

Solano County Emergency Operations Plan

Earthquake Annex



Updated January 2017

Solano County
Office of Emergency Services
530 Clay Street
Fairfield, CA 94533
707.784.1600

Table of Contents

- Section 1. Introduction 1**
 - 1.1 Purpose 1
 - 1.2 Quick Reaction Guide..... 1
 - 1.3 Scope..... 1
 - 1.3 Policy 1
- Section 2. Authorities and References 3**
 - 2.1 Authorities..... 3
 - 2.1.1 Federal 3
 - 2.1.2 California..... 3
 - 2.1.3 Solano County..... 3
 - 2.2 References..... 3
- Section 3. Assumptions and Considerations..... 5**
 - 3.1 Planning Assumptions 5
 - 3.2 Earthquake Planning Considerations 5
 - 3.3 Hazard Assessment 5
- Section 4. Roles and Responsibilities 9**
 - 4.1 Overview 9
 - 4.2 Solano County 9
 - 4.2.1 Department of General Services 9
 - 4.2.2 Department of Health and Social Services, Public Health Division 9
 - 4.2.3 Department of Resource Management..... 9
 - 4.3 Non-Government/Non-Profit/Voluntary Organizations..... 10
 - 4.3.1 American Red Cross..... 10
 - 4.3.2 Salvation Army..... 10
 - 4.4 Federal and State Entities 10
 - 4.4.1 California Governor’s Office of Emergency Services 10
 - 4.4.2 Federal Emergency Management Agency..... 10
 - 4.4.3 United States Geological Survey..... 10
 - 4.4.4 Federal Highway Administration 11

4.5	Private Sector	11
4.5.1	Construction/Equipment Companies	11
4.5.2	Private Utility Companies	11
4.6	Role and Responsibility Reference Matrix	12
Section 5. Concept of Operations.....		13
5.1	Preparedness.....	13
5.2	Response	13
5.2.1	Public Warning/Alert and Notification	13
5.2.2	Search and Rescue.....	13
5.2.3	Damage/Safety Assessment	14
5.2.4	Debris Management.....	14
5.2.4.1	Public Property Debris Removal.....	15
	Private Property Debris Removal	15
5.2.5	Documentation.....	16
5.3	Recovery.....	16
Appendix A	Acronyms	A-1

List of Tables

Table 4-1: Roles and Responsibilities Table- Earthquake Response Functions	12
Table A-1: Acronyms.....	A-1
Table A-2: Damage Assessment Form	1

List of Figures

Figure 1-1: Solano County Earthquake Shaking Potential	Error! Bookmark not defined.
Figure 1-2: Solano County Epicenters Map	Error! Bookmark not defined.
Figure 1-3: Solano County Fault Activity	Error! Bookmark not defined.
Figure 1-4: Solano County Liquefaction Susceptibility	Error! Bookmark not defined.
Figure 1-5: Solano County Landslide Distribution	Error! Bookmark not defined.
Figure 1-6: Shake Map.....	Error! Bookmark not defined.

Section 1. Introduction

1.1 Purpose

This annex provides an overview of an earthquake hazard assessment, along with other earthquake related hazards information. It describes the vulnerability of Solano County to earthquakes, mitigation and preparedness efforts, the response actions, public alert and warning strategies, specialized resources that may be needed and recovery actions taken in response to an earthquake.

1.2 Quick Reaction Guide

See the quick reaction checklist under separate cover.

1.3 Scope

This annex provides the following information:

- Mitigation and preparedness measures taken for earthquakes.
- Concept of operations during an earthquake response.
- Agencies and organizations involved in an earthquake response.
- Roles and responsibilities of agencies in preparing for earthquakes.
- Supporting resources and information for earthquake response activities.

1.3 Policy

It is the policy of Solano County to develop plans and procedures to address earthquakes that may affect Solano County. Solano County will take mitigation and preparedness measures to protect the lives, property and environment of Solano County from earthquakes and earthquake-related hazards such as surface faulting, ground shaking, earthquake-induced landslides, liquefaction and tsunami.

Section 2. Authorities and References

2.1 Authorities

2.1.1 Federal

- The Stafford Act
- 2016 Federal Earthquake Risk Management Standard
- Homeland Security Presidential Directive 5 (HSPD-5)

2.1.2 California

- California Emergency Services Act, California Government Code, Sections 8550-8668.
- State of California Emergency Plan
- Standardized Emergency Management System (SEMS)
- California State Natural Disaster Assistance Act

2.1.3 Solano County

- Solano County Emergency Operations Plan (EOP)
- Solano County Land Use Planning Regulations

2.2 References

- City of Los Angeles Earthquake Annex
- United States Geological Survey (USGS)
- On Shaky Ground, Association of Bay Area Governments (ABAG) Earthquake and Hazards Program
- Comprehensive Planning Guide 101
- FEMA 325 Debris Management Guide
- Cal OES Bay Area Earthquake Plan, July 2016

Section 3. Assumptions and Considerations

3.1 Planning Assumptions¹

In any disaster, primary consideration is given to first, the preservation of life, property and then the environment. Additionally, time and effort must be given to providing for other basic human needs such as emergency sheltering and welfare, and re-establishment of vital resources such as potable water, electricity, natural gas and sewer services. This annex is based upon the following planning assumptions:

- The County Emergency Operations Center (EOC) will be activated when the event is significant enough to trigger an emergency condition of potentially dangerous proportion.
- Many residential, commercial and institutional structures will be damaged; requiring a large Urban Search & Rescue/Heavy Rescue mobilization.
- Residents could be displaced; requiring shelter and welfare needs. Sheltering activities could be short term or long term depending on the severity of the incident.
- Vital infrastructure such as potable water supplies, electrical power, natural gas lines and sewer services could be compromised.
- Transportation infrastructure could be damaged and in limited operation. Vital vehicle and rail corridors could be damaged and impassible as well as airports damaged, limiting aircraft operations.
- Communications infrastructure could be damaged; causing disruption in land-line telephone, cellular telephone, radio, microwave, computer and other communication services.

3.2 Earthquake Planning Considerations

Critical Infrastructure and Key Resources

Critical infrastructure are the assets, systems, and networks, whether physical or virtual, so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, public health or safety, or any combination thereof.² The County has identified the Critical Infrastructure and Key Resources (CIKR) within the County in the Multi-Hazard Mitigation Plan (MHMP). Additional preparedness measures should be taken to protect these identified CIKRs.

3.3 Hazard Assessment

An earthquake is the result of a sudden release of energy in the Earth's crust that creates seismic waves. Earthquakes have the ability to cause a significant amount of damage to the local roads, infrastructure, residential areas and many other structures. The State of California experiences thousands of mild earthquakes every year and is at a significantly high risk for strong and possibly catastrophic earthquakes. A significant portion of Solano County, located closer to the Bay Area, is at a high risk of earthquakes. A map showing the areas of Solano County that are at risk for earthquakes, along with the likeliness of probability, is included in the Quick Reference section of this annex.

¹ City of Los Angeles Earthquake Annex

² Department of Homeland Security – Critical Infrastructure

Earthquakes include a variety of additional hazards that can cause significant damage to the life, property and environment of Solano County. When planning for an earthquake the following hazards should also be taken into consideration:

- **Surface Faulting**

Surface faulting is displacement that reaches the earth's surface during a slip along a fault. It commonly occurs with shallow earthquakes, those with an epicenter less than 20 km. Surface faulting also may accompany a seismic creep or natural or man-induced subsidence.³ Surface faulting can leave a visible line in the ground, noting the shift in the fault location, and can have a dramatic effect on the local infrastructure. Mitigation efforts should be taken to increase the strength and earthquake resistance of buildings, infrastructure and residential areas along identified fault lines.

- **Ground Shaking**

Ground shaking is a term used to describe the vibration of the ground during an earthquake and is the most common effect of earthquakes recognized by the general public. Ground shaking is caused by body waves and surface waves. As a generalization, the severity of ground shaking increases as magnitude increases, and decreases as distance from the causative fault increases.⁴ Ground shaking can last from a few seconds to several minutes, depending on the severity of the earthquake. Mitigation efforts should be taken to increase the stability of the infrastructure, buildings and residential areas in Solano County to reduce the impact of earthquake ground shaking. A map of the areas in Solano County that are at risk for ground shaking is included in the Quick Reference section of this annex.

- **Earthquake-Induced Landslides**

A landslide is a movement of surface material down a slope.⁵ Earthquake induced landslides are a result of the ground shaking and fault movement of an earthquake, potentially having a catastrophic impact on the local infrastructure. Landslides can include a large area of land, or surface movement that builds as it moves down the slope, both having the ability to cause significant destruction. Residents and businesses within a landslide-prone area should take additional steps to prepare for such an event. Solano County should take mitigation efforts to reduce the likeliness of a landslide by planting trees and other plants along hillsides. A map of the areas in Solano County that are at risk for landslides is included in the Quick Reference section of this annex.

- **Liquefaction**

Liquefaction is the process by which water-saturated sediment temporarily loses strength and acts as a fluid, suddenly transforming from a solid to a liquid state, causing the ground to lose hold and become extremely unstable. This effect can be caused by earthquake shaking.⁶ Liquefaction has the potential to cause catastrophic damage to the local infrastructure, especially in water saturated areas such as parts of Solano County that are along water inlets from the San Francisco Bay. A map

³ USGS Earthquake Glossary – Surface Faulting

⁴ USGS Earthquake Effects – Ground Shaking

⁵ USGS Earthquake Glossary – Landslide

⁶ USGS Earthquake Glossary - Liquefaction

of the areas in Solano County that are at risk for liquefaction is included in the Quick Reference section of this annex.

- **Tsunami**

A tsunami is a sea wave of local or distant origin that results from large-scale seafloor displacements associated with large earthquakes, major submarine slides, or exploding volcanic islands.⁷ Tsunamis can be the result of an earthquake and have the potential to cause significant damage to the coastal areas. Due to the majority of Solano County being an inland area, only a small portion of Solano County is at potential risk from a tsunami along the Bay Area. Additional information regarding tsunami preparedness, planning and response can be found in the *Solano County Emergency Operations Plan (EOP), Flood Annex*.

⁷ USGS Earthquake Glossary - Tsunami

Section 4. Roles and Responsibilities

4.1 Overview

The Solano County Office of Emergency Services (OES) is responsible for planning and preparing for all hazards that the County is at risk for, including earthquakes. During an earthquake response, actions will be managed in the County Emergency Operations Center (EOC).. During an earthquake response, a wide variety of resources, departments, personnel, private companies and non-profit organizations will all have some type of role and responsibility. Following the aftermath of an earthquake is the immediate need to begin recovery, bringing back vital services such as sewer, water and power. Through the organization of the EOC, all entities will work together to respond to the needs of the community, working with the State and Federal entities as necessary.

4.2 Solano County

4.2.1 Department of General Services

The Department of General Services (DGS) is responsible for managing county buildings and overseeing utility usage in the County. During an earthquake response, DGS will be needed, along with local, private utility companies, to bring vital utilities such as sewer, water and power back online. A representative from DGS will have a seat in the EOC in the Public Works Unit within the Engineering Branch in the Operations Section. A county utility representative will work with the private utility companies to coordinate efforts, providing service to areas of the County that need it most and ensuring that the County is eventually up and running as normal.

4.2.2 Department of Health and Social Services, Public Health Division

The Public Health Division is responsible for the management of public health issues in Solano County and will serve as the primary entity to ensure the health and safety of County residents. A representative from Public Health will serve as the Public Health Unit Leader under the Medical and Health Branch in the Operations Section of the EOC. The Public Health Unit will coordinate health safety efforts with other representative in the Operations Section, including the Public Works. Public Health may also activate the Department Operations Center to provide more direct oversight of staff during public health related emergencies.

4.2.3 Department of Resource Management

The Department of Resource Management is responsible for land use and zoning; permits and controls for post-earthquake repairs; revision of building regulations and codes; code enforcement; plan review; and building and safety inspections. After a damaging earthquake the detailed damage/safety assessment will be completed by the Department of Resource Management - Building Official in coordination with the County Office of Emergency Services and other applicable County Departments. The Engineering Branch/Department of each jurisdiction will complete the detailed damage assessment. The administrative and operational divisions of special districts will, in most cases, complete the detailed damage assessment for their respective areas of responsibility.

4.3 Non-Government/Non-Profit/Voluntary Organizations

The County EOC will coordinate the needs for voluntary organizations through the Solano County Voluntary Organizations Active in Disasters (VOAD). A representative from the County VOAD will have a seat in the County EOC and will be the point of contact to communicate with a large array of voluntary organizations.

4.3.1 American Red Cross

The American Red Cross (ARC), Solano County Chapter is responsible for the sheltering and feeding of any evacuees or homeless due to the earthquake. The ARC will work in coordination with the County through the EOC. An ARC representative in the EOC will have a seat in the Care and Shelter Unit within the Logistics Section of the EOC to provide a point of contact for shelter operations. The County will include the ARC in all exercises and drills involving shelter operations.

4.3.2 Salvation Army

The Salvation Army is a leader in donation management and will provide the service of managing the in-kind donations that come from the community during a disaster response. In-kind donations include goods other than money, including clothes, food and other tangible supplies. The Salvation Army will work with the Solano County Voluntary Organizations Active in Disaster (VOAD) to organize disaster response operations in the County.

4.4 Federal and State Entities

4.4.1 California Governor's Office of Emergency Services

The California Governor's Office of Emergency Services (Cal OES) is the State emergency management organization for California. During major events where the County's resources are overwhelmed, the County may ask for assistance from the State. A local emergency proclamation must be issued by any city within the county, Solano County, or the entire Operational Area to request assistance from the State, per the State Natural Disaster Assistance Act. Once assistance is requested, a representative from Cal OES will support Solano County in the County EOC, in coordination with operations at the Regional EOC (REOC). During a major event, the State has the ability to pull in additional resources, better responding to the need of the community.

4.4.2 Federal Emergency Management Agency

When the needs of the disaster overwhelm the resources of the local and State agencies, and the governor has proclaimed a state of emergency, the Governor of California must request assistance from the Federal Emergency Management Agency (FEMA).

4.4.3 United States Geological Survey

The United States Geological Survey (USGS) is a science organization that provides impartial information on the health of our ecosystems and environment, the natural hazards that threaten us, the natural resources we rely on, the impacts of climate and land-use change, and the core science systems that help us provide

timely, relevant, and useable information.⁸ During a disaster, USGS will serve a vital role in obtaining accurate and up-to-date information regarding fault and earthquake magnitude. Additional information about USGS can be found on their website: www.usgs.gov.

4.4.4 Federal Highway Administration

The Federal Highway Administration’s Emergency Relief (ER) Program fund assists with the repair or reconstruction of Federal-aid highways and roads on Federal lands which have suffered serious damage as a result of an earthquake or other natural disaster or catastrophic failures due to external causes. The ER supplements the commitment of resources by States, their political subdivisions or other Federal agencies. (U.S. Department of Transportation Federal Highway Administration, n.d.)

4.5 Private Sector

4.5.1 Construction/Equipment Companies

As the private sector can provide assistance before, during and after a major disaster, every effort should be taken to secure Memorandums of Understanding (MOUs) and have pre-arranged agreements with equipment companies to provide resources during a disaster response. Any current MOUs or agreements are managed by Resource Management and General Services

4.5.2 Private Utility Companies

Following an earthquake there will be an immediate need to restore all vital public services such as sewer, water and power. To best serve the needs of the community, private utility companies will work with the County Department of General Services utility representatives to restore services.

The California Utilities Emergency Association coordinates the repair of power, water and other utilities via its affiliate businesses. This is critical during an emergency to restore a community back to its normal state.

⁸ www.usgs.gov

4.6 Role and Responsibility Reference Matrix

Earthquake Functions in Solano County

Table 4-1 lists the various emergency functions in relation to an earthquake response along with the corresponding responsible County department or local organization.

Table 4-1: Roles and Responsibilities Table- Earthquake Response Functions

Roles and Responsibilities Table								
Earthquake Response Functions								
<i>P= Primary</i>								
<i>S= Secondary</i>								
Cooperating Agency	Preparedness	Alert and Warning	EOC Activation	Damage Assessment	Debris Management	Public Health Management	Care and Shelter	Utility Restoration
Office of Emergency Services	P	P	P	S	S	S	S	S
Department of General Services	S			S	P	S	S	P
Department of Health and Social Services	S					S	P	
Department of Public Health	S				S	P	S	
Department of Resource Management	S			P	S	S	S	S
Private Utility Companies				S	S			S
Construction/Equipment Companies					S			
Cal OES	S	S	S					
FEMA	S	S	S					
American Red Cross							P	

Section 5. Concept of Operations

5.1 Preparedness

Preparedness includes efforts taken to increase the resiliency of the County, including planning, training and exercises. Along with this annex comes training EOC and other emergency staff on the plan and exercising the plan to find areas that need revising and improvement. In addition, Solano County will take additional mitigation efforts, both structural and non-structural, to increase the resiliency of the County to the impact of an earthquake. Additional information regarding the mitigation efforts of the County can be found in the *Solano County Multi-Hazard Mitigation Plan*.

5.2 Response

Response actions to an earthquake event include a large variety of resources and personnel. Initial response actions to an earthquake include the determination of activating the County EOC, Establishing communications with cities and affected organizations within the County, creating a common operating picture, identifying immediate needs for resources, and others. Additional information regarding the activation of the EOC is included in the *Solano County EOP*. Tactical operations for an earthquake response will be managed by the on-site Incident Commander who will coordinate operations with the County EOC. Informational and resource support for field operations will be coordinated within the EOC.

5.2.1 Public Warning/Alert and Notification

The Office of Emergency Services is responsible for public alert and warning efforts during a disaster. The County Public Information Officer (PIO) within the Command Staff of the County EOC is responsible for public information efforts. With the approval of the EOC Director, the PIO will disseminate emergency messages to the public regarding preparedness measures to take, evacuation areas and routes (if applicable), emergency resources, measures that the County OES is taking during the event and recovery assistance information. Detailed information regarding the public information sources utilized during a disaster is included in the *Solano County EOP, Public Information Annex*.

5.2.2 Search and Rescue

Mass Search and Rescue efforts will be managed out of the County EOC by the Search and Rescue Unit within the Law Enforcement Branch. Urban Search and Rescue assets will be coordinated by the Fire and Rescue Unit in the Fire and Rescue Branch. Depending on the severity of the disaster, mutual aid resources may be required. Requests will follow SEMS and be routed through the County EOC to the Cal OES Coastal Region and be elevated as appropriate.

In addition to State resources, FEMA Urban Search and Rescue (USAR) Teams are particularly important in earthquake response. USAR involves the location, rescue, and initial medical stabilization of individuals trapped in confined spaces. Canines also help locate people trapped in collapsed structures.

5.2.3 Damage/Safety Assessment

Damage/Safety Assessment is the basis for determining the need to identify hazards, restore vital services and request State and/or Federal operational and financial assistance. An Initial Damage Estimate is developed during the emergency response phase to guide initial operational decisions and support a request for a Governor's proclamation and for the State to request a presidential declaration.

For the County, the detailed damage/safety assessment will be completed by the Solano County Department of Resource Management Building Official in coordination with the County OES and other applicable County Departments.

Following an earthquake, damage inspections and assessments are conducted to determine the presence and magnitude of damages to public and private facilities. The inspection and assessment process will be performed in accordance with the Applied Technology Council (ATC- 20-2) Procedures for *Post-Earthquake Safety Evaluation of Buildings*. On-duty fire, police and public works field units may perform windshield surveys. The survey is done quickly, without exiting the vehicle, and includes a brief, observation of the structure or area for obvious damages.

As soon as possible following an earthquake event, a Safety Assessment is conducted on occupied buildings and pre-designated essential facilities such as hospitals, key bridges, public safety facilities, occupied structures, access roads, bridges and utilities. The assessment involves an immediate visual inspection by Assessment Teams assigned by the EOC to identify unsafe structures/areas and obvious hazards. Unsafe structures are evacuated immediately, hazardous conditions are secured, and occupied buildings are posted as Unsafe, Restricted Use or Inspected, as indicated.

Next, detailed inspections are performed on damaged facilities by personnel assigned by the EOC. This inspection includes a more thorough examination to document damages, identify repair, bracing and shoring requirements, evaluate the initial posting of occupied structures, and identify facilities that require an engineering assessment. The condition of occupied structures may be upgraded or downgraded, based on the results of this inspection. Licensed engineers conduct detailed assessments on damaged structures and facilities to prepare plans for repairs, reconstruction and engineering cost estimates.

The Engineering Branch/Department of each jurisdiction in the County will complete a damage assessment. The administrative and operational divisions of special districts will, in most cases, complete the damage assessment for their respective areas of responsibility. Any damage that endangers life safety, interferes with the operation of a facility, or in any way may result in harm to health or the environment will be reported immediately to the EOC Operations Section via phone or radio. Copies of all damage reports are forwarded to the Planning Section for review, analysis and posting on status boards, as indicated.

5.2.4 Debris Management

Debris management is the clearance, removal, and/or disposal of items such as trees, sand, gravel, building components, wreckage, vehicles, and personal property. Safe, proper and timely management of debris is an essential but often overlooked component of an emergency response or disaster incident. Debris management is also one of many competing priorities agencies must manage during such events. Disaster debris must be properly managed so as to protect human health, comply with regulations, conserve disposal capacity, reduce injuries, and minimize or prevent environmental impacts. It involves advance thought,

planning and coordination among individuals at various levels of government and the private sector with experience and expertise in waste management.⁹ Coordination for debris management will be led by the Engineering Branch of the EOC, working with utility companies and County representatives.

5.2.4.1 Public Property Debris Removal¹⁰

In some cases, debris removal from public property is eligible for public assistance grants. Eligible applicants include State and local governments, Indian tribes, and certain private nonprofit organizations.

In order to be eligible for FEMA funding, the debris removal work must:

- Be a direct result of a Presidentially declared disaster
- Occur within the designated disaster area
- Be the responsibility of the applicant at the time of the disaster

In addition, debris removal work must be necessary to:

- Eliminate an immediate threat to lives, public health and safety
- Eliminate immediate threats of significant damage to improved public or private property
- Ensure the economic recovery of the affected community to the benefit of the community-at-large

5.2.4.2 Private Property Debris Removal¹¹

Debris removal from private property is typically not eligible for disaster assistance grants because it is the ultimate responsibility of the property owner to remove the debris. If debris on the private property is obstructing any public roadways or facilities, or is causing a local public health threat, the local government has the authority to be reimbursed for debris removal expenses. In addition, the State or local government may in some cases need to demolish a private facility that is unsafe and causing a threat of safety to life, property and the environment.

The demolition of unsafe privately-owned structures and subsequent removal of demolition debris may be eligible when the following conditions are met:

- The structures were damaged and made unsafe by the declared disaster, and are located in the area of the disaster declaration
- The applicant certifies that the structures are determined to be unsafe and pose an immediate threat to the public
- The applicant has demonstrated that it has legal responsibility to perform the demolition
- A legally authorized official has ordered the demolition of unsafe structures and removal of demolition debris
- The applicant has indemnified the Federal government and its employees, agents, and contractors from any claims arising from the demolition work
- The demolition work is completed within the completion deadlines outlined in 44 CFR §206.204 for emergency work

⁹ U.S. Environmental Protection Agency

¹⁰ FEMA – Debris Removal Guidance

¹¹ FEMA – Debris Removal Guidance

5.2.5 Documentation

Documentation is the key to recovering eligible emergency response and recovery costs. Damage assessment documentation will be critical in establishing the basis for eligibility of disaster assistance programs. Under the State Natural Disaster Assistance Act (NDAA), documentation is required for any earthquake damage sustained to the following:

- Public buildings
- Levees
- Flood control works
- Irrigation works
- County roads
- City streets
- Bridges
- Other public works

Under Federal disaster assistance programs, documentation must be obtained regarding earthquake damages sustained to:

- Roads
- Water control facilities
- Public buildings and related equipment
- Public utilities
- Facilities under construction
- Recreational and park facilities
- Educational institutions
- Certain private non-profit facilities

Earthquake debris removal and emergency response costs incurred by the affected entities should also be documented for cost recovery purposes under the federal programs. It will be the responsibility of the County, jurisdictions, and special districts to collect documentation of these damages.

The documenting information should include the location and extent of damage, and estimates of costs for: debris removal, emergency work, and repairing or replacing damaged facilities to a non-vulnerable and mitigated condition. The cost of compliance with building codes for new construction, repair, and restoration will also be documented. The cost of improving facilities may be provided under Federal mitigation programs.

Documentation is the key For each jurisdiction and special district, documentation must begin at the field response level and continue throughout the operation of their Emergency Operations Center as the disaster unfolds.

5.3 Recovery

During an earthquake incident, recovery actions will take place almost immediately. Secondary to the initial response to life safety and preservation efforts, recovery actions following an earthquake will include the restoration of public utilities including water, power, sewer, gas and trash. Recovery following a disaster can take anywhere from months to years, depending on the severity of the event. Additional information regarding recovery operations in Solano County can be found in the *Solano County EOP, Recovery Annex*.

Appendix A Acronyms

Table A-1: Acronyms

AAR	After Action Reports
ABAG	Association of Bay Area Governments
ARC	American Red Cross
Cal OES	California Office of Emergency Services
CIKR	Critical Infrastructure and Key Resources
CPG	Comprehensive Planning Guide
DGS	Department of General Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
FEMA	Federal Emergency Management Agency
LHMP	Local Hazard Mitigation Plan
MHMP	Multi-Hazard Mitigation Plan
MOU	Memorandums of Understanding
NDAA	National Disaster Assistance Act
NIMS	National Incident Management System
NRF	National Response Framework
OES	Office of Emergency Services
PIO	Public Information Officer
REOC	Regional Emergency Operations Center
SEMS	Standardized Emergency Management System
USGS	United States Geological Survey
VOAD	Voluntary Organizations Active in Disasters



**SOLANO
COUNTY**