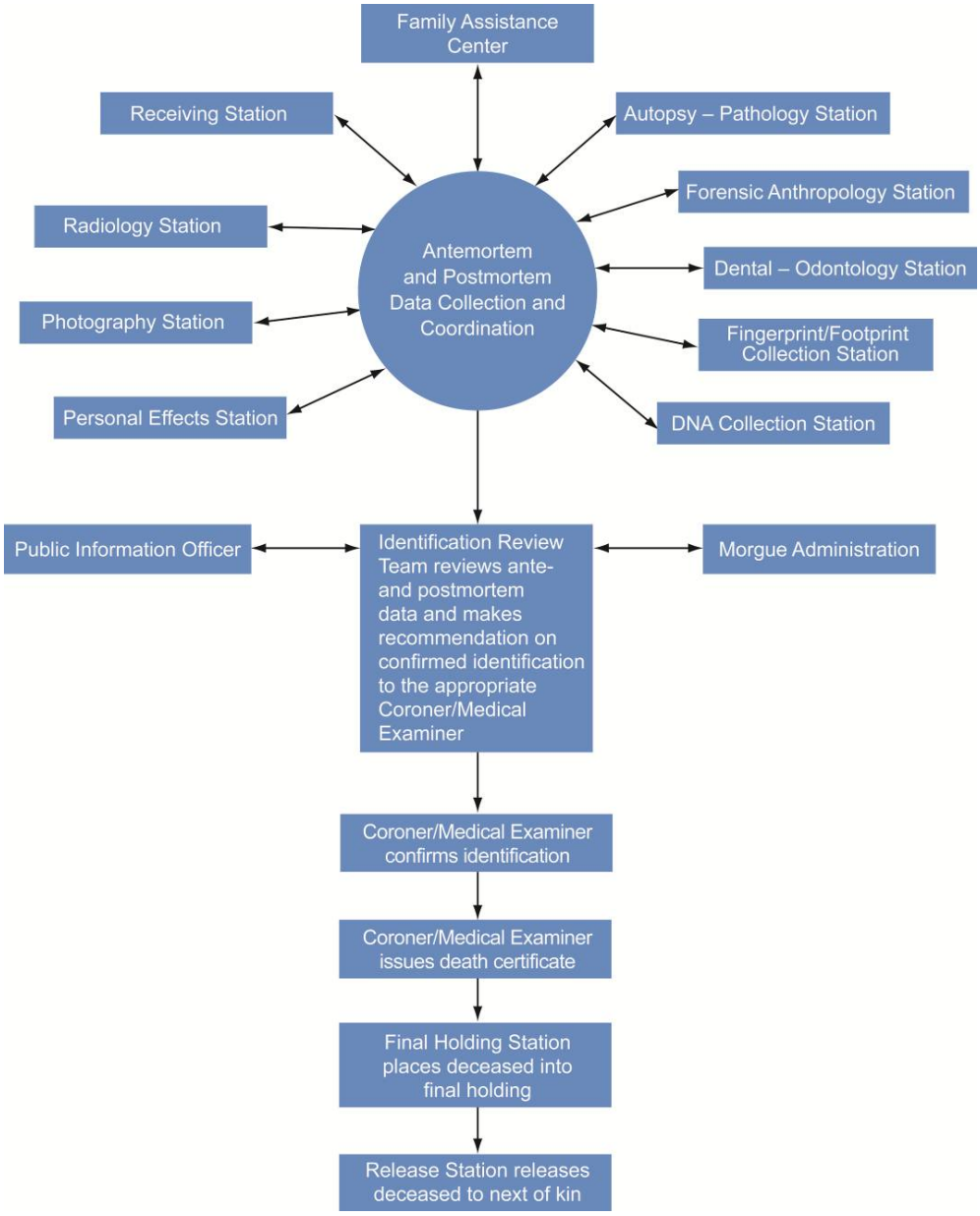

Figure 5-5. Antemortem and postmortem data collection and coordination.

- **Implement security measures.** Checkpoints may need to be established at entrances to the FAC and its parking lot so families and friends of the victims have privacy and are not overwhelmed by the press, photographers, and the public. A badging or credentialing system can be implemented that gives family members and authorized workers easy access to the FAC.

- **Disseminate public information and work with the media.**[7] The Coroner/ Medical Examiner designates a Public Information Officer at the FAC to release information about the fatalities resulting from the earthquake. The press has questions that only a representative of the Coroner's/Medical Examiner's office can answer properly, including questions about the recovery operation, identifications, and condition of the bodies. Information is released to the press only by the designated Public Information Officer and not by any staff members of the Coroner/Medical Examiner office.

5.3.8.5 Personal Effects Collection Point

Personal effects are the decedent's belongings that are located on or near the deceased at the time of an incident. Since the recovery of personal effects is extremely meaningful to the family of the deceased, the effects are handled with the same care as human remains. Effects are removed from each body, inventoried, and assigned an identification number correlating them back to the remains. The effects are stored in the morgue, in a secure area, called the Personal Effects Collection Point. Once remains are identified, families are notified as to the existence of the personal effects and at that time, it is determined how and when the effects are to be returned to the next of kin.

As families gather at the FAC and are interviewed, they are briefed about the personal effects recovery and return process. For those families that wish to be involved, their preferred level of participation and contact information is entered into the central database, and they are notified as associated items are recovered. Legal next of kin are asked to provide personal effects disposition instruction, which includes having the items returned or destroyed. Because of the nature of a mass fatality event, death is typically sudden and violent. The personal belongings of the victims become significant to family members because typically the remains are not viewable or little, if any, remains may be recovered. The team assigned to personal effects attempts to associate the items with the victim and return the items to the persons who are legally authorized to receive them.

It is recommend that the responsibility for collecting personal effects be assigned to a third party such as a private contractor with a proven track record in taking care of personal effects or a local major law enforcement agency.[8] Law enforcement agencies are good candidates for providing this service because they are skilled in evidence collection.

5.3.8.6 Preparations for Funeral Homes and Crematoriums

The Coroner/Medical Examiner or representative at the Incident Morgue coordinates final disposition with funeral homes and crematoriums. Providing information about

[7] U.S. Army Research and Development and Engineering Command, Military Improved Response Program, Department of Justice, Office of Justice Programs, and Office of Domestic Preparedness, Capstone Document: Mass Fatality Management for Incidents Involving Weapons of Mass Destruction (2005).

[8] Robert A. Jensen, Mass Fatality and Casualty Incidents: A Field Guide (CRC, Boca Raton, 2000).

the number of remains ready for release assists funeral homes and crematoriums with planning for an increased case load. Funeral homes and crematoriums communicate their current capabilities for disposition of remains. Depending on their current capabilities, a multi-jurisdictional, post-processing storage facility is established to store remains until a time when the funeral homes and crematoriums can accommodate the receipt of additional remains. More information regarding the multi-jurisdictional, post-processing storage facility is located in **Appendix D**.

5.3.8.7 Death Registration (Vital Records)

To meet the legal requirements of many jurisdictions, a death certificate is issued only when a positive identification is made. This occurs when a conclusive match exists between records created with information that existed before death (antemortem) and records created after death (postmortem). A death certificate allows the family to formally acknowledge the death and begin the civil process of probate.

Death registration is a State/county responsibility and each county may have its own laws, regulations, and administrative practices to register a death. There is a legal distinction between the practices of pronouncing a death and certifying a death.

In day-to-day Coroner/Medical Examiner operations, the California Electronic Death Registration System (CA-EDRS) is used to create and register death certificates—a permanent record of the death of an individual. The California Department of Public Health (CDPH) is responsible for administrative oversight of death registration and for the operation of CA-EDRS.

After a catastrophic earthquake, communication system degradation may hinder Coroner/Medical Examiner use of the system requiring the implementation of an alternate method of registering deaths. CDPH is prepared to issue and collect paper death certificates if the CA-EDRS is unavailable.

It is expected that if the CA-EDRS is operational and the Incident Morgues are using the system, it provides timely death data, timely cross matching with birth certificates for anti-fraud purposes, allow online verification of the decedent's social security number, and provide online access to fact–of-death information.

5.3.8.8 Disposition of Unidentified Remains

After the earthquake, the Coroner/Medical Examiner for each affected county makes the determination that all victims have been identified. Although the Coroner/Medical Examiner is able to make this determination, it is likely that unidentified human remains still exist either at the incident location or under the control of the Coroner/ Medical Examiner. The Coroner/Medical Examiner can make the decision not to positively identify the remains, but accommodations must be made for their proper disposition.

5.3.9 Phase 9: Demobilization

Demobilization takes place when the centralized coordination of the mass fatality event is no longer required in the affected area. At a time when the majority of remains have been recovered, documented, and released, the Coroners/Medical Examiners begin to demobilize the Incident Morgues and transition operations back to the county morgue for each respective jurisdiction. Coroners/Medical Examiners begin reestablishing local capabilities for morgue operations and the continued provision of family assistance.

5.4 Transition to Long-Term Operations

In **Table 5-3**, mass fatality operation events, tasks, and decision points are identified and listed chronologically. The timeline covers all activities from the event until 30 days after the event. Because of the catastrophic nature of the earthquake, it is assumed that mass fatality operations continue past 30 days. At some point in the response, it is necessary to plan for the transition to long-term mass fatality operations.

Beyond the first 60 days, the primary considerations when planning for the transition to long-term fatality management are as follows:

- Deactivation of supporting operations such as the Incident Morgue(s)
- Possibility of discovering additional remains
- Continuation of family assistance services
- If remains were temporarily interred, the movement of remains to their final resting places in cemeteries
- Development and construction of memorials/monuments
- Repatriation
- Replacement of supplies and equipment
- Reconciliation of death certifications with insurance companies
- Provide critical incident stress management for staff
- Cleaning temporary and permanent facilities used to process human remains
- Determination of when funeral homes and mortuaries can resume normal operations
- Finalization of personal effects
- Process record-keeping for financial purposes and for the potential of reimbursement by the Federal Government
- Conduct an After-Action Review of operations and make necessary alterations to the plan.

In addition to the above long-term responsibilities, a region-wide analysis of mass fatality operations is considered; it includes participation from the State and Federal agencies that participated in the response. The After-Action Review process for this Plan is described in **Section 6.4.**

5.5 Response Timeline

This section includes identifies the tasks needed to support the time-based objectives identified in **Section 5.1** through a response timeline matrix (see **Table 5-3**). Each task is identified under its corresponding objective, along with the time frame in which it is expected to occur, the entities likely involved in coordinating and accomplishing the task, and any additional details. Many tasks are likely to occur simultaneously, span multiple time frames and may start and stop at different times in localities throughout the region because of local circumstances.

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Table 5-3. Response timeline for mass fatality management.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A1. OBJECTIVE Establish an incident command system structure that coordinates mass fatality operations and supports movement of responders and resources into the area by integrating local, State, and Federal operations	1	E to E+3d	**Event:** Operational Areas mobilize Coroner/Medical Examiner Assessment Teams	Coroner/Medical Examiner	Operational Area EOCs	—
	2	E to E+3d	**Event:** local governments mobilize first responders	First responder dispatch	Operational Area EOCs, City EOCs, supporting DOCs	First responders for this incident are likely to include: • Fire • US&R • HazMat • EMS • Local law enforcement
	3	E to E+3d	**Event:** local governments and Operational Areas activate Emergency Operations Centers	Local government emergency management agencies,	Local government agencies	—
	4	E to E+3d	**Activate** Emergency Operations Centers	Cal EMA	State agencies, NGOs, multiagency liaisons	—
	5	E to E+3d	**Event:** Local governments and Cal EMA activate their catastrophic earthquake or “all-hazards” mass fatality plans	Coroner/Medical Examiner, Cal EMA	—	Local governments with mass fatality plans activate them. Cal EMA implements actions outlined in this Plan and those actions consistent with the SEP and the California Mass Fatality Management Guide
A2. OBJECTIVE Establish interoperable emergency communications among public- and private-sector mass fatality response and death care entities involved in mass fatality operations	6	E to E+3d	**Initiate** the establishment and maintenance of communications links between Regional and Operational Area Mutual Aid Coordinators, Operational Area EOCs and the SOC to support regional incident notification, resource ordering, resource dispatch, situational awareness reporting, and regional action planning.	REOC, SOC	DGS	Coordination points for Cal EMA are: • Operational Area Mutual Aid Coordinators • Regional Mutual Aid Coordinators • Operational Area EOCs • SOC/JFO • REOC • Federal Emergency Communications Coordinator
	7	E to E+3d	**Implement** RECP Communications Subsidiary Plan and communication elements of the CONPLAN	REOC	SOC	See the RECP Communications Subsidiary Plan and Tab 3: Emergency Communications of the CONPLAN for details regarding coordinating communications among Mutual Aid Coordinators, Operational Area EOCs, REOC, the SOC, and the Federal government
	8	E to E+3d	**Establish** contact with Operational Area EOCs to: • Convey the initial point(s) of contact for communicating with the Region • Ascertain their respective emergency communications capabilities and post-incident communication • Provide emergency communications capabilities to support coordination and to facilitate the submission of initial resource requests	Cal EMA	DGS	Protocols for requesting communication resource support are detailed in the RECP Communications Subsidiary Plan. Cal EMA initiates contact with impacted Operational Areas to convey the initial point(s) of contact for communicating with the regional level of SEMS.
	9	E to E+3d	**Event:** All system owners, including Coroners/Medical Examiners, initiate stabilization and maintenance of their operational communications systems	Coroner/Medical Examiner	Operational Area EOCs, GSD	—
A3. OBJECTIVE Obtain situational awareness on earthquake impacts and the potential location(s) of mass fatalities and on fatality management facilities	10	E to E+3d	**Event:** Local governments establish site assessment teams	Incident Commanders	Local government agency dispatch and DOCs	Site assessment teams are organized according to function and responsibilities. Likely teams are: • Coroner/Medical Examiner • Law Enforcement • Fire • HazMat • US&R • Building Inspection

Table 5-3. Response timeline for mass fatality management.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A3. OBJECTIVE (cont.)	11	E to E+3d	**Event:** First responder agencies conduct initial site assessments	Local first responder agencies	Incident Commander	Information to be collected in the assessments • Type of incident • Possible hazards • Geographical complications • People and animals needing rescue • Estimated number of fatalities and locations • Location of scene and accessibility to remains • Location of Incident Command Post • Specialized search and recovery equipment required • Determine constraints to rescue/recovery (e.g., difficult extraction, hazards)
	12	E to E+3d	**Event:** Coroner/Medical Examiners conduct mass fatality specific site assessments	Coroner/Medical Examiner	Incident Commander	Information to be collected in the assessments: • Site briefing from Incident Commander or designee • Estimated number of fatalities and locations • Location of scene and accessibility to remains • Specialized search and recovery equipment required • Determine constraints to recovery (e.g., difficult extraction) • Take initial photographs of site
	13	E to E+3d	**Event:** Local governments assess the structural integrity of pre-identified mass fatality facilities	County Building Inspection Teams	County Building Inspection DOCs, Coroner/ Medical Examiner	—
	14	E to E+3d	**Event:** Local governments **c**oordinate with transportation agencies regarding the integrity of transportation routes and systems	Operational Area EOCs, Departments of Public Works	Caltrans, CHP, DOT, MTC, BART, WETA, Amtrak	Since local government personnel depend on transportation systems to arrive at incident locations, the integrity of the roads and systems are important to evaluate.
A4. OBJECTIVE Identify mass fatality management resource requirements and capabilities	15	E to E+3d	**Event:** Local governments evaluate current mass fatality capabilities	Coroner/Medical Examiner, Incident Commander	Operational Area EOCs and supporting DOCs	Incident commanders assess capabilities available at the incident location
	16	E to E+3d	**Event:** Local governments determine mass fatality resource needs and requirements	Coroner/Medical Examiner	Incident Commanders	—
	17	E to E+3d	**Event:** Local governments determine personnel availability and resource requirements for fatality collection points, morgue operations, humans remains recovery, human remains transport, and the operation of FACs	Coroner/Medical Examiner	Operational Area EOCs, local law enforcement agencies, ARC, Social Services Department	Anticipated resource capabilities and requirements are identified in **Section 5.2** The Coroner/Medical Examiner must request assistance for Incident Morgue operations as well as the FAC, if required
	18	E to E+3d	**Event:** Local governments determine security capabilities, needs, and requirements	Local law enforcement agencies	Coroner/Medical Examiner	—
	19	E to E+3d	**Event:** Local governments determine transportation resource capabilities, needs, and requirements	Coroner/Medical Examiner	GSD	Resources include vehicles and designated staff with the granted authority to transport human remains
A5. OBJECTIVE Submit initial mass fatality management resource requests	20	E to E+3d	**Activate** Coroners Mutual Aid Special Operations Unit at the SOC and **Activate** the Coroners Mutual Aid system	Cal EMA	State Coroner/Medical Examiner Mutual Aid Coordinator, Region II Coroner/Medical Examiner Mutual Aid Coordinators	Activation per SEMS and the State of California Coroners Mutual Aid Plan. Also see the RECP Law Enforcement and Coroner/ Medical Examiner Subsidiary Plan
	21	E to E+3d	**Host** conference call with Operational Area Coroner/Medical Examiner Mutual Aid Coordinators and the Region II Coroner/ Medical Examiner Mutual Aid Coordinator to discuss requests and availability of State and Federal resources	Region II Coroner/Medical Examiner Mutual Aid Coordinator	Operational Area Coroner/Medical Examiner Mutual Aid Coordinators	See RECP, Law Enforcement and Coroner/Medical Examiner Subsidiary Plan
	22	E to E+3d	**Event:** Operational Areas request initial mass fatality management resources through the Region II Coroner/Medical Examiner Mutual Aid Coordinator	Operational Area Coroner/ Medical Examiner Mutual Aid Coordinators	Region II Coroner/Medical Examiner Mutual Aid Coordinator	See **Section 4.1** for a description of how resource requests are made and coordinated through the different levels of the Coroner/ Medical Examiner Mutual Aid System. The Region II Coroner/Medical Examiner Mutual Aid Coordinator is the Alameda County Coroner.
	23	E to E+3d	**Event:** Operational Areas request additional US&R support	Operational Area Fire and Rescue Mutual Aid Coordinators	Region II Fire and Rescue Mutual Aid Coordinator	—

Table 5-3. Response timeline for mass fatality management.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A5. OBJECTIVE (cont.)	24	E to E+3d	**Request** State and/or Federal fatality response teams	State Coroner/Medical Examiner Mutual Aid Coordinator	FEMA, HHS	Cal EMA makes a request for mass fatality resources. This request results in the deployment of State and/or Federal fatality management resources. See **Appendix L**.
	25	E to E+3d	**Request** support of CFDA, CALDIT, and CLECA	State Coroner/Medical Examiner Mutual Aid Coordinator	CFDA, CalDIT, CLECA	—
	26	E to E+3d	**Request** DoD Mortuary Affairs Unit	State Coroner/Medical Examiner Mutual Aid Coordinator	DoD	—
	27	E to E+3d	**Coordinate** the integration of allocated State and Federal mass fatality resources	Operational Area EOCs	REOC, SOC/JFO	—
	28	E to E+3d	**Event:** FEMA alerts and activates requested ESF #8 assets; ESF #9, US&R; and ESF #8, DoD Mortuary Affairs Unit	FEMA	HHS, DoD	—
	29	E to E+3d	**Event:** Allocated resources from other Operational Areas, regions, the State, other states, and Federal agencies arrive	Operational Area EOC, Local governments	REOC	In-state resources arrive within the first 24 hours while Federal resources may take longer than 72 hours to arrive
	30	E to E+3d	**Event:** Integration of in-state mutual aid, State, EMAC, and Federal resources to support mass fatality operations	Coroner/Medical Examiner	Operational Area EOCs	—
A6. OBJECTIVE Coordinate and initiate dissemination of public information through the JIS	31	E to E+3d	**Activate, coordinate,** and **disseminate** public information through the JIS	Operational Area JICs, State/ Federal JIC	Local governments, State and Federal agencies, NGOs, CBOs	—
	32	E to E+3d	**Event:** Coroners/Medical Examiners coordinate with and disseminate mass fatality specific public information through Operational Area JICs	Coroner/Medical Examiner designated Public Information Officer Liaison	Operational Area JICs	Examples of Information Coroners/Medical Examiners provide to the public are: • Location(s) of FACs • Type of services the FACs provide • Number of fatalities • Information that assists Coroners/Medical Examiners
	33	E to E+3d	**Establish** a call center to provide information about fatalities and obtain information about missing persons until FAC(s) can be established	Coroner/Medical Examiner	Operational Area JICs, State/Federal JIC, Bay Area 211s	The activation of the call center is determined by the integrity of the telephone system.
	34	E to E+3d	**Event:** Local governments initiate communication and coordination with hospitals to determine reporting requirements on the total number of incident-related fatalities	Coroner/Medical Examiner, local hospitals	Local Health Departments	—
A7. OBJECTIVE Plan and coordinate mass fatality management operations with appropriate agencies	35	E to E+3d	**Event:** Local governments conduct initial meeting to determine planning strategy and meeting times	Coroner/Medical Examiner	Operational Area EOCs	—
	36	E to E+3d	**Event:** Local governments review plans for earthquake mass fatality management operations	Coroner/Medical Examiner	Operational Area EOCs	Plans address site security and credentialing system, site communication and data management systems, identifying the decedents, issuing death certificates, final disposition system, supply management, fiscal requirements, and public information.
	37	E to E+3d	**Event:** IAPs for first operational period are developed	Coroner/Medical Examiner	Operational Area EOCs	Coroner/Medical Examiner provides status updates and objectives for each operational period
	38	E to E+3d	**Event:** Local governments develop staffing and resource staging plans to maximize the use of limited resources	Coroner/Medical Examiner	Operational Area EOC	—
	39	E to E+3d	**Event:** Local governments coordinate with the death care industry (funeral homes, crematoriums, and cemeteries) regarding the anticipated surge in fatalities	Coroner/Medical Examiner	CFDA	—
	40	E to E+3d	**Event:** Local governments coordinate with religious and cultural leaders regarding the anticipated surge in fatalities	Coroner/Medical Examiner	CFDA	—
A8. OBJECTIVE Conduct scene evaluations at all mass fatality locations and establish field-level incident command structure.	41	E to E+3d	**Event:** Local governments initiate mass fatality operations, including scene evaluation, organization, and initial search for recovery of remains	Coroner/Medical Examiner	Local first responder agencies	—

Table 5-3. Response timeline for mass fatality management.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A8. OBJECTIVE (cont.)	42	E to E+3d	**Event:** Local governments identify and assign mass fatality management positions for field operations	Coroner/Medical Examiner or designee	—	Positions include: Scene Investigation/Human Remains Recovery Officer in Charge, Morgue Services Officer in Charge, and Family Assistance Officer in Charge; Search and Recovery teams; Photography team, Documentation team, and Property, Scene Evaluation team, Evidence team, and Transportation team
	43	E to E+3d	**Event:** Local first responders triage casualties, document location and condition of human remains, level of PPE required at the scene, and identify any specialized search and recovery equipment needed	Local first responder agencies	Coroner/Medical Examiner	First responder agencies arrive before the Coroner/Medical Examiner and triage all casualties to include the identification of fatalities.
A9. OBJECTIVE Establish system for the recovery and processing of human remains	44	E to E+3d	**Event:** Identification of facilities to support mass fatality management operations	FEMA, County GSD, DGS	Coroner/Medical Examiner	Facilities must meet specifications for square footage, water, electricity, backup generators, access, and security.
	45	E to E+3d	**Event**: Identification of facilities to operate the Incident Morgue(s)	HHS, County GSD	Coroner/Medical Examiner	—
	46	E to E+3d	**Establish** Incident Morgue(s)	Coroner/Medical Examiner; Region II Mutual Aid Coordinator	State or Federal fatality response teams	—
	47	E to E+3d	**Event:** Local governments establish fatality collection points, temporary morgues and expand county morgues to full-surge capacity	Coroner/Medical Examiner	Operational Area EOCs	—
	48	E to E+3d	**Event:** Local governments determine personnel availability, needs, and requirements to support Incident Morgue(s)s and fatality collection points	Coroner/Medical Examiner	Operational Area EOCs, Deployed State or Federal fatality response teams	—
	49	E to E+3d	**Event:** Local governments deploy security personnel to fatality collection points, storage facilities, and morgues	Law enforcement DOCs	Operational Area EOCs	—
	50	E to E+3d	**Provide** emergency supplies of death certificates and permits for final disposition	CDPH	County Vital Records	—
A10. OBJECTIVE Conduct the recovery of human remains and personal effects	51	E to E+3d	**Event:** Local governments establish and execute grid or search pattern for human remains and personal effects	Coroner/Medical Examiner	Field responders	Initial first responder search and rescue operations discover most human remains. This step signifies the Coroner/Medical Examiner teams detail search for undiscovered human remains and personal effects
	52	E to E+3d	**Event:** Location(s) of remains and personal effects are documented	Coroner/Medical Examiner	Field responders	Photograph, grid, obtain witness statements. Includes Scene Investigation/Human Remains Recovery Officer in Charge, Photography team, and Documentation team
	53	E to E+3d	**Event:** Human remains and personal effects are recovered and transported to fatality collection points or morgues	Coroner/Medical Examiner	—	—
	54	E to E+3d	**Event:** Recovered human remains and personnel effects are documented	Coroner/Medical Examiner	—	Private sector partners would include the death care industry, private fatality management, human remains removal services.
	55	E to E+3d	**Event:** Forensic evidence for fatality management operations is gathered (when applicable)	Coroner/Medical Examiner	—	—
	56	E to E+3d	**Event:** The level of decontamination needed at incident locations is determined	HazMat	Coroner/Medical Examiner	Gross and detailed decontamination may be required for some humans remains
	57	E to E+3d	**Event:** Decontamination of all human remains and associated personal effects (if necessary) exposed to HazMat	HazMat	Coroner/Medical Examiner	This activity is guided by local agreements regarding the use of HazMat teams for the decontamination of human remains
	58	E to E+3d	**Event:** Environmental assessment of fatality management operations to ensure measures are being taken to protect the environment	County Environmental Health, EPA	Coroner/Medical Examiner	—

Table 5-3. Response timeline for mass fatality management.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A11. OBJECTIVE Establish system to transport human remains and personal effects to the designated Incident Morgue(s)	59	E to E+3d	**Determine** transportation resource needs and capabilities, needs, and requirements	Coroner/Medical Examiner	Operational Area EOCs, GSD	—
	60	E to E+3d	**Event:** Local governments deploy refrigerated trucks to store and/or transport human remains	Coroner/Medical Examiner	GSD	—
	61	E to E+3d	**Event:** Transfer of human remains and personal effects from the fatality collection point(s) or to the designated Incident Morgue(s)	Coroner/Medical Examiner	—	—
	62	E to E+3d	**Event:** Select human remains are temporarily stored	Coroner/Medical Examiner	Death care industry, hospitals	—
A12. OBJECTIVE Establish FAC Operations	63	E to E +3d	**Event:** Locate facility appropriate for providing family assistance services	Coroner/Medical Examiner	GSD	
	64	E to E +3d	**Event:** Notify government agencies and nongovernmental organizations with roles in providing family assistance services	Coroner/Medical Examiner		
	65	E to E +3d	**Event:** Notify the Operational Area JIC to let them know the FAC hours of operation and what services are provided there	Coroner/Medical Examiner		
B1. OBJECTIVE Recover human remains that are not hidden and/or fragmented	63	E+3d to E+14d	**Event:** Teams continue grid or search pattern for human remains and personal effects	Coroner/Medical Examiner	Field responders	Use GPS to aid in collection and documentation of post-mortem human remains, property, and evidence at the incident site, when possible
	64	E+3d to E+14d	**Event:** Documentation of location(s) of remains and personal effects	Coroner/Medical Examiner	Field responders	—
	65	E+3d to E+14d	**Event:** Human remains and personal effects transported from incident locations to fatality collection point(s) or temporary storage site(s)	Coroner/Medical Examiner	Field responders	—
B2. OBJECTIVE Establish system to search and recover hidden and/or fragmented human remains.	66	E+3d to E+14d	**Event:** Teams develop a plan for grid or search pattern for hidden and/or fragmented human remains	Coroner/Medical Examiner	Field responders	—
	67	E+3d to E+14d	**Event:** Documentation of location(s) of hidden and/or fragmented remains	Coroner/Medical Examiner	Field responders	Use GPS to aid in collection and documentation of post-mortem human remains, property, and evidence at the incident site, when possible
	68	E+3d to E+14d	**Event:** Hidden and/or fragmented human remains transported to fatality collection point(s) or holding morgue	Coroner/Medical Examiner	Field responders	—
B3. OBJECTIVE Assess current mass fatality management capabilities and submit request for additional resources.	69	E+3d to E+14d	**Event:** Reassessment of current capabilities	Coroner/Medical Examiner, Incident Commander	—	The Incident Commander assesses all non-Coroner capabilities, needs and requirements such as: firefighting, rescue, and perimeter control
	70	E+3d to E+14d	**Event:** Determination of resource needs and requirements	Coroner/Medical Examiner, Incident Commander	—	—
	71	E+3d to E+14d	**Receive** and **forward** resource requests to appropriate agency	Cal EMA	Coroner/Medical Examiner, FEMA	Coroner requests go to the Operational Area Coroner Mutual Aid Coordinator, and HazMat requests go to the Operational Area Fire and Rescue Mutual Aid Coordinator
	72	E+3d to E+14d	**Event:** DoD Mortuary Affairs Unit arrives on scene and is operational	DoD	Cal EMA, FEMA	The DoD Mortuary Affairs Unit can assist Coroners/Medical Examiners with the recovery of human remains.
B4. OBJECTIVE Establish and operate Incident Morgue(s)	73	E+3d to E+14d	**Event:** State or Federal fatality response teams arrive to support Incident Morgue operations	Coroner/Medical Examiner	FEMA, HHS	—
	74	E+3d to E+14d	**Event:** Human remains and personal effects transported to Incident Morgue(s)	Coroner/Medical Examiner	Field responders	—
	75	E+3d to E+14d	**Event:** Incident Morgue operations begin	Coroner/Medical Examiner	State and/ or Federal fatality response teams	If the Incident Morgue is located in jurisdiction, the local assets are in support role.
	76	E+3d to E+14d	**Event:** Teams initiate operations for the identification of human remains	Coroner/Medical Examiner	State and/or Federal fatality response teams, DMV, DOJ	—
	77	E+3d to E+14d	**Event:** Teams package and process personal effects for return to next of kin	Coroner/Medical Examiner	State and/or Federal fatality response teams	—

Table 5-3. Response timeline for mass fatality management.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
B4. OBJECTIVE (cont.)	78	E+3d to E+14d	**Event:** Reunification of disassociated body parts for all human remains begins	Coroner/Medical Examiner	State and/or Federal fatality response teams	—
	79	E+3d to E+14d	**Establish** system for the expedited issuance of death certificates and permits for final disposition	CDPH	Coroner/Medical Examiner, State and/or Federal fatality response teams	—
	80	E+3d to E+14d	**Event:** When positive identification and cause and manner of death have been determined death certificates are completed	Coroner/Medical Examiner	LHD, CDPH	County Coroner/Medical Examiner must also complete portion of the death certificate after identify of the deceased has been confirmed. Vital Records is typically part of Public Health or Recorders Office.
B5. OBJECTIVE Provide family assistance services	81	E+3d to E+14d	**Event:** Family Assistance Centers are established	Coroner/Medical Examiner	State and/or Federal fatality response teams, CalDIT, CFDA, ARC, Salvation Army, ICISF, CLECA, county Social Services Department, CDSS, VOAD	If requested by the Coroner/Medical Examiner, the county Social Services Department is the lead agency with support from ARC
	82	E+3d to E+14d	**Standardize** communications/information management system for collecting, managing, controlling, and sharing of information/data at the FAC.	Coroner/Medical Examiner	Operational Area JICs, CalDIT, CFDA, ARC, Salvation Army, ICISF, CLECA, county Social Services Department, CDSS	If requested by the Coroner/Medical Examiner, the county Social Services Department is the lead agency with support from ARC
	83	E+3d to E+14d	**Event:** Notification of next of kin begins	Coroner/Medical Examiner	Foreign Consulates, Interpol	Much of the local notification occurs through the FAC
	84	E+3d to E+14d	**Coordinate** with the local governments regarding next of kin notification and collection of antemortem information assistance	Cal EMA	Coroner/Medical Examiner, State and/or Federal fatality response teams	Missing Unidentified Persons System
	85	E+3d to E+14d	**Event:** Remains and personal effects that can be released to family members are determined	Coroner/Medical Examiner, State and/or Federal fatality response teams	—	—
	86	E+3d to E+14d	**Event:** FACs are expanded to provide comprehensive services	Coroner/Medical Examiner	Social Services, ARC (and other NGO's, FBO's), State and/or Federal fatality response teams	Cal EMA may assist. To include core management, operations and administrative teams. Core services include reception/registration; Coroner/Medical Examiner Services (family briefings, ante mortem data collection, and death notification); mental health services; spiritual care services; first aid/medical services; childcare; and others to meet situational requirements)
	87	E+3d to E+14d	**Event:** Security is posted at the FACs	Local law enforcement agencies	Operational Area EOCs (where the incident morgues are located), Cal EMA, FEMA	—
	88	E+3d to E+14d	**Event:** Standardized system of communications/information management for collecting, managing, controlling, and sharing of information/data is established at the FACs.	FACs	Operational Area JICs, Coroner/Medical Examiner	—
	89	E+3d to E+14d	**Event:** Temporary repository of Public Records/Decedent Information Repository is established	Coroner/Medical Examiner	County Office of Vital Records	—
	90	E+3d to E+14d	**Event:** Antemortem victim records are delivered to temporary repository location	Coroner/Medical Examiner	—	—
	91	E+3d to E+14d	**Event:** Antemortem and postmortem databases are established	Coroner/Medical Examiner	Cal EMA	Medical, dental, and fatality management
	92	E+3d to E+14d	**Event:** Data from Incident Morgue(s) and family assistance center(s) are compared to assist in the identification of remains	Coroner/Medical Examiner, FAC	—	—
	93	E+3d to E+14d	**Event:** Morgue data is cross-referenced with local, State, Federal, and International missing persons databases to assist in the identification of remains	Coroner/Medical Examiner, FAC	—	—
B6. OBJECTIVE Continue coordination and dissemination of public information through the Joint Information Center	94	E+3d to E+14d	**Coordinate and disseminate** public information through the JIS	Operational Area JICs, State/ Federal JIC	Local governments, State and Federal agencies, NGOs, CBOs	—
	95	E+3d to E+14d	**Event:** Media station is established in the FAC to handle all media requests	FAC PIO	Social Services, ARC, State and/or Federal fatality response teams	—
	96	E+3d to E+14d	**Event:** Communication and coordination system is established for the FAC	Coroner/Medical Examiner	Social Services, ARC, State and/or Federal fatality response teams	—

Table 5-3. Response timeline for mass fatality management.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
B7. OBJECTIVE Establish system to transport human remains and personal effects to the Incident Morgue(s)	97	E+3d to E+14d	**Event:** Transportation resource capabilities, needs, and requirements are determined	Coroner/Medical Examiner	Operational Area EOCs	—
	98	E+3d to E+14d	**Event:** Refrigerated trucks are deployed that can be used to store and transport remains	Coroner/Medical Examiner	GSD	—
	99	E+3d to E+14d	**Event**: Human remains and personal effects are transferred from fatality collection points to Incident Morgues or temporary storage	Coroner/Medical Examiner	Field responders	—
B8. OBJECTIVE Establish protocols for the release of human remains and personal affects	100	E+3d to E+14d	**Event:** Authorized remains are released to next of kin	Coroner/Medical Examiner	State and/or Federal fatality response teams	—
	101	E+3d to E+14d	**Event:** Unclaimed human remains are stored	Coroner/Medical Examiner	State and/or Federal fatality response teams	See **Appendix D** for details on multi-jurisdictional, post-processing storage facility
	102	E+3d to E+14d	**Event:** The need for Altered Standards of Death Care that may include government mandated burial processes is determined	Coroner/Medical Examiner, DMORT	Death care industry, elected officials	See **Appendix I**
B9. OBJECTIVE Facilitate the release and final disposition of human remains	103	E+3d to E+14d	**Event:** Remains released to next of kin or to local authorities if no next of kin are identified	Coroner/Medical Examiner	Death care industry, Public Administrator, State and/or Federal fatality response teams	Remains may be released from outside of the county if decedent was transferred to a multi-jurisdictional incident morgue
	104	E+3d to E+14d	**Event:** Coordination with local governments regarding next of kin notification and the collection of antemortem information	Coroner/Medical Examiner	CalDIT, DOJ	Missing Unidentified Persons System
	105	E+3d to E+14d	**Event:** Release and facilitate final disposition of human remains from the Incident Morgue(s)	Coroner/Medical Examiner	State and/or Federal fatality response teams , Death care industry, Public Administrator	Unclaimed decedents at the multi-jurisdictional incident morgue are transported back to the county of origin.
B10. OBJECTIVE Implement stress management and crisis intervention strategies for responders and friends and family of the deceased	106	E+3d to E+14d	**Event:** Critical incident stress management teams requested to support fatality management response personnel	County Mental Health, ICISF, CLECA	Local Critical Incident Stress Debriefing teams, Law Enforcement and Fire Chaplaincy	—
	107	E+3d to E+14d	**Event:** Deployment of critical incident stress management teams to incident location, Incident Morgue, and FAC	County Mental Health, ICISF, CLECA	Local Critical Incident Stress Debriefing teams, Law Enforcement and Fire Chaplaincy	—
C1. OBJECTIVE Conduct a final assessment of the mass fatality location(s) to ascertain whether any human remains are still present	108	E+14d to E+60d	**Event:** Mass fatality site assessment teams re-established	Coroner/Medical Examiner	Field responders	—
	109	E+14d to E+60d	**Event:** Estimation of the **p**otential number of remaining deceased and the presence of remains or personal effects	Coroner/Medical Examiner	Field responders	—
	110	E+14d to E+60d	**Event**: Ongoing transportation of human remains to regional fatality collection points and temporary storage locations	Coroner/Medical Examiner	—	—
C2. OBJECTIVE Continue coordination and dissemination of public information through the JIS	111	E+14d to E+60d	**Coordinate** and **disseminate** public information through the JIS	JIS	Local governments, State and Federal agencies, special districts, NGOs, CBOs, FAC	—
	112	E+14d to E+60d	**Event:** FAC continues to receive information from the public regarding mission persons	FAC	JIS	—
	113	E+14d to E+60d	**Event:** Communication and coordination with FAC continues	FAC, JIS	Coroner/Medical Examiner , State and/or Federal fatality response teams	—
C3. OBJECTIVE Continue operation of the Incident Morgue(s)until the majority of human remains have been processed	114	E+14d to E+60d	**Event:** Human remains continue to be transported to Incident Morgue(s)	Coroner/Medical Examiner	—	—
	115	E+14d to E+60d	**Event:** Operations for the identification of human remains continues	Coroner/Medical Examiner	Coroner/Medical Examiner	—
	116	E+14d to E+60d	**Event:** The collection and organization of personal effects continues	Coroner/Medical Examiner	Field responders	—
	117	E+14d to E+60d	**Event:** The Armed Forces Medical Examiner's Office arrives to assist with DNA testing of unidentified human remains	DoD	Coroner/Medical Examiner	—
C4. OBJECTIVE Continue operation of the FAC	119	E+14d to E+60d	**Event:** Determination of which remains and personal effects can be released to family members	Coroner/Medical Examiner	Local law enforcement	Recommend determining location for storage/holding if U.S. Attorney do not authorize release of remains
	119	E+14d to E+60d	**Event:** Coordination with the State regarding next of kin notification and collection of antemortem information assistance	Coroner/Medical Examiner	Cal EMA	Missing Unidentified Persons System

Table 5-3. Response timeline for mass fatality management.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
C4. OBJECTIVE (cont.)	120	E+14d to E+60d	**Event:** Antemortem victim records delivered to temporary repository location	Coroner/Medical Examiner	—	—
	121	E+14d to E+60d	**Cross-reference** morgue data with local, State, Federal, and International missing persons databases to assist in the identification of remains	Coroner/Medical Examiner	FAC	—
C5. OBJECTIVE Continue facilitating the release and final disposition of human remains	122	E+14d to E+60d	**Event:** Continued release of authorized remains to next of kin	Coroner/Medical Examiner	FAC	—
	123	E+14d to E+60d	**Event:** Continued storage of unclaimed human remains	Coroner/Medical Examiner	DMORT	—
	124	E+14d to E+60d	**Coordinate** with local governments regarding repatriation of foreign nationals.	Cal EMA	Coroner/Medical Examiner, , Foreign Consulates, Interpol	—
	125	E+14d to E+60d	**Event:** Indigent deceased returned to the County of origin	DMORTs, Coroner/Medical Examiner	Department of State, Interpol	—
	126	E+14d to E+60d	**Event:** Communication occurs with Foreign Consulates to provide information about fatality management operations and expedite repatriation of deceased foreign nationals	Department of State, liaison by Cal EMA	Interpol	—
	127	E+14d to E+60d	**Event:** The need for Altered Standards of Death Care that may include government mandated burial processes is once again considered	Coroner/Medical Examiner	Death care industry, elected officials	See **Appendix I**
C6. OBJECTIVE Continue to provide stress management and crisis intervention strategies for responders and friends and family of the deceased.	128	E+14d to E+60d	**Event:** Critical incident stress management teams Continue to provide support to fatality management response personnel	County Mental Health, ICISF	Coroner/Medical Examiner, Critical Incident Stress Debriefing teams, Law Enforcement and Fire Chaplaincy	—
	129	E+14d to E+60d	**Event:** Critical incident stress management teams continue to provide support at the incident location, Incident Morgue(s) and FAC	County Mental Health, ICISF	Coroner/Medical Examiner, Critical Incident Stress Debriefing teams, Law Enforcement and Fire Chaplaincy	—
C7. OBJECTIVE Plan for transition to long-term fatality management operations	130	E+14d to E+60d	**Establish** an advanced planning unit to plan for long-term recovery planning	Operational Area EOCs, Cal EMA	Coroner/Medical Examiner	—
	131	E+14d to E+60d	**Event:** Identification of fatality management staff post-operational needs	Coroner/Medical Examiner	—	—
C8. OBJECTIVE Demobilize unused resources	132	E+14d to E+60d	**Event:** Demobilization of all unused facilities and release all unused resources	Coroner/Medical Examiner	Operational Area EOCs	—
	133	E+14d to E+60d	**Event:** Notification of mass fatality partners and the public on the conclusion of operations and any demobilization efforts	Coroner/Medical Examiner	Operational Area JICs, Operational Area EOCs	—
	134	E+14d to E+60d	**Event:** Local governments reorder resources to replace those that have been damaged or tainted by mass fatality operations	Coroner/Medical Examiner	Operational Area EOCs, Cal EMA, FEMA	Referencing items that were consumed or lost during incident response

Source: URS analysis (2009)
— = Not available
ARC = American Red Cross
CalDIT = California Dental Identification Team
Cal EMA = California Emergency Management Agency
CBO = community-based organization
CFDA = California Funeral Directors Association
CLECA = California Law Enforcement Chaplains Association
d = days
DGS = California Department of General Services
DMORT = Disaster Mortuary Operational Response Team
DMV = California Department of Motor Vehicles
DOC = Department Operation Center
DoD = Department of Defense
DOJ = Department of Justice
DOT = U.S. Department of Transportation
E = earthquake or scenario event
EOC = Emergency Operations Center
FAC = Family Assistance Center
FBO = faith-based organization
FEMA = Federal Emergency Management Agency
GPS = global positioning satellite
GSD = County General Services Department
h = hours
HazMat = hazardous materials
HHS = U.S. Department of Health and Human Services
IAP = Incident Action Plan
ICISF = International Critical Incident Stress Foundation
JIC = Joint Information Center
JIS = Joint Information System
LRAT = Logistics Response Assistance Team
NGO = nongovernmental organization
PIO = Public Information Officer
RECP = Regional Emergency Coordination Plan
REOC = Regional Emergency Operations Center
SEMS = Standardized Emergency Management System
SEP = State Emergency Plan
SOC = State Operations Center
US&R = Urban Search and Rescue

6 Plan Maintenance

The process for maintaining the Plan is described in this section. The discussion identifies who receives and reviews the Plan, how updates are to be integrated into the Plan, how the Plan is tested, what type of training is developed to learn the Plan, and how after-action review is conducted after the Plan has been implemented, whether as part of an exercise or in response to a real emergency.

6.1 Plan Distribution

Upon completion, the Regional Catastrophic Incident Mass Fatality Plan is distributed by the Urban Area Security Initiative (UASI) Management Team. Printed and electronic versions of the final Plan are distributed to each of the 12 counties and core cities in the RCPG program area and Cal EMA.

6.2 Plan Updates

Once distributed by the UASI Management Team, Cal EMA is responsible for the maintenance, revisions, and any additional distribution of the Regional Catastrophic Incident Mass Fatality Plan. In coordination with the Mutual Aid Regional Advisory Committee (MARAC), the Region annually assesses the need for revisions to the RECP and subsidiary plans based on the following considerations:

- Changes to State or Federal regulations, requirements, or organization
- The need for additional subsidiary plans to develop regional response capabilities or eliminate gaps in capabilities, as suggested by MARAC members and coordinated with the UASI Management Team
- Implementation of tools or procedures that alter or improve on Plan components

Cal EMA maintains a record of amendments and revisions, as well as executable versions of all documents, and is responsible for distributing the Plan to all applicable agencies.

6.3 Plan Testing, Training, and Exercises

Exercising the Plan and evaluating its effectiveness involves using training, exercises, and evaluation of actual events to determine whether goals, objectives, decision, actions, and timing outlined in the Plan can lead to a successful response.

Exercises are the best method of evaluating the effectiveness of a plan and are also a valuable tool in the training of emergency responders and government officials. Exercises allow emergency responders and government officials to become familiar with the procedures, facilities, and systems that they actually use or manage in emergency situations. Cal EMA is responsible for planning and conducting emergency exercises for the region.

Exercises are conducted on a regular basis to maintain readiness. Exercises include as many Operational Areas, other regions, and State and Federal agencies as practical.

6.4 AAR

After every exercise or event an After-Action Report/Improvement Plan (AAR/IP) is completed. The AAR/IP has two components: an AAR, which captures observations and recommendations based on incident objectives as associated with the capabilities and tasks and an IP, which identifies specific corrective actions, assigns them to responsible parties, and establishes targets for their completion. Cal EMA is the lead agency for the development of the AAR/IP and convenes event participants to discuss action items and solicit recommendations for improvement.

Appendix A:
Glossary

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Appendix A: Glossary

A.1 Acronyms and Abbreviations

AAR..... After-Action Report
ARC ..... American Red Cross
CA-EDRS..... California Electronic Death Registration System
Cal EMA..... California Emergency Management Agency
CalDIT..... California Dental Identification Team
Caltrans ..... California Department of Transportation
CBO ..... community-based organization
CBRNE ..... Chemical, biological, radiological, nuclear, or high-yield explosive
CDPH..... California Department of Public Health
CFDA ..... California Funeral Directors Association
CLECA. ..... California Law Enforcement Chaplains Association
CONPLAN..... San Francisco Bay Area Earthquake Readiness Response: Concept of Operations Plan
DCE ..... Defense Coordinating Element
DCO..... Defense Coordinating Officer
DGS ..... California Department of General Services
DMORT ..... Disaster Mortuary Operational Response Team
DMV..... California Department of Motor Vehicles
DOC..... Department Operations Center
DoD..... Department of Defense
DOJ..... Department of Justice
DOT ..... U.S. Department of Transportation
E ..... earthquake or scenario event
EMAC ..... Emergency Management Assistance Compact
EOC ..... Emergency Operations Center
ESF..... Emergency Support Function
FAC ..... Family Assistance Center
FBI ..... Federal Bureau of Investigation
FBO..... faith-based organization
FEMA ..... Federal Emergency Management Agency
GPS ..... global positioning satellite
h..... hours
HazMat..... hazardous materials
HAZUS..... Hazards U.S.

HHS ..... U.S. Department of Health and Human Services
HMRU ..... FBI Hazardous Material Response Unit
IAP ..... Incident Action Plan
ICISF..... International Critical Incident Stress Foundation
IP ..... Improvement Plan
JIC ..... Joint Information Center
JIS..... Joint Information System
JFO ..... Joint Field Office
M..... moment magnitude
MARAC..... Mutual Aid Regional Advisory Committee
MM..... Modified Mercalli
NGO..... nongovernmental organization
NRF ..... National Response Framework
PIO..... Public Information Officer
Plan..... Regional Catastrophic Incident Mass Fatality Plan
PPE..... personal protective equipment
RCPGP ..... Regional Catastrophic Preparedness Grant Program
ESF..... Emergency Support Function
RECP..... Regional Emergency Coordination Plan
REOC ..... Regional Emergency Operations Center
SEMS..... Standardized Emergency Management System
SEP..... State Emergency Plan
SOC ..... State Operations Center
UASI ..... Urban Area Security Initiative
UCG..... Unified Command Group
US&R..... Urban Search and Rescue
U.S.C. ..... U.S. Code
WMD..... weapons of mass destruction

A.2 Key Terms

Catastrophic event. Any natural or manmade incident, including terrorism, that results in extraordinary levels of mass casualties, damage, or disruption and severely affects the population, infrastructure, environment, economy, national morale, and/or government functions.

Coroner. A Coroner is a public officer whose primary function is to investigate by inquest any death thought to be of other than natural causes.

Death-care industry. The death-care industry includes funeral home or mortuary services, cremation services, and cemetery services. These services are locally owned and corporately owned licensed businesses that comply with federal, state, and local laws applicable to the handling of human remains.

Disaster Medical Assistance Team (DMAT). Group of professional and paraprofessional medical personnel organized to provide rapid-response medical care or casualty decontamination during a terrorist attack, natural disaster, or other incident in the United States. DMATs are part of the National Disaster Medical System and operate under the Department of Health and Human Services.

Disaster Mortuary Operations Response Team (DMORT). A Federal response team composed of private citizens, each with a particular field of expertise (e.g., Coroners, dental assistants, fingerprint specialists), that is activated in the event of a disaster to provide technical assistance and personnel to recover, identify, and process decedents.

Family Assistance Center. A secure facility where staff can provide information about missing persons who may be victims of the disaster, facilitate collecting information about missing persons, and facilitate the reunification of the deceased with next of kin. The term "family" applies to all persons with a common concern or love for the injured or deceased, and includes parents, siblings, grandparents, life partners, spouses, those who are engaged to be married, children, long-term family friends, and co-workers.

Fatality. Death resulting from a disaster. This Plan also uses the terms dead, decedent, and human remains to refer to a human fatality.

Final disposition. The burial, interment, cremation, or other final disposition of human remains.

Joint Field Office. The JFO is a temporary facility that provides a central location for the coordination of Federal and State actions with those of local, regional, and tribal governments and private-sector organizations. Joint State/Federal operations within the JFO are organized, staffed, and managed in accordance with NIMS principles. Although the JFO uses an Incident Command System structure, the JFO does not manage on-scene operations. Rather, the JFO provides support to on-scene operations and conducts broader support operations that extend beyond the affected area.

Joint Information Center. As described in the National Incident Management System, a Joint Information Center coordinates all event-related public information activities and is the central point of contact for all news media. Joint Information Centers may be established locally, regionally, or nationally depending on the size and magnitude of the event.

Joint Information System. As described in the National Incident Management System, a Joint Information System integrates event information and public affairs into a cohesive organization designed to provide consistent, coordinated, accurate, accessible, timely, and complete information during crisis or event operations.

Logistical Response Assistance Team (**LRAT).** Responsible for maintaining and deploying the equipment caches for all National Disaster Medical System teams including DMORT, DMAT and the veterinary teams.

Mass fatality incident. As defined in the California Mass Fatality Management Guide, a mass fatality incident is one in which the loss of life overwhelms California's Coroner Mutual Aid System and requires extraordinary support from State, Federal, and private resources.

Medical Examiner. A Medical Examiner is a public official who investigates by inquest any death not due to natural causes, is a qualified physician, often with advanced training in forensic pathology (the application of medical knowledge to questions of the law), and is usually an appointed position.

Morgue. A place where dead bodies are temporarily kept until identified and claimed or until arrangements for final disposition have been made. Several types of morgues exist, including:

- **County morgue.** A morgue operated by a county
- **Fatality Collection Point.** A temporary holding station in areas with multiple fatalities, used until deceased and their personal effects can be transported to a morgue.
- **Incident Morgue.** A fully equipped mobile morgue that supports specially trained teams to provide morgue support to county Coroners/Medical Examiners that are affected by a catastrophic incident.
- **Regional Incident Morgue.** Identical to the Incident Morgue, but decedents from multiple counties are processed at the same morgue.

Personal protective equipment (PPE). Specialized clothing or equipment worn by employees for protection against health and safety hazards.

Public Administrator. A legally mandated office of county government for every county in California. The Public Administrator serves in a fiduciary capacity to distribute the assets of estates of county residents who have passed away when no personal representative is appointed as administrator. The Public Administrator gets involved only as a last resort measure when there is no one else with higher authority to act.

Public information. Communication with the general public to provide information on evacuations.

Regional Coordination Group. The REOC Director may convene a Regional Coordination Group (RCG), which provides guidance on decisions regarding allocation of scarce resources and coordination of response activities in a regional, multidisciplinary event. The RCG consists of the relevant Branch Directors of the REOC Operations Section, the Operations Section Chief, the REOC Director, representatives of affected Operational Areas, and subject matter experts. The SOC Director may elect to participate. Depending on the nature and severity of the event, all Operational Areas in the Bay Area may be represented; however, the REOC Director may determine that a smaller group is appropriate. The REOC Director may expand the RCG to include other participants, such as a severely affected jurisdiction or a regional agency.

Unified Coordination Group. The Unified Coordination Group is initially formed at the SOC upon arrival of the Federal IMAT and then deploys to the JFO when that facility can function adequately to support response and recovery operations (the move is targeted for E+72 hours). The UCG consists of the following individuals: State Coordinating Officer (SCO); Federal Coordinating Officer (FCO); Senior Federal official (SFO), such as the Region IX Regional Administrator; Defense Coordinating Officer (DCO); and, California National Guard (CANG) Adjutant General (AG). The UCG provides leadership for joint State/Federal operations; responds to priorities set by the Governor and the President; implements policy decisions made by appropriate State and Federal policymaking entities; develops and oversees prioritization of objectives and resources through a joint IAP; and, approves taskings of State and Federal agencies and coordination with nongovernmental and private-sector organizations to carry out response and recovery operations. The Unified Coordination Group will facilitate effective utilization and integration of State and Federal resources through unity of effort and will set priorities and objectives through use of a joint Incident Action Plan (IAP). The members of the Unified Coordination Group can be found in the CONPLAN.

Victim Identification Program. An electronic database used to record all event-related information gathered in the decedent identification process, including information provided by families at the Family Assistance Center and data generated in processing the remain in the morgue. It is a stand-alone database that does not currently integrate into other FEMA systems/databases, and is secure and accessible by Federal fatality management authorized personnel.

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Appendix B:
Maps

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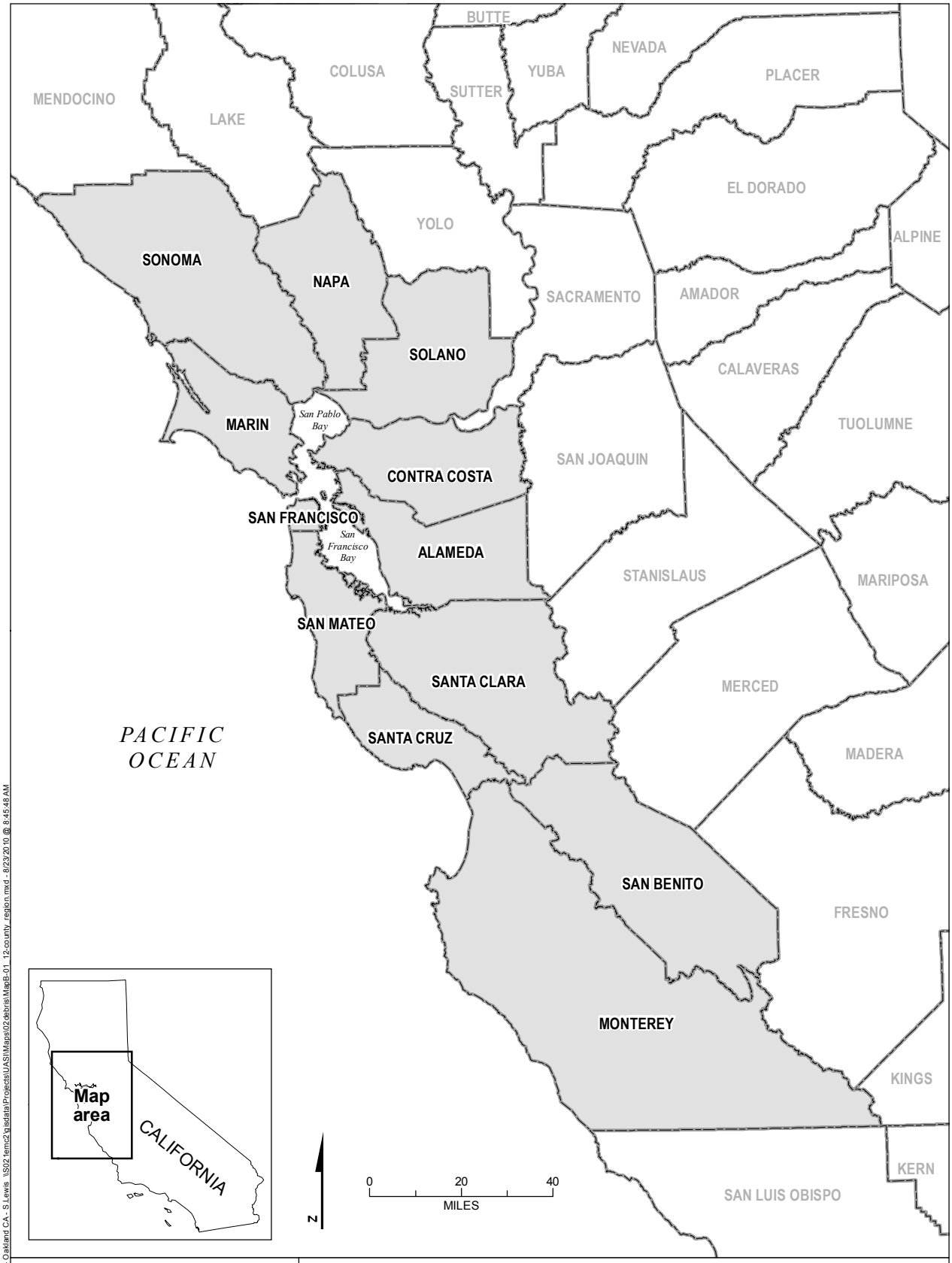

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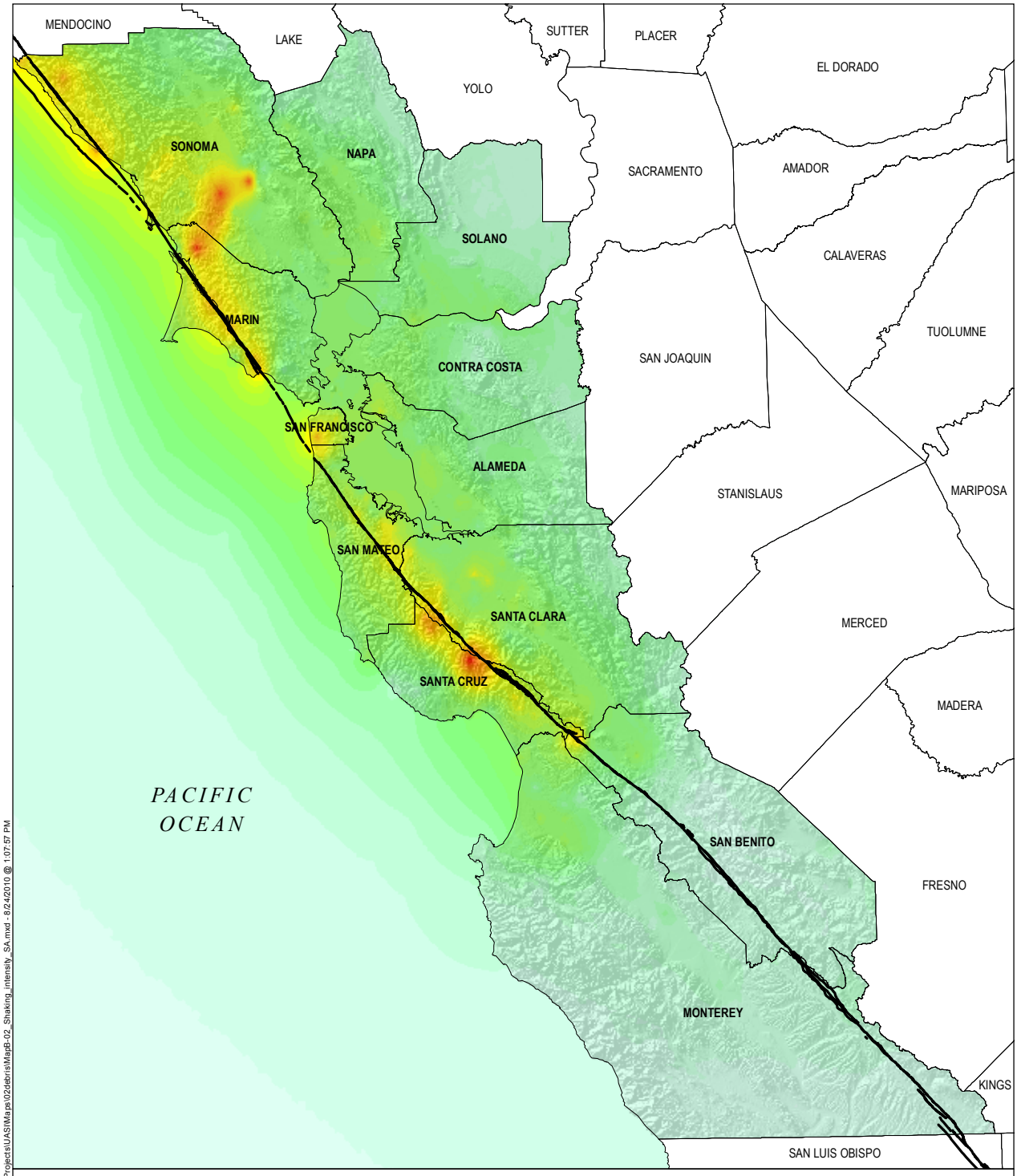
Bay Area UASI Program
Regional Catastrophic Preparedness Grant Program

Map B-1
Twelve-county San Francisco Bay Area region

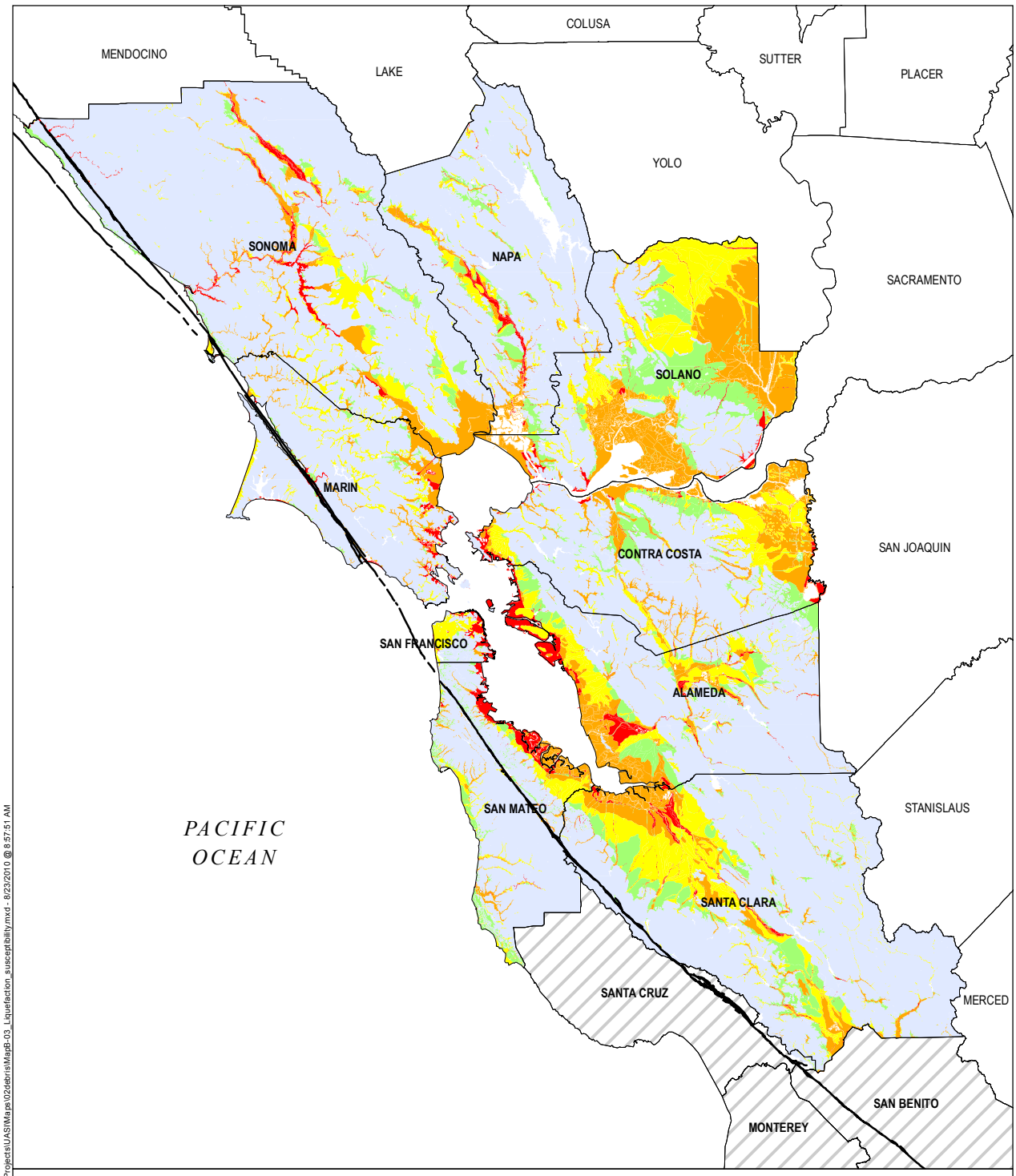


*g = 980 centimeters/second/second (units of gravitational acceleration)
Topographic data source: USGS NED
Fault data source: USGS, 2006

Bay Area UASI Program
Regional Catastrophic Preparedness Grant Program

Map B-2. Shaking intensity
Peak ground acceleration; Scenario: **M** 7.9 San Andreas fault earthquake
1906 Modified Mercalli Intensity

URS Corp - Oakland CA - S:\Lewis \\SI02\1emc2\gis\data\Projects\UASIMaps\02debris\MapB-02_Shaking_Intensity_SA.mxd - 8/24/2010 @ 1:07:57 PM



Bay Area UASI Program
Regional Catastrophic Preparedness Grant Program

Map B-3
Liquefaction susceptibility

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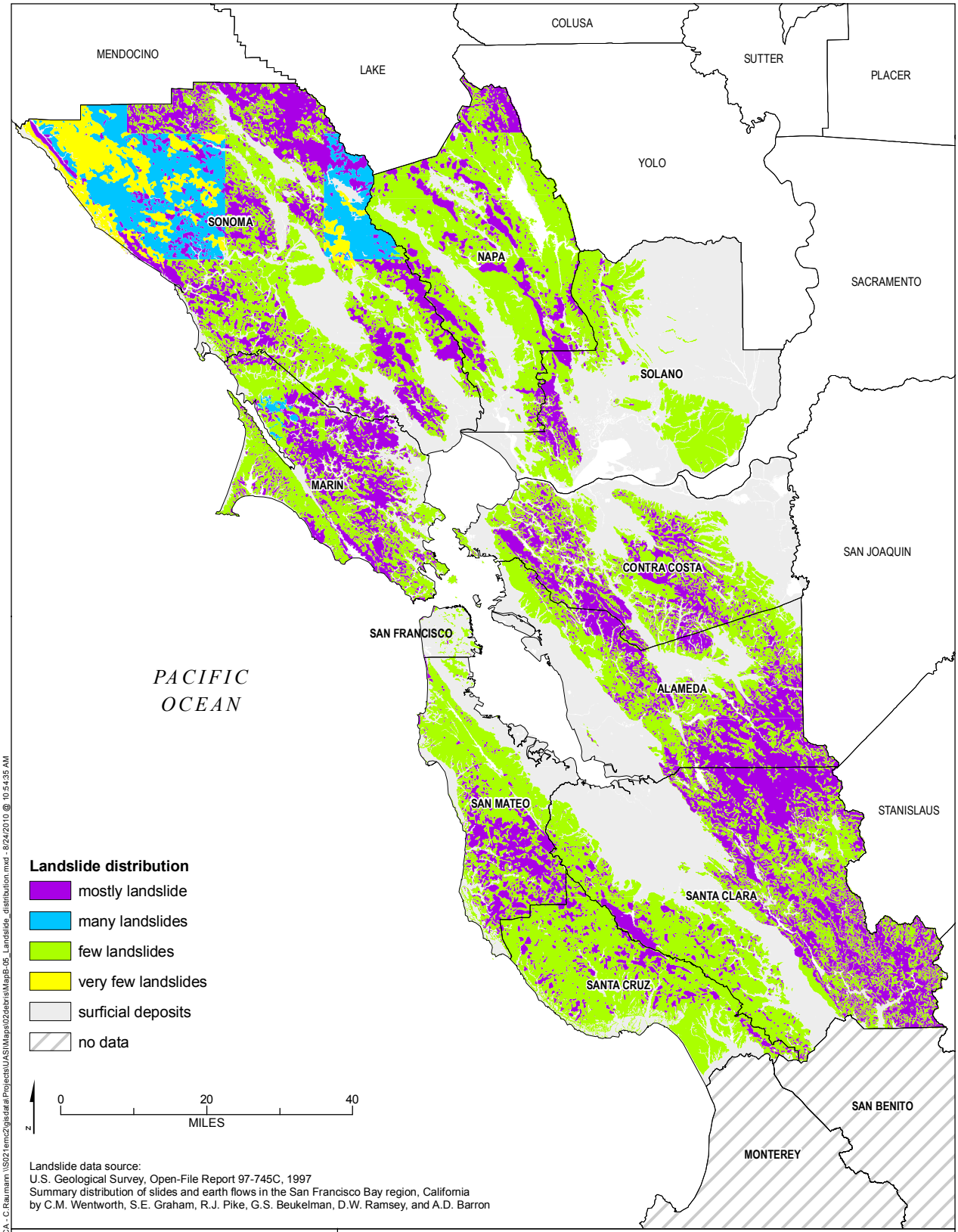

Landslide data source:
U.S. Geological Survey, Open-File Report 97-745C, 1997
Summary distribution of slides and earth flows in the San Francisco Bay region, California
by C.M. Wentworth, S.E. Graham, R.J. Pike, G.S. Beukelman, D.W. Ramsey, and A.D. Barron

Bay Area UASI Program
Regional Catastrophic Preparedness Grant Program

Map B-4
Landslide distribution

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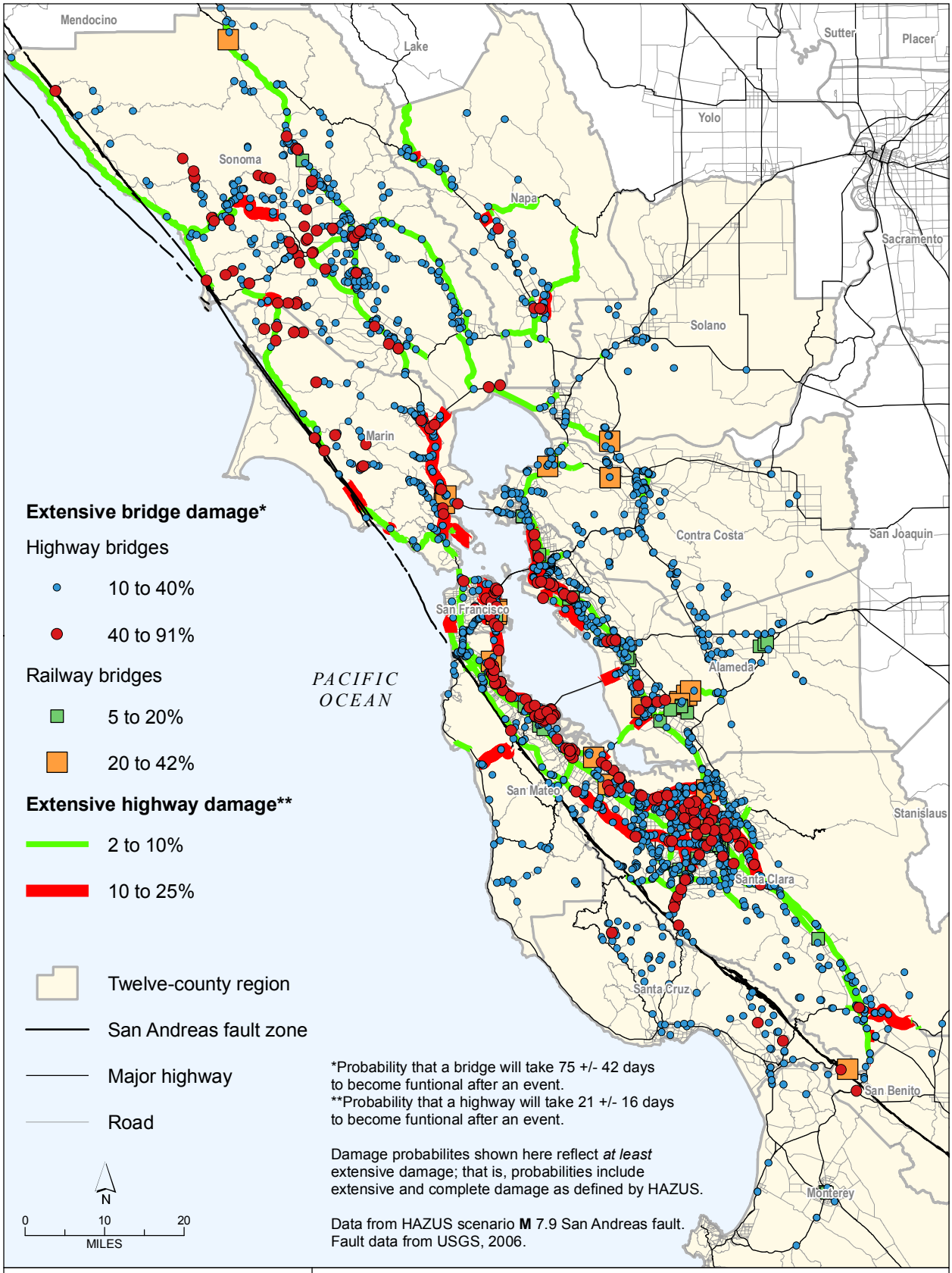
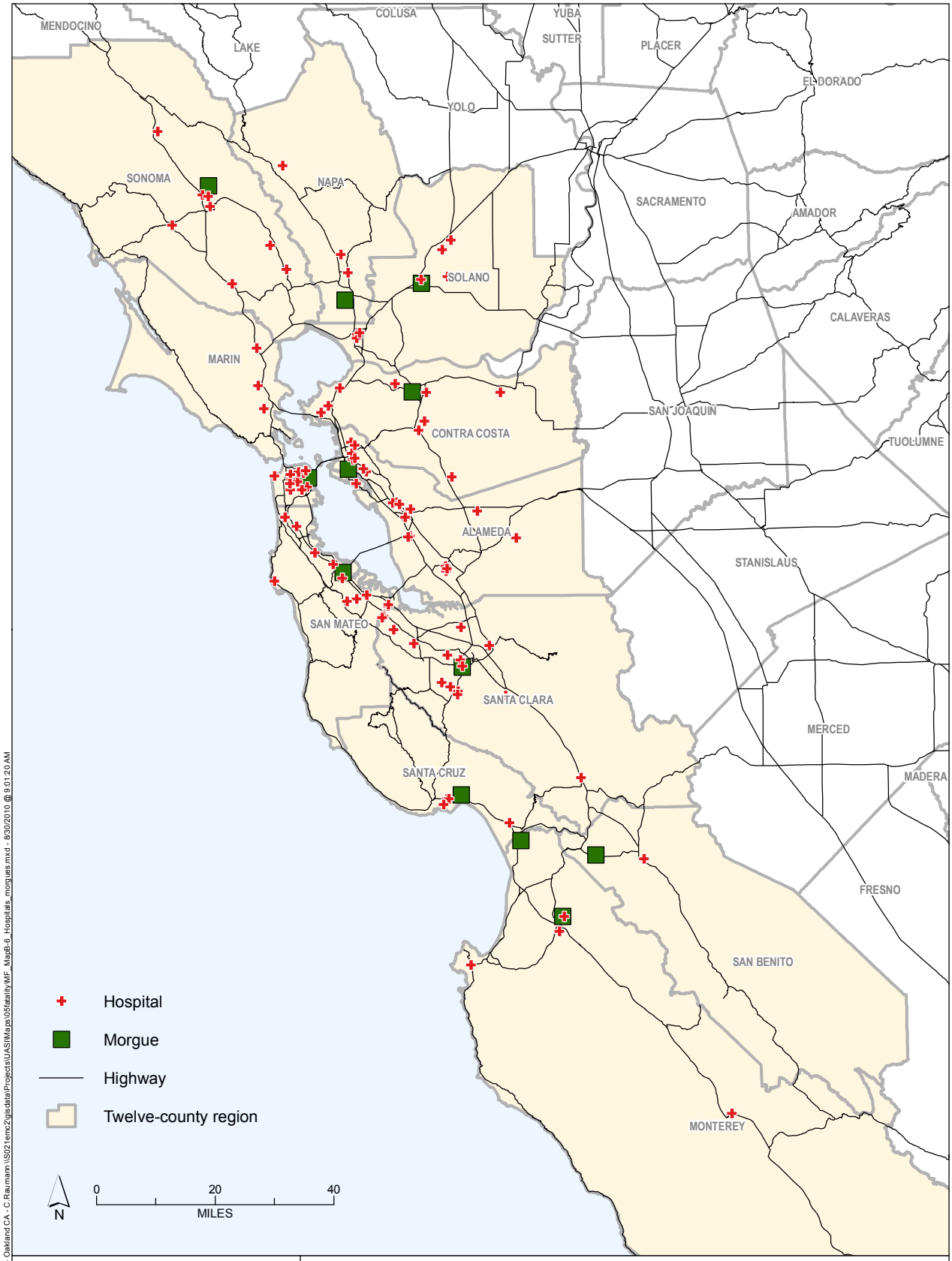


Bay Area UASI Program
Regional Catastrophic Preparedness Grant Program

Map B-5
Surface transportation system damage



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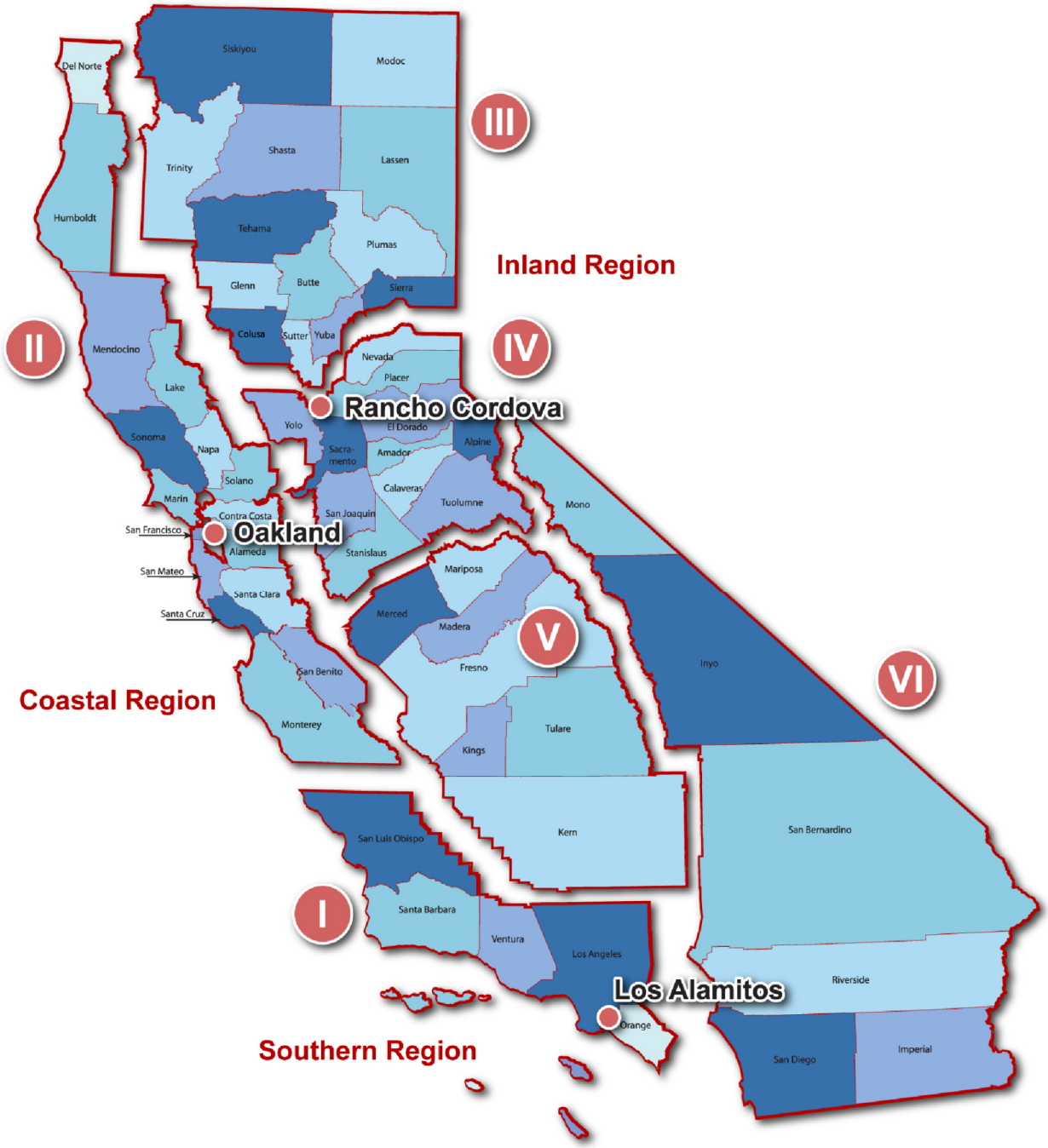
Bay Area UASI Program
Regional Catastrophic Preparedness Grant Program

Map B-6
Hospitals and morgues



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Bay Area UASI Program
Regional Catastrophic Preparedness Grant Program

Map B-7. California Emergency Management Agency
Administrative and Mutual Aid Regions

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Appendix C:
Critical Information for Regional Mass Fatality Operations

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List of Tables

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Appendix C: Critical Information for Regional Mass Fatality Operations

This appendix describes the critical information for the mass fatality response to a catastrophic earthquake. The plan describes the types of information necessary for senior leaders, emergency managers, and staff at the Regional Emergency Operations Center (REOC) and the State Operations Center (SOC) to understand the situation and make decisions regarding response priorities and resource allocations. **Table C-1** provides a chronological list of critical information that should be collected to support the response.

C.1 Information Collection Priorities

The information plan for mass fatality operations reflects the following priorities:

C.1.1 E to E+72 Hours

Information collection priorities for this phase are:

- Initial assessment of regional mass fatality operations
- Existing capabilities and anticipated and formally requested resource requirements
- Initial information about family assistance services

C.1.2 E+72 Hours to E+14 Days

Information collection priorities for this phase are:

- New information regarding the status of regional mass fatality operations
- Information regarding the request, deployment, and integration of resources into the regional Operational Areas and the continued evaluation of capabilities and resource requirements
- New information about family assistance services

C.1.3 E+14 Days to E+60 Days

Information collection priorities for this phase are:

- Information regarding any ongoing mass fatality operations in the region
- New information regarding the status of integrated State, Federal, and private resources
- Continued evaluation of Operational Area capabilities and resource requirements

C.2 Responsibilities for Information Collection and Dissemination

Regional responsibilities for information collection and dissemination as they pertain to the mass fatality response to the earthquake are as follows:

- The Operational Area EOC Coroner/Medical Examiner Branch Director/Group Supervisor is responsible for coordinating and tracking the use and availability of Coroner/Medical Examiner resources within the Operational Area and collecting information regarding ongoing mass fatality operations. Information on mass fatality operations is collected, organized, and sent to the Operation Area Planning Section for inclusion in the Operational Period Situation Report. The Operational Area EOC Coroner/Medical Examiner Branch Director/Group Supervisor is also responsible for communicating requests for Coroner/Medical Examiner resources to the Operational Area Coroner/Medical Examiner Mutual Aid Coordinator.
- The Operational Area Coroner/Medical Examiner Mutual Aid Coordinator is responsible for communicating providing information about resources requested by local governments within the Operational Area to the Operational Area Coroner/Medical Examiner Branch Director/Group Supervisor.
- The REOC Coroner/Medical Examiner Branch Director/Group Supervisor is responsible for tracking Coroner/Medical Examiner resources and associated information received from the Operational Areas through the submission of situation reports and from the Region II Coroner/Medical Examiner Mutual Aid Coordinator as part of the formal mutual aid process.
- Regional Coroner/Medical Examiner Mutual Aid Coordinator is responsible for providing information about resources requested by the Operational Areas to the REOC Coroner/Medical Branch Director/Group Supervisor

C.3 Critical Information Needs

Table C-1 provides list of critical information needs for the regional emergency coordination of mass fatality operations.

Table C-1. Critical information for regional mass fatality operations.

Critical Information	Specific Information	Methodology/Source	Responsible Entity	Product	Timeline
1 Initial Assessment of the regional situation specific to mass fatality incidents	• Address or landmark describing each location where mass fatality operations are being conducted, including latitude and longitude, if available • Estimated or confirmed number of deceased at each location • Any unique challenges hindering the identification and recovery of remains • Location of Incident Command Posts	• Incident Command Situation Reports • Media reports • Operational Area Situation Reports • GIS maps	On scene Coroner/Medical Examiner leader, Operational Area EOCs	• Situation report • Status briefing	Initial estimate within 4 hours; updated every operational period
2 Priorities for response—upcoming activities	• Operational priorities • Priorities: water, food, power, medical, search and recovery, communications	• Operational Area EOC reports • Field mass fatality response team reports • Coroner/Medical Examiner	Region	• Situation briefings • Situation reports	Initial estimate within 4 hours after event; updated every operational period
3 Status of Coroner/Medical Examiner critical infrastructure and facilities	• Status of Operational Area morgues • Status of hospital morgues	• Operational Area EOC situation reports • Medical/Health DOC situation reports	Region	• Situation briefings • Situation reports	Initial estimate within 4 hours; updated every 12 hours
4 Status of key personnel/ personnel issues	• Staffing needs for response operations	• Operational Area EOC reports • Formal Mutual Aid requests	Operational Area Coroner/Medical Examiner, Mutual Aid Coordinator	—	Within 2 hours after disaster declaration; request made to the Region II Coroner/Medical Examiner as necessary
5 Status of key partner agencies in response	• Vendors and government contractors • NGOs with agreements	• Contracts and agreements	Operational Area Coroner/Medical Examiner Mutual Aid Coordinator	• Contract services • Pre-arranged statements of agreement	Initial estimate within 4 hours
6 Missing persons	• Number/type of housing units in impacted areas • Estimated number of people in damaged buildings • Missing persons list	• Facility, personnel, or resident rosters • FACs • Media reports • Census data	Operational Area EOCs	• Rosters • Missing person reports	FACs should be established in the Operational Areas to take calls regarding missing persons. These operations should begin within the first 12 hours after the earthquake and continue for 24 to 48 hours.
7 Major issues/shortfalls	• Actual or potential resource shortfalls of the affected Operational Areas • Anticipated requirements • Potential sources for filling resource shortfalls • Resources available and locations of resources	• Operational Area EOC reports • SOC reports	Operational Area EOCs	• Situation briefings • Situation reports	Initial assessment within 4 hours after event; updated every operational period
8 Hazard-specific information Hazardous, toxic, and radiological issues Safety hazards	• Presence and extent of fires • Number/estimate of collapsed structures potentially requiring urban search and recovery • Actual and potential releases of hazardous materials • Personal safety issues and requirements • Public health concerns	• Incident Command Situation Reports • Operational Area EOC situation reports	On scene Coroner/Medical Examiner supervisor, Operational Area EOCs	• Situation report • Status briefing • Safety briefings/ messages	Initial estimate within 4 hours; updated every 12 hours
9 Weather	• Post-incident forecast and implications for impeding operations	• NWS	Cal EMA, Local weather providers	• Status briefings • Situation reports • Daily intelligence summaries	As soon as possible after the event; ongoing, as required
10 Family Assistance Centers	• Locations of FACs • Services provided at each center • Information about what to bring to the centers • Sources of assistance outside FACs	• Operational Area EOC situation reports • Media reports • NGO liaisons	Operational Area EOCs, Coroner/Medical Examiner	• Status briefings • Situation reports • Daily intelligence summaries	FACs are activated throughout the region. Some are operated by Operational Areas. Activations occur within the first 72 hours

Table C-1. Critical information for regional mass fatality operations.

Critical Information	Specific Information	Methodology/Source	Responsible Entity	Product	Timeline
11 Predictive modeling	• What HAZUS models show for damage impacts and casualties and fatalities	• HAZUS outputs	Action Planning Unit, EOCs	• GIS products	As soon as possible after the event
12 Questions the media may ask regarding Mass Fatality operations	• How many deceased have been recovered at each location • How long should the recovery take • How many of the deceased have been positively identified • How many of the deceased have been released	• Incident Command Situation Reports • Operational Area EOC Situation Reports	Coroner/Medical Examiner	• Situation briefings • Situation reports	Situation briefings occur twice a day, mornings and evenings, at the FACs; situation reports are submitted at the beginning of each operational period

Source: URS analysis (2009)
Cal EMA = California Emergency Management Agency
DOC = Department Operations Center
EOC = Emergency Operations Center
FAC = Family Assistance Center
GIS = Geographic Information Systems
HAZUS = Hazards U.S.
NGO = nongovernmental organization
NWS = National Weather Service

Appendix D:
Mass Fatality Management Options Menu

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Appendix D: Mass Fatality Management Options Menu

This appendix presents detailed description regarding the four (4) options that are part of this mass fatality management menu. The Coroner/Medical Examiner decides the best option for how the county will conducts incident-related morgue operations in consultation with the Regional Coroner/Mutual Aid Coordinator should outside resources be required.

The mass fatality management options menu includes any of the following:

- County Morgues
- Temporary Incident Morgues
- Multi-Jurisdictional Incident Morgue
- Multi-Jurisdictional, Post-Processing Storage Facility

D.1 County Morgue

County morgue personnel determine the cause of death and identify victims for return to the legal next of kin. In addition to the event-related fatalities, Coroners/Medical Examiners are required to manage their typical day-to-day case loads. It is critical to assess the full-surge operational capacities of the county morgue, in addition to the normal capacities.

If the Coroner/Medical Examiner determines that the numbers and conditions of the decedents do not overwhelm the existing morgue, the following actions are taken to better manage the significant increase in case work, ensure accurate data management, and provide support to the community:

- Identify a staff person to serve as the point of contact for non-incident-related existing cases and new non-incident related arrivals
- Establish a separate area for non-event-related existing cases and new arrivals
- Consider using a color coding system for all mass fatality case files to easily identify the file easily

If the Coroner/Medical Examiner determines that the current facilities and day-to-day case load cannot bear the operational demands of the incident-related fatalities, the Coroner/Medical Examiner should consider one of the other three fatality management options listed below.

D.2 Temporary Incident Morgues

A ttemporary incident morgue will augment existing Coroner/Medical Examiner operations through the identification of alternate facility within the boundaries of the county for the processing of incident-related fatalities. This allows funeral homes local access to the temporary incident morgue and next of kin have local access to the Family Assistance Center (FAC).

Various facilities have been used as temporary incident morgues including aircraft hangars, large durable tents, and high-school gyms.

After assessing the impact of the earthquake, the Coroner/Medical Examiner should consider the following factors when considering the establishment of a temporary incident morgue in the county:

- Number of fatalities/missing
- Current county capacity including cold storage, factoring in current non-incident-related case load
- Potential for the county morgue to be expanded
- Availability of suitable facilities
- Ability to keep non-incident-related case load separate from incident-related case load
- Ability to support the temporary incident morgue and provide personnel, security, and equipment
- Desired end state of operations (i.e.,
  - Confirmed identification and complete medicolegal examination
  - Attempt at establishing confirmed identification with medicolegal examination, as specified by law
- Factors to consider when designating a site for a temporary incident morgue:
  - Location
  - Compliance with Occupational Safety and Health Administration regulations
  - Controlled access
  - Necessary square footage, water, sewer, electricity, and climate control

D.2.1 Temporary Incident Morgue Site Selection

The Coroner/Medical Examiner identifies potential temporary incident morgue sites within the Operational Area prior to a mass fatality event. The following characteristics should be considered when establishing a temporary incident morgue site:

- Proximity to the greatest number of fatalities without impeding search operations (site should be out of the view of the public and media view to the extent possible)
- Sufficient space to accommodate the morgue stations
- Single story
- Sufficient electricity, water, waste disposal, ventilation, and lighting
- Ability to accommodate large vehicles and trailers
- Easily cleaned surfaces

D.3 Multi-Jurisdictional Incident Morgue

During a mass fatality event, local jurisdictions may lack sufficient personnel, equipment, and storage capacity to handle significant numbers of deceased victims. Therefore, jurisdictions may work with the Regional Coroner/Mutual Aid Coordinator to determine if a multi-jurisdictional incident morgue is the best option for fatality management. If so, they will determine how the multi-jurisdictional incident morgue will be managed and supported.

Counties considering the multi-jurisdictional incident morgue option will designate Coroner/Medical Examiner staff to provide command and control to the multi-jurisdictional incident morgue, which may be supported by a multitude of agencies as presented in **Section 3** of the Plan, and **Table L-1** in **Appendix L**. All State and Federal human resources must be requested by the Coroner/Medical Examiner and serve to support the Coroner/Medical Examiner.

One such team includes DMORT, which is activated immediately; however, their arrivals at the facilities take longer than 48 hours due to damage to infrastructure.

After a catastrophic disaster, the establishment of a multi-jurisdictional incident morgue to perform mass fatality management operations for counties that have expended their resources, may help to expedite the return of the deceased to the legal next of kin and reduce the negative impact on the recovery of the Bay Area communities. A multi-jurisdictional incident morgue may be needed to address the significant logistical, security, personnel, supply and transportation resources required to conduct operations.

D.3.1 Multi-Jurisdictional Incident Morgue Throughput

If DMORT support is requested by the Coroner/Medical Examiner, DMORT with LRAT logistical support are estimated to be able to process 144 bodies in a 24-hour period. Each human remain takes approximately 40 minutes to be processed. By providing Altered Standards of Death Care options and enhanced capacity at critical choke points, the rate is increased to 200 human remains per 24-hour period. Steps are underway to procure and deploy resources to eliminate these choke points. These steps include procurement of digital cameras, digital dental radiological equipment, digital full-body x-rays, and fingerprinting equipment, and by increasing the number of staff responsible for fingerprinting and dental x-rays. Eliminating choke points and adding three additional DMORTs with LRAT logistical support could provide the capacity to process over 500 bodies per 24-hour period. Supplemental equipment is required. Full computer support and personnel are needed to facilitate the entry of information into the database.

D.3.2 Multi-Jurisdictional Incident Morgue Site Selection

Proper site selection is required to ensure safe off-loading, proper staging, and assembly of a multi-jurisdictional incident morgue. The site must meet size, layout, and support infrastructure requirements. Facilities such as school gyms and public

auditoriums are not used after the demobilization. Large tents may be used, but they must be able to be configured to meet flooring, water, electricity, and heating, ventilation, and air-conditioning requirements.

Multi-jurisdictional Incident Morgue site criteria:

- Hard, weather-tight roofed structure
- Nonporous floors, concrete preferred
- Floors capable of being decontaminated
- 5,000-square-foot resupply and staging area (separate)
- Minimum area of 10,000 to 12,000 square feet to accommodate all of the morgue stations and over 10,000 pieces of equipment. More square footage may be needed for casket storage or other event-specific needs.
- Tractor trailer accessibility
- 10-foot by 10-foot door on ground level or with loading dock
- Separate accessible office space for Information Resource Center
- Separate space for administrative needs and personnel
- Standard household current (110 to 120 volts)
- Power from accessible on-site distribution panel (200-amp draw)
- Electrical connections to distribution panels installed by local licensed electricians
- If power is not available, 125-kilowatt (kW) diesel generator and a separate 70-kW diesel generator
- Small -kW diesel generators
- Single-source cold-water connection with hose bib connection
- Existing telephone line with the option to add more
- Wireless Internet connectivity
- Pre-existing restrooms preferred
- Gray water disposed of using existing drainage
- Biological hazardous waste disposed of according to local and California requirements
- Terrain forklift capable of lifting 10,000 to 15,000 pounds, with 6-foot forks and fork extensions for safe off-loading of equipment and supplies, provided by local authority
- Forklift capable of lifting 2,000 to 4,000 pounds
- Sufficient refrigerated storage for processed and unprocessed remains

D.4 Multi-Jurisdictional, Post Processing Storage Facility

The greatest need for the Coroners/Medical Examiners after a catastrophic incident is long-term, post-processing storage. A multi-jurisdictional, post-processing storage facility offers Coroners/Medical Examiners a storage site that is shared by impacted

counties to manage the storage of incident-related remains for several months, if not years. The death care industry will only be capable of minimally expediting its final disposition throughput, and they will likely need several months to ensure the proper final disposition of human remains for counties experiencing the greatest number of fatalities. As the next of kin are, in many cases, financially and mentally bankrupt after the incident, this long-term storage option offers the next of kin the time needed to regain a sense of normalcy over their lives prior to seeking final disposition of their loved one.

The participating county Coroners/Medical Examiners benefit from being able to segregate incident-related fatalities from their daily case load. Like the multi-jurisdictional incident morgue, counties will designate Coroner/Medical Examiner staff to provide command and control at the facility. Participating Coroner/Medical Examiner leadership should identify a storage numbering system that will be used at the facility. This numbering system will not supplant the Coroner/Medical Examiner assigned case numbers. Rather, the system will provide a mechanism for quickly identifying the exact location of the remains in the facility and specifics associated with the remains such as county of origin, identification, date received at facility. Participating counties will share the responsibility for 24 hour security at the site, which will ensure that any one local law enforcement is not overly burdened.

Site requirements and location will be identified by the Regional Coroner/Medical Examiner Mutual Aid Coordinator at the time of the incident in an effort to take into consideration Corner/Medical Examiner requirements; availability of resources; number of reported fatalities and missing; condition of transportation routes; and the condition of potential storage sites. Human remains may be moved across county lines if a jurisdictional need exists.

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Appendix E:
Example Incident Morgue Station Protocols

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Appendix E: Example Incident Morgue Station Protocols

This appendix contains protocols and forms that can be used by Coroners/Medical Examiners and Disaster Mortuary Operational Response Teams (DMORTs) in the management of mass fatalities after a disaster. The protocols and forms are examples only and are not mandated for use for any jurisdiction.

The example morgue protocols are based on the protocols developed by DMORT III to document the Incident Morgue operations for the United Airlines Flight 93 response. The protocols do not reflect a formal DMORT protocol.

E.1 Triage Station Protocol

1. Open bags are delivered from incident sites.
2. Team sorts through materials to separate human tissue from other material.
3. Isolated personal effects are routed to [AGENCY].
4. All items of evidentiary value (e.g., possible fragments of weapons) are routed to [AGENCY].
5. Human remains are reviewed for further analysis. The remains may include the following:
   - Tissue that will not yield any information in one or more of the following areas:
     - Autopsy – Pathology (e.g., identification, pathology, injury)
     - Forensic Anthropology (e.g., age, sex, stature, ancestry)
     - Dental – Odontology
     - Fingerprint or footprint analysis
     - DNA identification; consult DNA Station for guidelines
   - Tissue with the potential for further identification is placed in a bag and the Victim Processing Record is checked in the left margin to indicate the Stations where the remains should be routed. All remains go to Photography and Radiography. Remains go to the DNA Station when necessary.
     - The triage scribe signs and dates the Victim Processing Record. The remains are routed to the Receiving Station.
6. Human remains associated with personal effects are treated as follows:
   - The personal effects are removed from the human remains as long as removal will not damage or compromise the remains. Notation about the clothing is entered into the comments section of the Victim Processing Record and the clothing is turned over to [AGENCY].
     - If the human remains are suitable for further analysis, they are processed through the regular channels. [AGENCY] is informed that the human remains will be assigned a case number in the Receiving Station, and

they should accompany the remains to the Receiving Station to obtain that number.

- If the remains are not suitable for further analysis, they are placed in the common tissue red barrel.

– For remains were the personal effects cannot be removed without possible damage, notify the [AGENCY], and leave effects associated with tissue. Mark "[AGENCY]" in red marker on the Victim Processing Record. Send remains through procedures described above. [AGENCY] receives the remains after all other relevant Stations have signed off. These remains may be expedited through the systems at the request of the [AGENCY].

E.2 Administration Station Protocol

1. Coordinate with the Incident Morgue Manager.
2. Maintain Victim Processing Records for all decedents.
3. Verify accuracy of records, consistent case numbers, and signatures for all Victim Processing Records.
4. Confirm completion of the Identification Summary Report.
5. Ensure responsible Coroner/Medical Examiner signs death certificate.
6. Coordinate with the Family Assistance Center for the release of decedents.
7. Deliver required reports to responsible Coroner/Medical Examiner.

E.3 Receiving Station Protocol

1. Receive human remains from Triage Station.
2. Record next sequential case number available and other identifying information from the scene on the flip chart.
3. Label human remains pouch with assigned case number. Do not put provenience or scene information on the bag; put only the case number.
4. Create a folder with the assigned case number. Place appropriate paperwork, as indicated on the Victim Processing Record, inside the folder. Number all paperwork appropriately.
5. Create a case number tag with the assigned case number. Place the case number tag in the folder, NOT in the human remains pouch.
6. Staple Victim Processing Record to front of file. Initial this form.
7. If human remains are determined to be unrelated at any Station, separate them and return to the Triage Station for assessment according to the following:
   – One specimen is designated by the original case number.
   – The second specimen is admitted into the identification process according to the above procedures and received new paperwork.
   – All paperwork for each specimen should have a reference to the case number of the other specimen.

E.4 Morgue Human Remains Receiving and Sanitation Protocol

E.4.1 Human Remains Receiving

1. Remains are delivered in human remains pouches from the incident site. These are weighed and placed in cold storage area #1.
2. As the Triage Station is ready, the human remains are brought in at a gradual rate so that materials do not sit out in ambient temperature any longer than necessary.
3. After the remains are processed through all stations, they are stored in sequential incident case numbers in cold storage area #2.
4. For Quality Assurance, the common tissue remains are x-rayed and reviewed by the Autopsy/Pathology Station. Remains identified as important may be pulled from the human remains pouches and returned to the Triage Station for reassessment. Once Quality Assurance has been completed, the common tissue remains are bio-sealed in larger bags. These bio-sealed bags are numbered and dated, and a log is maintained. Once labeled, the bio-sealed bags are placed in cold storage area #2.

E.4.2 Sanitation Protocol

1. Temporary sinks are periodically checked for spillage and overflow of drainage.
2. At the cessation of each day's Incident Morgue operations, the following sanitation measures are taken:
   - All human remains, whether processed or unprocessed, are returned to cold storage. These are sorted and labeled for the Station at which they were awaiting examination so they can be returned to that Station the next day.
   - All biohazard materials are collected and sealed for pickup.
   - New biohazard containers are prepared and placed in the Incident Morgue.
   - All sinks, processing surfaces, and processing areas are disinfected with bleach or other disinfectants.
   - Fluids and processing waste buckets are collected and properly disposed.
   - The buckets are then treated with bleach or other disinfectant.
   - Floor areas are cleared and mopped with disinfectant.
   - Cold storage areas are checked and locked.
   - All Incident Morgue entrances are secured.

E.5 Temporary Human Remains and Personal Effects Removal Protocol

1. Use the Temporary Removal Form when [AGENGY] needs to temporarily examine human remains/personal effects.

2. [AGENCY] should be written in red marker in the comments section of the Victim Processing Record and signed by the [AGENCY].
3. Keep the form in the station until the [AGENCY] returns the human remains/personal effects and signs them back in.

TEMPORARY REMOVAL FORM

Case # _____

Date _____

Time _____

Checked out from station _____

Checked out by (AGENCY/NAME) _____

Return date _____

Return time _____

Checked in by _____

E.6 Permanent Human Remains and Personal Effects Removal Protocol

1. Use the Permanent Removal Form when [AGENGY] needs to permanently take custody of human remains/personal effects for analysis.
2. Write [AGENCY] using a red marker in the Comments section of the Victim Processing Record and obtain the signature of [AGENCY'S] representative.
3. Prepare a copy of the paperwork to travel with the human remains/personal effects.

PERMANENT REMOVAL FORM

Case # _____

Date_____

Time_____

Checked out from Station _____

Checked out by (Agency and Name) _____

Incident Morgue Representative Signature _____

E.7 Decontamination Protocol (When Necessary)

1. All personnel must undergo a medical examination to ensure they are physically fit for duty before beginning operations.
2. Medical examinations will continue throughout operations.
3. Rehab is an important component for personnel.

4. Personnel must be decontaminated when finished with their rotation.
5. Weather must be accurately monitored throughout operation.
6. Communications must be maintained throughout operation.
7. Human remains are brought from the Incident Site to the Dismount Area adjoining the Red Zone/Hot Zone.
8. A case number is attached to the human remains for tracking.
9. All clothing and personal effects are removed.
10. Photos are taken of remains and personal effects.
11. Scribes document all issues. (All information will be documented by scribes throughout the process and information will be transported with remains to the morgue.)
12. Remains are sent to gross decontamination (Yellow Zone/Warm Zone).
13. Remains undergo a full body exam.
14. Gross decontamination takes place by fully scrubbing remains with appropriate cleaner.
15. During the decontamination process, body fluids and other human tissue must be treated as bio-hazardous waste.
16. Scribes document height, weight, wounds, scars, hairstyle, etc.
17. Photos are taken of remains, and personal effects are photographed again.
18. Remains are passed to Chemical Agent Monitor (C.A.M.) or detection technicians in the Detection Station (part of Yellow Zone/Warm Zone and the Green Zone/Cold Zone).
19. Detection technicians use C.A.M to detect chemical agent, radiation, or biological agent, if any.
20. Forensic specialists are available, if needed.
21. If there is any amount of detectable agent on the remains, the remains are sent back to the gross decontamination station.
22. If there is no presence of contamination, the remains will be placed into a body bag, a case number will be affixed, and the remains passed to the disposition technicians in the disposition area (Green Zone/Cold Zone).
23. After remains are declared “clean” and placed in a body bag, disposition technicians will place remains in the proper receptacle (e.g., morgue, refrigerated trailer).
24. All forms, images, and documentation are turned over to an administrative technician for all data to be entered into the designated database, which is forwarded to the Incident Morgue, Coroner/Medical Examiner, law enforcement and/or other required agency.

E.8 Photography Station Protocol (Human Remains and Personal Effects)

1. Receive human remains/personal effects and placed them on white background (photo copy stand).
2. Place right-angle metric rule next to the remains/personal effects. Add extension ruler, if required.
3. Place case number tag (from folder) with case number next to the remains/personal effects.
4. Take photograph.
5. Record in Photo Document Log:
   - Date
   - CD/DVD name or number
   - Photo/digital image number
   - Case number. Add a letter suffix for subsequent photos of the same remains/personal effects (e.g., 32, 32A, 32B).
   - Camera settings
   - Make notations, as needed
     - Dental
     - Perforations in tissue
     - Correlation of case numbers
     - "PE" if personal effects are in the photo
6. Sign and date the Victim Processing Record and label as follows:
   - CD/DVD with the case number and the mass fatality incident name
   - Exterior of CD/DVD case with case number
   - Ziploc baggie with mass fatality incident name and photo number
7. Place Photo Document Log in baggie and seal.
8. Document photo numbers and human remains/personal effects shots in the Photo Document Log.
9. If the remains/personal effects come back to be re-photographed, look up the case number in the Photo Document Log to determine the last number/suffix used so that the new photograph can receive the correct sequential number. For example, if the remains/personal effects labeled 32 had three photographs taken when it originally came through, those photos are numbered 32, 32A, and 32B. If #32 comes back for more photos, it should be labeled 32C, 32D, etc.
   - Photography Station should make a copy of the original Photo Document Log.
   - Designated law enforcement officer will take possession of digital images and the original Photo Document Log.

- Designated law enforcement officer will hand-deliver this directly to [AGENCY].
- Designated law enforcement officers will keep a copy of the Photo Document Log for themselves.
- Place one set of photographs in the original postmortem files.
- Place a second set in the postmortem file copies maintained by DMORT.
- [AGENCY] maintains all original digital data/images.

E.9 Radiology Station Protocol

1. Turn on processor at beginning of the day by pressing the run button. Processor will be ready in approximately 15 minutes. Ready light will come on when processor is ready.
2. Wear gloves at all times.
3. Place cassette inside plastic cover. Place human remains on cassette. Depending on the size of the cassette, several items may be radiographed on the same digital image/film.
4. Label the remains with the corresponding case number with the lead numbers provided. Lead numbers should be placed as close to the remains as possible. Do not place multiple remains together if the case numbers run from 0 to 1 (example, 60 with 61).
5. Attempt to place the remains in anatomical position when possible. The Forensic Anthropology or Autopsy – Pathology team will assist as needed.
6. Return the digital images/film to the imaging area. It is useful to have one team member outside the Incident Morgue to transport and process the film from the Incident Morgue door. This eliminates signing in and out, and having to put on and take off personal protective equipment.
7. Review the film for adequate resolution and proper labeling.
8. Make sure the film has the proper case number label along with mass fatality incident name on the film.
8. If remains need to be repositioned to reflect anatomical position of the body part, take an additional radiograph.
9. Notify [AGENCY] of any unusual findings (e.g., non-incident related fatality).
10. Assign the scribe to do the following:
    - Complete the Radiology Form
    - Initial logbook
    - Place films in corresponding x-ray folder. If multiple remains are included on one film, note on outside of x-ray folder.
    - Sign the Victim Processing Record on the front of the folder

- If remains are not received in numerical order, note missing remains for future reference. If remains are not received by the end of the day, contact the Incident Morgue Manager

11. Complete the following end-of-day cleanup procedures:
    - Use disinfectant spray or wipes on all equipment, cassettes, and table.
    - Turn off x-ray equipment and processor. Lift the lid of the processor for ventilation.
12. When a radiograph is requested for review by another station, that station's representative will sign out the radiograph with the date and time and sign back.

E.10 Dental – Odontology Identification Station

E.10.1 Dental – Odontology Identification (Antemortem – Family Assistance Center)

1. Obtain list of possible victims
2. Contact last known treating dentist
3. Record antemortem dental records (see CalDIT Manual, page 8)
4. Deliver information to antemortem file (see CalDIT Manual, page 9)

E.10.2 Dental – Odontology Identification (Postmortem)

1. Receive dental remains from previous station.
2. Clean remains.
3. Examine and chart remains according to California Dental Identification Team (CalDIT) Manual, page 7).
4. X-ray dental remains (conventional/digital)
5. Take digital photo of remains (if authorized by DMORT Commander; see CalDIT Manual, page 7).
6. Complete and copy all postmortem records.
7. Deliver and log postmortem record to dental comparison Station (see CalDIT Manual, page 10)

E.11 Autopsy – Pathology Station Protocol

1. The pathology analysis is completed by a team consisting of a pathologist and a scribe.
2. The human remains are received and placed on the examination table. Case number is verified on file and on the remains bag.
3. The pathologist:
    - Assesses appropriate dimensions and features of each of the remains.
    - Notifies [AGENCY] of any unusual findings (e.g., possible wounds).

- If remains cannot be analyzed, the forms must still be completed. A notation of "no analysis" or "no pathology" should be made.

4. The Scribe:
   - Locates x-ray and places it on light box for review.
   - Transcribes information dictated by pathologist to Pathology Examination Form.
   - Completes Pathology Log for each of the remains.
5. Pathologist signs and dates Pathology Examination Form and the Victim Processing Record.

E.12 Forensic Anthropology Station Protocol

1. The anthropological analysis is typically completed by a team consisting of two anthropologists and one scribe.
2. The human remains are received and placed on the examination table.
3. The case number associated with human remains is verified on the file and on the human remains bag.
4. The anthropologist:
   - Assesses biological parameters.
   - Reviews Autopsy – Pathology and Dental – Odontology forms for consistency (e.g., bone, side, biological parameters) with anthropology assessment. If there is a discrepancy, the team will consult with the other team(s) and reach a consensus on the assessment.
5. The Scribe:
   - Locates the x-ray and places it on light box for review
   - Transcribes information dictated by anthropologists to Anthropology Examination Form
   - Completes Forensic Anthropology Log for each of the remains
6. Anthropologist signs and dates Anthropology Examination Form and the Victim Process Record.

E.12.1 Forensic Anthropology Cleaning Protocol

During the processing of remains by anthropology, it may be necessary to remove the tissue from bone features used for analysis of age, sex, or pathology in order to observe subtle features. All attempts are made to remove the adherent tissue using scalpels, scissors and/or periosteal elevators. If additional tissue removal is necessary, the following procedures are observed:

1. Runner takes remains to DNA for immediate sectioning. If DNA requires a section of the bone, indicate which part is still needed for anthropological analysis and return this portion to anthropology after sectioning.

2. Process bone as needed:
   - Place the bone in microwave-safe container and fill with water so bone is barely submerged. Microwave for 5 minute intervals and continue to clean the bone manually (up to 30 minutes total).
   - If tissue is still present after heating and cleaning, soak in bleach solution (50% bleach, 50% water) for 1 hour. Increase bleach concentration for second soaking if necessary.
   - Indicate cleaning procedures used (microwave, bleach, etc.) in comments of Anthropology Examination Form.

E.13 DNA Station Protocol

1. Set up computer from the Armed Forces DNA Identification Laboratory (AFDIL) with AFDIL incident number and initials of AFDIL personnel present.
2. Set up the station for DNA recovery.
   - Scalpels
   - Stryker saws
   - Diluted (10%) bleach solution
   - Disposable covers (12 × 12 Bench Kote)
   - 4 × 4s to wipe instruments
   - Collection tubes
   - Evidence bags
3. Human remains should come to DNA Station last. If the Victim Identification Form indicates that a Station has been skipped, a runner should be directed to return the remains and file to that Station. Exceptions can be made for special treatment of the remains by request from the [AGENCY].
4. The DNA recovery team examines the remains to determine whether a sample will be taken, as per AFDIL guidelines:
   - 5–10 grams of deep skeletal muscle (avoid tissues that may have been crushed by incident impact or blast forces)
   - 1–2 cm x 46 cm x 0.5–1 cm of cortical bone (avoid anthropological landmarks and articular margins, as well as fresh-broken margins, when possible; cut windows in long bones and crania)
   - Upper or lower canine or other intact tooth without restorations
   - Other portion of soft or hard tissue that fits into a 50-mL conical tube
5. The case number of the remains is noted on the DNA Log, along with a YES or NO indication for sampling. Start log with date, page number, and mass fatality incident name.
6. If a sample is taken, the remains are placed into a specimen tube that has been pre-labeled, by hand, with the AFDIL number AND the case number. The numbers should appear on the tube itself AND on the lid.

7. The specimen tube is given to the computer operator. The computer operator:
   - Enters the case number of the remains, the type of material, and the exact nature of the remains.
   - Generates two labels
     - The first label is placed on the tube on the opposite side of the hand-written numbers, as close to the lid as possible.
     - The second label is placed on the plastic evidence bag.
   - Inserts the labeled tube into the labeled bag
     - The bag is heat-sealed and placed into a cooler or a –20° Fahrenheit freezer until it is released to AFDIL. Once the remains are frozen, they should remain frozen.
     - The remains should be kept cold while awaiting sampling. If there is an extended break, or if the sampling takes longer than usual, the remains should be returned to refrigeration temporarily.
     - Completed samples are released to AFDIL by the Coroner/Medical Examiner.
     - The Victim Processing Record is initialed, and a YES or NO is written to indicate sampling.

E.14 Runner Protocol

E.14.1 General

1. Help locate files and human remains as needed
2. Help keep remains moving from one Station to the next
3. Make sure that files and/or remains removed from any Station are logged out and back in appropriately
4. Human remains of interest to the [AGENCY] are given priority

E.14.2 Photography Runner

1. Pick up files and human remains
2. Verify that remains and file numbers match
3. Verify that Photography has signed off on the Victim Processing Record
4. Deliver to next appropriate Station. Check the Victim Processing Record to determine Station. This is usually Pathology but may be Dental – Odontology, Fingerprinting or Footprinting, or Forensic Anthropology

E.14.3 Autopsy – Pathology Runner

1. Keep human remains in order, labeled “AUTOPSY – PATHOLOGY—TO BE DONE.”

2. Keep files that correspond to the remains in numerical order.
3. Once analysis is completed, deliver the remains and file to next station.

E.14.4 Forensic Anthropology Runner

1. Keep human remains in order, labeled "FORENSIC ANTHROPOLOGY—TO BE DONE."
2. Set out several remains (as space permits) in sequence with their associated x-rays and files.
3. Keep files that correspond to the remains in numerical order.
4. When analysis is completed:
   - Return x-ray to x-ray file.
   - Deliver remains and corresponding file to next station.

E.14.5 DNA Runner

1. Place human remains in container labeled "DNA – TO BE DONE."
2. Verify that remains have been examined by all Stations before bringing to DNA for review.

E.15 Evidence Walk-Through Protocol

1. [AGENCY] determines when human remains/personal effects become evidence. Whenever a Station processing remains/personal effects feels there is significant evidence that has been found, [AGENCY] is notified immediately to make the final determination.
2. Once [AGENCY] advises DMORT that particular remains/personal effects are to be treated as evidence, a Runner is assigned to walk the remains/personal effects through any remaining stations.
3. The Runner observes the following procedures:
   - Stays within view of the remains/personal effects while they are processed or transfers temporary custody of them if required to leave the remains/personal effects for any reason.
   - Ensures that the [AGENCY] and appropriate DMORT staff signs the Human Remains/Personal Effects Removal Form AFTER all Stations have completed their analysis.
   - Copies the remains file, including the Human Remains/Personal Effects Removal Form, for DMORT records.
   - Hand-delivers the copied file to the Administration Supervisor for data input and permanent filing.

E.16 Library Protocol

E.16.1 General

1. All antemortem data, except dental, are entered at the Family Assistance Center (FAC). Information being generated at the FAC will be merged into the computer at the Information Resource Center (IRC).
2. All postmortem folders are data entered and filed at the IRC. All charts must be signed in and out.
3. All antemortem records are to be filed at the IRC and must be signed in and out.

E.16.2 Antemortem Records (Dental and Medical)

1. All dental and medical records are logged in at the IRC. Faxed records are received by [AGENCY] and recorded as received by the IRC. The records are held at the IRC until retrieved by the Antemortem Station Leader.
2. Antemortem dental records are entered in on the Antemortem Log and placed in the Unprocessed File Folder in the Antemortem Records File.
3. Antemortem dental records are charted according to the established Dental Protocol. Completion of charting is entered on the Antemortem Log. The records are then placed in the box labeled "To Be Entered in WinID."
4. After data entry, the records are filed numerically in the Antemortem File.
5. Completion of the data entry is entered on the Antemortem Log.

E.16.3 Postmortem Records (Dental)

1. All postmortem records are hand-carried from the Dental Station to the Dental ID office where they are entered onto the Postmortem Log and placed in the box labeled "To Be Entered in WinID."
2. After data entry, the records are filed numerically in the Postmortem File. Completion of the data entry is entered on the Postmortem Log.
3. All records must be signed in and out of central filing.

E.16.4 File QA/QC Protocol

1. Unnecessary and/or blank forms are removed from the files.
2. Cross-check that human remains sampled for DNA analysis as indicated on the Victim Processing Record are listed on the master list compiled by the DNA Station
3. The files are reviewed to ensure that there are no discrepancies, inconsistencies, or omissions. If a problem is found, the following procedures are observed:
   - If a station has not signed the Victim Processing Record, the file is sent to the appropriate Station for signature.

- If a station has not processed the human remains/personal effects, a blue sheet for the appropriate Station is labeled with a case number. The file with the blue sheet and the remains/personal effects are sent to the appropriate Station(s) for analysis.
- If discrepancies are found between the Station analyses, a blue sheet is filled out indicating the nature of the discrepancies. The file is routed to the appropriate Station(s) for reanalysis and problem resolution.
- If an inconsistency is noted between the scientific stations (i.e., Autopsy/ Pathology, Forensic Anthropology) and Radiology on the identification of the remains/personal effects, the Radiology Form is annotated with the identification provided by the Scientific Stations. This annotation is initialed and dated by the File QA team in the Administration Station.
- If an inconsistency is noted within a Station Report, a blue sheet is filled out noting the inconsistency and the file and/or remains/personal effects are routed to the appropriate Station for resolution.

4. If the remains/personal effects have already been positively identified before the QA assessment and not all stations have completed their analyses, the remains/personal effects are considered fully processed. The remains/personal effects are not re-routed for further analysis. The remaining stations are crossed off of the Victim Processing Record and initialed by the QA team.
5. A list is maintained of all files that are re-routed. As the files are returned to the QA team, they are crossed off the list if they pass the remaining QA standards.
6. Once files have been assessed for all QA standards and have passed all quality checks, a blue "Q" is written on the lower-right corner of the Victim Processing Record and marked off a master list indicating that the file has passed QA standards. The files are then sent to the Information Resource Center for copies to be made.
7. Once copies of the files have been made, any additions or changes must be made on orange (not blue) paper. The orange sheets are copied and filed in each copy of the files.

Appendix F:
Coroner/Medical Examiner DMORT Forms

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Form F-1. Site Recovery Record

VIP/DMORT Program
Site Recovery Record

Incident _____

PM Case # _____

To be used in the field to document original findings. Please insert into the appropriate Victim Disaster Packet

Please document all information. A proper positive identification begins NOW with YOU. NOT all fields will be appropriate for all situations. Please complete all that are appropriate AND PUT A LINE OR N/A in the ones that you have no information for:

Date of recovery _____ Time / 24hr _____
MM/DD/YYYY

Body Bag # _____ **GPS Location** PM_Place_Body_Found

Found In (Grid Number) _____

Condition of Remains ☐ No Major Outward Damage ☐ Burning/Charring present ☐ Water/Environmental Decay ☐ Obvious trauma ☐ Incomplete Remains

Position found in: _____

Field Comments

Do we have a presumptive identification? If so, who do you think this may be?
Please note in the field comments area WHY you believe this is a presumptive ID.

Last **First** (MM/DD/YYYY)

Number of Photo's Taken in the field:

Recovery Team Leader and members **(please list everyone on the team)**

Transported to Morgue By

Time Received at Morgue **Date**

Location of Remains at Morgue

VIP Program Provided thru the DMORT System

Form F-2. Tracking

VIP/DMORT Program

Tracking Form

Incident

To be attached to the front of each Disaster Victim Packet

PM Case #

Body Bag #

Open Field #

RFID #

Presumptive

SSN **DOB**

Last Name **First Name**

Person performing station function must check and sign below when completed.
"No" represents that this station function could not be performed.

Processing Station:		Rep Initial	Section Rep. Signature
Admitting	○ Yes ○ No		
Personal Effects	○ Yes ○ No		
Photography	○ Yes ○ No		
Body Radiography	○ Yes ○ No		
Fingerprints	○ Yes ○ No		
Anthropology	○ Yes ○ No		
Pathology	○ Yes ○ No		
Embalming	○ Yes ○ No		
DNA	○ Yes ○ No		
Dental Examination	○ Yes ○ No		
Dental Photography	○ Yes ○ No		
Dental Radiology	○ Yes ○ No		
Exit Morgue	○ Yes ○ No		

Date of Pathology Exam

Trackers Name

After Processing Location

Identification Method

- ☐ Anthropology
- ☐ Radiographic
- ☐ Dental Records
- ☐ Fingerprints
- ☐ Pathology
- ☐ Personal Effects
- ☐ Photography
- ☐ DNA
- ☐ Field Case Notes

Comments

This bag produced bag #'s:

Photo's

Number of Dental Photos

Number of Personal Effects Photos

Number of Specimen Photos

Also included in this file:

Created

PM Info #

VIP Program Provided thru the DMORT System

Form F-3. Personal Information (page 1 of 8)

VIP Personal Information

Page 1 of 8

Last Name / Suffix / First / Initial / Sex / If Female/Maiden Name / Age

DOB (MM / DD / YYYY) / Race / Social Security # / Other / Birth City / State/Country / Birth Hospital

Address / Apt # / City / State / Zip

County / Country / Inside City Limits / Religious Preference

Education: level completed. / Elem/Second (0-12): / College / Degree Earned:

Alias 1 (Last / First / Middle) / Alias 2 (Last / First / Middle)

Phone (H) / Phone (W) / Phone (Cell)

Marital Status ○ Married ○ Never Married ○ Widowed ○ Divorced ○ Separated ○ Unknown / Wedding Date (MM / DD / YYYY)

Spouse (Last / Suffix / Maiden/Birth name / First / Middle) ○ Living ○ Deceased ○ Unknown

Father (Last / Suffix / First / Middle) ○ Living ○ Deceased ○ Unknown

Mother (Last / Maiden/Birth name / First / Middle) ○ Living ○ Deceased ○ Unknown

Legal Next of Kin (Last / First / Middle) / Home

Address / Work

City / State / Zip / On Site/Cell Phone

Relationship: ○ Wife ○ Husband ○ Father ○ Mother ○ Brother ○ Sister ○ Son ○ Daughter ○ Employer ○ Friend ○ Other

Permanent Contact (Please place name and contact info here. / Please place other here.)

Contact 1

Last / First / Middle / Suffix

Address / City / State / Zip

Home Phone / Work Phone / Cell Phone / email

Date of Initial Contact / Type of Initial Contact

Relationship: ○ Wife ○ Husband ○ Father ○ Mother ○ Brother ○ Sister ○ Son ○ Daughter ○ Employer ○ Friend ○ Other

Contact 2

Last / First / Middle / Suffix

Address / City / State / Zip

Home Phone / Work Phone / Cell Phone / email

Date of Initial Contact / Type of Initial Contact

Relationship: ○ Wife ○ Husband ○ Father ○ Mother ○ Brother ○ Sister ○ Son ○ Daughter ○ Employer ○ Friend ○ Other

Contact 3

Last / First / Middle / Suffix

Address / City / State / Zip

Home Phone / Work Phone / Cell Phone / email

Date of Initial Contact / Type of Initial Contact

Relationship: ○ Wife ○ Husband ○ Father ○ Mother ○ Brother ○ Sister ○ Son ○ Daughter ○ Employer ○ Friend ○ Other

Form F-3. Personal Information (page 2 of 8)

VIP Personal Information

Page 2 of 8

Name _____ / _____ / _____ / _____ / _____

Last | Suffix | First | Initial | Age

Height: _____ **Approx. Weight (Pounds):** _____

Hair Information

Hair Color ☐ Auburn ☐ Brown ☐ Gray ☐ Salt & Pepper ☐ Other ☐ Blonde ☐ Black ☐ Red ☐ White _____ Please place other here

Hair Length ○ Bald ○ Shaved ○ Short < 3" ○ Medium ○ Male Patern Baldness: ○ Long

Hair Accessory ☐ Extensions ☐ Hair Piece ☐ Hair Transplant ☐ Wig ☐ I

Hair Description ○ Curly ○ Wavy ○ Straight ○ N/A ○ Other: ○

Facial Hair Type ○ Clean Shaven ○ Beard & Moustache ○ Goatee ○ Sideburns ○ N/A ○ Moustache ○ Beard ○ Stubble ○ Lower Lip

Facial Hair Color ○ Blonde ○ Black ○ Red ○ White ○ Brown ○ Gray ○ Salt & Pepper ○ NA **Facial Hair Notes** _____

Eye Info

Eye Color ○ Blue ○ Green ○ Gray ○ Other ○ Brown ○ Hazel ○ Black **Color/Descrip:** _____

Optical Lens ☐ Contacts ☐ Glasses ☐ Implants ☐ None **Desc.** _____

Eye Status ☐ Missing R ☐ Missing L ☐ Glass R ☐ Glass L ☐ Cataract ☐ N/A

NAIL Info

Fingernail Type ○ Natural ○ Artificial ○ Unknown **Length** ○ Extremely Long ○ Long ○ Medium ○ Short

Fingernail Color **Description** _____

Characteristics ☐ Bitten ☐ Decorated ☐ Misshapen ☐ Yellowed/Fungus ☐ N/A

Toenail Color **Toenail description** _____

Characteristics ☐ Bitten ☐ Decorated ☐ Misshapen ☐ Yellowed/Fungus ☐ N/A

Body Piercing(s)? ○ Yes ○ No **Photos?** ○ Yes ○ No **Photo Location** _____

#	Location	Side	Quantity	Description (include evidence of old piercings)	Photo
1					
2					
3					

Tattoo(s) ○ Yes ○ No **Photos?** ○ Yes ○ No **Photo Location** _____

#	Location	Side	AM_Tat_Description
1			
2			
3			

Form F-3. Personal Information (page 3 of 8)

VIP Personal Information

Page 3 of 8

Name ____ / ____ / ____ / ____

Last | Suffix | First | Initial | Age

Dental Info

Dentist ____ (Last ____ First ____)

Address ____ Phone 1 ____

City ____ State ____ Zip ____

○ Info Listed ○ Unknown ○ I

☐ Dental Work ☐ Partials ☐ Dentures ☐ Tooth Jewelry ☐ Both ☐ Braces

Additional Dental Information/2nd Dentist: ____

Physician Info

Physician ____ (Last ____ First ____)

Address ____ Practice Name ____

Address 2 ____ Physician Type ____

City ____ State ____ Zip ____ Seen for ____

Phone 1 ____ Phone 2 ____ Records Requested ○ Yes ○ No

Email ____ Records Obtained ○ Yes ○ No

Medical Radiographs? ○ Yes ○ No ○ Unknown

Physician(s) ____

Address ____

Medical Radiographs Location	Potential Type of Radiographs - and dates taken if known

Old Fractures: ○ Yes ○ No Description: ____

Objects in Body: ☐ Pacemaker ☐ Bullets ☐ Implants ☐ Needles ☐ Shrapnel ☐ Other ____ (Please place other objects here)

Surgery ☐ Gall Bladder ☐ Tracheotomy ☐ Caesarean ☐ Reconstructive ☐ Other ____ ☐ Appendectomy ☐ Laparotomy ☐ Mastectomy ☐ Open heart (Please place other surgery here)

Diabetic? ☐ Yes ☐ No ☐ Unknown

If Female / pregnancy in the past 12 months ? ☐ Yes ☐ No ☐ Unknown

Unique Characteristics

Description of: Scars, Operations, birthmarks, burns, missing organs, amputations, other special characteristics

○ Yes ○ No ____

Prosthetic Location/Description

Prosthetic(s)

○ Yes ○ No ____

Additional Information

Form F-3. Personal Information (page 4 of 8)

VIP Personal Information

Page 4 of 8

Name _____ / _____ / _____ / _____ _____
Last Suffix First Initial Age

Group Status: ○ Alone ○ Group **Group Type:** Family, Church Group, Sports, Military **Fam/Grp Name:** If Family Group, list names here

Last seen with _____

Last location victim was seen _____

Military Service ○ Yes ○ No ○ Unknown **Military DNA Taken:** ○ Yes ○ No ○ Unknown

Country _____ **Service #:** _____

Approximate Service Date _____ **Military Branch** _____

Ever Finger Printed: ○ Yes ○ No **Immigration Status** _____ **Resident Alien Card (Green Card)** ○ Yes ○ No

☐ Fingerprints ☐ Footprints **Ever been Arrested** _____ **Arrested By:** _____

Print located _____

Usual Occupation: _____ **Type of Business** _____

Employer _____ **Phone** _____

Employer Address _____

Please list last employer if retired. Additional employers enter in additional data section

List memberships: Clubs, Fraternities, etc.

Additional Data

Form F-3. Personal Information (page 5 of 8)

VIP Personal Information

Page 5 of 8

Name _____ / ____ / _____ / _____ _____
Last Suffix First Initial Age

WATCH:

#	Type/ Make	Band Material/ Color	Description	Inscription Photo Available
1				○ Yes ○ No
2				○ Yes ○ No

Gold color is denoted by yellow, silver color is denoted by white

JEWELRY:

#	Jewelry/ Type/style	Material Color/ Stone Color	Size / Where Worn/ Frequently Worn?	Description	Inscription Photo Available
1			○ Yes ○ No		○ Yes ○ No
2			○ Yes ○ No		○ Yes ○ No
3			○ Yes ○ No		○ Yes ○ No
4			○ Yes ○ No		○ Yes ○ No
5			○ Yes ○ No		○ Yes ○ No
6			○ Yes ○ No		○ Yes ○ No
7			○ Yes ○ No		○ Yes ○ No
8			○ Yes ○ No		○ Yes ○ No
9			○ Yes ○ No		○ Yes ○ No

Other Commonly Carried Personal Effects _____

Cell phone ○ *Yes* ○ *No* ○ *Unknown* **Cell phone type:** _____ **Service provider:** _____

Cell phone number _____ **Cell phone description** _____

Form F-3. Personal Information (page 6 of 8)

VIP Personal Information

Page 6 of 8

Name _____ / _____ / _____ / _____ _____

Last Suffix First Initial Age

CLOTHING:

#	Clothing Items	Color	Description	Size
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Wallet: Description _____

Contents _____

Purse: Description _____

Contents _____

Pockets: _____

Contents Left _____

Contents Right _____

Form F-3. Personal Information (page 7 of 8)

VIP Personal Information

Page 7 of 8

Name _____ / _____ / _____ / _____

Last **Suffix** **First** **Initial** **Sex**

Potential Living Biological Donors

All Biololgical Relatives of Missing Individual----Mother/Father/Spouse/Sister/Brother/Children/Uncle/Aunt/Cousin

1	Last Name	First Name	Middle Name	Email		DOB	Sex	
	Relationship	Address	City	State	Zip	Phone 1	Phone 2	Phone 3
2	Last Name	First Name	Middle Name	Email		DOB	Sex	
	Relationship	Address	City	State	Zip	Phone 1	Phone 2	Phone 3
3	Last Name	First Name	Middle Name	Email		DOB	Sex	
	Relationship	Address	City	State	Zip	Phone 1	Phone 2	Phone 3
4	Last Name	First Name	Middle Name	Email		DOB	Sex	
	Relationship	Address	City	State	Zip	Phone 1	Phone 2	Phone 3
5	Last Name	First Name	Middle Name	Email		DOB	Sex	
	Relationship	Address	City	State	Zip	Phone 1	Phone 2	Phone 3
6	Last Name	First Name	Middle Name	Email		DOB	Sex	
	Relationship	Address	City	State	Zip	Phone 1	Phone 2	Phone 3
7	Last Name	First Name	Middle Name	Email		DOB	Sex	
	Relationship	Address	City	State	Zip	Phone 1	Phone 2	Phone 3
8	Last Name	First Name	Middle Name	Email		DOB	Sex	
	Relationship	Address	City	State	Zip	Phone 1	Phone 2	Phone 3

Primary donor for Nuclear DNA Analysis

An "appropriate family member" for **nuclear DNA Analysis** is someone that is biologically related to and only one generation removed from the deceased. The following are the family members who are appropriate donors to provide reference specimens, and in the order of preference (family members highlighted in bold print are the most desirable):

1. Natural (Biological) **Mother and Father**, AND 2. **Spouse** and Natural (Biological) **Children**, AND
3. A Natural (Biological) Mother or Father and victim's biological children, OR
4. Multiple Full Siblings of the Victim (i.e., children from the same Mother and Father)

Form F-3. Personal Information (page 8 of 8)

VIP Personal Information

Page 8 of 8

Name _____ / _____ / _____
Last First Middle

nterview_Location _____ Interview_Date (MM/DD/YYYY) Interview_Time

Interviewer Info:

Interviewer Name _____ _____
First Last

Interviewing_Organization _____

Interviewer **Home** Information

Interviewer Address: _____
Street, City State, Zip

Interviewer home phone: _____

Interviewer cell phone: _____

Interviewer work phone: _____

Interviewer **On-Site** Information

Interviewer on-site address _____
Street, Hotel, Room #

Interviewer on-site phone: _____

Interviewer on-site cell: _____

Reviewer Info:

Reviewer Name _____

Reviewer Signature _____

Reviewing agency _____

Form F-4. Clothing Inventory

VIP/DMORT Program

Clothing

Person Making Inventory _____

Incident _____

PM Case # _____

Date of Exam _____

Body Bag # _____ Sex _____

CLOTHING INVENTORY:

A= Data not available
B= Photo
C= Further information available

#	Clothing Items	Color	Description	Size

Dry Cleaning Marks Description	Laundry Marks Description

Wallet:

Description _____

Contents _____

Purse:

Description _____

Contents _____

Currency _____

Misc Items Found _____

Other Personal Effects _____

VIP Program Provided thru the DMORT System

Form F-5. Jewelry Inventory

VIP/DMORT Program

Person Making Inventory | Jewelry Inventory

Incident
PM Case #

Date of Exam

Body Bag #

	#	Type Make	Band Material Face Color	Description	Inscription	A= Data not available B= Photo C=Other Info
WATCH						

	#	Jewelry/Type Style	Material Color Stone Color	Size	Description	Inscription	A= Data not available B= Photo C= Other Info
JEWELRY							

Use this Space for More Info Regarding Jewelry:

VIP Program Provided thru the DMORT System

Form F-6. Fingerprints

VIP/DMORT Program
Fingerprinting

Fingerprint Specialist _____

Incident _____
PM Case # _____
Date of Exam _____

Body # _____

Examiner 1 _____

Examiner 2 _____

Condition of Hands _____
(Burned, mutilated, etc)

Fingers Printed _____
(List Fingers Printed)

If not printed why? _____

Fingerprint Exam Notes _____

Footprint available ? ○ Yes ○ No

Footprint Location _____

VIP Program Provided thru the DMORT System

Form F-7. Radiology

VIP/DMORT Program

Radiology

Examining Radiologist _____

Incident _____

PM Case #

Date of Exam _____

Bag # _____ **Number of Images Taken:**

Radiology Technician:

Radiologist Findings: **Sex** ○ Male ○ Unknown ○ Female possible **Est Age** _____
○ Female ○ Male possible

Fractures:

☐ Cranium	☐ R Forearm	☐ L Hand	☐ L Upper Leg
☐ Mandible	☐ R Hand	☐ R Upper Leg	☐ L Lower Leg
☐ Torso	☐ L Upper Arm	☐ R Lower Leg	☐ L Foot
☐ R Upper Arm	☐ L Forearm	☐ R Foot	

Detailed Description of Fractures

Other Radiology Findings (Prosthesis, surgery, etc.)

Reviewed by: _____

VIP Program Provided thru the DMORT System

Form F-8. Pathology (page 1 of 3)

VIP/DMORT Program

Pathology
Pg 1 of 3

Incident _____
PM Case # _____
Date of Exam _____

Examining Pathologist _____

Bag # _____ **Sex** ○ Male ○ Female ○ Unknown **Condition of Remains** _____

Est Race ○ Caucasoid ○ Asian ○ Hispanic ○ Negroid ○ American Indian ○ Unknown **Est Race Other:** _____ **Import Pictures**

Build ○ Gracile ○ Robust ○ Intermediate ○ Indeterminate **Height cm** _____ **Inches** _____ **Weight kg** _____ **Pounds** _____

Hair

Hair Color ○ Auburn ○ Black ○ Salt & Pepper ○ Blonde ○ Gray ○ White ○ Brown ○ Red ○ Other

Hair Length ○ Short ○ Long ○ Bald ○ Medium ○ Shaved ○ N/A

Hair Accessory ○ Extension ○ Hair Transplant ○ Hair Piece ○ Wig

Hair Description ○ Curly ○ Straight ○ Other ○ Wavy ○ N/A

Facial Hair ○ Beard ○ Beard & Moustache ○ Moustache ○ Clean Shaven ○ Goatee

Facial Hair Color ○ Blonde ○ Brown ○ Black ○ Gray ○ Red ○ Salt & Pepper ○ White

Facial Hair Type ☐ Clean Shaven ☐ Beard & Moustache ☐ Goatee ☐ Sideburns ☐ N/A ☐ Moustache ☐ Beard ☐ Stubble ☐ Lower Lip

Eye

Eyes ☐ Blue ☐ Green ☐ Grey ☐ Missing R ☐ Glass R ☐ Cataract ☐ Brown ☐ Hazel ☐ Blind ☐ Missing L ☐ Glass L **Optical** ○ Glasses ○ Contacts

Nails

Finger Nail Type ○ Natural ○ Artificial ○ Unknown

Length ○ Extra Long ○ Long ○ Medium ○ Short

Fingernail Color _____ **Fingernails** ○ Bitten ○ Decorated ○ Mishapen ○ N/A

Toenail Color _____ **Toenails** ○ Decorated ○ Mishapen ○ Yellow/Fungus ○ N/A

List manufacturer, serial numbers, and other identifying features:

Prothestics _____

Teeth Present? ○ Yes ○ No **Dentures Present:** ○ Yes ○ No

Scars

☐ Scars (other than surgical) ☐ Birthmarks ☐ Deformities (non peri-mortem) ☐ Cardiac

Description _____
Scars _____
Birthmarks _____
Deformities _____
Cardiac _____

Surgery

☐ Gall Bladder ☐ Laparotomy ☐ Reconstructive
☐ Appendectomy ☐ Caesarean ☐ Open Heart
☐ Tracheotomy ☐ Mastectomy ☐ Other

Other Surgery _____

Description _____

Form F-8. Pathology Form (page 2 of 3)

VIP/DMORT Program

Examining Pathologist **Pathology** **Incident** _____
Pg 2 of 3 **Date of Exam** _____

Bag # _____ **Sex** ○ Male ○ Female ○ Unknown

Tattoo(s) ○ Yes ○ No ○ Unknown **Photos?** ○ Yes ○ No

#	Location	Side	Tatoo Description

Body Piercing(s)? ○ Yes ○ No ○ Unknown

#	Body Bag #	Location	Side	Quantity	Piercing Description

Objects In Body

☐ Pacemaker ☐ Prosthetic Devices ☐ Other
☐ Bullets ☐ Orthopedic devices

Other Object In Body _____

Wallet
Description
Contents

Purse
Description
Contents

Currency

Misc Items Found

Other Personal Effects

Form F-8. Pathology Form (page 3 of 3)

VIP/DMORT Program

Examining Pathologist _____ **Pathology Pg 3 of 3** **Incident** _____ **Date of Exam** _____

Bag # _____ **Sex** ○ Male ○ Female ○ Unknown **Specimen Wt** _____

Dimensions _____

Path Narrative:

Additional head and neck exam remarks:

Torso ○ Viscera Identifiable **Torso Remarks**

External Genitalia

- ☐ Male
- ☐ Female
- ☐ Indeterminate
- ☐ Circumcised
- ☐ Uncircumcised

Internal Genitalia

- ☐ Testis Left
- ☐ Testis Right
- ☐ Uterus
- ☐ Tubes Left
- ☐ Tubes Right
- ☐ Ovaries Left
- ☐ Ovaries Right

Extremity Remarks

Expanded Condition of Remains:

- ☐ Fresh
- ☐ Decomposing
- ☐ Burned
- ☐ Charred
- ☐ Cremains
- ☐ Distinct Marks
- ☐ Specific Trauma
- ☐ Floating (GPS)
- ☐ Submerged (Grid #)
- ☐ Scavenger Activity

VIP Program Provided thru the DMORT System

Form F-9. Anthropology (page 1 of 2)

VIP/DMORT Program

Examining Anthropologist **Anthropology** **Incident** _____

Pg 1 of 2 **PM Case #** _____

Date of Exam _____

Bag # _____ **Anthropology Condition of Remains:** _____

Anthropology estimated information in this area.

Estimate age: Age narrow lower	Age narrow upper	95% Lower limits:	95%Upper limits:	Anthro Sex
				☐ Male ☐ Unknown ☐ Female possible ☐ Female ☐ Male possible

Race / Skeletal

○ Caucasoid ○ Asian ○ Hispanic ○ Other
○ Negroid ○ American Indian ○ Unknown

Skeletal Robusticity

○ Gracile ○ Robust
○ Intermediate ○ Indeterminate

Stature (in Cm)

Missing Parts

☐ Intact Body	☐ Partial L Forearm	☐ R Lower Leg
☐ Cranium	☐ L Hand	☐ Partial R Lower Leg
☐ Partial Cranium	☐ Partial L Hand	☐ R Foot
☐ Mandible	☐ R Upper Leg	☐ Partial R Foot
☐ Partial Mandible	☐ Partial R Upper Leg	☐ L Upper Leg
☐ Torso	☐ R Lower Leg	☐ Partial L Upper Leg
☐ Partial Torso	☐ Partial R Lower Leg	☐ L Lower Leg
☐ R Upper Arm	☐ R Foot	☐ Partial L Lower Leg
☐ Partial R Upper Arm	☐ Partial R Foot	☐ L Foot
☐ R Forearm	☐ L Upper Leg	☐ Partial L Foot
☐ Partial R Forearm	☐ Partial L Upper Leg	
☐ R Hand	☐ L Lower Leg	
☐ Partial R Hand	☐ Partial L Lower Leg	
☐ L Upper Arm	☐ L Foot	
☐ Partial L Upper Arm	☐ Partial L Foot	
☐ L Forearm		

Unique Skeletal Features (Pathology, Healed Trauma, Non-metric Traits, Etc.)

☐ Intact Body	☐ Partial L Forearm	☐ R Lower Leg
☐ Cranium	☐ L Hand	☐ Partial R Lower Leg
☐ Partial Cranium	☐ Partial L Hand	☐ R Foot
☐ Mandible	☐ R Upper Leg	☐ Partial R Foot
☐ Partial Mandible	☐ Partial R Upper Leg	☐ L Upper Leg
☐ Torso	☐ R Lower Leg	☐ Partial L Upper Leg
☐ Partial Torso	☐ Partial R Lower Leg	☐ L Lower Leg
☐ R Upper Arm	☐ R Foot	☐ Partial L Lower Leg
☐ Partial R Upper Arm	☐ Partial R Foot	☐ L Foot
☐ R Forearm	☐ L Upper Leg	☐ Partial L Foot
☐ Partial R Forearm	☐ Partial L Upper Leg	
☐ R Hand	☐ L Lower Leg	
☐ Partial R Hand	☐ Partial L Lower Leg	
☐ L Upper Arm	☐ L Foot	
☐ Partial L Upper Arm	☐ Partial L Foot	
☐ L Forearm		

Anthro Sex Based On _____

Anthro Age Based On _____

Ancestry based on _____

Stature based on _____

Unique Skeletal Features _____

Form F-9. Anthropology (page 2 of 2)

VIP/DMORT Program

Examining Anthropologist **Anthropology** **Incident**

Pg 2 of 2 **Date of Exam**

Bag # **Anthropology Condition of Remains:**

Condition of Remains / Comments

Anthropology Report

Cause of Death

Manner of Death

Signature of Section Leader

VIP Program Provided thru the DMORT System

Form F-10. DNA Specimen

VIP/DMORT Program
AFIP/DNA Specimen

Incident

PM Case #

Date of Exam

Body Bag # _____ LISA ID # _____

Examiner 1 _____

Examiner 2 _____

Not Suitable For Typing - No Specimen Taken

If not, why? _____

Entire Specimen Taken ○ Yes ○ No

Portion of Specimen Taken (Include Size) _____

Description of Specimen Taken (Include Size) _____

DNA Hold Notes _____

Additional Information _____

VIP Program Provided thru the DMORT System

Appendix G:
Chemical, Biological, Radiological, Nuclear, or High-Yield Explosive (CBRNE) Incident

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Appendix G: Chemical, Biological, Radiological, Nuclear, or High-Yield Explosive (CBRNE) Incident

A chemical, biological, radiological, nuclear, or high-yield explosive (CBRNE) incident would create difficult challenges for local Coroners/Medical Examiners who manage the high number of fatalities that would occur, identifying victims, preserving and collecting evidence in a contaminated environment, and decontaminating and releasing human remains.

This document is an appendix to the Regional Catastrophic Incident Mass Fatality Plan (Plan) and contains the key regional mass fatality response elements for a CBRNE incident.

G.1 Scope

The scope of the information in this appendix is the regional coordination of resources in support of local mass fatality operations in response to a catastrophic CBRNE incident in the San Francisco Bay Area. The key elements of the coordination are the request and integration of State and Federal resources and public information. The objectives and response timeline for regional support of local mass fatality operations contained in this appendix are designed to be applicable to any jurisdiction facing a similar incident.

Nothing in this appendix should interfere with, or usurp, the authority of the local Coroner/Medical Examiner in carrying out his or her duties and responsibilities.

G.1.1 Nature and Duration of the Incident Scenario

The regional CBRNE incident scenario involves a terrorist-initiated explosion of a chlorine tank at a wastewater treatment facility in San Jose, California. The explosion releases a toxic chlorine plume into the environment. The explosion and chlorine release result in mass fatalities, and the human remains have varying degrees of contamination. The number of casualties and the amount of contamination are catastrophic.

The CBRNE incident scenario development methodology is described in **Section G5.1,** and the scenario elements and impacts are described in **Sections G5.2** and **G5.3**.

G.1.2 Geographic Scope

The CBRNE incident will have a catastrophic impact on the City of San Jose and the County of Santa Clara. The explosion will create a chlorine plume extending 10 miles southeast of the water treatment plant in San Jose, exposing approximately 350,000 people in 10 zip codes downwind. Although most jurisdictions in the San Francisco Bay Area will not be affected directly by the CBRNE incident, their resources will be needed to fill mutual aid requests from Santa Clara County.

G.1.3 Time Frame

The time frame addressed in this appendix begins with the occurrence of the CBRNE incident and ends 60 days afterwards. The planning periods (phases) are given in hours or days after the incident or event (E).

This appendix does not address planning or response activities that may occur before the incident or long-term activities that will occur after 60 days. However, **Section G6.4** provides guidance for long-term regional mass fatality planning objectives in response to a CBRNE incident.

G.2 Applicability

The CBRNE appendix is an incident-specific appendix to the Regional Catastrophic Incident Mass Fatality Plan, which is an incident-specific and function-specific subsidiary plan of the San Francisco Bay Area Regional Emergency Coordination Plan (RECP).

This appendix is consistent with the following:

- California Mass Fatality Management Guide, prepared by the California Emergency Management Agency (Cal EMA)
- San Francisco Bay Area Catastrophic Earthquake Readiness Response, Concept of Operations Plan, prepared by the Federal Emergency Management Agency (FEMA)

G.3 Authorities, Regulations, and Requirements

Local, State, and Federal authorities, regulations, and requirements that apply to the preparation of this appendix and to mass fatality operations conducted in response to a CBRNE incident are identified in **Section 1.5** of the Plan.

G.4 Roles and Responsibilities

The roles and responsibilities of local, State, and Federal agencies involved in responding to a CBRNE event are detailed in **Section 3** of the Plan. The agencies involved in responding to an earthquake scenario are fundamentally the same for a CBRNE incident scenario with the exception of the Federal Bureau of Investigation (FBI), whose role is described below. The differences in response functions are captured in coordinating and supporting entities in **Section G6.3**.

For the CBRNE incident scenario described in **Section G5.2**, the Santa Clara County Medical Examiner–Coroner is the lead mass fatality authority for all incident-related fatalities, coordinating the use of local, regional, State, interstate, and Federal mass fatality management resource assistance and overseeing overall mass fatality response operations.

FBI. Because the CBRNE incident scenario is a terrorist attack, the attack is classified as a Federal crime and the incident scene as a Federal crime scene. All

operations conducted at the incident scene must be coordinated with the FBI, which will seek to preserve the scene to support the investigation.

FBI Hazardous Material Response Unit (HMRU). The FBI HMRU is responsible for the following:

- Responding to criminal acts and incidents that involve hazardous materials (HazMat)
- Providing site safety oversight for FBI personnel operating in high-hazard crime scenes, including collapsed structures and confined spaces
- Providing technical and scientific response to FBI investigations involving HazMat, including CBRNE incidents

G.5 Scenario

This section presents the CBRNE incident scenario development methodology, the scenario details, projected impacts of the event, and the assumptions specific to the scenario.

G.5.1 CBRNE Incident Scenario Development Methodology

The CBRNE incident scenario was developed to guide the regional coordination of resource requests and public information dissemination in support of the local response to a catastrophic mass fatality event from a CBRNE incident. The scenario simulates an environment with a high number of fatalities and with the additional challenge of processing contaminated human remains.

The scenario was selected based on the chemical release CBRNE planning scenarios outlined in the Bay Area Urban Area Security Initiative Program CBRNE Assessment and Strategic Plan. The scenario is based on the U.S. Department of Homeland Security (DHS) National Planning Scenarios with additional adaptations for a better fit of local and regional planning purposes in the San Francisco Bay Area. The scenario is based on a terrorist attack involving the detonation of an improvised explosive device (IED) that damages chlorine tanks at a water treatment facility. The explosive impact results in the release of a toxic chlorine plume that causes fatalities among those exposed onsite and the downwind populations. The scenario details are the same as the corresponding scenario described in the CBRNE Assessment and Strategic Plan.

The scenario was prepared in accordance with the chlorine gas release scenario development methodology described in the CBRNE Assessment and Strategic Plan. Accordingly, the location of the water treatment facility was determined and plotted based on locations of utilities in the region that were derived using Hazards U.S. (HAZUS). Zip codes, population centers, and associated population numbers within 10 miles of the water facility were determined and categorized as the chlorine gas plume impact zone and exposed population. The population numbers were derived from Census 2000 data. Approximately 2.5 percent of the exposed population dies in the incident scenario according to the estimate in the CBRNE Assessment and

Strategic Plan. The 2.5 percent fatality rate is also consistent with the DHS National Planning Scenario guidelines for a terrorist attack scenario involving a chlorine tank explosion.

G.5.2 CBRNE Incident Scenario

The CBRNE incident scenario is a terrorist attack on a chlorine tank at a wastewater treatment facility in San Jose, California. The attack is carried out by a group of terrorists in a car transporting 100 pounds of TNT-equivalent explosives that collides with the chlorine tank, causing liquid chlorine to spread approximately 1,500 feet from the explosion site and chlorine gas to be released into the air.

Assumptions regarding the incident scenario and its impacts on the region are characterized in **Section G5.3**.

G.5.3 CBRNE Incident Scenario Assumptions

1. The number of immediate and delayed fatalities in and around the City of San Jose is approximately 8,750.
2. The explosion creates a chlorine plume extending 10 miles to the southeast of the water treatment plant exposing approximately 350,000 people in 10 zip codes downwind.
3. Immediate fatalities occur at the explosion site and in the plume zone.
4. An additional and significant proportion of delayed fatalities occur from injuries sustained in the plume zone.
5. Human remains extending out approximately 1,500 feet from the explosion site have the highest levels of contamination, while the remains farther downwind have varying levels.
6. The response capabilities of the City of San Jose and Santa Clara County and the region are overwhelmed almost immediately by the number of fatalities.
7. The chlorine plume results in mass fatalities scattered over a large area requiring multiple teams to adequately cover search-and-recovery operations.
8. Since the CBRNE incident is the result of a terrorist attack, the FBI responds to the incident location and has jurisdiction over evidence collection and the investigation, requiring the Medical Examiner–Coroner to coordinate with the FBI before recovering human remains and personal effects.
9. Contaminated remains require the use of appropriate decontamination procedures, significantly increasing the fatality management burden.
10. Because County and City HazMat teams and other support agencies are fully engaged in life-saving decontamination efforts, the recovery of contaminated human remains may not begin until after all life-saving operations are concluded.

11. The recovery of some human remains is conducted at a site contaminated with hazardous materials, significantly impeding the recovery of the deceased.
12. Contaminated human remains require decontamination before transporting them to temporary morgues.
13. Resources needed to transport the deceased are not available until threatened populations have been evacuated from the hazard zone.
14. The Santa Clara County Medical Examiner–Coroner requires mutual aid assistance beyond the regional level and significant response assistance from State and Federal governments.
15. Mutual aid assistance is needed from fire agencies, HazMat units, Disaster Mortuary Operational Response Teams (DMORTs), the military, and other non-Coroner/Medical Examiner entities to perform decontamination of the deceased.
16. Mass fatality management response capabilities and resources may be insufficient for normal standards of death care, despite significant mutual aid and State and Federal assistance.
17. Mutual aid, regulatory remedy, and/or State and Federal support for hospitals and the death-care industry are needed immediately.
18. The lack of trained personnel, equipment, and facilities limit decedent processing throughput.
19. The supply of refrigerated trucks does not meet the demand, making it difficult to ensure proper storage/transportation for the deceased.
20. The lack of a standardized and institutionalized credentialing system for mass fatality management response personnel is problematic.
21. The State recognizes the credentials of out-of-state response personnel.
22. Local and State officials seek a waiver of selective regulatory codes/statutes pertaining to day-to-day Coroner/Medical Examiner operations to allow for effective and timely mass fatality management.
23. Environmental regulations may become an issue requiring resolution by local, State, and Federal agencies.
24. The State amends/suspends Title 22 of the California Code of Regulations so that biowaste and other bodily fluids from human remains are not declared hazardous materials.
25. The Governor issues, amends, or rescinds Executive Orders, proclamations, or rules to deal with the disposition of human remains.
26. The State may establish a standard method of final disposition by issuing an Executive Order or by other legal means.
27. Affected diverse cultural/religious community populations in the region need appropriate cultural/religious sensitivities and considerations.

28. The need to consider varied cultural/religious practices may overburden the task of final disposition of human remains.
29. Military final disposition protocols need to be considered, as appropriate.
30. State and Federal agencies and the private sector assist in planning, conducting, and developing special memorial services and sites.

G.6 Concept of Operations

All elements of the mass fatality concept of operations presented in **Section 4** of the Plan apply to mass fatality response operations for the regional CBRNE incident scenario described in this appendix. This section contains the elements of the concept of operations that have additional and/or different considerations for the regional CBRNE incident scenario. The additional and different considerations are as follows:

- Time-based operational priorities and response objectives for a CBRNE incident for E to E+60 days
- Mass fatality operational details (e.g., recovery, decontamination, storage, transport, processing, and final disposition of a large number of contaminated human remains)
- A summary of operations that are conducted within the FBI-defined crime scene to include the recovery, decontamination, and processing of human remains and personal effects
- Timeline and actions from E to E+60 days (e.g., deployment of resources, key decision points, activations)
- Guidance for transitioning into long-term mass fatality operations and considerations for operations after E+60 days

G.6.1 Operational Priorities and Response Objectives

The operational priorities and response objectives for each phase of the response (from E to E+60 days) to a mass fatality CBRNE incident are described below.

G.6.1.1 E to E+72 Hours

Operational priorities:

- Conduct an assessment of the incident site
- Determine the number of fatalities and identify the locations of the deceased
- Initiate recovery of human remains and personal effects

Response Objectives:

- Establish an incident command system structure that coordinates mass fatality operations and supports movement of responders and resources into the area by integrating local, State, and Federal operations

- Establish interoperable emergency communications among public- and private-sector mass fatality response and death care entities involved in mass fatality operations
- Obtain situational awareness for the incident location
- Identify mass fatality management resource requirements and capabilities
- Submit initial mass fatality management resource requests
- Coordinate and initiate dissemination of public information through the Joint Information Center (JIC)
- Plan and coordinate mass fatality management operations with appropriate agencies, including the FBI, which is tasked with collecting evidence at the impact site, which is considered a Federal crime scene
- Collect evidence
- Establish system for the recovery and decontamination of human remains
- Conduct the recovery of human remains and personal effects
- Decontaminate recovered human remains

G.6.1.2 E+72 Hours to E+14 Days

Operational priorities:

- Continue recovery and decontamination of human remains
- Establish and initiate incident morgue operations
- Provide family assistance services

Response objectives:

- Continue recovery of human remains
- Assess current mass fatality management capabilities and request additional resources as needed
- Conduct Incident Morgue operations
- Provide family assistance services
- Continue coordination and dissemination of public information through the JIC
- Continue decontamination of human remains
- Release decontaminated human remains
- Implement stress management and crisis intervention strategies

G.6.1.3 E+14 Days to E+60 Days

Operational priorities:

- Continue recovery and decontamination of remains
- Release and facilitate final disposition of recovered human remains
- Document mass fatality operations

Response objectives:

- Conduct final assessment of the impact site and plume zone to ascertain whether any human remains are present
- Continue decontamination of human remains
- Continue coordination and dissemination of public information through the JIC
- Continue operation of the Incident Morgue until the majority of human remains have been processed
- Continue to provide family assistance services
- Continue release of decontaminated human remains
- Continue to provide stress management and crisis intervention services to responders and friends and family of the deceased
- Plan for transition to long-term fatality management operations
- Demobilize unused resources

G.6.2 Mass Fatality Response Operations

The key differences between the response operations in a mass fatality earthquake scenario and a CBRNE incident scenario are as follows:

- The CBRNE incident location is considered a Federal crime scene, and all human remains and personal effects at the scene are collected and are considered potential material evidence.
- Following a CBRNE incident, the Medical Examiner–Coroner coordinates with the FBI on the recovery of human remains and personal effects from the identified crime scene.
- Human remains and personal effects near the CBRNE incident are likely to be contaminated and should be appropriately decontaminated.
- The sweep of the plume zone requires recovery teams to enter all buildings in the plume zone without signs of life and to canvass open areas.
- CBRNE incidents causing mass fatalities require recovery, decontamination, storage, transport, processing, and final disposition of a large number of contaminated human remains.

The unique elements of mass fatality response operations for a CBRNE incident are:

- Contamination control zones
- Initial site assessment and crime-scene identification
- Search and recovery of remains
- Recovery of contaminated remains
- Fatality collection point for contaminated remains
- Decontamination of human remains
- Transportation of contaminated remains
- Storage of contaminated remains
- Personal Protective Equipment

- Post-examination processing and final disposition of human remains
- Removal and disposal of hazardous materials

G.6.2.1 Incident Command and Jurisdictional Authority

For the CBRNE incident, Incident Command is established according to ICS. Given that the scenario is a terrorist attack causing mass fatalities, the Medical Examiner–Coroner and FBI have jurisdictional authorities giving them responsibility for specific operations. The jurisdictional authorities are described below:

- The Medical Examiner–Coroner has authority over all incident-related fatalities, both at the crime scene and those occurring away from the crime scene.
- The FBI has jurisdiction over the crime scene and has the authority to take measures to preserve the crime scene, collect evidence, investigate the incident, and prevent additional attacks.

G.6.2.2 Contamination Control Zones

The initial CBRNE incident response includes establishing contamination control zones at the incident location, which remain until the contamination has dissipated or the contaminant has been eradicated.

The first arriving law enforcement or fire-suppression agency establishes the perimeters of the zones and controls access to the incident site (see **Figure G-1**).

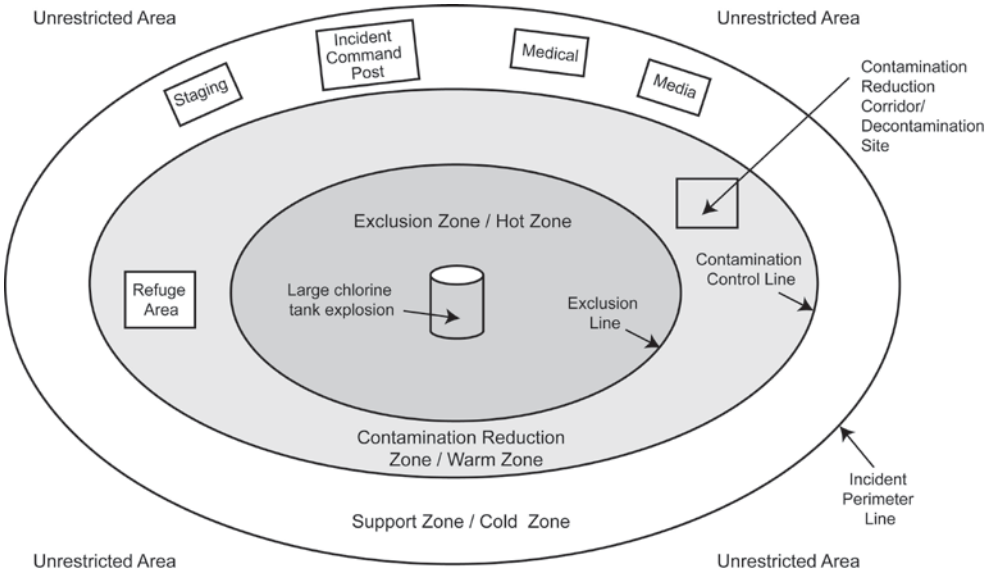

Figure G-1. Contamination control zones.

The three zones are:

- **Exclusion Zone/Hot Zone**. May be accessed only by designated first responders with appropriate training and personal protective equipment (PPE). The perimeter is called the Exclusion Line.
- **Contamination Reduction Zone/Warm Zone (Dismount Area)**. Includes the Contamination Reduction Corridor/Decontamination Site and the Refuge Area. Responders must have appropriate PPE on to access the Contamination Reduction Zone. The perimeter is called the Contamination Control Line.
- **Support Zone/Cold Zone**. Includes staging and strategic operations (e.g., Incident Command Post, Medical, and Media areas). The perimeter is called the Incident Perimeter Line. The area outside the Support Zone is unrestricted and accessible to the public.

In coordination with the on-scene HazMat lead, the FBI, the local law enforcement agency, and the Medical Examiner–Coroner establishes the flow for the recovery, decontamination, and management of human remains and associated personal effects, which requires establishing contamination control zones and processing areas. The distance between and the location of the various zones and processing areas depends on numerous factors, including but not limited to the following:

- Terrain
- Available facilities, supplies, fuel, and access to power and water supplies
- Accessibility
- Wind direction (certain zones/areas should be located upwind of other areas)

The contamination control zones and processing areas are described below.

G.6.2.2.1 Exclusion Zone/Hot Zone

The exclusion zone/hot zone is the most highly contaminated area and extends far enough to protect personnel in the surrounding areas from adverse effects. In the CBRNE incident scenario, the exclusion zone/hot zone initially includes the plume zone that extends 10 miles southeast of the explosion site but will contract as the presence of chlorine gas dissipates. After the majority of chlorine gas has dissipated, the hot zone will include only the area(s) where chlorine gas or liquid chlorine remains.

Access is limited and controlled. Only designated personnel with HazMat certification and appropriate PPE are allowed access. Typically, Level A or B PPE is required in the exclusion zone/hot zone.

Disposable equipment is preferred to durable equipment for operations in the exclusion zone/hot zone. Information should be collected without the use of paper documents and without requiring person-to-person contact. Equipment and supplies in the exclusion zone/hot zone should include the following:

- Appropriate PPE that can be donned in a clean and secure area with controlled access

- Tags for labeling bodies, containers, and other items
- Non-paper-based communication devices to relay documentary information
- Global Positioning Satellite (GPS) instruments for tracking the location of remains and other items
- Digital cameras that preferably have the ability to transmit images to a nearby operations center
- Transport vehicles, if needed, to transport bodies and workers to the edge of the hot zone or beyond

G.6.2.2.2 Contamination Reduction Zone/Warm Zone

The contamination reduction zone/warm zone surrounds the exclusion zone/hot zone and is used for dismount, decontamination, and support of exclusion zone/hot zone operations. Because the contamination reduction zone/warm zone may have an intermediate threat of exposure, proper PPE is required, particularly if contaminated remains and personal effects must be handled.

Access is limited and controlled. Only designated personnel with HazMat certification and appropriate PPE are allowed access. Typically, Level A or B PPE is required in the contamination reduction zone/warm zone.

The contamination reduction zone/warm zone includes the safe refuge/dismount area and the decontamination site. If the contamination reduction corridor/decontamination site is in a different location and far removed from the incident location, it should also be considered a contamination reduction zone/warm zone.

- **Safe Refuge/Dismount Area.** The safe refuge/dismount area is in the contamination reduction zone/warm zone and hosts the fatality collection point for human remains between the exclusion zone/hot zone and the contamination reduction corridor/decontamination site. This area may be used to remove clothing and personal items and prepare human remains for further processing and should have the necessary supplies including body bags, human remains pouches, sealable containers, and tags. The route between the exclusion zone/hot zone and safe refuge/dismount area should be accessible only to specific workers and to vehicles that directly support the safe refuge/dismount area transition operations.

  The following characteristics and supplies are preferred for the safe refuge/dismount area:

  - Is located upwind from the incident site and close to the contamination reduction corridor/decontamination site
  - Is hidden from view and covered with a tent-like roof
  - Is readily accessible by land transport vehicles
  - Is equipped with lifts to assist in moving human remains
  - Has consistently cool temperatures

- Is equipped with human remains refrigeration capability, if lengthy delays are anticipated before decontamination

- **Contamination Reduction Corridor/Decontamination Site.** The contamination reduction corridor/decontamination site is in the contamination reduction zone/warm zone and is the area where human remains are decontaminated. The following characteristics are preferred for the contamination reduction corridor/decontamination site:
  - Is located upwind a safe distance from the safe refuge/dismount area
  - Is located close enough to the hot zone to avoid any special considerations for transporting contaminated remains
  - Has access to fresh water supply or water supply vehicles
  - Has reasonable access to land transport vehicles
  - Can accommodate large tents or tent-like roofs
  - Has a sloped area to allow for water runoff
  - Has ground cover or artificial cover or turf to avoid soiling human remains and to assist with runoff control by acting as a water-absorbing sump
  - Allows for the placement of ditches, drains, ponds, or pools to facilitate controlled management of water runoff
  - Has access to electric or fuel supply, if needed

  The contamination reduction corridor/decontamination site may be separated into three zones (e.g., red, yellow, green), each designated for specific functions. Contaminated human remains are brought to the red zone and photographed. Clothing is removed, if still present, and the remains are re-photographed. Human remains are decontaminated in the yellow zone. In the green zone, remains are placed and sealed in body bags for transport to the morgue.

  The following equipment and supplies are preferred as a minimum for the contamination reduction corridor/decontamination site:
  - Fresh water (water from natural sources may be used)
  - Non-nylon soft sponges and brushes
  - Pumps, hoses, and other devices with normal water pressure pump rates for hosing human remains, and pumps with sufficient capacity to collect runoff
  - Drums to hold collected runoff in the absence of tank trucks
  - Spray units
  - Appropriate PPE
  - Clean body bags (two for each body)
  - Clean, sealable containers to hold clothing
  - Tags for tracking human remains and clothing
  - Decontamination showers for personnel

- Containers for discarded disposable PPE, body bags, and other items
- Chlorine detection unit to verify decontamination effectiveness
- Decontamination station for transport vehicles

Considerations are made for waste handling, including effluent from washing stations, and waste incineration or waste packaging for removal to offsite incineration facilities.

G.6.2.2.3 Support Zone/Cold Zone

The support zone/cold zone surrounds the contamination reduction zone/warm zone and is used for support operations. The support zone/cold zone includes any area in which human remains processing can occur outside the exclusion zone/hot zone and contamination reduction zone/warm zones after contaminants have been significantly reduced or eliminated. If the morgue and personal effects facilities are established at the incident location, they would be located in the support zone/cold zone as Coroner/Medical Examiner personnel will not enter hot or warm zones.

Access to the support zone/cold zone is controlled and limited to authorized personnel. Only personnel with HazMat certification and appropriate PPE are allowed access. Typically, a minimum of Level C PPE is required in the support zone/cold zone.

- **Morgue area.** A temporary morgue may be established either on-scene in the support zone/cold zone or offsite, depending on which location has adequate or preferred characteristics for supporting operations. County morgues can be used if they have human remains processing capacity.

  The following characteristics are preferred for a temporary morgue area:

  - Large, open floor space
  - Electrical power, which could also be supplied by generators
  - Water supply
  - Air conditioning/heat
  - Staff support provisions such as restrooms and recovery area
  - Shielding from public view

  Ideally, a temporary morgue should have facilities that are adequate for processing human remains, which includes detailed decontamination; autopsy; identification; and administrative processing, which includes provision of death notifications, issuance of death certificates, and release of the deceased and associated personal effects to the next of kin for final disposition.

  Co-locating the temporary morgue with the personal effects area and the human remains cold storage area provides a convenient and efficient system for processing fatalities. The Medical Examiner–Coroner should coordinate with law enforcement agencies for the provision of site security at the temporary morgue.

- **Personal effects area.** In the personal effects area, clothing and other personal effects are removed for processing and storage after decontamination. The decision to decontaminate personal effects will be made by the field-level HazMat team. The personal effects area may be temporarily established onsite in the support zone/cold zone or offsite. It is preferred that they be co-located with the morgue either onsite or offsite.

G.6.2.3 Initial Site Assessment

Before the on-scene arrival of the Medical Examiner–Coroner team, first responder HazMat teams should have already identified the hazardous agent(s) and the appropriate level of PPE required for conducting operations in the contaminated environment. Ideally the Medical Examiner–Coroner provides the necessary information before being dispatched to the scene to ensure the Medical Examiner–Coroner team arrives with the appropriate resources and/or avoids wasting valuable time waiting for decontamination operations to conclude when conducted by a supporting agency.

For the CBRNE incident scenario, two simultaneous assessments will occur. The first is an initial site assessment at the scene of the attack. The second is an initial assessment to determine the extent of the potentially fatal plume.

The initial assessment at the scene of attack is conducted in the hot zone and is conducted by first responder agencies. Level A or B PPE are normally required for any operations conducted in the hot zone, but the local HazMat lead advises those entering the hot zone of the appropriate level of PPE.

When the FBI arrives at the incident location, agents will assume jurisdiction of the crime scene, and all operations within the crime scene will be coordinated with the FBI investigation team. The crime scene site assessment will be conducted using The FBI Hazardous Material Response Unit in coordination with local emergency response agencies and the Medical Examiner–Coroner.

The teams will be organized by the Medical Examiner–Coroner and FBI based on objectives. Medical Examiner–Coroner-led site assessment teams are recommended to have a minimum of four members, all with Coroner experience. The priority for Medical Examiner–Coroner-led teams is the search and recovery of human remains in the plume zone outside the defined crime scene. The FBI site assessment team includes a Coroner Investigator or qualified designee, a FBI HazMat technician, a law enforcement evidence collection technician, and a forensic odontologist. The priorities for the FBI-led assessment team are evidence collection and search and recovery of human remains and personal effects.

In general, the initial site assessment teams' overall mission is to collect evidence, determine the cause of death, and gather appropriate information to enable formulation of an incident-specific mass fatality management plan. The teams also identify the total number and locations of human remains, the remains requiring a full autopsy, and remains requiring special procedures for removal and/or processing. Though it is primarily the role of the Medical Examiner–Coroner to

determine the best approach for managing remains, input from all team members is helpful to evaluate the information gathered by the initial evaluation teams. This information helps the field-level incident response organization agree on an organized approach to managing the incident site and facilitates the effective management of fatalities.

G.6.2.4 Recovery of Remains

In addition to the search and recovery of human remains in the plume zone, the Medical Examiner–Coroner and FBI may determine that the Medical Examiner–Coroner manages the task of search and recovery of human remains at the crime scene. When this decision is made, the recovery of human remains and personal effects occurs after the majority of evidence is collected.

Typically, the FBI Evidence Response Team handles search and recovery operations in non-contaminated incidents, i.e., aircraft remains recovery, but in contaminated incidents, the FBI's evidence team, the HMRU, may not be able to manage human remains recovery. The Medical Examiner–Coroner and FBI jointly coordinate and oversee these efforts, requesting the aid of other supporting agencies when they do not collectively have enough personnel to perform recovery operations.

Recovering remains in the exclusion zone/hot zone with Level A or B PPE limits the duration recovery personnel can operate before needing a rest break outside the hot zone and without PPE. As a result, remains recovery operations require additional personnel to augment the initial remains recovery team.

Standard protocols for photographing, documenting, and tracking remains are to be followed. Additionally, the use of waterproof tracking tags is recommended so that subsequent decontamination procedures do not deface the tracking tag entries. As recovered remains are brought to the temporary morgue, the remains are identified and separated into a group requiring an autopsy and a group requiring only an external examination. All remains should be shielded from public view to the extent possible.

G.6.2.5 Fatality Collection Point

Initially, recovered human remains are brought to a central location—the fatality collection point. At this location, the remains are analyzed for evidence collection before they undergo decontamination and evidence is lost. This location also serves to minimize cross-contamination so that remains are safer to handle. The fatality collection point is set up in the safe refuge/dismount area of the contamination reduction zone/warm zone. Assigned personnel operating in the fatality collection point must have HazMat certification, wear the appropriate Level A or B PPE, and follow applicable HazMat protocols.

Fatality collection point processing operations include gathering of evidence from the human remains, removal and tagging of personal effects, and performing thorough external evaluations and preliminary identification checks. External evaluations

include collection of body-surface swab samples for chemical agents and collection of tissue, blood, and fabric samples. The fatality collection point processing operations include many tasks that Coroners normally perform in the morgue but need to be performed at the scene before remains are decontaminated.

For all human remains recovery from the crime scene, it is recommended that FBI personnel be present during personal effects removal/recovery. Personal effects considered as evidence need to be removed, tagged, preferably placed in glass containers with protective covering, and handed directly to appropriate FBI personnel. Other removed personal effects are separated into durable and non-durable items, containerized and labeled, and sent for decontamination. Jewelry and watches securely fixed to the body may be left in place. Non-durable items such as clothing are likely to be destroyed rather than decontaminated and returned. All contaminated clothing is treated as hazardous materials and disposed of appropriately. Durable items such as wallets, cell phones, and keys may eventually be returned to next of kin after decontamination.

Once the fatality collection point operations are completed, the preliminarily processed human remains need to be moved to the designated contamination reduction corridor/decontamination site for decontamination. It may be helpful to process human remains that are readily identifiable as one group, and those that are not as another.

G.6.2.6 Gross Decontamination of Human Remains

Human remains released from the fatality collection point are initially brought to the red zone of the contamination reduction corridor/decontamination site where they are photographed, their clothing removed, if still worn, and photographed again. It is advisable to assign one photographer with one contaminated camera in the red zone. The human remains are subsequently brought to the yellow zone of the contamination reduction corridor/decontamination site for gross decontamination.

The local HazMat team is responsible for decontaminating human remains following a chemical CBRNE incident, even though they normally do not decontaminate remains. The local HazMat team may receive support from the FBI HMRU if requested and human remains and evidence collection is concluded. The Medical Examiner–Coroner should also look to other entities that have the necessary resources to conduct decontamination, such as local, regional, State, Federal or private HazMat teams. The Medical Examiner–Coroner should consider coordinating the use of decontamination capabilities of agencies that are already at the scene decontaminating live victims. Personnel conducting gross decontamination of remains and personal effects should be HazMat-certified, don the appropriate PPE, and have training on decontamination procedures.

Gross decontamination may be accomplished by:

- Removing clothing from human remains
- Manually washing and rinsing human remains
- Soft spraying to minimize spatter and aerosolization

- Using the "soak method" by submersing the human remains or items in a tank, pit, or trench

In most cases, clothing is already removed from the human remains as part of the fatality collection point operations and sent separately for decontamination. When human remains are still clothed, separate decontamination of clothing and other personal items should be considered when forensic investigation requirements have been fulfilled. However, following appropriate forensic analysis and documentation, if decontaminating clothing and personal items poses an additional risk to personnel, the clothing and items should be sealed in containers for appropriate disposal.

Manually washing and rinsing human remains is expected to be the most effective procedure for gross decontamination. Rapid use of water alone is expected to be an effective means to decontaminate human remains contaminated with chemicals such as chlorine. The use of additives such as soap is expected to improve results marginally in most cases, and the use of bleach is not recommended for chlorine decontamination. Typically, additives increase the level of safety for those handling contaminated human remains but can also cause decay of tissue. The use of low concentrations of additives is therefore recommended when the use of additives is appropriate.

Gross decontamination should be conducted in a manner respectful of the deceased and that avoids public exposure of the human remains. Decontamination effectiveness is monitored with a chemical detector device before bagging the remains.

The movement of human remains through the gross decontamination procedure can be facilitated by using systems similar to those that support decontamination of nonambulatory living victims. Gross decontamination lines should have equipment that can be used to assist with lifting, carrying, and moving large numbers of human remains. Any practical method that allows serial movement of human remains and exposure of all body surfaces could be used, such as back boards, mesh litters, plywood on saw horses, and commercial roller systems similar to those that move boxes. Moving large numbers of human remains through the gross decontamination line is strenuous for decontamination personnel wearing PPE, which reduces decontamination throughput efficiency. All decontamination systems should have an ability to collect and manage the contaminated water runoff for appropriate disposal as hazardous materials.

Following gross decontamination in the yellow zone, human remains are brought to the green zone of the contamination reduction corridor/decontamination site where they should be wrapped in two body bags. The zipper area of the initial body bag can be sealed by duct tape to prevent any leakage when necessary. The outside of the initial body bag should be washed or sprayed with water before placing it in the second body bag. Once bagged, the human remains are readied for transfer to the morgue facility via refrigerated transport. The decontaminated human remains could be temporarily stored in refrigerated trucks at the contamination reduction corridor/ decontamination site until the morgue facility is prepared to process human remains.

Refrigerating human remains can prevent or significantly slow tissue degradation, affording additional time for time-critical human remains processing tasks.

Decontaminated personal effects are containerized and readied for transport separately to the personal effects area, which may be on- or offsite, and may or may not be co-located with the morgue facility. Decontaminated personal effects could also be temporarily stored at the contamination reduction corridor/decontamination site until the personal effects area is prepared to receive and process decontaminated personal effects.

G.6.2.7 Transportation

Transporting a large number of fatalities and associated personal effects requires a large fleet of appropriate transport vehicles that are preferably refrigerated. Refrigerated trucks and railroad cars are key options for transporting human remains and personal effects and can also serve as storage units if adequate refrigerated morgue space is not available.

Because of the contamination and logistical complications associated with transporting the deceased, the number of times human remains are moved should be minimized. The use of food or beverage vehicles or identifiable commercial vehicles should be avoided. Typically, vehicles used for storing and/or transporting human remains cannot be used for personal and commercial functions.

G.6.2.7.1 Transportation from the Exclusion Zone/Hot Zone to the Contamination Reduction Corridor/Decontamination Site

Refrigerated transport vehicles are the preferred method of transporting bodies and other containerized items from the locations where human remains are recovered in the exclusion zone/hot zone to the contamination reduction corridor/decontamination site. Access to the route between the exclusion zone/hot zone and the safe refuge/dismount area should be restricted to those driving human remains transport vehicles and to those who supply support services to the vehicles or drivers. Transport vehicles such as open flatbed trucks with low side and rear gate walls are preferable for facilitating decontamination. After each delivery of contaminated human remains, the truck bed cargo area of the transport vehicles should be decontaminated at a point between the contamination reduction corridor/ decontamination site and the area where water runoff is collected. Drivers should wear disposable protective suits and appropriate PPE and should remain in their vehicles at all times during their work shifts.

G6.2.7.2 Transportation from the Contamination Reduction Corridor/ Decontamination Site to the Morgue and Personal Effects Area

Refrigerated transport vehicles are the preferred method of transporting human remains and personal effects from the contamination reduction corridor/ decontamination site to the morgue and personal effects area. The same procedures apply for transporting decontaminated and containerized human remains

and personal effects. Decontaminated human remains and personal effects can be transported together in the same vehicle to co-located morgue and personal effects areas. Parallel transport systems should be established for transporting human remains and personal effects to separately located morgue and personal effects areas.

The cargo areas of vehicles returning from dropping off decontaminated human remains and/or personal effects to the morgue and personal effects area should be decontaminated before each delivery and before being loaded with new decontaminated human remains and/or personal effects. Additionally, once the human remains and personal effects have been decontaminated, they are no longer placed in the modes of transportation previously used for contaminated remains and personal effects.

If available nearby, railroad transport can be used for transporting human remains and personal effects from the exclusion zone/hot zone to the contamination reduction corridor/decontamination site, and from the contamination reduction corridor/decontamination site to the morgue and personal effects area. Refrigerated rail cars that could serve for both human remains transport and storage would be advantageous. Railroad cars can also be used for work areas.

If railroad transport is used for transporting contaminated human remains and personal effects from the exclusion zone/hot zone to the contamination reduction corridor/decontamination site, the contamination reduction corridor/decontamination site should be established near the railroad tracks for ease of access. If railroad transport is selected for transporting human remains and personal effects from the contamination reduction corridor/decontamination site to the morgue and personal effects area, it is preferred that the offsite morgue and personal effects area be located near the railroad tracks to minimize complicating transport and processing logistics.

G.6.2.8 Pre- and Post-Examination Storage

In the CBRNE incident scenario, the high number of fatalities and volume of associated personal effects overwhelms existing morgue cold-storage capacity. Use of temporary refrigerated storage options such as refrigerated trucks, railroad cars, and tents is required. Additionally, small buildings or rooms that can maintain a temperature at or below 37 degrees Fahrenheit may also be considered for cold storage. In most cases, locations used to store human remains should not be returned to their original use. Ideally, co-locating pre- and post-morgue examination, human remains cold storage, and personal effects areas with the morgue provides logistical convenience and efficiency in managing the transportation and processing of the large number of deceased and their associated personal effects.

Pre- and post-examination cold storage of human remains and personal effects should be done separately. Post-examination storage of human remains, even after embalming, may be necessary to allow for additional evidence gathering and additional autopsies, when necessary, and also when unidentifiable remains need to

be stored until they can be identified. Any refrigerated storage space previously used for transporting and/or storing pre-examination human remains needs to be decontaminated before storing post-examination human remains. Any contaminated human remains and/or personal effects should not be jointly stored with decontaminated human remains and/or personal effects.

In storage units, human remains should be stacked only through the use of shelving units and should never be stacked on top of one another. Human remains should be stacked no higher than waist level to prevent safety hazards. The cold-storage facilities should be monitored to assess the effectiveness of decontamination procedures and also to identify unsuspected contamination hazards.

G.6.2.9 Morgue Operations

In the CBRNE incident scenario, the expected 8,750 fatalities overwhelm the local and regional mass fatality management response capabilities to process the deceased effectively and in a timely manner. State and federally supported Incident Morgue staffed by DMORTs with Logistical Response Assistance Teams (LRATs) are required to process the high number of fatalities. The Incident Morgue operation needs to be coordinated with the Medical Examiner–Coroner. Based on the availability of appropriate facilities, the Incident Morgue is likely to be established offsite but preferably not too far from the incident site. The Incident Morgue can potentially be supported with eight DMORTs with LRAT logistical support, with two additional DMORTs in rotation to relieve initially deployed DMORTs. Federal support for the Incident Morgue is likely to include approximately 200 refrigerated trailers with a total storage capacity of 5,000 bodies and an additional number of portable, free-standing refrigerated units that have a capacity of up to 500 bodies per unit.

An Incident Morgue staffed as described above has the potential to process approximately 144 human remains per day if the teams work three 8-hour shifts per day, with triple-staffed digital dental units for each shift (10 dentists per shift). The maximum remains processing throughput capacities of the Incident Morgue, combined with the provision of needed cold-storage capacities, could enable the processing of the 8,750-incident fatalities in 2 to 4 months. The availability of needed equipment, trained staff, staffing patterns, and shift durations and frequencies dictate the Incident Morgue's overall remains processing throughput capacity. Additional details about the Incident Morgue and its operations are presented in the Plan in **Section 5.3.6**.

Local county Coroners/Medical Examiners for the 12 counties in the Bay Area could either surge their morgue operations to full-surge capacity to assist with remains processing or opt to provide trained personnel and equipment to assist with the Incident Morgue operation. Given the limited staffing and equipment resources of local Coroners/Medical Examiners and their obligations to continue managing their daily non-incident case loads, local Coroners/Medical Examiners may be limited in their ability to assist with remains processing operations at the regional Incident Morgue. However, they will likely be able to assist with providing fixed or mobile

cold-storage facilities to store human remains and assist with the processes involved for facilitating the release and final disposition of human remains.

The morgue operations and functions after a CBRNE incident do not differ from those of an earthquake event, other than the need for detailed decontamination of human remains, and the implementation of added safety precautions when handling and processing contaminated remains. The Incident Morgue operation details are presented in the Plan in **Section 5.3.6**. The key differences in morgue operations between an earthquake and a CBRNE incident response are described in the following subsections.

G.6.2.9.1 Detailed Decontamination

All human remains should undergo detailed decontamination at the morgue. Despite the gross decontamination conducted on the human remains at the incident site, there is likely residual contamination in the remains brought to the morgue. All such remains should be treated as contaminated when delivered to the morgue, and appropriate safety measures should be followed when handling the remains. When dealing with chlorine contamination, detailed decontamination of the human remains could be conducted with a soap-and-water solution. Detailed decontamination should be conducted in well-ventilated areas with appropriate PPE.

G.6.2.9.2 Identification

Procedures for identifying human remains do not deviate from standard protocols, despite the magnitude of the event. The FBI is fully supportive of allowing the needed time for Coroners/Medical Examiners to conduct requisite identification procedures to support the investigation. Standard human remains identification procedures that may involve investigations via finger/foot printing, radiology, odontology, forensic anthropology, DNA testing, and personal effects evaluation should be conducted regardless of the time required to conduct the procedures. Chemical agent exposure does not interfere with the standard processes used for identifying human remains.

G.6.2.9.3 Autopsies

When a large number of fatalities must be processed, it may not be feasible to perform complete autopsies on all human remains, as in the CBRNE incident scenario. A collective decision should be made by the Medical Examiner–Coroner, FBI, and the U.S. Attorney to determine the criteria for selecting which human remains require an autopsy, if any. Each agency has requirements for determining the need to autopsy a body to support the investigation. When processing a large number of human remains is required, the Medical Examiner–Coroner, FBI, and the U.S. Attorney should consider performing autopsies on a random sample of human remains recovered from the hot zone and on human remains identified as atypical. Human remains that are not selected for autopsy should still undergo thorough external evaluations, identification checks, and the collection of evidence by the FBI and/or Coroners/Medical Examiners.

While conducting an autopsy, personnel should wear, at a minimum, Level C PPE to mitigate any potential risk from exposure to residual contamination on the external surfaces of human remains. Following gross and detailed decontamination on all contaminated human remains, the risk of exposure to residual contamination on the external surfaces of the human remains is likely to be low but still possible. The likelihood of off-gas exposure risk when performing autopsies is expected to be low because chlorine is typically metabolized, hydrolyzed, or tightly bound in body tissue.

Despite the long duration of autopsy procedures, the exact order of the procedures should not be altered and the length of the procedure should not be shortened. Standard protocols for collecting, packaging, and storing evidence gathered during autopsies should be followed. Whenever there is inadequate space to appropriately store evidence collected during autopsies, the evidence should be transferred to an off-site location for storage and tracking. Recovered evidence that may be contaminated should be packaged to prevent cross-contamination without affecting the evidence.

G.6.2.10 Post-Examination Processing and Final Disposition

After the morgue examination has been conducted, the human remains should be double body-bagged, sealed, and cold-stored. It may not be feasible to test human remains individually to ensure decontamination effectiveness before release. A more practical approach is to monitor chemical levels in areas where the human remains are stored and in the immediate vicinities before release.

Once initial morgue operations have been completed and the human remains are ready for release, the Medical Examiner–Coroner issues the death certificates, the next of kin/family is notified, and arrangements are made for funeral homes to pick up the remains for final disposition. The Medical Examiner–Coroner should make all efforts to return human remains to the next of kin for final disposition. The release of all human remains recovery from the identified crime scene should be coordinated with the FBI.

Human remains that are to be air transported should be double body-bagged and placed in Ziegler caskets. The casket lids should be sealed with continuous beads of silicon sealant and screws.

G.6.2.11 Removal and Disposal of Hazardous Materials

Hazardous materials waste that is produced during cleaning, removing, and processing contaminated human remains such as body bags, contamination reduction corridor/decontamination site runoff, used PPE, and used tools must be properly handled, stored, tracked and disposed in accordance to applicable regulations. The removal and disposal of hazardous materials should be coordinated with authorized and licensed hazardous waste management entities.

Body bags, used PPE, and cleaning materials may be disposed of in approved receptacles. Contaminated run0ff collected from the contamination reduction

corridor/decontamination site should be collected in drums or tanker trucks. The collected hazardous materials waste can then be collected, transported, and appropriately disposed of by authorized and licensed hazardous waste management entities, at approved facilities.

G.6.2.11.1 Other Considerations

Other considerations in the removal and disposition of hazardous materials are as follows:

- **New decontamination methods.** As new and more effective methods to decontaminate human remains are discovered, they should be integrated into this Plan or considered at the time of the event.
- **Body bags and containment materia**l. Body bags such as Type II and Type IIA should be used to contain hazardous substances and prevent leakage. Containment material such as BioSeal is reportedly effective for the containment of hazardous substances, vapors, fluids, gases, and powders; it may be used to enclose bodies and contaminated items such as clothing.
- **Embalming.** Embalming is not recommended when human remains contain residual hypochlorite (chlorine bleach) because of the generation of dangerous gases when the bleach mixes with embalming fluid.
- **Organ donation.** Chemical agent exposure does not necessarily preclude victim organ donation for transplantation. Chemical agents may no longer be present in human remains after certain periods of time. However, the lengthy decontamination and human remains processing times will likely preclude organ harvesting within allowable time frames. Organ donation decisions need to be made in consultation with appropriate experts.
- **Implanted devices.** Implanted devices removed from human remains need to be decontaminated and containerized for safe return to the appropriate parties. Removed implanted devices should be forwarded to the funeral directors who are overseeing final disposition of the human remains so that the devices can be returned to the appropriate parties, such as next of kin, the physician who implanted the device, or the device manufacturer.
- **Animal remains.** Contaminated small-animal remains may be containerized in metal containers or drums. The processing and disposal of such remains need to be coordinated with the FBI, public health department, and veterinary consultants.

G.6.3 Response Timeline

Table G-1 contains a response timeline of the tasks associated with the CBRNE incident scenario from E to E+60 days. Operational priorities are not included.

G.6.4 Transition to Long-Term Operations

The high number of fatalities and the limited human remains processing throughput capacity will result in the need for storing, processing, identifying, and final

disposition of human remains extending well beyond E+60 days. It is therefore necessary to plan for the transition to long-term mass fatality operations. The primary considerations are as follows:

- Deactivation of supporting operations such as the Incident Morgue
- Continued operations at full-surge capacity at county morgues in the region, if and when they take on processing of incident fatalities
- Preparation for the possibility of discovering additional human remains
- Continued provision of family assistance services
- Final disposition of temporarily interred human remains, if any
- Repatriation of deceased to origin of permanent residence
- Replacement of mass fatality management supplies and equipment
- Reconciliation of death certificates with insurance companies
- Continued provision of critical incident stress management services for mass fatality management personnel
- Sanitization of temporary and permanent facilities used to process human remains
- Coordination of the resumption of normal operations at funeral homes and mortuaries
- Finalization of personal effects for return to next of kin
- Continued documentation of mass fatality management operations
- Continued coordination with the FBI on the discovery of new evidence
- Facilitation of an After-Action Review of operations to better inform future regional mass fatality management planning efforts.

Table G-1. CBRNE incident mass fatality response timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A1. OBJECTIVE Establish an incident command system structure that coordinates mass fatality operations and supports movement of responders and resources into the area by integrating local, State, and Federal operations	1	E to E+72h	**Event observed:** Santa Clara County activates Coroner Field Response Team, SO DOC, and Operational Area EOC	Medical Examiner–Coroner, SO	Operational Area EOC	SEMS determines activation levels in California; the REOC site may not be operational; the REOC duty officer reconstitutes functionality based on availability of other sites.
	2	E to E+72h	**Event observed: Local** HazMat team deploys to incident location	Local HazMat	—	—
	3	E to E+72h	**Event observed:** FBI response teams arrive at incident location	FBI	Medical Examiner–Coroner	—
	4	E to E+72h	**Event observed**: Activation of other Bay Area region Operational Area EOCs, the REOC and the SOC	Operational Area EOCs, Cal EMA	Operational Areas, local jurisdictions	While the Santa Clara Operational Area EOC and local jurisdiction EOCs activate, other Operational Area EOCs may activate to coordinate the deployment of mutual aid resources.
	5	E to E+72h	**Activate** Coroners Mutual Aid Special Operations Unit at the SOC and **activate** the Coroners Mutual Aid system.	Cal EMA SOC	Coastal REOC, Cal EMA State Coroner/Medical Examiner Mutual Aid Coordinator, and Cal EMA Region II Coroner/Medical Examiner Mutual Aid Coordinator	Activation per SEMS and the State of California Coroners Mutual Aid Plan. Also see the RECP Law Enforcement and Medical Examiner– Coroner Subsidiary Plan
	6	E to E+72h	**Event observed:** Santa Clara County mobilizes the Medical Examiner–Coroner's mass fatality management resources	Medical Examiner–Coroner	Office of the Sheriff	—
	7	E to E+72h	**Event observed:** Affected local governments mobilize first responders	First responder dispatch	Operational Area EOC, city/town EOC(s), supporting DOCs	First responders for this incident are likely to include: • Fire • HazMat • EMS • FBI • Local law enforcement
	8	E to E+72h	**Event observed:** Santa Clara County activates its Mass Fatality Plan	Medical Examiner–Coroner	Operational Area EOC	—
	9	E to E+72h	**Event observed:** Santa Clara Coroner activates full-surge capacity morgue operations at Operational Area morgue	Medical Examiner–Coroner	Law Enforcement DOC, Operational Area EOC	—
A2. OBJECTIVE Establish interoperable emergency communications among public- and private-sector mass fatality response and death care entities involved in mass fatality operations	10	E to E+72h	**Test** communications systems	Medical Examiner–Coroner, Law Enforcement DOC, Operational Area EOC	Communications Branch, Operational Area EOC	—
	11	E to E+72h	**Implement** RECP Communications Subsidiary Plan and communication elements of CONPLAN	Cal EMA	All jurisdictions	—
	12	E to E+72h	**Establish** communications among relevant agencies	Medical Examiner–Coroner, HazMat teams	Operational Area EOC Communication Branch, Fire and Rescue DOC, Law Enforcement DOC	Coordination points for the Medical Examiner–Coroner are: • Law Enforcement DOC • Fire and Rescue DOC • PHD DOC • Hospitals • Death care service providers • Other Medical Examiners/Coroners within the region • Operational Area JIC
A3. OBJECTIVE Obtain situational awareness for the incident location	13	E to E+72h	**Event observed:** Site assessment teams are established at the incident location	Incident Commander	Medical Examiner–Coroner, HazMat teams, local law enforcement agencies, FBI, local fire agencies	Site assessment teams are organized according to function and responsibilities. Likely teams are: • Medical Examiner–Coroner • Law Enforcement • Fire • HazMat

Table G-1. CBRNE incident mass fatality response timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A3. OBJECTIVE (cont.)	14	E to E+72h	**Event observed:** The potential number of deceased are estimated	Medical Examiner–Coroner	Fire and rescue responders	—
	15	E to E+72h	**Event observed:** The extent of contamination is identified	HazMat site assessment team	Fire responders	To identify the extent of contamination the HazMat site assessment team investigates the following: • Type of contaminant • Levels of the contaminant on surfaces and in the air • Boundary of the Exclusion Zone/Hot Zone • The potential for the Exclusion Zone/Hot Zone to expand on contract based on the potential spread of the contaminant by air or the movement of contaminated people/objects
A4. OBJECTIVE Identify mass fatality management resource requirements and capabilities	16	E to E+72h	**Event observed:** Current capabilities are analyzed	Medical Examiner–Coroner, HazMat team(s), Incident Commander	Law Enforcement DOC, Fire and Rescue DOC, PHD DOC	The Law Enforcement, Fire and Rescue, and PHD DOCs gather information on Operational Area capabilities to support field response to the incident. The Incident Commander assesses all non-Medical Examiner–Coroner/HazMat capabilities, needs and requirements such as: firefighting, rescue, and perimeter control
	17	E to E+72h	**Event observed:** Resource needs and requirements are determined	Medical Examiner–Coroner	HazMat team(s)	—
	18	E to E+72h	**Event observed:** Resource requests are submitted to the appropriate agency DOCs	Medical Examiner–Coroner HazMat team(s)	Law Enforcement DOC, Fire and Rescue DOC, Operational Area EOC	Coroner requests mutual aid from Region II Coroner/Medical Examiner Mutual Aid Coordinator; Hazmat requests will go to the Operational Area Fire and Rescue Mutual Aid Coordinator
A5. OBJECTIVE Submit initial mass fatality management resource requests	19	E to E+72h	**Event observed:** Initial mass fatality management resource requests made through the Region II Coroner/ Medical Examiner Mutual Aid Coordinator	Operational Area Coroner/Medical Examiner Mutual Aid Coordinator, Operational Area EOC Logistics Section	REOC, SOC	• The Region II Coroner/Medical Examiner Mutual Aid Coordinator is the Alameda County Coroner. • HazMat resources are requested through the Region II Fire and Rescue Mutual Aid Coordinator which is the Alameda County Regional Communications Center
	20	E to E+72h	**Host** conference call with the Region II Coroner/Medical Examiner Mutual Aid Coordinator and other Operational Area Coroner/Medical Examiner Mutual Aid Coordinators in the region to discuss the need for State and Federal resources, including DMORTs	Cal EMA	Operational Area Coroner/Medical Examiner Mutual Aid Coordinators	—
	21	E to E+72h	**Event observed:** Requested Operational Area, regional, State, EMAC, and Federal assets arrive in Santa Clara County	Fire and Rescue DOC, Law Enforcement DOC	Operational Area EOC, city/town EOC(s)	In-State resources arrive within the first 24 hours, while Federal resources may take up to 48 hours to arrive.
A6. OBJECTIVE Coordinate and initiate dissemination of public information through the JIC	22	E to E+72h	**Coordinate and disseminate** public information through the Operational Area JIC	Operational Area JIC	Local governments, State and Federal agencies, NGOs, CBOs	—
	23	E to E+72h	**Establish** an 800 number to provide information about fatalities until FAC(s) can be established	Cal EMA	Operational Area JIC	—
	24	E to E+72h	**Event observed:** Communication and coordination with hospitals is initiated to determine reporting requirements on the total number of incident-related fatalities	LHD	Medical Examiner–Coroner	—
A7. OBJECTIVE Plan and coordinate mass fatality management operations with appropriate agencies, including the FBI, which are tasked with collecting evidence at the impact site, considered a Federal crime scene	25	E to E+72h	**Event observed:** Initial meeting to determine planning strategy and meeting times is held	Incident Commanders	Medical Examiner–Coroner	—
	26	E to E+72h	**Event observed:** IAPs for first operational period are developed	Planning Sections	Medical Examiner–Coroner	Medical Examiner–Coroner provides status updates and objectives for each operational period.
	27	E to E+72h	**Event observed:** Staffing shifts and resource staging plans, to maximized the use of limited resources, are developed	Logistics Section	Medical Examiner–Coroner, HazMat team(s)	—

Table G-1. CBRNE incident mass fatality response timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A8. OBJECTIVE Conduct evidence collection	28	E to E+72h	**Event observed:** Procedures for evidence collection are established	FBI	Law Enforcement	—
	29	E to E+72h	**Event observed:** Evidence collection and initial search for human remains begins	FBI, Medical Examiner–Coroner	Law Enforcement	—
	30	E to E+72h	**Event observed:** The boundary to be secured for the preservation of evidence is identified	FBI	Law Enforcement	—
	31	E to E+72h	**Event observed:** Contamination control zones are established as part of initial life-saving emergency response efforts	HazMat team(s), FBI	Law Enforcement	A description of the zones can be found in **Section G.6.2.2**
	32	E to E+72h	**Event observed:** Potential or real fatalities, condition of remains, location and accessibility to site, complicating factors, level of PPE required, specialized search and recovery equipment, and contractors required are determined	Medical Examiner–Coroner	HazMat team(s), FBI, Law Enforcement	—
A9. OBJECTIVE Establish system for the recovery and decontamination of human remains	33	E to E+72h	**Event observed:** HazMat zones for the movement of human remains and personal effects are established	HazMat team(s)	Law Enforcement, FBI, Medical Examiner–Coroner	The following areas are established for the movement and processing of contaminated remains: • Safe Refuge/Dismount Area • Contamination Reduction Corridor/Decontamination Site • Personal Effects Area See **Section G.6.2.2** for a description of each area
	34	E to E+72h	**Event observed:** The appropriate level of PPE required for conducting operations in each zone is determined	HazMat team lead	—	—
	35	E to E+72h	**Event observed:** Fatality collection points are established	Medical Examiner–Coroner	HazMat team(s)	Fatality collection points are established for both contaminated and non-contaminated remains.
	36	E to E+72h	**Event observed:** The decontamination operations area is established	HazMat team(s)	Medical Examiner–Coroner	—
	37	E to E+72h	**Event observed:** The remains pickup site is established	Medical Examiner–Coroner	Incident Commander, HazMat team(s)	—
	38	E to E+72h	**Event observed:** Temporary holding morgues are established	Medical Examiner–Coroner	—	—
	39	E to E+72h	**Event observed:** The main Incident Morgue is established	DMORT	Medical Examiner–Coroner	—
A10. OBJECTIVE Conduct the recovery of human remains and personal effects	40	E to E+72h	**Event observed:** Recovery teams and resources, including trained personnel with appropriate levels of PPE are deployed to the incident location	Medical Examiner–Coroner	Cal EMA, FEMA	—
	41	E to E+72h	**Event observed:** Grid search pattern for human remains and personal effects is conducted	Medical Examiner–Coroner, FBI, HazMat team(s), DMORT	Field responders	Personnel must be HazMat certified and wear appropriate PPE to operate in the hot zone. Use GPS to aid in collection and documentation of post-mortem human remains, property, and evidence at the incident site, when possible Medical Examiner/Coroner teams do not enter the incident location to recover human remains and personal effects until the hazard has dissipated.
	42	E to E+72h	**Event observed:** Location(s) of human remains and personal effects are documented	Medical Examiner–Coroner, FBI, HazMat team(s), DMORT	Field responders	—
	43	E to E+72h	**Event observed:** Human remains and personal effects are transported to fatality collection point or temporary holding morgues	Medical Examiner–Coroner, FBI, HazMat team(s), DMORT	Field responders, GSD	—

Table G-1. CBRNE incident mass fatality response timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A11. OBJECTIVE Decontaminate recovered human remains	44	E to E+72h	**Event observed:** The transfer of human remains and personal effects from the fatality collection point or holding morgue to the decontamination site begins	Medical Examiner–Coroner, FBI, HazMat team(s), DMORT	Field responders	—
	45	E to E+72h	**Event observed:** Gross decontamination of human remains begins	HazMat teams	Medical Examiner–Coroner, FBI, DMORT	Confirm identity of chemical agent before start of decontamination, to aid in safe handling procedures.
	46	E to E+72h	**Event observed:** The effectiveness of the decontamination of human remains and personal effects (when applicable) is determined	HazMat team(s)	—	Each human remain and personal effect must be tested to ensure it is free of contamination.
B1. OBJECTIVE Continue recovery of human remains	47	E+72h to E+14d	**Event observed:** The grid search pattern for human remains and personal effects continues	Medical Examiner–Coroner, FBI, HazMat team(s), DMORT	Field responders	—
	48	E+72h to E+14d	**Event observed:** Location(s) of human remains and personal effects continue to be documented	Medical Examiner–Coroner, FBI, HazMat team(s), DMORT	Field responders	—
	49	E+72h to E+14d	**Event observed:** Human remains and personal effects continue to be transported to fatality collection points or temporary holding morgues	Medical Examiner–Coroner FBI, HazMat team(s), DMORT	Field responders, GSD	—
B2. OBJECTIVE Assess current mass fatality management capabilities and request additional resources as needed	50	E+72h to E+14d	**Event observed:** Current capabilities are assessed	Medical Examiner–Coroner, HazMat team(s), Incident Commander	Law Enforcement DOC, Fire and Rescue DOC, PHD DOC	The Law Enforcement, Fire and Rescue, and LHD DOCs gather information on Operational Area capabilities to support field response to the incident. The Incident Commander assesses all non-Medical Examiner–Coroner/HazMat capabilities, needs and requirements such as: firefighting, rescue, and perimeter control
	51	E+72h to E+14d	**Event observed:** Resource needs and requirements are determined	Medical Examiner–Coroner	HazMat team lead(s)	—
	52	E+72h to E+14d	**Event observed:** Resource requests to appropriate agency DOC are submitted	Medical Examiner–Coroner, HazMat team(s)	Law Enforcement DOC, Fire and Rescue DOC, PHD DOC, Operational Area EOC	Medical Examiner–Coroner requests go to the Operational Area Coroner/ Medical Examiner Mutual Aid Coordinator at the Law Enforcement DOC, and HazMat request go to the Operational Area Fire and Rescue Mutual Aid Coordinator at the CCCFPD DOC
B3. OBJECTIVE Conduct Incident Morgue operations	53	E+72h to E+14d	**Event observed:** Decontaminated remains are transported to main Incident Morgue	Medical Examiner–Coroner	Field responders, GSD	GSD has vehicles and has the responsibility for acquiring vehicles under contracts. GSD can also provide drivers when requested.
	54	E+72h to E+14d	**Event observed:** Operations to identify human remains is initiated	Medical Examiner–Coroner, DMORT	Law Enforcement	—
	55	E+72h to E+14d	**Event observed:** Personal effects are collected and organized	Medical Examiner–Coroner, DMORT	Law Enforcement, FBI	—
B4. OBJECTIVE Provide family assistance services	56	E+72h to E+14d	**Event observed:** FAC is established	GSD, DMORT	PHD, ARC	GSD in coordination with DMORT can identify a facility in the County appropriate for use as an FAC.
	57	E+72h to E+14d	**Event observed:** Remains and personal effects that can be released to family members are identified	Medical Examiner–Coroner, DMORT	Law Enforcement, FBI	Recommend determining location for storage/holding if FBI/U.S. Attorney do not authorize release of remains
	58	E+72h to E+14d	**Assist** local governments with next-of-kin notification and collection of antemortem information assistance	Cal EMA	DMORT, Medical Examiner–Coroner	Missing Unidentified Persons System
	59	E+72h to E+14d	**Event observed:** Family assistance services are expanded to provide comprehensive services	DMORT, Medical Examiner–Coroner	ARC (and other NGOs, FBOs), Cal EMA, FEMA	Core services include reception/ registration; Medical Examiner–Coroner Services (family briefings, antemortem data collection, and death notification); mental health services; spiritual care services; first aid/medical services; childcare; and others to meet situational requirements
	60	E+72h to E+14d	**Event observed:** Security provided at FAC	Local law enforcement	California Military Department	—
	61	E+72h to E+14d	**Event observed:** Standardized system of communications/ information management for collecting, managing, controlling, and sharing of information/data at FAC is established	FAC Planning Section	Operational Area JIC, Medical Examiner–Coroner, Private sector partners	—

Table G-1. CBRNE incident mass fatality response timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
B4. OBJECTIVE (cont.)	62	E+72h to E+14d	**Event observed:** Temporary repository of Public Records/Decedent Information Repository	Medical Examiner–Coroner	Office of Vital Records	—
	63	E+72h to E+14d	**Event observed:** Antemortem victim records are delivered to temporary repository location	Medical Examiner–Coroner	Secure delivery contractor or Medical Examiner–Coroner designee	—
	64	E+72h to E+14d	**Establish:** Antemortem and postmortem databases	Cal EMA	Medical Examiner–Coroner	Includes medical, dental, and fatality management information
	65	E+72h to E+14d	**Event observed:** Morgue data is cross-referenced with local, State, Federal, and International missing persons databases to assist in the identification of remains	Medical Examiner–Coroner, DMORT	FAC	—
B5. OBJECTIVE Continue coordination and dissemination of public information through the JIC	66	E+72h to E+14d	**Event observed:** Public information is coordinated, then disseminated, through the Operational Area JIC	Operational Area JIC	Local governments, State and Federal agencies, NGOs, CBOs, FAC	—
	67	E+72h to E+14d	**Event observed:** Station in the FAC established to receive information from the public regarding mission persons	FAC	Operational Area JIC	—
	68	E+72h to E+14d	**Event observed:** Communication and coordination through the FAC is initiated	FAC, Operational Area JIC	Medical Examiner–Coroner	—
B6. OBJECTIVE Continue decontamination of human remains	69	E+72h to E+14d	**Event observed:** Transfer of human remains and personal effects from the fatality collection point or temporary holding morgues to the decontamination site continues	Medical Examiner–Coroner, FBI, HazMat team(s), DMORT	Field responders	—
	70	E+72h to E+14d	**Event observed:** Gross decontamination of human remains continues	Medical Examiner–Coroner, HazMat teams	FBI, DMORT	—
	71	E+72h to E+14d	**Event observed:** The effectiveness of the decontamination of human remains and personal effects (when applicable) is determined	HazMat team(s)	—	—
B7. OBJECTIVE Release decontaminated human remains	72	E+72h to E+14d	**Event observed:** Authorized human remains and personal effects continue to be released to next of kin	Medical Examiner–Coroner, DMORT	FAC	—
	73	E+72h to E+14d	**Event observed:** Unclaimed human remains are temporarily stored	Medical Examiner–Coroner	DMORT, LRAT	—
	74	E+72h to E+14d	**Event observed:** The need for Altered Standards of Death Care that may include government-mandated burial processes is analyzed and determined	Medical Examiner–Coroner, DMORT	Death care industry, elected officials	See **Appendix I**
B8. OBJECTIVE Implement stress management and crisis intervention strategies	75	E+72h to E+14d	**Event observed:** Critical incident stress management teams are requested to support fatality management response personnel	PHD	CBOs, FBOs	—
	76	E+72h to E+14d	**Event observed:** Critical incident stress management teams are deployed to incident location, main Incident Morgue, and FAC	PHD	Incident Commanders	—
C1. OBJECTIVE Conduct final assessment of the impact site and plume zone to ascertain whether any human remains are present	77	E+14d to E+60d	**Event observed:** Site assessment teams re-established	Incident Commander	Medical Examiner–Coroner, HazMat team(s), Law Enforcement, FBI, Fire and Rescue	Site re-assessment teams are organized according to function and responsibilities. Likely teams are: • Medical Examiner–Coroner • Law Enforcement • Fire • HazMat
	78	E+14d to E+60d	**Event observed:** The potential number of remaining deceased and the presence of remains or personal effects are estimated	Medical Examiner–Coroner	Fire and rescue responders	—

Table G-1. CBRNE incident mass fatality response timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
C1. OBJECTIVE (cont.)	79	E+14d to E+60d	**Event observed:** The extent of remaining contamination is identified	HazMat team(s)	EHD, EPA	To identify the extent of remaining contamination the HazMat team(s) investigate the following: • Levels of the contaminant on surfaces and in the air • Boundary of the Exclusion Zone/Hot Zone • The potential for the Exclusion Zone/Hot Zone to expand on contract based on the potential spread of the contaminant by air or the movement of contaminated people/objects • Presence of contaminant in the environment
C2. OBJECTIVE Continue decontamination of human remains	80	E+14d to E+60d	**Event observed:** Transfer of human remains and personal effects from the fatality collection points or temporary holding morgues to the decontamination site continues	Medical Examiner–Coroner, FBI, HazMat team(s), DMORT	Field responders	—
	81	E+14d to E+60d	**Event observed:** Gross decontamination of human remains and personal effects (if applicable) continues	Medical Examiner–Coroner, HazMat team(s)	FBI, DMORT	—
	82	E+14d to E+60d	**Event observed:** The effectiveness of the decontamination of human remains and personal effects (when applicable) continues to be analyzed	HazMat team(s)	—	—
C3. OBJECTIVE Continue coordination and dissemination of public information through the JIC	83	E+14d to E+60d	**Event observed:** Public information is communicated and coordinated through the Operational Area JIC	Operational Area JIC	Local governments, State and Federal agencies, NGOs, CBOs, FAC	—
	84	E+14d to E+60d	**Event observed:** FAC continues to receive information from the public regarding missing persons	FAC	Operational Area JIC	—
	85	E+14d to E+60d	**Event observed:** Communication and coordination with FAC continues	FAC, Operational Area JIC	Medical Examiner–Coroner	—
C4. OBJECTIVE Continue operation of the Incident Morgue until the majority of human remains have been processed	86	E+14d to E+60d	**Event observed:** Decontaminated human remains continue to be transported to main Incident Morgue	Medical Examiner–Coroner, DMORT	Field responders, GSD	GSD has vehicles and has the responsibility for acquiring vehicles under contracts. GSD can also provide drivers when requested.
	87	E+14d to E+60d	**Event observed:** Operations to identify human remains continues	Medical Examiner–Coroner, DMORT	Law Enforcement	—
	88	E+14d to E+60d	Continue to **collect** and **organize** personal effects	Medical Examiner–Coroner, DMORT	Law Enforcement, FBI	—
C5. OBJECTIVE Continue to provide family assistance services	89	E+14d to E+60d	**Event observed:** Authorized human remains and personal effects continue to be released to next of kin	Medical Examiner–Coroner, DMORT	Law Enforcement, FBI	Recommend determining location for storage/holding if FBI/U.S. Attorney do not authorize release of remains
	90	E+14d to E+60d	Continue to **assist** local governments with next-of-kin **notification** and **collection** of antemortem information assistance	Cal EMA	DMORT, Medical Examiner–Coroner	—
	91	E+14d to E+60d	**Event observed:** Delivery of antemortem victim records to temporary repository location continues	Medical Examiner–Coroner	Secure delivery contractor or Medical Examiner–Coroner designee	—
	92	E+14d to E+60d	**Event observed:** Morgue data continues to be cross-referenced with local, State, Federal, and International missing persons databases to assist in the identification of remains	Medical Examiner–Coroner, DMORT	FAC	—
C6. OBJECTIVE Continue release of decontaminated human remains	93	E+14d to E+60d	**Event observed:** Authorized human remains and personal effects continue to be released to next of kin	Medical Examiner–Coroner, DMORT	FAC	—
	94	E+14d to E+60d	**Event observed:** Unclaimed human remains are temporarily stored	Medical Examiner–Coroner	DMORT, LRAT	—
	95	E+14d to E+60d	**Event observed:** The need for Altered Standards of Death Care that may include government-mandated burial processes is again analyzed and determined	Medical Examiner–Coroner, DMORT	Death care industry, elected officials	See **Appendix I,** Normal versus Altered Standards of Death Care

Table G-1. CBRNE incident mass fatality response timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
C7. OBJECTIVE Continue to provide stress management and crisis intervention services to responders and friends and family of the deceased	96	E+14d to E+60d	**Event observed:** Critical incident stress management teams continue to support fatality management response personnel	LHD	CBOs, FBOs	—
	97	E+14d to E+60d	**Event observed:** Critical incident stress management teams continue to provide support at the incident location, main Incident Morgue, and FAC	LHD	CBOs, FBOs	—
C8. OBJECTIVE Plan for transition to long-term fatality management operations	98	E+14d to E+60 d	**Event observed:** Advanced planning unit established to plan for long-term recovery planning	Operational Area EOC	Operational Area EOC Planning Section, Medical Examiner–Coroner	—
C9. OBJECTIVE Demobilize unused resources	99	E+14d to E+60d	**Event observed:** All unused facilities are demobilized and all unused resources are released	Medical Examiner–Coroner	Operational Area EOC	—
	100	E+14d to E+60d	**Event observed:** Mass fatality partners are notified upon the conclusion of any demobilization efforts	Medical Examiner–Coroner	Operational Area JIC	—

Source: URS analysis (2009)
— = Not applicable
ARC = American Red Cross
Cal EMA = California Emergency Management Agency
CBO = community-based organization
d = days
CONPLAN = San Francisco Bay Area Earthquake Readiness Response: Concept of Operations Plan
DMORT = Disaster Mortuary Response Team
DOC =Department Operation Center
EOC = Emergency Operations Center
FAC = Family Assistance Center
FBI = Federal Bureau of Investigation
FBO = faith-based organization
FEMA = Federal Emergency Management Agency
h = hours
HazMat = hazardous materials
JFO = Joint Field Office
JIC = Joint Information Center
LHD = local health department
LRAT = Logistical Response Assistance Team
REOC = Regional Emergency Operations Center
SEMS = Standardized Emergency Management System
SOC = State Operations Center

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Appendix H:
Pandemic Influenza Event

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Appendix H: Pandemic Influenza Event

A severe pandemic influenza would result in a massive number of fatalities in the San Francisco Bay Area region. Mutual aid and State and Federal assistance would be unavailable because of the nationwide impact, the duration of the pandemic would be protracted, the intensity and duration of the pandemic would be similar in all jurisdictions and staff and partners involved in responding to an event with mass fatalities would be affected by the pandemic. All of these factors would create difficult challenges for the Coroner/Medical Examiner.

H.1 Scope

This appendix describes the key elements of a regional mass fatality response to a severe pandemic influenza scenario and provides the California Emergency Management Agency (Cal EMA) and the California Department of Public Health with situational awareness of Operational Area mass fatality operations and related regional coordination. Tactics are not addressed. The approach is driven by the need for Operational Areas and their local jurisdictions to be self-sufficient in terms of the mass fatality response because of the anticipated unavailability of mutual aid and State and Federal assistance.

H.1.1 Nature and Duration of the Scenario Event

The scenario event is a Category 5 pandemic influenza that lasts from 8 to 10 months. Pandemics are categorized by the Centers for Disease Control and Prevention (CDC) on a scale of 1 to 5[1] (least to most severe), and the categories are based primarily on the case-fatality ratio. The CDC Pandemic Severity Index is shown in **Figure H-1**.

The methodology used to develop the scenario event is described in **Section H.5.1**, and the assumptions about the scenario event are listed in **Section H.5.2**.

Mutual aid and other forms of assistance are unavailable, other than supplies and pharmaceuticals from State and Federal stockpiles, due to the nationwide impact of the pandemic. All Coroner/Medical Examiners, hospitals, and the private death-care industry are overwhelmed and quickly become exhausted, forcing jurisdictions to alter or waive normal standards of death care (see **Appendix I**). Waiving standards of death care creates an incident response and social environment not experienced in the United States since the pandemic influenza of 1918.

H.1.2 Time Frame

Pandemics are divided into phases, stages, and intervals (see **Figure H-2**). Pandemic intervals are designed to inform and complement the use of the Pandemic

[1] A Category 5 pandemic has a case-fatality ratio of 2 percent or higher.

Severity Index for choosing appropriate mitigation strategies. The intervals indicate when to act, and the index indicates how to act.

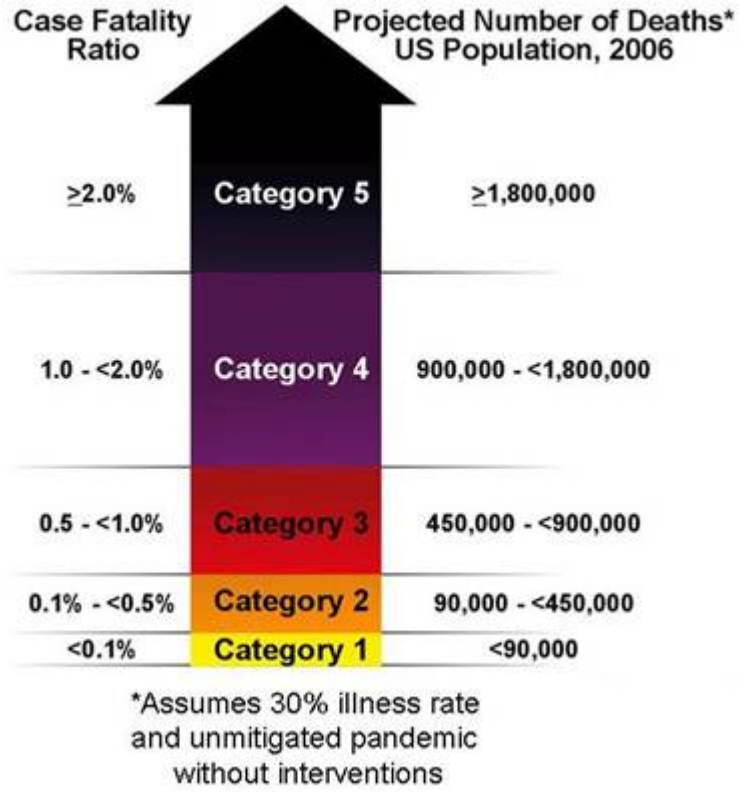

Figure H-1. Centers for Disease Control and Prevention Pandemic Severity Index.[2]

Two of the intervals are the Acceleration Interval and the Peak Transmission Intervals, which are defined as follows:

- **Acceleration Interval.** Begins in a State when public health officials have identified that containment efforts have not succeeded, onward transmission is occurring, or there are two or more laboratory-confirmed cases in the State that are not epidemiologically linked to any previous case.
- **Peak Transmission Interval.** Transmission is established, and the pandemic wave is at a peak. The intervals include extensive transmission in the community and the highest number of newly identified cases in the State. The Peak Transmission Interval is likely to correlate with a peak in the number of influenza-related fatalities.

The time frame for the scenario pandemic influenza begins with the event (E), defined in the scenario as the beginning of the Acceleration Interval, and ending at

[2] CDC (Centers for Disease Control and Prevention). 2007. Pandemic Severity Index. Available at http://www.cdc.gov/media/pdf/MitigationSlides.pdf.

E+60 days. Planning during the E to E+60 day time frame is focused on operations during the Peak Transmission Interval.

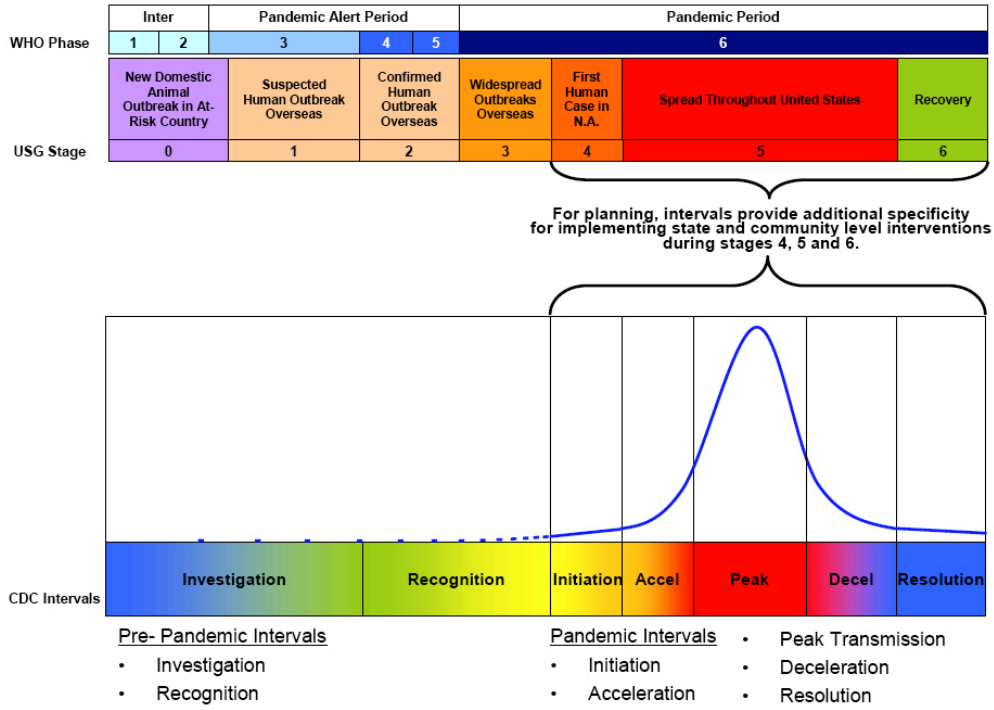

Figure H-2. Phases, stages, and intervals of a pandemic influenza.[3]

The appendix does not address planning or response activities that may occur before the event (E) or long-term activities that may occur after E+60 days. However, **Section H.7** provides broad guidance on long-term regional mass fatality management operations during an influenza pandemic.

H.2 Applicability

Appendix H is an incident-specific appendix to the Regional Catastrophic Incident Mass Fatality Plan (Plan), which is an incident-specific, function-specific subsidiary plan of the San Francisco Bay Area Regional Emergency Coordination Plan (RECP).

Appendix H is consistent with the following:

- California Mass Fatality Management Guide, September 2007
- San Francisco Bay Area Catastrophic Earthquake Readiness Response Concept of Operations Plan, prepared by the Federal Emergency Management Agency (FEMA), September 2008

[3] CDC (Centers for Disease Control and Prevention). 2007. Pandemic Intervals. Available at http://www.flu.gov/professional/federal/operationalplans.html.

H.3 Authorities, Regulations, and Requirements

Local, State, and Federal authorities, regulations, and requirements that apply to the preparation of this appendix and to mass fatality operations conducted in response to an Influenza Pandemic are identified in **Section 1.5** of the Plan.

H.4 Roles and Responsibilities

The roles and responsibilities of agencies and key players involved in a pandemic influenza mass fatality response differ slightly from those described in **Section 3** in response to an earthquake. The roles and responsibilities in a pandemic influenza are as follows:

- **Coroners/Medical Examiners.** The Coroner/Medical Examiner is responsible for collaborating with the Local Health Department, providing expertise during mass fatality planning efforts, and communicating with the Operational Area Emergency Operations Center (EOC). The Coroner/Medical Examiner plays a key role in developing and implementing mass fatality plans and overseeing the handling of human remains.

  Many fatalities in an influenza pandemic do not require an autopsy to confirm influenza as the cause of death. It is likely that once a pandemic event has begun, many cases are identified as natural deaths, and the Coroner/Medical Examiner's lack of jurisdiction is waived. Although the Coroner/Medical Examiner is not tasked to autopsy all influenza-caused deaths, some cases may fall under the jurisdiction of the Coroner/Medical Examiner. These cases include:

  - Initial deaths to determine the presence of the pandemic influenza strain
  - Deaths with no attending physician
  - Deaths in which the identity of the body is unknown despite normal investigative procedures
  - Deaths that are inconsistent with other pandemic influenza fatality cases
  - Deaths of persons in State or local custody or protection, such as inmates
  - Deaths that fall under normal Coroner/Medical Examiner duties not related to the pandemic influenza
- **Health Officers, Public Health Departments.** Each Operational Area in the region has a health officer. Some cities in the region (e.g., Berkeley) have a health officer. The health officer should coordinate and communicate with all agencies involved in the pandemic influenza response including the Coroner/ Medical Examiner and health-care service providers regarding mass fatality planning efforts and plan activation. The health officer should be involved with developing and updating mass fatality plans and assisting with sourcing and designating responsibilities, such as resource availability and tracking, mental health considerations, surge capacity, and safety standards, particularly for infection control. Although health officers have a role in mass fatality planning,

their primary responsibilities during an influenza pandemic are providing health care for the living and controlling the spread of disease.

- **Health-Care Facilities (i.e., hospitals, nursing homes, alternate care facilities, hospices, and shelters).** Individual facilities in the health-care industry should coordinate with the Coroner/Medical Examiner, Department of Public Health, and the county Emergency Medical Services (EMS) agency to establish efficient processes for releasing decedents to authorized persons in order to focus care on the living. Hospitals and other inpatient health-care providers secure temporary storage of human remains for an extended period and separate from the Coroner/Medical Examiner storage. Health-care facilities provide training for employees on how to expand storage for fatalities, handle remains, implement infection-control protocols, and notify the county Public Health Department of an influenza-related death.
- **Law Enforcement.** Law enforcement is responsible for responding to unattended deaths (e.g., in home, work, and public settings).
- **Death-Care Industry (i.e., funeral homes, crematoriums, and cemeteries).** Entities in the death-care industry coordinate with the Coroner/Medical Examiner to prepare for the final disposition of influenza-related deaths. To accommodate the surge, the death-care industry is responsible for acquiring additional equipment and supplies. If the decedent is not to be cremated, procedures to expedite the embalming process are in place. Remains may need to be stored temporarily by the Coroner/Medical Examiner before or after embalming or for the duration of the pandemic, which can be achieved through participation in a multi-jurisdictional, post-processing storage facility. Funeral homes, crematoriums, and cemeteries should take precautions to protect employees against bloodborne pathogens and viral infection from decedents and the public.
- **Private Citizens.** When coping with influenza-related deaths of loved ones, private citizens should be aware of public information regarding the nature of the pandemic influenza event. Citizens should follow the at-home death protocols described through official media broadcasts, which may include reporting at-home deaths to the proper officials, pronouncing and certifying remains, and using health and safety precautions when handling decedents. As a last resort, private citizens may elect to prepare the deceased for recovery from the private residence, and/or transport the deceased to a fatality collection point, county morgue, or hospital.

H.5 Scenario Event Development Methodology and Assumptions

This section presents the pandemic influenza scenario development methodology, the scenario details, projected impacts of the event, and the assumptions specific to the scenario event.

H.5.1 Scenario Event Development Methodology

The pandemic influenza planning scenario was developed to guide the response of the regional and local government to a long-term catastrophic mass fatality event. The scenario simulates an environment with a high number of fatalities without the assistance of mutual aid or State, out-of-state, or Federal resources.

The scenario was developed in accordance with the pandemic influenza scenario development methodology contained in the U.S. Department of Health and Human Services (HHS) Pandemic Influenza Plan (2005). For the scenario event, the 1918-like scenario was chosen over the 1957-like or 1968-like scenario because HHS recommends planning for the more severe scenario. The 1918 pandemic was more severe than the 1957 or 1968 pandemics. The selected 1918-like scenario was refined using a hybrid of historical documentation of the 1918 pandemic influenza impact in California and HHS Pandemic Influenza Plan planning assumptions, which focus on modern medical advancements and sewer and sanitation improvements as the justification for projecting a slightly lower mortality rate.

The HHS 1918-like pandemic influenza scenario assumes a 2.2 percent mortality rate, but the mortality rate presented in the scenario event presented in this appendix is 2.0 percent, which is slightly lower because of consideration of modern medical advancements. However, universal access to vaccines, antiviral medications, and ventilators is not possible because of limited quantities. The 1918 pandemic lasted approximately 18 months worldwide with 3 distinct waves, each lasting 6 to 8 weeks. The 1918 pandemic in the United States lasted 9 to 10 months. The first wave was characterized by an uneven fatality rate during the first 6 months and was mild in comparison to the second and third waves. The second and third waves were exceptionally severe, yielding the vast majority of the fatalities in the United States.

The pandemic planning scenario for this appendix assumes a 9- to 10-month 1918-like pandemic influenza but with only two waves, each lasting 6 to 8 weeks and separated by an almost undetectable interwave period lasting 8 weeks. The estimated attack rate of 30 percent and mortality rate of 2 percent are based on extrapolations from past pandemics in the United States. The 2009 population of each county in the 12-county Bay Area region was multiplied by the attack and mortality rates to obtain the number of people in each county who become infected with or die from pandemic influenza infection. The 2009 population for the 12 Bay Area counties was derived by using Census 2000 data as a baseline, and the applicable percent increase in population between 2000 and 2009 for each of the 12 Bay Area counties was applied.

To maximize the benefit of planning for a 1918-like pandemic influenza, the appendix includes response operations from E to E+60 days. The event begins when the Acceleration Interval for the first pandemic wave begins, as defined by CDC's Pandemic Severity Index. Response operations after E+60 days are presented in less detail (see **Section H.7**). The E to E+60 day time frame includes

operations during the first wave, which helps prepare for response operations for the most overwhelming circumstances during the pandemic influenza.

H.5.2 Scenario Event Assumptions

1. The pandemic begins in September and lasts 9 to 10 months. The pandemic has two waves, each lasting 6 to 8 weeks.[4] In the first wave, there are 29,400 regional fatalities, and in the second wave, 19,400 regional fatalities (see **Table H-1**).
2. All areas in each county are affected simultaneously with the same vigor.
3. The fatalities are widely dispersed geographically, and a significant number occur in private residences.
4. Pandemic influenza-related deaths are both attended and unattended.

[4] The first pandemic wave occurs during E to E+60 days. Second-wave considerations are presented in **Section H.7**.

Table H-1. Projected number of infected and fatalities in a pandemic influenza in the 12-county Bay Area region over 18 months.

County	Population	Number Infected[1]	First Wave Fatalities[2]	Second Wave Fatalities[3]	Total Fatalities[4]
Alameda	1,556,500	466,900	5,600	3,700	9,300
Contra Costa	1,060,400	318,100	3,800	2,660	6,400
Marin	258,600	77,600	1,000	600	1,600
Monterey	431,900	129,600	1,600	1,000	2,600
Napa	137,600	41,300	500	300	800
San Benito	58,000	17,400	200	100	300
San Francisco	845,600	253,700	3,000	2,000	5,100
San Mateo	745,800	223,800	2,700	1,800	4,500
Santa Clara	1,857,600	557,300	6,700	4,400	11,100
Santa Cruz	268,600	80,600	1,000	600	1,600
Solano	426,300	127,900	1,600	1,000	2,600
Sonoma	486,600	146,000	1,700	1,200	2,900
Regional Total	**8,133,500**	**2,440,200**	**29,400**	**19,400**	**48,800**
Oakland[5]	425,000	127,500	1,600	1,000	2,600
San Jose[6]	1,006,700	302,000	3,600	2,400	6,000[7]

Sources: Population data from 2000 U.S. Census, adjusted to 2009 as described in **Section H.5.1**; attack and mortality rates from U.S. Department of Health and Human Services Pandemic Influenza Plan and Centers for Disease Control and Prevention.

[1] Numbers based on a 30% attack rate. Numbers rounded to the nearest hundred.

[2] Numbers represent 60% of the total influenza-related fatalities and are based on a 2% mortality rate. Numbers rounded to the nearest hundred.

[3] Numbers represent 40% of the total influenza-related fatalities and are based on a 2% mortality rate. Numbers rounded to the nearest hundred.

[4] Numbers rounded to the nearest hundred.

[5] Population for the City of Oakland is included in the population for Alameda County.

[6] Population for the City of San Jose is in the population for Santa Clara County.

[7] Source: URS analysis (2009)

5. Between 50 and 75 percent of influenza-related deaths occur outside a hospital or medical treatment facility.
6. Determining the jurisdiction of fatalities may present unforeseen complexities. Military, private, foreign consulate, and tribal issues may generate jurisdictional and/or political challenges.
7. Response capabilities of the local jurisdictions are overwhelmed by two severe pandemic waves and a mortality rate of 2 percent of the number infected.
8. The duration of the event requires long-term mass fatality management operations at maximum surge capacity levels.

9. All Coroners/Medical Examiners, hospitals, and the death-care industry are overwhelmed and their resources quickly become exhausted. They struggle to provide a minimum level of service.
10. Local jurisdictions need to be self-sufficient and capable of recovering, securing, transporting, tracking, processing, and conducting final disposition of the deceased, without mutual aid assistance or aid from the State and Federal governments.
11. If the State is able to provide any support, the assistance is to identify storage facilities, transportation resources, vendors of body bags, and other mass fatality resources. The State also assists with suspension or implementation of laws or regulations needed to assist the Coroner/Medical Examiner and Vital Records with expediting the issuance of death certificates.
12. Pandemic influenza deaths are not under the codified jurisdiction of the Coroner/ Medical Examiner, placing the burden of fatality management on hospitals and the death-care industry, which are less experienced than Coroners/Medical Examiners with processing mass fatalities. In addition, hospitals focus primarily on life safety.
13. The great number of fatalities over a relatively short period and limited existing local resources to recover decedents may result in delayed recovery of the remains.
14. Local health departments, through the authority of the health officer, authorize the Coroner/Medical Examiner to take jurisdiction of fatalities related to the pandemic influenza. The Coroners/Medical Examiners take leadership roles and oversee pandemic-related mass fatality operations because of their existing role in the management of fatalities.
15. Local and State officials seek a waiver of selective regulatory codes/statutes pertaining to day-to-day Coroner/Medical Examiner operations to allow for effective and timely mass fatality management.
16. Coroners/Medical Examiners, local health departments, hospitals, and the death-care industry maintain close coordination to maximize county-wide surge capacity response capabilities with a focus on hospitals expanding morgue capacities significantly by adapting alternative space to accommodate the surge in mortality rates.
17. Coroners/Medical Examiners develop procedures to recover, identify, track, and transport human remains located at private residences.
18. Coroners/Medical Examiners, hospitals, and the death-care industry continue to incur normal daily case loads.
19. The workload of the death-care industry is triple the normal workload in a 6- to 8-week period.
20. Resource shortages occur because of disruption of manufacturing and distribution networks from worker absenteeism.

21. Disruption in operations of publicly and privately owned critical infrastructure occurs because of absenteeism.
22. Up to 40 percent of the Coroner/Medical Examiner, hospital, and death-care **i**ndustry staff are absent from work because of personal and family illness and death.
23. Coroners/Medical Examiners, hospitals, and the death-care industry identify and **t**rain alternative staff or volunteers to assist in mass fatality operations (e.g., **r**emoval service staff and Medical Reserve Corps volunteers).
24. Effective and efficient mass fatality operations depend on expedited access to:
    - A large number of fixed or portable temperature-controlled/air-conditioned clear span or other existing facilities for temporary morgues
    - A large number of refrigerated vehicles for the transportation and/or temporary storage of human remains
    - A large amount of fatality management equipment and supplies—e.g., body bags and personal protective equipment (PPE)
25. The supply of refrigerated trucks does not meet the demand, making it difficult to ensure proper storage/transportation for the deceased.
26. Remains processing has throughput limitations because of limited access to trained personnel, equipment, and facilities.
27. The availability of law-enforcement personnel needed for securing mass fatality management related sites/facilities is limited.
28. Coroners/Medical Examiners or their designees coordinate with local emergency managers to develop a virtual system to provide family assistance services to comply with social distancing orders from the health officer, which consists of pushing information out, rather than pulling people into a facility.
29. Local and State agencies coordinate to provide a support structure for personnel, including provision of food and beverage, accommodations, sanitation, and critical incident stress management support.
30. Local and State agencies coordinate to provide timely and accurate information distributed to the media, the public, and the political leadership regarding the processing of death certificates and burial permits.
31. Local and State agencies coordinate and develop risk communication messages for the public that include the realities of preparing, recovering, storing, and processing the deceased without timely government assistance.
32. Personnel are deployed in several functional locations, making communications coordination and facilitation between the Coroner/Medical Examiner staff difficult.
33. Local health departments and the California Department of Public Health (CDPH) assist agencies in the use of the California Health Alert Network to communicate information regarding the pandemic.

34. The Governor amends or suspends Title 22 of the California Code of Regulations so that the biowaste and other bodily fluids from human remains are not classified as hazardous materials.
35. The Governor issues, amends, or rescinds Executive Orders, proclamations, or statutes to deal with the disposition of human remains.
36. The State may establish a standard method of final disposition by issuing an Executive Order or by other legal means.
37. Coroners/Medical Examiners, in consultation with response partners, may consider implementing appropriate and select altered standards of death care, which may include temporary interment and/or mass cremation of the deceased.
38. The need to consider the varied cultural/religious practices may overburden the task of final disposition of human remains.
39. Health officers suspend mass gatherings for funeral rituals to mitigate the spread of disease.
40. Vital Records is immediately overwhelmed, hindering the processing of death certificates and permits for disposition. The Coroner/Medical Examiner and Vital Records batch process death certificates and permits for disposition to expedite final disposition of decedents.
41. Additional personnel to augment Vital Records staff to meet surge capacity demands are identified and recruited by local health departments.
42. Local and State law enforcement agencies assist in the identification and recruitment of additional personnel to send death notification information to the appropriate out-of-state law enforcement agency for notifying out-of-state next of kin.
43. Local health departments and the California Department of Health coordinate to streamline the process for issuance of death certificates and permits for final disposition.
44. The State Department of Justice assists with identifying the deceased through its missing persons database.
45. Coroners/Medical Examiners, Vital Records, and hospitals coordinate with private insurance agencies to address fraud and wrongful death cases and to provide public information to mitigate fraudulent practices.
46. The State coordinates the repatriation of deceased foreign nationals.

H.6 Plan

Although this appendix is part of a regional plan, in this scenario, each Operational Area operates mostly without support or independently. Therefore, the Plan for the regional pandemic influenza mass fatality response focuses on the operations conducted by the Operational Areas in the region. **Figure H-3** presents a flow chart for pandemic influenza fatalities.

The Plan includes the following:

- Information sharing across local, State, and Federal agencies and the private sector
- Regionalized public information dissemination to ensure message uniformity across the region
- Coordination among the region's Coroners/Medical Examiners using the mechanisms defined in the RECP, Law Enforcement and Coroner/Medical Examiner Subsidiary Plan, to establish regional consensus on applying select altered standards of death care
- Identification and integration of available private-sector mass fatality management resources
- Use of non-Coroner/Medical Examiner emergency response and management staff in mass fatality management and support roles
- Establishment and operation of a system to provide a virtual Family Assistance Center (vFAC) when social distancing orders are issued by the health officer

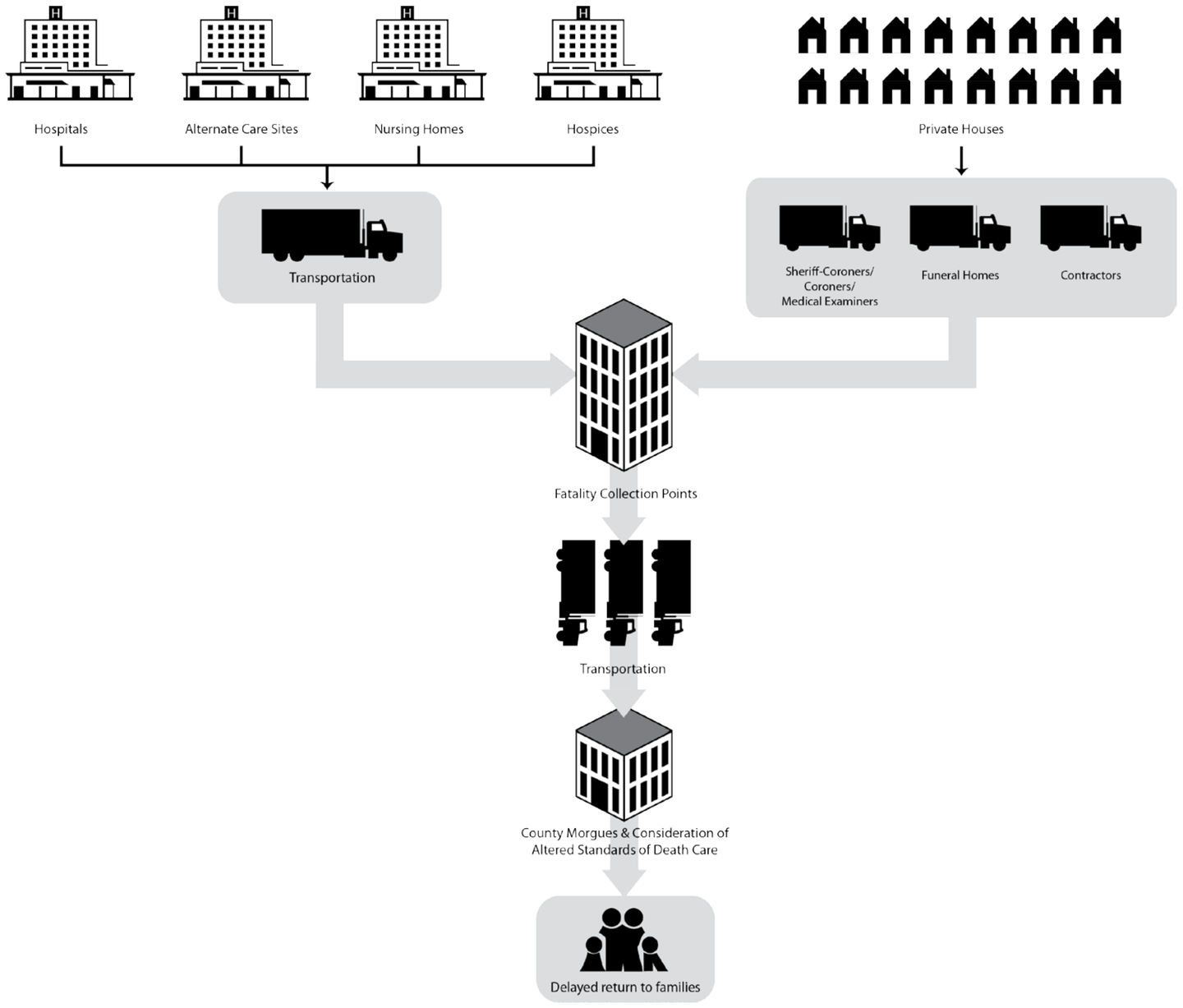

Figure H-3. Pandemic Influenza Fatality Flow Chart

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H.6.1 Objectives for Response

This section provides a description of the Operational Area approach from a regional perspective to mass fatality operations during a pandemic. It defines priorities, objectives, and operational details about how the response is conducted; guidance for long-term operations; and presents a projected timeline of actions and observed events that will occur during the pandemic.

H.6.1.1 E to E+72 Hours

Operational priorities:

- Identify the number of influenza-caused deaths and the location of the remains
- Expand mass fatality response capabilities
- Initiate collection and recovery of human remains

Response objectives:

- Plan and coordinate mass fatality management operations with appropriate agencies
- Obtain situational awareness on the impacts of the influenza pandemic
- Identify mass fatality management capabilities, resource requirements, and needs
- Submit initial mass fatality management resource requests
- Identify and integrate additional staff to augment recovery, transportation, morgue, hospital, and Vital Records operations
- Coordinate and disseminate public information through the Joint Information System (JIS)
- Establish system to collect and recover human remains
- Collect and recover human remains
- Establish system to transport and temporarily store human remains
- Expand morgue capacity and conduct morgue operations
- Initiate family assistance services to include the establishment and operation of vFACs

H.6.1.2 E+72 Hours to E+14 Days

Operational priorities:

- Continue to collect and recover all human remains as the pandemic progresses
- Coordinate the transport, storage, processing, identification, and final disposition of human remains
- Provide vFACs

Response objectives:

- Reassess current mass fatality management capabilities, resource requirements, and needs
- Continue to collect and recover human remains
- Review, select, and implement appropriate altered standards of death care in coordination with other Bay Area counties and the State of California
- Coordinate with local health departments to communicate numbers of fatalities numbers and trends to county officials, Coroners/Medical Examiners, emergency managers, hospitals, and Vital Records
- Establish system for the mass issuance of death certificates for influenza-caused deaths
- Continue to operate morgues at full capacity
- Continue coordination and dissemination of public information through the JIS and vFACs
- Provide vFACs
- Implement stress management and crisis intervention strategies

H.6.1.3 E+14 Days to E+60 Days

Operational priorities:

- Collect and recover all human remains associated with the first wave of the influenza pandemic
- Conduct temporary interment or final disposition of human remains when possible
- Prepare for the second wave of pandemic influenza

Response objectives:

- Plan for second wave of pandemic influenza
- Replenish local resources to support mass fatality response operations in anticipation of the second wave of fatalities
- Continue to collect and recover human remains
- Store, release, temporarily inter, or facilitate the final disposition of human remains
- Provide stress management and crisis intervention services for mass fatality management personnel and friends and family of the deceased
- Reconstitute morgues in anticipation of the second wave of fatalities

H.6.2 Coordination

H.6.2.1 Regional Coroner/Medical Examiner Coordination

A pandemic influenza-related mass fatality event in the Bay Area will exceed the capacity of any one Operational Area to respond effectively. Because a severe

pandemic influenza event will affect the region as a whole, the entire region will lack adequate resources. Despite insufficient personnel, equipment, supplies, and facilities, Coroners/Medical Examiners will be forced to manage fatalities within the confines of the Operational Area and without mutual aid. Mass fatality response operations should be closely coordinated with, and supported by, public and private hospitals including long-term human remains storage capacity.

State and Federal resources will also be overwhelmed, and local agencies will have to make difficult choices to maximize the use of available resources. Mechanisms such as the strategic implementation of altered standards of death care may assist with clearing bottlenecks in the processing and final disposition of decedents (see **Appendix I**). In a regional mass fatality event, the Region II Coroner/Medical Examiner Mutual Aid Coordinator and/or the Cal EMA Regional Emergency Operations Center (REOC) Law Enforcement Branch Director may convene the Coroners/Medical Examiners in affected counties via conference call to consider the following issues:

- Development of Coroner/Medical Examiner strategies to maximize the use of limited resources
- Situational reporting to capture estimated number of deaths, burial management, cremation management, and hospital coordination
- Development of consistent regional public messages
- Development of Coroner/Medical Examiner strategies to maximize the use of nontraditional Coroner/Medical Examiner personnel to augment staff
- Consideration of regional adoption of select altered standards of death care

The conference call should include the following representatives:

- Region II Coroner/Medical Examiner Mutual Aid Coordinators
- County Coroners/Medical Examiners

The conference call may include some or all of the following, as appropriate:

- Additional agency representatives and subject matter experts, such as death-care industry representatives
- Mutual aid coordinators and/or branch coordinators from other disciplines
- Public and private hospital preparedness coordinators and other healthcare facilities
- County public health representatives
- Public Information Officers

The standard procedure for hosting the conference calls is addressed in detail in the Law Enforcement Subsidiary Plan to the RECP.

H.6.2.2 Coordination on Public Messaging

Because the jurisdictions in the Bay Area share media outlets, Coroners/Medical Examiners should consider developing consistent messaging across the region.

The Regional Coroner/Medical Examiner conference call is the mechanism by which these messages can be developed. The messaging is forwarded to the Coroner/ Medical Examiner for each county for distribution through the standard protocol used for the release of public information in the Operational Area.

H.6.3 Situation Reporting

The Coroner/Medical Examiner coordinates with public and private hospitals to learn the number of influenza-related deaths at each facility. The numbers of fatalities occurring at other locations in the Operational Area are forwarded to the Operational Area EOC to be combined and included in the Situation Report for the operational period.

The Situation Report is shared with the State at specified intervals. Situational reports should capture the number of deaths, number of decedents released for final disposition, and the status of surge capabilities for morgues, hospital care facilities, and the death-care industry.

The REOC Law Enforcement Branch Director facilitates regional situation reporting through the following:

- Establishes and maintains communication with the Law Enforcement Branch at each activated Operational Area EOC.
- Reports to the REOC Operations Section Chief on law enforcement activities in each Operational Area and conveys resource needs and emerging issues.
- Includes this information in a Branch Report (available in Response Information Management System [RIMS]) that is updated and provided to the REOC Operations Section Chief.
- Conveys information about regional resource allocations, regional situational awareness, and other information as requested to the Operational Area EOC law enforcement branches.
- Works directly with the SOC, Law Enforcement Branch Coordinator.
- Elevates requests and communicates issues and information received from the Operational Areas and from mutual aid coordinators that cannot be filled at the regional level. Information also flows to the SOC, Law Enforcement Branch, through Regional Situation Reports and Event Action Plans.

Appendix I presents detailed information regarding altered standards of death care and their application to the scenarios contained within this Plan.

H.6.4 vFACS

Because of the social distancing measures established by health officers, Coroners/ Medical Examiners are responsible for the provision of family assistance services that are necessary via vFACs, which are established to provide the public with information through media. Media outlets may include newspapers (both hard-copy and web-based), local television news stations, local radio stations, emergency hotlines or call centers, websites such as 211 Bay Area

(http://www.211bayarea.org), and various other emergency management, county, and/or city public websites. Families need to understand the principles behind decisions being deployed by local and State authorities, particularly decisions related to temporary interment and the option to disinter.

The media outlets ensure that the public receives timely and accurate updates regarding the fatality management process, pronouncing death, certifying death, how to access the officials about deaths that occur at home, private citizens preparing/transporting loved ones who die at home, and implementation of select altered standards of death care, if any.

Examples of State and Federal information outlets are the CDC, the California Department of Consumer Affairs, the Cemetery and Funeral Bureau, and the California Department of Public Health. However, State and Federal information should be incorporated into the regional and local outlets, which are the most used and relied-on sources by the public. All sources are consistent and incorporate new information as it becomes available in order to minimize confusion.

Throughout The California Mass Fatality Management Guide: A Supplement to the State of California Coroners' Mutual Aid Plan (2007), specific functions are outlined that should be provided through family assistance services. As noted, the vFACs should include many or all of the following services:

- General information
  - Financial assistance, such as resources, application/referral process
  - Social Security, such as access to death and disability benefits
  - Legal assistance, such as insurance benefits, death-related concerns
  - Health-safety issues regarding food, water, medications
- Individualized information and support
  - Burial site
  - Death certificate information
  - Information regarding keeping the dead at home when the potential exists for a prolonged period before the body is removed

H.7 Long-Term Recovery

The scenario pandemic influenza event lasts for more than 9 months and requires addressing long-term recovery needs. Because of the protracted duration and extended transition to long-term recovery, specific time-based actions are not necessary.

Long-term recovery efforts include:

- Return temporary and permanent facilities used to process human remains to their condition before the mass fatality response operations
- Provide critical incident stress management for staff
- Continue vFACs

- With law enforcement, support the process to continue to identify human remains and issue correction forms
- Continue identification of indigent and foreign national populations
- If the human remains are placed into temporary interment and the next of kin prefers to disinter the decedent, manage the disinterment of the remains in preparation for final disposition
- Develop and construct memorials/monuments
- Prepare for additional pandemic influenza waves by restocking
- Identify resources that should be replenished during long-term recovery, specifically concerning fatality management operations and death-care industry-related supplies in preparation for other pandemic influenza waves
- Coordinate with other counties, states, or countries for the repatriation of the deceased to their area of permanent residence
- Maintain accurate counts of all pandemic influenza-related deaths and ensure data are reported to the Coroner/Medical Examiner
- Reconcile death certifications with insurance companies
- Determine when funeral homes and mortuaries can resume normal operations
- Return personal effects to next of kin
- Maintain records for financial purposes and for potential reimbursement by the Federal Government
- Conduct an after-action review of operations and make necessary alterations

H.8 Response Timeline

Table H-2 provides a response timeline of the tasks associated with an influenza pandemic starting from the CDC Acceleration Interval (E) until 60 days after, as described in **Section H.2.2**. Operational priorities are not included in the timeline.

Table H-2. Response task timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A1. OBJECTIVE Plan and coordinate mass fatality management operations with appropriate agencies	1	E to E+72h	**Event:** Local governments conduct meetings to determine strategy for handling the surge in influenza-caused fatalities.	Coroner/ Medical Examiner	LHDs, hospitals, death-care industry	Local volunteer agencies play a critical role in mass fatality response operations (e.g., FBOs, CBOs, MRCs)
	2	E to E+72h	**Event:** Local governments review plans for mass fatality management operations.	Coroner/ Medical Examiner	LHDs, hospitals, death-care industry	Local governments discuss alternate workforce solutions (e.g., retired individuals, students). Volunteers receive just-in-time training.
	3	E to E+72h	**Event:** Local governments develop personnel shift and resource staging plans to maximize the use of limited resources.	Coroner/ Medical Examiner	—	—
	4	E to E+72h	**Event:** Local governments coordinate with the death-care industry (funeral homes, crematoriums, and cemeteries) regarding the anticipated surge in fatalities.	Coroner/ Medical Examiner	CDFA	Local governments attempt to identify sources of supplementary workers. Funeral homes handle 6 months' work in a 6–8 week period. Local service clubs or churches may be able to take on tasks such as digging graves under supervision. Crematoriums examine their capability to expand operations, which might include running on a 24-hour basis. One body can be processed every 4 hours.
	5	E to E+72h	**Event:** Local governments coordinate with religious and cultural leaders regarding the anticipated surge in fatalities.	Coroner/ Medical Examiner	FBOs	Information should be provided to FBOs regarding what to expect. Religious and ethnic leaders are encouraged to educate and solicit the support of their group to help expedite final disposition for the deceased; accelerate legal processes (e.g., life insurance); and help promote community recovery.
	6	E to E+72h	**Event:** Local governments plan for the removal of remains from hospitals, other care facilities, and pre-designated fatality collection sites.	Coroner/ Medical Examiner	Hospitals, LHDs, SNFs, LTCFs	Local governments identify alternate suppliers of equipment that could be used as stretchers for the movement of human remains.
	7	E to E+72h	**Event:** Local governments plan for the possibility of implementing select Altered Standards of Death Care	Coroner/ Medical Examiner	Hospitals, LHDs, SNFs, LTCFs, death-care industry	See **Appendix I** for more details on altered standards of death care.
A2. OBJECTIVE Obtain situational awareness on the impacts of the influenza pandemic	8	E to E+72h	**Event:** Local governments gather data on the influenza pandemic	LHD	Coroner/ Medical Examiner, Hospitals, SNFs, LTCFs	Critical pieces of information to provide situational awareness for the influenza pandemic are: • Number of deaths • Number ill and their severity • Availability of medication and other treatment resources • Location of remains • Current capability of hospitals to store human remains • Death-care industry's capabilities to conduct the final disposition of each fatality
A3. OBJECTIVE Identify mass fatality management capabilities, resource requirements, and needs	9	E to E+72h	**Event:** Local governments evaluate current capabilities	Coroner/ Medical Examiner, hospitals, death-care industry	—	Local governments should evaluate morgue capacity, hospital morgue capacity, resource availability, and staff availability
	10	E to E+72h	**Event:** Local governments determine resource needs and requirements and verify their availability from local sources.	Coroner/ Medical Examiner	Operational Area EOCs	Local governments contact casket manufacturers to discuss expediting shipments. There is a great need for backhoes and coffin-lowering machinery.
	11	E to E+72h	**Event:** Local governments determine fatality management facilities' security capabilities, needs, and requirements	Local law enforcement	Coroner/ Medical Examiner, Operational Area EOCs	Local governments use information to initiate the identification of appropriate temporary interment sites.
	12	E to E+72h	**Determine** current transportation capabilities, needs, and requirements	Coroner/ Medical Examiner, Local transportation agencies, CDFA, death-care industry	Operational Area EOCs, GSD, Cal EMA, FEMA	Local governments may consider using volunteer drivers for vehicles that do not require a special license for operation.
	13	E to E+72h	**Determine** human resource needs and required qualifications for transporting human remains	Coroner/ Medical Examiner	Local transportation agencies, private transport companies, GSD, CFDA, death-care industry	Ensure that drivers have met license requirements.

Table H-2. Response task timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A4. OBJECTIVE Submit initial mass fatality management resource requests	14	E to E+72h	**Event:** Operational Areas request initial mass fatality management resources through the Region II Coroner/Medical Examiner Mutual Aid Coordinator.	Operational Area Coroner/Medical Examiner Mutual Aid Coordinator	Operational Area EOC, REOC	While it is assumed that mutual aid resources are unavailable, the State and Federal governments have caches of certain supplies that may be available upon request. Examples of resources that may be available are: • Vaccine • Body bags • PPE • Vehicles
	15	E to E+72h	**Host** conference call with Operational Area Coroner/ Medical Examiner Mutual Aid Coordinators and the Region II Coroner/Medical Examiner Mutual Aid Coordinator to discuss the need for State and Federal resources	Cal EMA	Operational Area Coroner/Medical Examiner Mutual Aid Coordinators	See RECP, Law Enforcement Subsidiary Plan for a description of the Coroner/Medical Examiner Mutual Aid System
	16	E to E+72h	**Coordinate** delivery of requested State and Federal mass fatality resources	Cal EMA	FEMA, HHS, Operational Area EOCs	In-State cached resources are delivered to Operational Areas according to the State-determined delivery schedule. Federal resources are delivered first to the State and then delivered by the State to requesting Operational Areas.
	17	E to E+72h	**Event:** State and Federal resources arrive.	Cal EMA	Operational Area EOCs	—
A5. OBJECTIVE Identify and integrate additional staff to augment recovery, transportation, morgue, hospital, and vital records operations	18	E to E+72h	**Identify** and **coordinate** with sources of additional staff to support mass fatality operations	Coroner/ Medical Examiner	Operational Area EOCs	Potential sources for additional staff to support mass fatality operations are: • LHD • Local law enforcement • EMS • Fire • MRC
A6. OBJECTIVE Coordinate and initiate dissemination of public information through the JIS	19	E to E+72h	**Coordinate** and **disseminate** public information through the JIS	Operational Area JICs, SOC/JFO JIC	Local governments, State and Federal agencies, special districts, NGOs, CBOs	Examples of information Coroners/Medical Examiners should provide to the public are: • vFAC contact information • Location(s) of FACs • Type of services the vFACs and/or FACs provide • Number of fatalities • Location(s) of public fatality collection sites • How to access an authorized person to pronounce and certify death
	20	E to E+72h	**Event:** Local governments coordinate with and disseminate public information through Operational Area JICs.	Coroner / Medical Examiner designated Public Information Officer	Local government Public Information Officers	—
	21	E to E+72h	**Event** local governments initiate communication and coordination with hospitals to determine reporting requirements on the total number of influenza-caused fatalities.	LHDs	Coroner/ Medical Examiner	—
A7. OBJECTIVE Establish system to collect and recover human remains	22	E to E+72h	**Event:** Local governments establish fatality collection points.	Coroner / Medical Examiner	Hospitals, GSD	Level of transport capability impacts the number of fatality collection points.
	23	E to E+72h	**Event:** Local governments establish fatality recovery teams to expedite human remains recovery from hospitals, private residences, and private businesses.	Coroner / Medical Examiner	Local law enforcement	Local governments may consider deputizing those individuals whose sole responsibility is to search for the dead. Local governments and hospitals may establish a 24/7 pickup service with set pick up times. Local law enforcement accompanies US&R teams involved.
	24	E to E+72h	**Event:** Local governments deploy teams to recover human remains from private residences, private businesses, hospitals, SNFs, LTCFs, and ACSs.	Coroner / Medical Examiner	Hospitals, SNFs, LTCFs, ACSs	Local recovery teams provide a body wrapping service in conjunction with pronouncement and transportation to morgue. Local governments should consider developing a rotating 6 month inventory of body bags (need to take into consideration shelf life limitations) This may include the need to train and expand the role of current staff to perform this task.

Table H-2. Response task timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
A7. OBJECTIVE (cont.)	25	E to E+72h	**Event:** Local governments deploy teams to recover human remains from private residences, private businesses, hospitals, SNFs, LTCFs, and ACSs.	Coroner / Medical Examiner	Hospitals, SNFs, LTCFs, ACSs	Local recovery teams provide a body wrapping service in conjunction with pronouncement and transportation to morgue. Local governments should consider developing a rotating 6 month inventory of body bags (need to take into consideration shelf life limitations) This may include the need to train and expand the role of current staff to perform this task.
	26	E to E+72h	**Event:** Local governments begin receiving human remains at fatality collection points.	Coroner / Medical Examiner	—	—
	27	E to E+72h	**Event:** Locations of recovered human remains are documented.	Coroner/ Medical Examiner	Hospitals, SNFs, LTCFs, ACSs	If death occurs in the home, designated person must be contacted. The local fatality recovery team must understand the distinction between pronouncing death and certifying death. This may not be the same person legally. Local governments may "collect" decedents and perform death certification en masse to improve efficiency.
	28	E to E+72h	**Event:** All human remains dropped off at fatality collection points are documented.	Coroner/ Medical Examiner	—	—
A8. OBJECTIVE Establish system to transport and temporarily store human remains	29	E to E+72h	**Event:** Local governments analyze transportation resource needs and capabilities.	Coroner/ Medical Examiner, local transportation agencies	GSD, Operational Area EOCs, Cal EMA, FEMA, CDFA, death-care industry	Examples of death-care industry resource shortage items include: • Caskets, urns, vaults • Embalming supplies and equipment • Headstone or other grave markers
	30	E to E+72h	**Event:** Local governments seek to acquire refrigerated trucks that can be used to store and transport remains.	Local transportation agencies, private transport companies, CFDA, death-care industry	GSD, DGS	Shelves can be used to increase storage capacity. Human remains should not be stacked. Refrigerated trucks can usually hold between 25-30 remains.
	31	E to E+72h	**Event:** Human remains transferred from the fatality collection points to temporary morgues or temporary storage	Coroner/ Medical Examiner	Coroner/ Medical Examiner recovery teams	Temporary morgues should be maintained at 38–44° F. Local governments may need to store human remains for the duration of the pandemic wave (6-8 weeks). Refrigerated trucks, cold storage lockers, refrigerated warehouses and temporary interment are considered for temporary storage.
	32	E to E+72h	**Event:** Human remains are temporarily stored	Coroner/ Medical Examiner	Death-care industry, hospitals	—
A9. OBJECTIVE Expand morgue capacity and conduct morgue operations	33	E to E+72h	**Event:** Local governments establish temporary morgues and expand County morgues to full-surge capacity	Coroner/ Medical Examiner	Operational Area EOCs, CFDA, ARC, Salvation Army, ICISF, CLECA, LHDs, CDSS	Autopsies are not required for confirmation of influenza as cause of death; therefore, most cases in a pandemic influenza do not require autopsy.
	34	E to E+72h	**Event:** Deployment of security personnel to fatality collection points, morgue sites, and storage facilities	Local law enforcement,	CHP, National Guard	—
	35	E to E+72h	**Event:** Local governments begin processing human remains	Coroner/ Medical Examiner	—	Embalming is not required and is not a direct responsibility of the Coroner/ Medical Examiner.
	36	E to E+72h	**Event:** Coordination with Vital Records to expedite the issuance of death certificates and permits for final disposition	Coroner/Medical Examiner, Vital Records	CDPH	Vital Records is typically part of Public Health or Recorders Office. CDPH to provide assistance to local Vital Records to expedite the processing of death certificates
	37	E to E+72h	**Event:** Completion of death certificates when positive identification and cause and manner of death have been determined	LHDs	Coroner/ Medical Examiner, CDPH	Coroner/ Medical Examiner must also complete portion of the death certificate after identify of the deceased has been confirmed.
A10. OBJECTIVE Initiate family assistance services to include the establishment and operation of vFACs call centers	38	E to E+72h	**Event:** Local governments activate call centers to facilitate access to vFAC services and to provide information to the Coroner/Medical Examiner	Coroner / Medical Examiner	LHDs, ARC, Salvation Army (and other NGO's, FBO's), CFDA	Cal EMA may assist. To include core management, operations, and administrative teams. Services are provided through a call center or over the Internet. Core services include registration; Coroner/ Medical Examiner Services (family briefings, ante mortem data collection, and death notification); mental health services; spiritual care services; and others to meet situational requirements See **Section H6.4** for additional details on vFACs

Table H-2. Response task timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
B1. OBJECTIVE Reassess mass fatality management capabilities, resource requirements, and needs	39	E+3 d to E+14 d	**Event:** Local governments determine new resource needs and requirements and verify their availability from local sources	Coroner/ Medical Examiner	Operational Area EOCs, LHDs	Need to coordinate with Hospitals and death-care industry
	40	E+72h to E+14d	**Event:** Local governments analyze availability of supplies and assess the potential need to stockpile them	Coroner / Medical Examiner	Operational Area EOCs, LHDs	Need to coordinate with hospitals and death-care industry
	41	E+3 d to E+14 d	**Receive** and **forward** resource requests to appropriate agency	Cal EMA	Sheriff-Coroner/ Coroner/ Medical Examiner, FEMA	—
	42	E+3 d to E+14 d	**Event:** Local governments expand mass fatality response operations by integrating local resources	Coroner / Medical Examiner	Operational Area EOCs, LHDs	—
B2. OBJECTIVE Continue collection and recovery of human remains	43	E+72h to E+14d	**Event:** Local governments continue to send teams out to recover human remains from hospitals, SNFs, LTCFs, and ACSs	Coroner / Medical Examiner	Hospitals, SNFs, LTCFs, ACSs	—
	44	E+72h to E+14d	**Event:** Local governments continue to receive human remains at fatality collection points	Coroner / Medical Examiner	—	—
	45	E+72h to E+14d	**Event:** Locations where human remains are recovered continue to be documented	Coroner/ Medical Examiner	Hospitals, SNFs, LTCFs, ACSs	—
	46	E+72h to E+14d	**Event:** Human remains dropped off at fatality collection points continue to be documented	Coroner/ Medical Examiner	—	—
B3. OBJECTIVE Review, select, and implement appropriate altered standards of death care in coordination with all San Francisco Bay Area counties and the State of California	47	E+72h to E+14d	**Event:** Local governments request waivers of selective regulatory codes/statutes pertaining to day-to-day Coroner/Medical Examiner, hospital, and death-care industry operations to assist with timely final disposition of remains	Governor's Office	Cal EMA	—
	48	E+72h to E+14d	**Conduct** conference call to discuss consistently implementing altered standards of death care across the region	Cal EMA	Coroner/ Medical Examiner	Public health and safety drives the need to consider selected altered standards of death care.
B4. OBJECTIVE Coordinate with Local Health Departments (LHDs) to communicate fatality numbers and trends to county officials, Coroners/Medical Examiners, emergency managers, hospitals, and vital records.	49	E+72h to E+14d	**Event:** Local governments establish system of reporting among county and city officials, emergency managers, Coroners/Medical Examiners, hospitals, SNFs, LTCFs, and Vital Records.	Operational Area EOCs	Coroner/ Medical Examiner, LHDs	—
B5. OBJECTIVE Continue to operate morgues at full capacity	50	E+3 d to E+14 d	Establish system for the mass issuance of death certificates for influenza-caused deaths	CDPH, LHDs	Coroner/ Medical Examiner	—
	51	E to E+72h	**Event:** Local governments continue to process human remains	Coroner/ Medical Examiner	—	—
	52	E to E+72h	**Event:** Continued coordination with Vital Records to expedite the issuance of death certificates and permits for final disposition	Coroner/ Medical Examiner, Vital Records	CDPH, LHDs	—
	53	E to E+72h	**Event:** Continued completion of death certificates when positive identification and cause and manner of death have been determined	LHDs	Coroner/ Medical Examiner, CDPH	Coroner/ Medical Examiner or doctor must also complete portion of the death certificate after identify of the deceased has been confirmed. Vital Records is typically part of Public Health or Recorders Office.
B6. OBJECTIVE Continue coordination and dissemination of public information through the JIS and vFACs	54	E+3 d to E+14 d	**Event:** Local governments establish public information dissemination strategies	Coroner / Medical Examiner	Operational Area JICs	—
	55	E+3 d to E+14 d	**Coordinate** and **disseminate** public information through the JIS and the vFAC	Coroner / Medical Examiner	Local governments, State and Federal agencies, special districts, NGOs, CBOs, FAC	Volunteers must be screened and directed. Example support groups include ARC, Salvation Army, MRC, local clergy, mental health professionals, and veterans support groups.

Table H-2. Response task timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
B7. OBJECTIVE Continue to provide virtual family assistance services	56	E+3 d to E+14 d	**Event:** Local governments continue operation of vFAC call centers and expand services	Coroner / Medical Examiner	LHDs, ARC, Salvation Army (and other NGOs, FBOs), CFDA	Cal EMA may assist. To include core management, operations and administrative teams. Services are provided through a call center or over the web. Core services include registration; Coroner/ Medical Examiner Services (e.g., family briefings, ante mortem data collection, and death notification); mental health services; spiritual care services; and others to meet situational requirements See **Section H6.4** for additional details on vFACs
	57	E+72h to E+14d	**Identify** fully processed human remains and personal affects ready for release to next of kin	Coroner / Medical Examiner	—	Prompt information should be provided to next of kin/family members of deceased on what human remains and personal effects are released and the time period when they are released. Providing advance explanation on anticipated delays in releasing remains and personal effects is recommended.
	58	E+72h to E+14d	**Establish** standardized system of communications/ information management for collecting, managing, controlling, and sharing of information/data through the vFAC	vFAC Planning Sections, Coroner / Medical Examiner	Operational Area JICs, death-care industry, CFDA	—
	59	E+72h to E+14d	**Event:** Local governments establish temporary repository for Public Records/Decedent Information	Coroner/ Medical Examiner	Vital Records	Locals continue to use the EDRS supported by CDPH.
	60	E+72h to E+14d	**Event:** Local governments establish victim records database to store antemortem data	Coroner/ Medical Examiner	Cal EMA	Data to include medical and dental identification information
	61	E+72h to E+14d	**Event:** Local governments cross-reference morgue data with local, State, Federal, and International missing persons databases to assist in the identification of remains (when applicable)	Coroner/ Medical Examiner	vFAC, DOJ	California DOJ Missing and Unidentified Persons Unit (MUPS) Can assist through the following mechanism: • Missing Persons DNA database • Missing Persons Bulletins
B8. OBJECTIVE Implement stress management and crisis intervention strategies	62	E+72h to E+14d	**Event:** Local governments request critical incident stress management teams to support fatality management response personnel	LHDs	CLECA	Local governments contact CISM teams (e.g., Bay Area Critical Incident Stress Debriefing Team, and the Oakland Fire CISM Team).
	63	E+72h to E+14d	**Event:** Local governments request deployment of critical incident stress management teams to hospitals, morgues, and the vFAC call center	LHDs	CLECA	—
C1. OBJECTIVE Plan for the second wave of the influenza pandemic	64	E+14d to E+60d	**Event:** Local governments conduct meetings to determine strategy for handling the second wave of influenza-caused fatalities	Coroner/ Medical Examiner	LHDs, hospitals, death-care industry	—
	65	E+14d to E+60d	**Event:** Local governments review first wave mass fatality management operations and make necessary adjustments	Coroner/ Medical Examiner	LHDs, hospitals, death-care industry	—
	66	E+14d to E+60d	**Event** Local governments develop personnel shift and resource staging plans to maximize the use of limited resources for the second wave of anticipated fatalities	Coroner/ Medical Examiner	—	—
	67	E+14d to E+60d	**Event:** Local governments coordinate with the death-care industry (funeral homes, crematoriums, and cemeteries) in anticipation of the next surge in fatalities	Coroner/ Medical Examiner	CDFA	—
	68	E+14d to E+60d	**Event:** Local governments coordinate with religious and cultural leaders regarding any adjustments in strategy for the second wave of anticipated fatalities	Coroner/ Medical Examiner	FBOs	—
	69	E+14d to E+60d	**Event:** Local governments coordinate any strategy changes with hospitals, other care facilities, and pre-designated fatality collection sites	Coroner/ Medical Examiner	Hospitals, LHDs, SNFs, LTCFs	—

Table H-2. Response task timeline.

Objective	Line	Time Frame	Operations	Coordinating Entity	Supporting Entity	Details and Comments
C1. OBJECTIVE (cont.)	70	E+14d to E+60d	**Event:** Local governments plan for the possibility of implementing or deactivating selected altered standards of death care	Coroner/ Medical Examiner	Hospitals, LHDs, SNFs, LTCFs, death-care industry	—
C2. OBJECTIVE Replenish local resources to support mass fatality response operations in anticipation of the second wave of fatalities	71	E+14d to E+60d	**Event:** Local governments evaluate current capabilities and reallocate resources as necessary	Coroner/ Medical Examiner, hospitals, death-care industry	—	Local governments should evaluate morgue capacity, hospital morgue capacity, resource availability, and staff availability
	72	E+14d to E+60d	**Event:** Local governments determine new resource needs and requirements and verify their availability from local sources	Coroner/ Medical Examiner	Operational Area EOCs	—
C3. OBJECTIVE Continue to collect and recover human remains	73	E+14d to E+60d	**Event:** Local governments continue to send teams out to recover human remains from hospitals, SNFs, LTCFs, and ACSs	Coroner / Medical Examiner	Hospitals, SNFs, LTCFs, ACSs	—
	74	E+14d to E+60d	**Event:** Local governments continue to receive human remains at fatality collection points	Coroner / Medical Examiner	—	—
	75	E+14d to E+60d	**Event:** Location(s) where human remains are recovered continue to be documented	Coroner/ Medical Examiner	Hospitals, SNFs, LTCFs, ACSs	—
	76	E+14d to E+60d	**Event:** Human remains delivered to fatality collection points continue to be documented	Coroner/ Medical Examiner	—	—
C4. OBJECTIVE Store, release, temporarily inter, or facilitate the final disposition of human remains	77	E+14d to E+60d	**Transport** decontaminated remains to main Morgue	Coroner/ Medical Examiner	GSD, DOT, CFDA	GSD has vehicles and has the responsibility for acquiring vehicles under contracts. GSD can also provide drivers when requested.
	78	E+14d to E+60d	**Event:** Continued operations for the processing of human remains	Coroner/ Medical Examiner	—	—
	79	E+14d to E+60d	**Decision point:** Local governments decide to store, temporarily inter, and/or release human remains	Coroner/ Medical Examiner	Cal EMA, CFDA	Local governments use global positioning system (GPS) to document all individual remains locations.
C5. OBJECTIVE Provide stress management and crisis intervention services for mass fatality management personnel and friends and family of the deceased	80	E+14d to E+60d	**Event:** Continue to provide critical incident stress management teams to support fatality management response personnel	LHDs	CLECA	—
	81	E+14d to E+60d	**Event:** Continue to provide critical incident stress management teams at hospitals, morgues, and vFAC call centers	LHDs	CLECA	—
C6. OBJECTIVE Reconstitute morgues in anticipation of the second wave of fatalities	82	E+14d to E+60d	**Event:** Local governments ready morgues in anticipation of the second wave of fatalities	Coroner/ Medical Examiner	Operational Area EOCs	—
	83	E+14d to E+60d	**Event:** Local governments store, release, and/or temporarily inter all first wave human remains in preparation for the anticipated second surge of fatalities	Coroner/ Medical Examiner	CDFA	Local governments may erect a monument at temporary interment site(s) after the pandemic is over. Consideration may be given to a mutli-jurisdictional, post-processing storage facility. Details are included in **Appendix I**.

Source: URS analysis (2009)
— = Not applicable
AMR = American Medical Response
ARC = American Red Cross
Cal EMA = California Emergency Management Agency
CBO = community-based organization
CCCFPD = Contra Costa County Fire Protection District
CCHS = Contra Costa Health Services
CFDA = California Funeral Directors Association
CLECA = California Law Enforcement Chaplains Association
d = days
DGS = California Department of General Services
DMAT = Disaster Medical Assistance Team
DOT = Department of Transportation
EDRS = California Electronic Death Registration System
EHS = County Employment and Human Services
EOC = Emergency Operations Center
EPA = Environmental Protection Agency
FAC = Family Assistance Center
FBI = Federal Bureau of Investigation
FBO = faith-based organization
FEMA = Federal Emergency Management Agency
GPS = Global Positioning System
GSD = County General Services Department
h = hours
HazMat = hazardous materials
JFO = Joint Field Office JIC = Joint Information Center
LHD = Local Health Department
LTCF = Long term care facility
NGO = non-governmental organization
PPE = Personal Protective Equipment
REOC = Regional Emergency Operations Center
SEMS = Standardized Emergency Management System
SNF = skilled nursing facility
SOC = State Operations Center
US&R = Urban Search and Rescue
WMD = Weapons of Mass Destruction

Appendix I:
Normal versus Altered Standards of Death Care

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Appendix I: Normal versus Altered Standards of Death Care

I.1 Introduction

The mass fatalities resulting from catastrophic incidents such as earthquakes; chemical, biological, radiological, nuclear, or high-yield explosive (CBRNE) incidents; and pandemic influenza may make it extremely difficult to provide Normal Standards of Death Care effectively and in a timely manner.

Select Altered Standards of Death Care may need to be implemented, based on consideration of the following factors:

- Need to manage a large number of fatalities
- Inability to effectively respond because of overwhelmed response capabilities
- Inability to surge the capabilities because of limited access to resources for extended periods

Implementing Altered Standards of Death Care is likely to be controversial as surviving family members and friends are likely to expect the remains of their loved ones to be handled in the same manner as if a catastrophic event had not taken place. Altered Standards of Death Care should preferably be ordered by the Governor.

Communities should be engaged in pre-event planning and be made aware of the potential for the need to implement Altered Standards of Death Care after a catastrophic event. Effective pre- and post-event communication with local communities through religious, cultural, and other community leaders about Altered Standards of Death Care is critical for community acceptance. Post-event, Family Assistance Centers are likely to be a key forum for community engagement and communications regarding Altered Standards of Death Care. Community leaders can be asked to facilitate such communications.

Establishing consensus across the region on the need for implementing selected Altered Standards of Death Care uniformly is critical. Inconsistent implementation is likely to compound the controversy. The regional decision-making process should be based on pre-event planning and acceptance of a Memoranda of Understanding among the 12 Bay Area Operational Areas. The decision-making process is likely to need to include consideration of the following assumptions about response to the event:

1. Local and State officials seek a waiver of selective regulatory codes/statutes pertaining to day-to-day Coroner/Medical Examiner operations to allow for effective and timely mass fatality management.
2. The Governor issues, amends, and rescinds Executive Orders, proclamations, or statutes to deal with the final disposition of human remains.

3. The State may establish a standard method of final disposition by issuing an Executive Order or by other legal means.

The Altered Standards of Death Care options that may need to be implemented after a catastrophic earthquake or catastrophic CBRNE incident are listed in **Table I-1** and after a pandemic influenza in **Table I-2**. Altered standards are discussed in the remainder of this appendix.

Table I-1. Normal Standards of Death Care versus the Altered Standards of Death Care that may be required after a catastrophic earthquake or catastrophic CBRNE incident.

Normal Standard of Death Care	Altered Standard of Death Care
Refrigerated storage of human remains	Nonrefrigerated storage of human remains
Investigation and positive identification	Delayed or limited positive identification of the deceased
Investigation for cause and manner of death	Delayed or limited examinations or autopsies

Source: URS analysis (2009)

Table I-2. Normal Standards of Death Care versus the Altered Standards of Death Care that may be required after a pandemic influenza event.

Normal Standard of Death Care	Altered Standard of Death Care
Immediate recovery of the deceased	Delayed recovery of the deceased
Preparation of the body by professionals	Preparation of the body by nonprofessionals or family
Refrigerated storage of human remains	Nonrefrigerated storage of human remains or temporary interment
Full examination or autopsy	Delayed and/or limited examinations or autopsies
Timely memorial or funeral service	Delayed or absent memorial or funeral service
Family assistance support and services	Virtual or limited family assistance support
Voluntary individual cremation	Involuntary mass cremation

Source: URS analysis (2009)

I.2 Delayed Recovery of the Deceased

Recovery of the deceased may be delayed because of the large number of fatalities that occur in a relatively short period, over a widespread area geographically, and with limited Coroner/Medical Examiner resources to recover and process the deceased and personal effects. During an earthquake or CBRNE incident, the decrease in public spaces is likely to be promptly recovered as media attention and political pressure encourages their rapid retrieval.

During a pandemic influenza event, the urgency to recover the deceased may be slightly mitigated by the fact that most of the deceased are not visible in public

spaces. Most of the deceased are in hospitals, private residences, businesses, nursing homes, and alternative care sites.

Directives are issued by the Coroner/Medical Examiner, in consultation with the hospitals, to alternate care facilities and to the general public to implement measures to accommodate delays in the recovery of the deceased. Hospitals are required to increase cold storage capacity to store the deceased for extended periods of time. Coroners/Medical Examiners and hospitals should be prepared to accept decedents arriving by private vehicle.

Between 50 and 75 percent of influenza-related deaths occur outside a hospital or medical treatment facility, with a significant number in private residences. Given the likely delay in recovering the deceased, the large number of deceased, and the limited professional resources to prepare bodies for processing, nonprofessionals and family members may elect to become involved in preparing and transporting the deceased. Coroners/Medical Examiners need to issue directives to the public on the procedures to prepare bodies for processing. Appropriate legal waivers need to be obtained to implement the measures.

When deaths occur at home from the pandemic influenza, the process is likely to require the involvement of law enforcement, Emergency Medical Services, funeral directors, private human-remains-removal services, and/or transport teams. Elements that may be required include a process to initiate recovery, pronounce death, and certify the death certificate; handling suspicious deaths; placement of the decedent in human remains pouches; and transportation to the designated site.

California law allows next of kin to prepare decedents for final disposition. If individuals choose this option, they must:

- File a properly completed Certificate of Death, signed by the attending physician or Coroner/Medical Examiner, with the local registrar of births and deaths
- Obtain a Permit for Disposition from the local registrar of births and deaths
- Provide a casket or suitable container
- Make arrangements directly with the cemetery or crematorium

Appropriate legal waivers are obtained to implement the respective measures.

I.3 Nonrefrigerated Storage of Human Remains

Ideally, human remains are cold-stored between pre- and post-morgue examination and until final disposition. Refrigerating human remains can prevent or significantly slow tissue degradation, affording additional time for time-critical human remains processing tasks. Temporarily refrigerated storage options include refrigerated trucks, railroad cars, and tents. Additionally, internally or externally air-conditioned small buildings or rooms that can maintain a temperature of 37 degrees Fahrenheit or less may also be considered for cold storage.

However, needed cold-storage units and capacities may not be available in a timely manner. Local county morgue cold-storage capacities are inadequate for the large number of human remains. The supply of refrigerated trucks does not meet the demand, making it difficult to ensure proper storage/transportation for the deceased. Additionally, in the earthquake scenario, loss of power or the lack of generators/fuel affects the ability to cold-store human remains. Also, pre-designated cold-storage facilities may be structurally compromised in the earthquake scenario, further affecting cold-storage capacities.

Accordingly, nonrefrigerated storage of human remains may be necessary where and when cold-storage options are unavailable. Nonrefrigerated storage of human remains for long periods adds challenges to processing because the remains begin to decompose. When large numbers of human remains cannot be transported from the incident site in a timely manner and storage sites and/or storage capacity are inadequate, the option to bag and temporarily inter human remains can be considered until arrangements for requisite transportation and storage needs are made. Also, in certain situations, embalming may be considered if and when embalming resources are available. Embalmed remains can be stored for up to three weeks without refrigeration, although remains are preferably stored in a cool place.

I.4 Delayed or Limited Positive Identification of the Deceased

The availability of sufficient cold-storage capacities for human remains may allow for delays in conducting positive identification of the deceased. However, the lack of adequate cold-storage capacities for human remains and the need to process a large number of fatalities over a relatively short period with limited resources may compel Coroners/Medical Examiners to conduct limited positive identification of the deceased. The likelihood of needing to process fragmented human remains in the catastrophic earthquake scenario adds to the overall remains identification burden, straining limited resources for the processing of remains.

I.5 Delayed or Limited Examination or Autopsy

The large number of deceased is likely to result in delayed, limited, or no examinations/autopsies of the deceased, hindering timely and effective mass fatality management. The availability of sufficient cold-storage capacities for human remains may allow for delays in conducting examination/autopsies of the deceased. However, the lack of adequate cold-storage capacities for human remains, and the need to process a large volume of the deceased within a relatively short period with limited equipment and personnel resources is likely to necessitate limited or no examinations/autopsies of the deceased.

The deceased need to be screened for suspicious deaths and/or deaths that are readily apparent as non-incident-related. After that, a limited or no-examination/ autopsy approach could be implemented by generally ascertaining whether all apparent evidence indicates death caused by the incident. Coroners/Medical

Examiners will apply professional discretion to determine which human remains require full examinations/autopsies. Because this approach is a departure from standard protocols, appropriate legal waivers/authorizations need to be obtained to implement the respective measures.

During a pandemic influenza event, identifying remains may not initially be problematic. However, a subset of those who die may not be easily identified because of the absence of legal next of kin (e.g., for indigent populations or foreign nationals). Without confirmed identification, the Coroner's/Medical Examiner's ability to release remains for final disposition is delayed. If adequate refrigeration facilities for preserving the remains are not readily available, rapid decomposition may make visual identification almost impossible.

I.6 Delayed or No Memorial or Funeral Service

The pandemic influenza scenario requires the health officers to implement social distancing measures. Because of the implementation of these measures, traditional funeral services may need to be delayed, causing decedents to be held at holding facilities for extended periods of time. Funeral directors should consider alternative services, such as video-conferences, to allow relatives of the deceased to view the funeral and mourn at a non-public venue. Otherwise, traditional funeral services could be delayed weeks if not months.

I.7 Virtual or Limited Family Assistance Support

The pandemic influenza scenario requires public health departments to direct the implementation of social distancing measures such as the provision of family assistance services via virtual centers. Coroners/Medical Examiners or their designees need to develop virtual systems to provide family assistance services, which consist of pushing information out, rather than pulling people into a facility. The capability to provide family assistance services via virtual Family Assistance Centers (vFACs) is to be developed before the scenario event occurs.

In order to provide the public with information through media, vFACs are established. Media outlets may include newspapers (both hard-copy and web-based), local television news stations, local radio stations, emergency hotlines or call centers, websites such as 211 Bay Area (http://www.211bayarea.org), and various other emergency management, county, and/or city public websites. Families need to understand the principles behind decisions being deployed by local and State authorities, particularly decisions related to temporary interment and the option to disinter.

Media outlets ensure that the public receives timely and accurate updates regarding the fatality management process, pronouncing death, certifying death, how to access officials about deaths that occur at home, private citizens preparing/ transporting loved ones who die at home, and implementation of select Altered Standards of Death Care, if any.

Examples of State and Federal information outlets are the CDC, the California Department of Consumer Affairs, the Cemetery and Funeral Bureau, and the California Department of Public Health. However, State and Federal information should be incorporated into the regional and local outlets, which are the most used and relied-on sources by the public. All sources are consistent with and incorporate new information as it becomes available in order to minimize confusion.

Throughout The California Mass Fatality Management Guide: A Supplement to the State of California Coroners' Mutual Aid Plan (2007), specific functions are outlined that should be provided through family assistance services. As noted, the vFACs should include many or all of the following services:

- General information
  - Financial assistance regarding resources and the application/referral process
  - Social Security, such as access to death and disability benefits
  - Legal assistance with insurance benefits and death-related concerns
  - Health-safety issues regarding food, water, and medications
- Individualized information and support
  - Burial site
  - Death certificate information

Information regarding keeping the dead at home when the potential exists for a prolonged period before the body is removed

I.8 Involuntary Mass Cremation

The combined lack of cold-storage capacities for human remains and the inability of Coroners/Medical Examiners to process the overwhelming number of human remains in a timely manner is likely to necessitate a standard final disposition solution to effectively manage the large number of deceased and minimize/avoid creating public health hazards. In such circumstances, the Governor is likely to issue, amend, or rescind Executive Orders, proclamations, or statutes to deal with the disposition of human remains, and the State may establish a standard method of final disposition by issuing an Executive Order or by other legal means. Involuntary mass cremation is typically the recommended final disposition option for pandemic influenza mass fatality scenarios and has to be conducted in accordance to Governor/State-issued directives.

Currently, California law mandates that all cremations must be performed individually. A multiple cremation is defined as multiple remains cremated in one session, and the remains cannot be segregated after the cremation. Multiple cremations can be authorized in writing if the cremation chamber is capable of processing multiple cremations. Only a few crematoriums in California have this capability.

I.9 Temporary Interment and Multiple-Depth Graves

Temporary interment is a process in which the deceased are stored in individual plots at a large State-sponsored location until the response allows for the legal next of kin to disinter the deceased in preparation for final disposition. Temporary interments may or may not be temporary based on the next of kin's decision for final disposition after the emergency has subsided. The site should be managed by a combination of regular cemetery management staff and county resources reporting to the Coroner/Medical Examiner.

Temporary interment sites are limited to as few as possible. In the event of the need for temporary interment, complete identification of the remains is conducted. The exact location of each body buried is recorded on grid maps including dates and times, and each burial site is marked with identification numbers for orderly disinterment. The use of a global positioning system is to be used to identify the location of the deceased to allow for rapid excavation and burial as well as disinterment if requested by the next of kin after the event is over.

Selected cemetery sites meet the following criteria:

- A municipal nonsectarian cemetery or one that is regulated by the California Department of Consumer Affairs, Cemetery and Funeral Bureau
- Capable of delivering services 7 days a week, 12 months a year
- Administrative staff support 24 hours per day
- Multiple layers of administrative and maintenance staff that can be accessed 24 hours a day
- Roadways, preferably paved or gravel, and entrances wide enough to allow access for tractor trailers, refrigerator trailers, and excavators
- Not in public view and secured by a fence and security personnel
- Accurate survey of all cemetery grounds, developed and undeveloped
- Ability to survey additional burial spaces, record spaces, and complete burials quickly and accurately
- Acceptable communications systems in place including phones, fax machines, computers, and internet

Disinterment considerations include the following:

- Next of kin make choices about disposition of their loved one and incur the financial responsibility for services provided.
- Once the State or county restrains the next of kin's choice for final disposition, the State or county that is responsible for limiting freedom of choice incurs the financial responsibility for disinterment costs.
- If a decedent with a prepaid irrevocable trust is not disinterred, the county may claim the funds.

Multiple-depth graves may be an option during a severe pandemic influenza-related event. The number of fatalities may limit available cemetery space. In an effort to

ensure that families are buried together and to limit the financial impact on the surviving family members, individuals may arrange to be buried in the same grave as their spouse or other family member. Persons who are not related may also be buried in the same multiple-depth grave if all parties provide written authorization. However, multiple-depth graves may limit disinterment rights.

Appendix J:
California Roster of Coroners/Medical Examiners

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Appendix J: California Roster of Coroners/ Medical Examiners

Table J-1 presents the roster of the 58 Coroners/Medical Examiners in the State of California. This list is maintained and updated by the California State Coroners' Association.

Table J-1. California Roster of Coroners/Medical Examiners.

Regions	Sheriff/Coroner, Coroner, Medical Examiner	First Name	Middle Initial	Last Name	Listed Phone Number	Address Line 1	Address Line 2	City	State	Zip	Note
REGION I											
Los Angeles	C	Anthony	T.	Hernandez	(323) 343-0512	1104 North Mission Road		Los Angeles		90033	
Orange	SC	Sandra		Hutchens	(714) 834-6454	550 N. Flower Street		Santa Ana		92701-2361	
REGION I-A											
San Luis Obispo	SC	Ian		Parkinson	(805) 781-5011	1585 Kansas Avenue		San Luis Obispo		93405	
Santa Barbara	SC	William	F.	Brown	(805) 681-4145	4434 Calle Real		Santa Barbara		93110	
Ventura	ME	Ronald		O'Halloran	(805) 641-4400	3291 Loma Vista Road		Ventura		93003	MD
REGION II											
Alameda	SC	Gregory	J.	Ahern	(510) 268-7300	1401 Lakeside Drive	12th Floor	Oakland		94612-4305	
Contra Costa	SC	Dave		Livingston	(925) 313-2850	1960 Muir Road	1st Floor	Martinez		94553-4800	
Del Norte	SC	Dean		Wilson	(707) 464-4191	650 Fifth Street		Crescent City		95531	
Humboldt	C	Dave		Parris	(707) 445-7242	3012 "I" Street		Eureka		95501	
Lake	SC	Francisco		Rivero	(707) 262-4200	P.O. Box 489	1220 Martin Street	Lakeport		95453-0489	
Marin	C	Bob		Doyle	(415) 473-6043	Civic Center	Room 241	San Rafael		94903	
Mendocino	SC	Thomas	D.	Allman	(707) 463-4211	951 Low Gap Road		Ukiah		95482-3797	
Monterey	SC	Scott		Miller	(831) 755-3792	1414 Natividad Road		Salinas		93906	
Napa	SC	Douglas	E.	Koford	(707) 253-4256	1535 Airport Boulevard		Napa		94558	
San Benito	SC	Darren		Thompson	(831) 636-4080	P.O. Box 700		Hollister		95024-0700	
San Francisco	ME	Amy		Hart	(415) 553-1694	850 Bryant Street		San Francisco		94103-4603	MD
San Mateo	C	Robert	J.	Foucrault	(650) 312-5562	50 Tower Road		San Mateo		94402	
Santa Clara	SC	Laurie		Smith	(408) 793-1900	55 West Younger Avenue		San Jose		95110-1721	
Santa Cruz	SC	Phil		Wowak	(831) 454-2520	701 Ocean Street	Room 340	Santa Cruz		95060-4074	
Solano	SC	Gary		Stanton	(707) 784-7000	530 Union Avenue	Suite 100	Fairfield		94533	
Sonoma	SC	Steve		Freitas	(707) 565-5070	600 Administration Drive		Santa Rosa		95403	

Table J-1. California Roster of Coroners/Medical Examiners.

Regions	Sheriff/Coroner, Coroner, Medical Examiner	First Name	Middle Initial	Last Name	Listed Phone Number	Address Line 1	Address Line 2	City	State	Zip	Note
REGION III											
Butte	SC	Jerry		Smith	(530) 538-7321	33 County Center Drive		Oroville		95965-3334	
Colusa	SC	Scott		Marshall	(530) 458-0200	929 Bridge Street		Colusa		95932-2899	
Glenn	SC	Larry	L.	Jones	(530) 934-6441	543 West Oak Street		Willows		95988	
Lassen	SC	Dean		Growdon	(530) 251-8013	1415 Sheriff Cady Lane		Susanville		96130	
Modoc	SC	Mike		Poindexter	(530) 233-4416	P.O. Drawer 460		Alturas		96101-0460	
Plumas	SC	Gregory		Hagwood	(530) 283-6375	1400 East Main Street		Quincy		95971	
Shasta	SC	Tom		Bosenko	(530) 225-5551	1525 Court Street	Floor 2	Redding		96001	
Sierra	SC	John	T.	Evans	(530) 289-3700	P.O. Box 66		Downieville		95936-0066	
Siskiyou	SC	Jon		Lopey	(530) 841-2900	305 Butte Street		Yreka		96097-2942	
Sutter	SC	J. Paul		Parker	(530) 822-7307	1077 Civic Center Boulevard		Yuba City		95993	
Tehama	SC	Dave		Hencratt	(530) 529-1130	P.O. Box 729		Red Bluff		96080	
Trinity	SC	Bruce		Haney	(530) 623-4144	P.O. Box 1228		Weaverville		96093-1228	
Yuba	SC	Steven		Durfor	(530) 749-7596	215 5th. Street	Suite 150	Marysville		95901-5794	
REGION IV											
Alpine	SC	John	M.	Crawford	(530) 694-2231	P.O. Box 278		Markleeville		96120	
Amador	SC	Martin	A.	Ryan	(209) 223-6500	700 Court Street		Jackson		95642-2379	
Calaveras	C	Kevin		Raggio	(209) 736-4552	P.O. Box 848		Angels Camp		95222-0848	
El Dorado	SC	John		D'Agostini	(530) 642-4700	300 Fair Lane		Placerville		95667	
Nevada	SC	Keith		Royal	(530) 265-1220	950 Maidu Avenue		Nevada City		95959	
Placer	SC	Edward		Bonner	(530) 889-7800	2929 Richardson Drive		Auburn		95603	
Sacramento	C	Gregory		Wyatt	(916) 874-9320	4800 Broadway	Suite 100	Sacramento		95820-1530	
San Joaquin	SC	Stephan	D.	Moore	(209) 468-4300	7000 South Michael Canlis Boulevard		French Camp		95231	

Table J-1. California Roster of Coroners/Medical Examiners.

Regions	Sheriff/Coroner, Coroner, Medical Examiner	First Name	Middle Initial	Last Name	Listed Phone Number	Address Line 1	Address Line 2	City	State	Zip	Note
Stanislaus	SC	Adam		Christianson	(209) 567-4500	939 Oakdale Road		Modesto		95355	
Tuolumne	SC	James	W.	Mele	(209) 533-5855	28 North Lower Sunset Drive		Sonora		95370	
Yolo	SC	E.	G.	Prieto	(530) 668-5292	2500 East Gibson Road		Woodland		95776-9327	
REGION V											
Fresno	C	David	M.	Hadden	(559) 268-0109	760 W. Nielsen Avenue		Fresno		93706-1731	MD
Kern	SC	Donny		Youngblood	(661) 868-0100	1350 Norris Road		Bakersfield		93308	
Kings	SC	David		Robinson	(559) 584-1431	1444 West Lacey Boulevard		Hanford		93232-0986	
Madera	SC	John	P.	Anderson	(559) 675-7769	14143 Road 28		Madera		93638	
Mariposa	SC	Doug		Binnewies	(209) 966-3615	P.O. Box 276		Mariposa		95338-0276	
Merced	SC	Mark	N.	Pazin	(209) 385-7369	455 East 13th Street		Merced		95340-3780	
Tulare	SC	Bill		Wittman	(559) 685-2593	2404 Burrel Avenue		Visalia		93291	
REGION VI											
Imperial	SC	Raymond		Loera	(760) 339-6304	P.O. Box 1040		El Centro		92244-1044	
Inyo	C	Leon	B.	Brune	(760) 873-4266	325 West Elm Street		Bishop		93514	
Mono	SC	Richard	C.	Scholl	(760) 932-5279	100 Bryant Street	P.O. Box 616	Bridgeport		93517-0616	
Riverside	SC	Stanley		Sniff	(951) 443-2300	4095 Lemon Street	Second Floor	Riverside		92501	
San Bernardino	SC	Rodney		Hoops	(909) 387-2978	175 South Lena Road		San Bernardino		92415-0037	
San Diego	ME	Glenn	N.	Wagner	(858) 694-2895	5570 Overland Avenue	Suite 101	San Diego		92123-1206	D.O.

Source: URS analysis (2009)
C = Coroner
D.O.= Doctor of Osteopathic Medicine
MD = Medical Doctor
ME = Medical Examiner
SC = Sheriff/Coroner

Coroner	**8**
Medical Examiner	**3**
Sheriff/Coroner	**47**
TOTAL	**58**

Appendix K:
California Coroners/Medical Examiners Assets

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Appendix K: California Coroners/Medical Examiners Assets

Table K-1 below presents the Coroner/Medical Examiner assets for each county. This information is maintained and updated by the California Emergency Management Agency through the State Coroners/Medical Examiner Mutual Aid Coordinator.

This information is provided as a reference only. The information should not be used to circumvent resource requests through the appropriate SEMS levels, particularly in regional incidents. Such actions would render associated expenses ineligible for reimbursement under the Stafford Act.

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Table K-1. California Coroners/Medical Examiners Assets

Regions	Sheriff/Coroner, Coroner, Medical Examiner	Coroner's Investigator	Reserve Coroner's Investigator	Forensic Dentists	Forensic Pathologists	Central Morgue	Body Transport Vehicles	Funeral Homes	Funeral Homes Removal Unit	Crematoriums	Portable X-Ray Units	Portable Autopsy Tables	Disaster Response Trailers	GPS Scene Gridding System	Body Bags	Haz Mat Team	Portable Refrigeration Units	Morgue Body Storage Capacity	Decon Capability
REGION I																			
Los Angeles	C	37	0	3	23	Y	12	183	0	70	1	0	8	0	100	1	3	500	Y
Orange	SC	19	7	1	4	Y	0	49	—	—	1	0	1	1	500	1	0	250	Y
Region I Totals:	**NA**	**56**	**7**	**4**	**27**	**NA**	**12**	**232**	**0**	**70**	**2**	**0**	**9**	**1**	**600**	**2**	**3**	**750**	**NA**
REGION I-A																			
San Luis Obispo	SC	4	0	1	1	N	0	8	2	6	1	0	2	4	4	4	0	72	N
Santa Barbara	SC	5	0	1	1	Y	4	6	4	3	0	4	0	0	200	0	0	65	N
Ventura	ME	5	0	1	2	Y	6	24	24	3	1	0	0	0	200	0	0	20	N
Region I-A Totals:	**NA**	**14**	**0**	**3**	**4**	**NA**	**10**	**38**	**30**	**12**	**2**	**4**	**2**	**4**	**404**	**4**	**0**	**157**	**NA**
REGION II																			
Alameda	SC	18	0	1	5	Y	4	47	0	5	0	3	3	0	150	0	0	50	N
Contra Costa	SC	6	0	1	6	Y	3	25	10	7	1	17	1	0	300	0	0	35	N
Del Norte	SC	25	0	0	0	N	0	2	1	1	0	0	0	0	20	0	0	10	N
Humboldt	C	3	0	1	0	Y	2	5	6	2	0	0	0	0	150	1	0	25	N
Lake	SC	66	0	1	1	N	0	3	3	1	0	0	1	1	100	Y	0	31	Y
Marin	C	3	5	1	1	N	0	4	4	3	1	15	1	0	500	Y	0	25	Y
Mendocino	SC	1	0	1	1	N	0	4	4	4	0	2	1	0	Y	Y	0	31	Y
Monterey	SC	4	0	1	1	Y	0	8	0	2	0	0	0	0	150	0	0	22	Y
Napa	SC	96	0	FMG = 1	FMG = 5	Y	0	5	1	2	1	0	0	0	100	1	0	30	Y
San Benito	SC	4	0	1	1	Y	1	2	2	1	0	0	0	0	500	0	0	2	N
San Francisco	ME	12	4	2	5	Y	3	24	18	0	1	0	3	0	500	0	2	140	N
San Mateo	C	7	0	2	2	Y	1	22	28	4	1	3	3	0	999	0	1	45	N
Santa Clara	SC	9	1	4	3	Y	1	28	0	3	1	40	1	0	225	0	20	150	N
Santa Cruz	SC	4	2	1	2	Y	3	6	0	3	1	16	0	1	300	0	0	16	N
Solano	SC	4	0	1	1	Y	0	16	1	2	1	0	1	1	200	Y	0	222	N
Sonoma	SC	4	0	1	1	Y	4	11	1	1	1	6	0	1	300	0	0	35	N
Region II Totals:	**NA**	**266**	**12**	**20**	**35**	**NA**	**22**	**212**	**79**	**41**	**9**	**102**	**15**	**4**	**4494**	**6**	**23**	**869**	**NA**

Table K-1. California Coroners/Medical Examiners Assets

Regions	Sheriff/Coroner, Coroner, Medical Examiner	Coroner's Investigator	Reserve Coroner's Investigator	Forensic Dentists	Forensic Pathologists	Central Morgue	Body Transport Vehicles	Funeral Homes	Funeral Homes Removal Unit	Crematoriums	Portable X-Ray Units	Portable Autopsy Tables	Disaster Response Trailers	GPS Scene Gridding System	Body Bags	Haz Mat Team	Portable Refrigeration Units	Morgue Body Storage Capacity	Decon Capability
REGION III																			
Butte	SC	111	22	0	1	N	0	11	11	5	0	0	0	0	50	0	0	0	Y
Colusa	SC	35	0	0	0	N	0	0	1	1	0	0	0	0	0	0	0	10	N
Glenn	SC	24	0	0	1	N	0	2	2	0	1	0	1	0	25	1	0	0	N
Lassen	SC	28	0	0	0	N	0	1	2	0	0	0	0	0	150	0	0	2	N
Modoc	SC	13	0	0	0	N	0	2	1	1	0	0	0	0	50	0	0	3	N
Plumas	SC	30	0	0	0	N	4	4	2	2	3	2	4	0	100	1	0	14	Y
Shasta	SC	136	15	2	1	Y	3	6	7	3	0	6	4	1	72	1	0	87	Y
Sierra	SC	3	0	0	0	N	0	0	0	2	0	0	1	0	30	0	0	0	N
Siskiyou	SC	2	0	0	2	N	0	2	2	2	1	0	1	0	100	0	0	20	N
Sutter	SC	52	0	0	6	N	0	3	3	2	0	0	2	3	225	0	0	25	N
Tehama	SC	2	0	0	0	N	2	3	0	2	0	0	0	0	100	0	0	0	N
Trinity	SC	1	0	0	0	N	0	1	1	1	0	0	0	0	25	0	0	5	N
Yuba	SC	57	0	1	6	N	0	3	6	1	0	4	1	1	100	1	1	40	N
Region III Totals:	**NA**	**494**	**37**	**3**	**17**	**NA**	**9**	**38**	**38**	**22**	**5**	**12**	**14**	**5**	**1027**	**4**	**1**	**206**	**NA**
REGION IV																			
Alpine	SC	13	0	0	0	N	0	0	0	0	0	0	1	0	25	0	0	0	Y
Amador	SC	4	0	1	2	N	2	1	0	0	0	0	1	0	100	0	0	16	Y
Calaveras	C	4	0	0	0	N	3	2	2	0	0	0	0	0	300	0	0	12	N
El Dorado	SC	8	0	0	2	N	0	3	5	2	0	0	0	0	100	0	0	20	N
Nevada	SC	63	10	3	1	Y	0	3	6	3	1	2	0	1	10	0	0	26	N
Placer	SC	240	0	3	1	Y	1	10	15	1	1	5	0	2	100	0	0	18	N
Sacramento	C	10	0	1	2	Y	2	47	20	15	1	10	1	0	300	0	2	300	N
San Joaquin	SC	131	0	2	1	Y	0	18	16	3	0	0	0	4	1000	16	0	40	Y
Stanislaus	SC	3	5	1	1	Y	4	7	2	0	6	0	1	0	400	0	0	20	N
Tuolumne	SC	4	0	2	0	N	0	2	2	0	0	0	0	0	100	0	0	8	N
Yolo	SC	4	0	1	4	Y	0	5	0	0	1	8	0	0	150	0	0	28	N
Region IV Totals:	**NA**	**484**	**15**	**14**	**14**	**NA**	**12**	**98**	**68**	**24**	**10**	**25**	**4**	**7**	**2585**	**16**	**2**	**488**	**NA**

Table K-1. California Coroners/Medical Examiners Assets

Regions	Sheriff/Coroner, Coroner, Medical Examiner	Coroner's Investigator	Reserve Coroner's Investigator	Forensic Dentists	Forensic Pathologists	Central Morgue	Body Transport Vehicles	Funeral Homes	Funeral Homes Removal Unit	Crematoriums	Portable X-Ray Units	Portable Autopsy Tables	Disaster Response Trailers	GPS Scene Gridding System	Body Bags	Haz Mat Team	Portable Refrigeration Units	Morgue Body Storage Capacity	Decon Capability
REGION V																			
Fresno	C	5	0	1	2	Y	—	—	—	—	—	—	—	—	—	—	—	—	—
Kern	SC	8	0	0	3	Y	0	26	0	6	0	0	1	0	200	0	2	40	N
Kings	SC	1	0	0	0	Y	1	4	0	0	0	0	0	0	70	0	1	8	N
Madera	SC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mariposa	SC	3	0	0	0	N	1	1	0	0	0	0	0	0	6	0	0	0	N
Merced	SC	4	1	0	0	Y	3	7	3	1	0	0	2	0	200	1	0	20	N
Tulare	SC	3	0	1	2	N	3	11	2	3	0	0	0	0	20	0	0	12	N
Region V Totals:	**NA**	**24**	**1**	**2**	**7**	**NA**	**8**	**49**	**5**	**10**	**0**	**0**	**3**	**0**	**496**	**1**	**3**	**80**	**NA**
REGION VI																			
Imperial	SC	3	0	1	1	N	2	2	10	2	0	0	0	0	50	0	0	6	N
Inyo	C	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mono	SC	25	0	0	0	N	0	0	0	0	0	0	0	0	65	0	0	0	N
Riverside	SC	25	0	1	5	Y	3	58	4	11	2	36	0	0	460	0	0	235	Y
San Bernardino	SC	26	10	2	4	Y	2	45	6	9	1	0	1	1	2500	Y	2	135	Y
San Diego	ME	20	0	2	7	Y	3	43	0	5	1	30	1	0	400	1	1	180	Y
Region VI Totals:	**NA**	**99**	**10**	**6**	**17**	**NA**	**10**	**148**	**20**	**27**	**4**	**66**	**2**	**1**	**3475**	**2**	**3**	**556**	**NA**
TOTALS:	**NA**	**1437**	**82**	**52**	**121**	**NA**	**83**	**815**	**240**	**206**	**32**	**209**	**49**	**22**	**13081**	**35**	**35**	**3106**	**NA**

Source: Department of Consumer Affairs, URS analysis (2009)

DNA Labs - California Department of Justice, Richmond, CA
— = Not available
C = Coroner
D.O.= Doctor of Osteopathic Medicine
FMG = Forensic Medical Group
MD = Medical Doctor
ME = Medical Examiner
SC = Sheriff/Coroner

STATISTICAL INFORMATION

Coroner	**47**	**Cemeteries**	**190**
Medical Examiner	**8**	**Crematories**	**176**
Sheriff/Coroner	**3**	**Funeral Homes**	**936**
TOTAL	**58**		

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Appendix L:
Primary and Support Responsibilities for Fatality Management Agencies

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Appendix L: Primary and Support Responsibilities for Fatality Management Functions

Local, State, and Federal agencies will perform a significant role in supporting the Coroner's Mutual Aid System and local Coroners/Medical Examiners. While **Section 3** of the Plan provides detailed descriptions regarding the roles and responsibilities of the primary agencies involved in the response effort, **Table L-1** presents the supporting agencies that are critical to the successful coordination and implementation of mission objectives.

Table L-1. Support Agencies for Fatality Management Operations.

	Agency	Incident Notification	On-Scene Investigation	Human Remains Recovery	Decontamination of Remains	Transportation	Temporary Storage	Incident Morgue Operations	Victim Identification	Family Assistance Center	Personal Effects Management	Critical Incident Stress Debriefing	Coroner' Mutual Aid Coordination	Communication and Public Information	Final Disposition/Repatriation
Local County Coroner/Medical Examiner		**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P,S**	**P,S**	**P,S**
LOCAL	General Services Department					S									
	Law Enforcement	S	S			S	S		S					S	
	Public Information Officer													S	
	Public Works Department					S									
	Social Services Department									S					
STATE	Cal Fire (CA Dept. of Forestry & Fire Protection)				S							S			
	California Department of Consumer Affairs									S					
	California Department of Education													S	
	California Department of General Services						S	S		S				S	
	California Department of Justice	S	S	S					S	S				S	
	California Department of Public Health				S				S			S		S	
	California Department of Motor Vehicles								S						
	California Emergency Management Agency	S											S,P	S	S
	California Highway Patrol	S	S	S		S			S				S	S	
	California Military Department	S													
	California National Guard	S													
FEDERAL	Army Corps of Engineers														S
	Army Central Identification Laboratory								S						S
	Army Joint Mortuary Affairs Center						S	S	S	S	S				
	Centers for Disease Control and Prevention				S									S	
	Centers for Disease Control and Prevention				S									S	
	Department of Defense		S	S	S			S	S						
	Department of Transportation					S	S	S							S
	Department of Veteran Affairs						S					S			S
	HHS-Disaster Medical Assistance Team				S		S			S					
	HHS-Disaster Mortuary Operational Response Team			S			S	S	S	S		S			
	Emergency Management Assistance Compact												S		
	Environmental Protection Agency		S	S	S		S	S							
	Federal Bureau of Investigation		S,P*												
	DHS-Federal Emergency Management Agency	S													S
	DHS-Nuclear Incident Support Team				S										
	International Critical Incident Stress Foundation									S		S		S	
	Interpol								S	S					

Table L-1. Support Agencies for Fatality Management Operations.

Agency		Incident Notification	On-Scene Investigation	Human Remains Recovery	Decontamination of Remains	Transportation	Temporary Storage	Incident Morgue Operations	Victim Identification	Family Assistance Center	Personal Effects Management	Critical Incident Stress Debriefing	Coroner' Mutual Aid Coordination	Communication and Public Information	Final Disposition/Repatriation
Local County Coroner/Medical Examiner		**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P,S**	**P,S**	**P,S**
FEDERAL (cont.)	National Transportation Safety Board		S	S					S	S					
	Salvation Army									S					S
	Social Security Administration								S	S					
	Urban Search & Rescue Response System			S											
PRIVATE / NGO	Amateur Radio Emergency Services													S	
	American Red Cross									S		S		S	S
	California Dental Identification Team		S						S	S					
	California Funeral Directors Association							S	S	S		S		S	S
	California Law Enforcement Chaplains Association											S			S
	California State Coroners' Association												S	S	
	California State Sheriff's Association												S	S	
	Private Contractors (e.g., Recovery, Processing, Security, Transportation)			P		P		P		P	P				
	Radio Amateur Civil Emergency Services													S	
	Voluntary Organizations Active in Disaster									S					

Source: URS analysis (2009)
* = Act of Terrorism FBI Lead Investigative Agency
NGO = Nongovernmental organizations
P =Primary Agency
S = Support Agency

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