

FINAL

City of Oakland Hazard Specific Annex: Wildfire

Annex to the Emergency Operations Plan

April 2023



FINAL

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I. Purpose

The City of Oakland (City) Wildland Fire Annex to the Emergency Operations Plan (EOP) describes the unique conditions, situation, and response and recovery actions that City departments will undertake during a wildland fire incident.

II. Situation and Assumptions

Table 1: Wildfire Hazard Analysis

Frequency	Warning Lead Times	Consequences	Population/Area at Risk
High (Annual)	24 to 12 hours/ none	High (Moderate to high citywide impact. May require county, state, or federal assistance.)	Medium

Wildfires are the most severe fire hazard in Oakland, especially in the hills, above the Warren Freeway. Because the Oakland hills are a fire-dependent ecosystem, wildfires occur there every year, especially in late summer and early fall when the area’s natural vegetation is dry and extremely flammable. While small fires occur every year, large fires should be anticipated every 10-20 years. **Table 1** shows the hazard analysis for wildland fire¹. Wildland fires are common in the spring, summer and fall when the “Santa Ana Wind” weather conditions are present:

- Hot temperatures (90–100 degrees F or higher)
- Strong east-to-west winds (25 MPH or greater)
- Low humidity levels (often below 10 percent)

The vegetation of the hills ranges from densely wooded forests to open grasslands, making virtually the entire area vulnerable to fire; the wooded areas pose risks due to the supply of fuel from trees and the possibility of crown, or tree-top, fires, while the grass- and brush-covered areas are highly flammable. Adding to the fire risk are the area’s steep and rugged terrain, and the abundance of non-native vegetation, especially Monterey pine and eucalyptus, which are not fire-resistant.

Most of the wildfires in the hills are minor, and the Oakland Fire Department (OFD) is usually able to control them easily. Nevertheless, aggravating circumstances can turn even small fires into disastrous events with breathtaking speed. In the case of the 1991 fire, for example, the combination of abundant dead vegetation,

Consequences of a Wildland Fire

- Persistent chemical, biological, or radiological contamination with mild to severe public health and medical issues. Children are more likely to have decreased pulmonary function, while increased mortality has been reported in the elderly and in individuals with cardiopulmonary disease.
- Smoke and smoke/fog obstructions of visibility on highways cause numerous accidents with loss of life and personal injuries.
- Significant property damage.
- Potential loss of life to civilians and first responders.

¹ Section 2.5 of the City of Oakland Emergency Operations Plan, 2023.

Wildland Fire

hot and dry weather, strong winds, and, in some areas, poor accessibility and insufficient water pressure created an uncontrollable firestorm in much less than an hour.

Most of the severity of Oakland's wildfire hazard stems from the presence of residential neighborhoods amidst the 20,646 acres² of vegetated areas, a condition known as the wildland/urban interface (WUI).

Contributing to the hazard are the many wooden structures in the area and, in some places, the lack of adequate evacuation routes and access routes for emergency vehicles.

The hills are traversed by the Hayward fault; a significant fault movement could result in the breakage of natural-gas pipelines, setting off area-wide fires, and could also block roads and damage water lines, delaying OFD's response and compromising their fire-suppressing abilities.

Finally, within and immediately adjacent to the City, to the northeast, are large areas of combustible material in the form of open spaces in unincorporated Contra Costa County (Orinda Canyon, primarily) and densely vegetated City parklands (Joaquin Miller) and those owned by the East Bay Regional Park District (EBRPD): Charles Lee Tilden, Redwood, and Anthony Chabot regional parks; Claremont Canyon, Robert Sibley Volcanic, Huckleberry Volcanic, and Leona Heights Open Space regional preserves; and Roberts Regional Recreation Area.

While most of Oakland is rated "moderate" for fire threat, significant parts of the Oakland Hills and most of the area adjacent to the City to the northeast have been rated by California Department of Forestry and Fire Protection (CDF) as a "high" or "very high" risk. The CDF rating does not take into account the presence of houses and other flammable structures and thus it most likely underestimates the fire threat in Oakland (and other urban areas). **Figure 1** shows the *very high* fire hazard severity fire zones within the City of Oakland jurisdictional boundary.

² 2021 – 2026 City of Oakland Local Hazard Mitigation Plan.

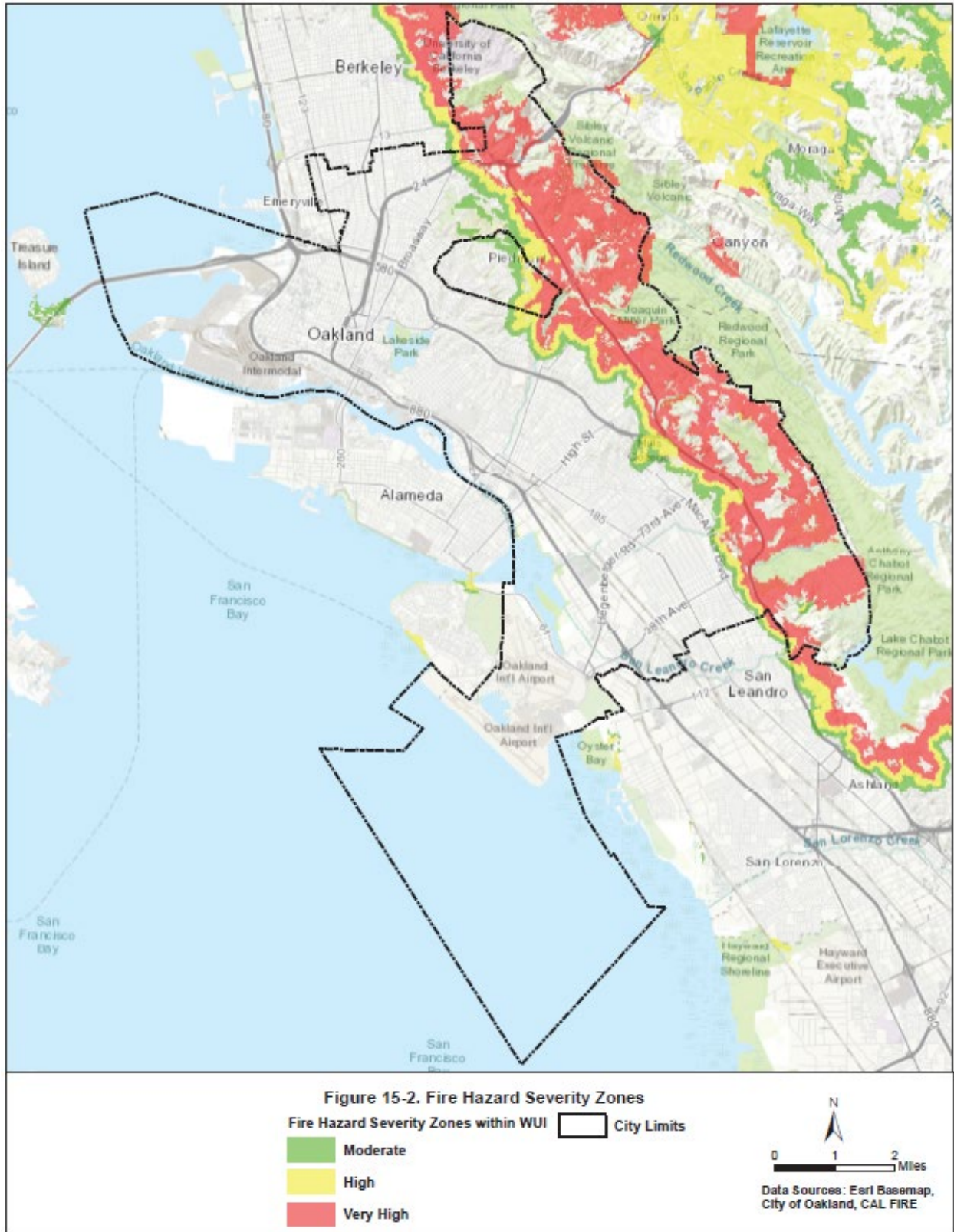


Figure 1: Wildfire Risk Zones

Wildland firefighting techniques differ significantly from those commonly employed by municipal fire departments to contain a structure fire. Firefighters carefully build and defend fire lines at strategic locations and deprive oncoming fires of fuel by conducting “back-burns,” or “back firing.” Incident Commanders may deploy a range of firefighting resources as they work to slow and contain the inferno’s advance. In addition to fire engines and ground crews, specialist strike teams of “hot shots,” which build and defend fire lines, and “smokejumpers,” which are ferried into remote areas by air may join the suppression operation. Air power assets may also be used, such as helicopters and air tankers carrying water or fire retardant.

A. History of Wildland Fires in the East Bay

Historically, the East Bay has been prone to wildfire incidents. There have been fifteen major wildfires since the first fire documented in 1923. The following are some of the major wildfire incidents the City of Oakland responded to:

- September 1923 – Berkeley/North of UC Berkeley campus, 584 homes destroyed and 130 acres burned.
- November 1931 – Leona, 5 homes destroyed and 1800 acres burned.
- November 1933 – Redwood/Joaquin Miller, 1 death, 5 homes destroyed, and 1000 acres burned.
- September 1970 – North Oakland Hills, 37 homes destroyed and 200 acres burned.
- October 1991 – Oakland/Berkeley Hills Fire, 25 deaths, 150 injuries, 3,000+ homes.

B. Assumptions

- The number of homes and citizens in the WUI zone will continue to increase, increasing the number of people and properties at risk.
- Mitigation efforts such as vegetation management and prescribed burn plans will continue to lessen the risk of wildland fire in the City.
- Procedures in this Annex assume sufficient warning time of weather conditions that would accommodate a fast moving WUI wildfire (Red Flag Warning) is provided by the NWS.
- Individuals who are directly threatened by a wildfire may ignore, not hear, or not understand warnings issued by the government.
- Individuals with disabilities and others with access and functional needs may require additional methods of alert/notification to ensure a workable warning system is established.
- Some people will refuse to comply with evacuation orders, regardless of the threat.
- Large numbers of people may be left temporarily or permanently homeless and may require prolonged temporary housing. Long-term recovery initiatives must be established at the onset of response.

III. Concept of Operations

- Fire protection and suppression activities will be managed by the Fire Event Incident Commander (IC) in accordance with OFD’s plans, protocols, and capabilities.
- If a wildland fire grows to the point where local personnel and equipment are insufficient to contain and/or control it, OFD may reach out to the Operational Area for assistance. The Operational Area in turn may request support from California Governor’s Office of Emergency Services (Cal OES) Region

II Mutual Aid Coordinator if the request for additional resources cannot be met within the Operational Area.

- The Region II Mutual Aid Coordinator manages the provision of mutual aid within the region, and elevates requests to the State Operation Center (SOC) Fire and Rescue Branch Chief, who is responsible for the overall state management of fire and rescue mutual aid resources.

During a wildland fire the following functions will be critical:

Functions	Incident Conditions
Firefighting (ESF #4 – Firefighting)	OFD is the lead department for fire response. OFD will obtain additional support via the Operational Area through the Fire and Rescue Mutual Aid Coordinator/Alameda County Fire Chief if needed.
Mass Care, Housing, and Human Services (ESF #6 – Mass Care and Shelter and ESF #11 – Food, Agriculture, and Animal Services)	Temporary shelter, food, and emergency first aid will be needed to support individuals and animals that have been displaced due to the wildland fires and evacuation orders.
Search and Rescue (ESF #9 – Search and Rescue)	The WUI wildfire poses a unique search and rescue challenge because of the narrow dead end roads, steep grades, one way in and/or out routes, no or minimal firefighting capacity, limited fire hydrants, and limited water supplies. Past responses have shown that resources and personnel who can assist with search and rescue activities, including locating, extricating, and providing on-site medical treatment to survivors, are limited not only within the City but throughout the Operational Area, the region, and the state.
Decontamination (ESF #8 – Public Health and Medical and ESF #10 – Hazardous Materials)	If the wildfire reaches the WUI, the likelihood of the fire coming in contact with hazardous materials is high and thus requires hazardous materials response and decontamination of people, animals, the environment, facilities, and equipment.
Public Safety and Security (ESF #13 – Law Enforcement)	Law enforcement will be needed to provide perimeter security/checkpoints in the affected area.
Public Information (ESF #15 – Public Information)	With all disasters, clear, consistent, and timely information to the public is needed. Public safety messages may need to be coordinated with other jurisdictions, the operational area, and the region if the geographic scope of the wildland fire is significant.
Evacuations (ESF #16 – Evacuation)	During wildland fires evacuation of large numbers of people from the WUI communities to safe areas is common. Evacuations require significant transportation and shelter coordination and resources. It is assumed the following numbers, per population

Functions	Incident Conditions
	<p>type, will need to use transportation resources for an evacuation in the City of Oakland³:</p> <ul style="list-style-type: none"> • General population (includes individuals with disabilities and others with access and functional needs) – 22,270 • Homeless – 2,040 • Visitors and Tourists – 6,960 • Out-of-City Commuters – 16,520 <p>(Please note that the numbers provided above are a worst-case estimate. Using the city population percentage overestimates the impacted populations in Oakland because the likelihood of the entire city needing to be evacuated for a wildfire is slim.)</p>

IV. Operational Roles and Responsibilities

The following describes roles and responsibilities specific to wildland fire activities. Primary departments identified to lead each ESF are responsible for coordinating and/or delegating the activities of the ESF. Additional roles and responsibilities to support associated emergency response efforts are described in the specific ESFs. Additional ESF may be activated to support the response as necessary. Please refer to the individual ESF annexes for a list of detailed responsibilities.

ESF #4 – FIREFIGHTING
Primary Department: Oakland Fire Department
Preparedness (Pre-event)
<input type="checkbox"/> Implement fire suppression and prevention techniques, including fuel-reduction, vegetation management, maintenance and enforcement of firebreaks, and public education.
Response
<input type="checkbox"/> Identify areas to be evacuated and coordinate with ESF #13 – Law Enforcement and ESF #15 – Public Information to notify the public and secure the evacuated area. <input type="checkbox"/> Command and coordinate fire suppression and rescue operations. <input type="checkbox"/> Monitor and direct firefighting resources and response activities. <input type="checkbox"/> Coordinate appropriate allocation of resources. <input type="checkbox"/> Maintain contact with supporting departments. <input type="checkbox"/> Request mutual aid through the Operational Area as needed. <input type="checkbox"/> Coordinate and collaborate with mutual aid resources that have been deployed to support the City.

³ City of Oakland Catastrophic Incident Mass Transportation and Evacuation Annex

ESF #4 – FIREFIGHTING
Primary Department: Oakland Fire Department
<input type="checkbox"/> Investigate the source of wildland fire and identify if any criminal activity had occurred.
Recovery
<input type="checkbox"/> Release excess personnel and equipment according to demobilization plan. <input type="checkbox"/> Coordinate with ESF #3 – Public Works and Engineering to assess damage to City infrastructure. <input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.

ESF #6 – MASS CARE AND SHELTER
Primary Department: Oakland Parks, Recreation, and Youth Development Department
Preparedness (Pre-event)
<input type="checkbox"/> Identify shelter locations and resources that can be used during a wildland fire; consider locations that are not within the high or very high risk fire risk area.
Response
<input type="checkbox"/> Coordinate the opening and staffing of shelters within the City. <input type="checkbox"/> Coordinate with the EOC functional needs coordinator (E-FNC) and the shelter functional needs coordinator (S-FNC) to ensure that the needs of populations with disabilities and others with access and functional needs are being met. <input type="checkbox"/> Continue to assess the need for shelters and provide on-going analysis to the EOC.
Recovery
<input type="checkbox"/> Close shelter locations when shelter needs are resolved. <input type="checkbox"/> Provide information on disaster assistance (such as housing and disaster grants) to the EOC and the public. <input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.

ESF # 8 – PUBLIC HEALTH AND MEDICAL
Primary Departments: Human Services Department & Oakland Fire Department
Preparedness (Pre-event)
<input type="checkbox"/> Coordinate with Alameda County Public Health and Oakland Medical community to develop plans and procedures for health and medical facilities in the high fire risk areas.
Response

ESF # 8 – PUBLIC HEALTH AND MEDICAL

- Establish and coordinate public health and medical support with the Alameda County Public Health Department via the Operational Area EOC.
- If the Oakland hospitals are in a high risk area, provide non-medical support to evacuate or relocate patients.
- Coordinate with Alameda County Public Health via the Operational Area EOC on decontamination and other public health issues and warnings due to the fire.

Recovery

- Complete required administrative and financial forms for reimbursement and to meet legal requirements.
- Participate in the After Action Report.

ESF #9 – SEARCH AND RESCUE

Primary Department: Oakland Fire Department

Preparedness (Pre-event)

- Develop and exercise search and rescue procedures for areas that have had significant fire damage.

Response

- Coordinate response activities associated with search and rescue including locating, extricating, and providing medical treatment on site to survivors trapped in collapsed structures.
- Request additional search and rescue resource through the Operational Area EOC if necessary.

Recovery

- Release excess personnel and equipment according to demobilization plan.
- Complete required administrative and financial forms for reimbursement and to meet legal requirements.
- Participate in the After Action Report.

ESF #10 – HAZARDOUS MATERIALS

Primary Department: Oakland Fire Department

Preparedness (Pre-event)

- Develop plans and procedures for responding to hazardous materials incidents during and following a wildland fire.

Response

- Implement measures to prevent potential hazardous materials incidents in the wildland urban interface which may include prescribed burns, establishing fire breaks, and/or removal of hazardous materials from threatened locations.

ESF #10 – HAZARDOUS MATERIALS
<ul style="list-style-type: none"> <input type="checkbox"/> Coordinate hazardous materials response action with firefighting operations. <input type="checkbox"/> Conduct analysis of the hazardous material impact. <input type="checkbox"/> Support decontamination activities.
Recovery
<ul style="list-style-type: none"> <input type="checkbox"/> Release excess personnel and equipment according to demobilization plan. <input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.

ESF #11 – FOOD, AGRICULTURE, AND ANIMAL SERVICES
Primary Department: Human Services Department & Oakland Animal Services Department
Preparedness (Pre-event)
<ul style="list-style-type: none"> <input type="checkbox"/> Identify vendors that will be able to provide food and animal supplies during disasters for shelters and affected residents. <input type="checkbox"/> Coordinate with owners and operators of agricultural facilities with high fire risk areas to develop plans and procedures for the evacuation of livestock.
Response
<ul style="list-style-type: none"> <input type="checkbox"/> Coordinate the delivery of food and water to shelters for people and domestic animals. <input type="checkbox"/> Coordinate the safe disposal of animal remains. <input type="checkbox"/> Coordinate with ESF #10 – Hazardous Materials and ESF #8 – Public Health and Medical regarding the safety of agricultural food supplies.
Recovery
<ul style="list-style-type: none"> <input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.

ESF #13 – LAW ENFORCEMENT
Primary Department: Oakland Police Department
Preparedness (Pre-event)
<ul style="list-style-type: none"> <input type="checkbox"/> Develop plans and procedures to support evacuation and traffic management during a wildland fire.
Response
<ul style="list-style-type: none"> <input type="checkbox"/> In coordination with ESF #4 – Firefighting, designate area to be warned and/or evacuated. <input type="checkbox"/> Provide security for evacuated areas.

ESF #13 – LAW ENFORCEMENT

- Provide security patrols and checkpoints to control access into the evacuated area.
- Establish emergency traffic routes in coordination with ESF #1 – Transportation, utilizing the Alameda County Operational Area Law Enforcement/Movement Plan; monitor that evacuation routes do not pass through hazard zones.
- Coordinate with the ESF #1 – Transportation traffic engineering to determine capacity and safety of evacuation routes and time necessary to complete evacuation.
- Identify alternate evacuation routes where necessary.
- Through field unit requests, identify persons/facilities that have functional evacuation requirements (i.e., those with disabilities and others with access or functional needs, hospitalized, elderly, institutionalized, incarcerated, etc.), check status and evacuate if necessary; coordinate with ESF #1 – Transportation, ESF #8 – Public Health and Medical, and the E-FNC for transportation needs.
- Prioritize the use of City vehicles and other resources for life saving missions.
- Establish evacuation assembly points in coordination with ESF #4 – Firefighting.
- Place towing services on stand-by to assist disabled vehicles on evacuation routes.
- Monitor status of warning and evacuation processes.
- Coordinate with ESF #3 – Public Works and Engineering and ESF #7 – Resources to obtain necessary barricades and signs.
- Coordinate law enforcement and crowd control services at evacuation assembly areas.
- Develop procedures for safe reentry into evacuated areas.

Recovery

- Release excess personnel and equipment according to demobilization plan.
- Complete required administrative and financial forms for reimbursement and to meet legal requirements.
- Participate in the After Action Report.

ESF #15 – PUBLIC INFORMATION

Primary Department: City Administrator's Office

Preparedness (Pre-event)

- Develop public education materials and disseminate to those in high fire risk areas.
- Develop pre-scripted messages for evacuations.

Response

- Develop and issue timely and accurate instructions to the public on how to remain safe during a wildland fire.
- Work with other jurisdictions to release information in a coordinated manner.
- Monitor media outlets and control rumors.

ESF #15 – PUBLIC INFORMATION
<input type="checkbox"/> Coordinate with responders that may be interviewed to ensure that a consistent message is being distributed.
Recovery
<input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.

ESF #16 – EVACUATION
Primary Departments: Oakland Police Department & Oakland Fire Department
Preparedness (Pre-event)
<input type="checkbox"/> Identify and publish evacuation routes for high risk fire areas (consider the use of signs, direct mail, or through third party sources such as utility bills, phone books, etc.)..
Response
<input type="checkbox"/> Identify evacuation routes that should be used for the specific incident. <input type="checkbox"/> Analyze and provide information on who should be evacuated and for how long and when the evacuation should start. <input type="checkbox"/> Provide information to ESF #15 – Public Information on the evacuation order. <input type="checkbox"/> Coordinate resources needed for the evacuation. <input type="checkbox"/> Work with the E-FNC to ensure that populations with disabilities and others with access and functional needs have been notified and that evacuation support is available. <input type="checkbox"/> Work with ESF #4 – Firefighting, ESF #13 – Law Enforcement, and ESF # 5 – Management on a reentry plan.
Recovery
<input type="checkbox"/> Complete required administrative and financial forms for reimbursement and to meet legal requirements. <input type="checkbox"/> Participate in the After Action Report.

V. Additional Information

A. Wildland Fire Resources

The Operations Division of OFD includes 500 uniformed personnel, 25 Stations (including the Oakland International Airport), extensive equipment and resources, and additional operational components for:

- Hazardous Materials Response
- Water Rescue
- Heavy Rescue
- Medical Response

- Structural Firefighting
- Wildland Firefighting
- Shipboard Firefighting
- Aircraft Rescue/Firefighting
- Terrorism/Weapons of Mass Destruction Response

B. Federal Reimbursement

In addition to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act, P.L. 93-288, as amended, 42 U.S.C. §§ 5121-5206), the Federal government can provide supplementary aid to State and local governments, as through the Fire Management Assistance Grant Program (FMAG). FMAG provides financial assistance in the form of grants to State and local governments to help manage and control fires on public or private forest or grasslands that threaten to cause extensive losses to lives and property. Under an approved FMAG declaration, DHS-FEMA may cover 75 percent of eligible State and local firefighting costs, such as expenses for field camps, equipment use, repair and replacement, tools, materials, and supplies. In addition, States may be reimbursed for eligible mobilization and demobilization activities, as well as limited emergency work as authorized under Section 403 of the Stafford Act, Essential Assistance. **Figure 2** shows the FMAG process.

In extreme cases, when wildland fires have caused severe damages to private property and public infrastructure, a Governor may also request a major disaster declaration from the President through DHS-FEMA. Refer to the local emergency proclamation process in section 4.3.1 of the Oakland EOP.

C. Urban Search and Rescue

There are four types of Urban Search and Rescue teams:

- **Urban Search and Rescue Type 4 (Basic) Operational Level** – Represents the minimum capability to conduct safe and effective search and rescue operations at incidents involving non-structural entrapment. Personnel at this level shall be competent at surface rescue that involves minimal removal of debris and building contents to extricate easily accessible victims from damaged, but non-collapsed structures.
- **Urban Search and Rescue Type 3 (Light) Operational Level** – Represents the minimum capability to conduct safe and effective search and rescue operations for incidents involving the collapse or failure of light-frame construction. This level is also capable of conducting low-angle or one-person load rope rescue.
- **Urban Search and Rescue Type 2 (Medium) Operational Level** – Represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of heavy wall construction. This level is also capable of conducting high-angle rope rescue (not including highline systems), confined space rescue (no permit required), and trench and excavation rescue.
- **Urban Search and Rescue Type 1 (Heavy) Operational Level** – Represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of heavy floor, pre-cast concrete, and steel frame construction. This level is also capable of conducting high-angle rope rescue (including highline systems), confined space rescue (permit required), and mass transportation rescue.

The FMAG is federal financial assistance available to states, local and tribal governments, for the mitigation, management, and control of fires on publicly or privately owned forests or grasslands. Oakland may request an FMAG directly from Cal OES or through the Operational Area. Cal OES will submit a request by telephone to FEMA while the fire is burning uncontrolled, and threatens such destruction as would constitute a major disaster. There are four criteria that FEMA uses to evaluate the threat posed by a fire or fire complex:

- Threat to lives and improved property, including threats to critical facilities/infrastructure, and critical watershed areas
- Availability of state and local firefighting resources
- High fire danger conditions, as indicated by nationally accepted indices such as the National Fire Danger Ratings System
- Potential major impact

The entire process is accomplished on an expedited basis and a FEMA decision is rendered in a matter of hours.

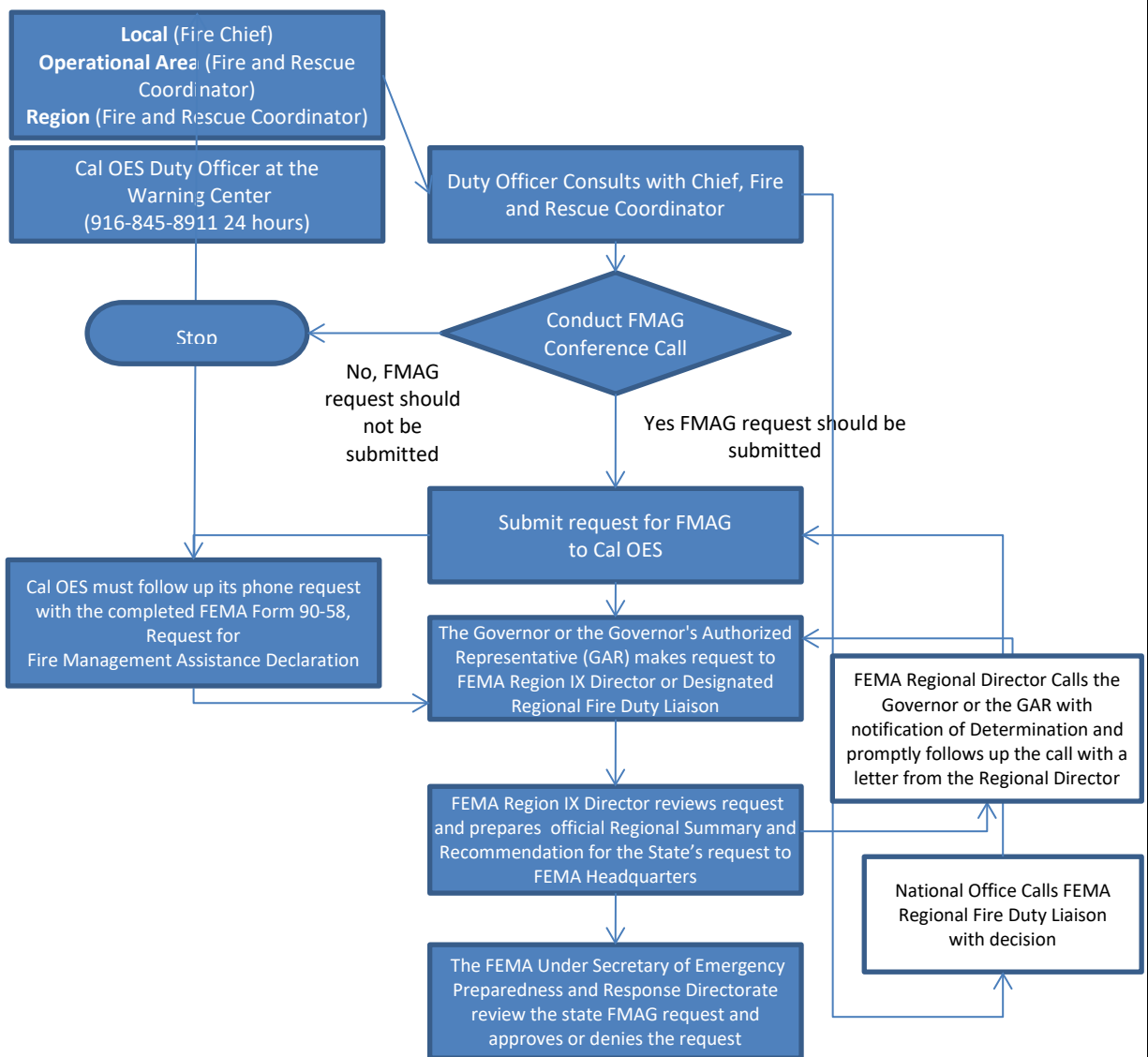


Figure 2: FMAG Request Process

VI. Policies

The following agreements, procedure, plans, and guidelines apply to the execution of the Wildland Fire Annex:

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

VII. References

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

- City of Oakland EOP
- City of Oakland Functional Needs Annex
- City of Oakland Animal Care Annex
- The Oakland Hills Fire - A Multi Agency Review of the October 1991 Fire in the Oakland/Berkeley Hills dated February 27, 1992
- The Tunnel Incident-Oakland 1991, Ten Years After dated October 3, 2001
- The City of Oakland adoption of the State of California 1994 Uniform Fire Code
- Oakland Municipal Code, Article 15 and (Ord 12815 § 3 (part), 2007: Ord 12186 (part), 1999)
- Article 15 of the California Emergency Services Act (Chapter 7, Division 1, Title 2 of the Government Code)
- California Code of Regulations (CCR), Title 24, Part 2, known as the 2007 California Building Code (CBC)
- National Fire Plan