San Diego Fire-Rescue
Mt. Soledad
Structure Protection Plan

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San Diego Fire-Rescue Department

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Please note that the plan at this juncture still has some components that need to be added or finalized. Some of these components are:

- The inclusion of additional areas beyond the boundaries of this initial scenario.
- Detailed information on the water system.
- A list of target hazards.
- A complete list of helispot locations and water sources.
- GPS coordinates for all major landmarks and ICS functions.
- Copies of applicable maps.
- Community information in terms of structure types, road system, and known or potential problems.

Location

The projected point of origin is on the eastern base of Mount Soledad, along the I-5 corridor and/or along the La Jolla Parkway. Ignition could result from a car fire, a carelessly tossed cigarette, or some other auto-related source of ignition, including arson.

Weather

The weather model used for this projection would be typical Santa Ana-type winds from the east at 15-20 mph, low humidity of 25% or less, low fuel moistures, and a temperature of near 90 degrees. There is a convergence of winds at Rose Canyon and San Clemente Canyon (Highway 52) that can create wind turbulence at the I-5 junction. This convergence, along with upper level winds near the top of Mount Soledad, could result in erratic winds that would adversely impact fire behavior and spread.

Fuel Type and Behavior

The fuel types (Models 4 and 5) consist of light grassy fuels (approximately 2 tons per acre) along the freeway which will allow for an easy start and fast spread to the heavier chaparral on the steeper slopes of Mount Soledad. See Table 1 for fuel model information. The chaparral (approximately 30 tons per acre) consists of buckwheat, old thick chamise, and scrub oak with a mean cover height of about 10 feet. These fuel models have a high ratio of dead to live fuel. Rate of spread would be extreme, being both wind and slope driven on the 40-60% slopes. The Rate of Spread would be approximately 538 chains per hour (1 chain equals 66 feet) and could burn 400-500 acres. Flame length is expected to be 51 feet with a midflame wind speed (upslope) of 15 MPH. A significant fire would spread from the freeway to the structures at the top of Mount Soledad in approximately 15 to 20 minutes. The probability of ignition from firebrands is 77%, and would create spot fires over one mile downwind in advance of the fire. Due to fuel loading, spotting, inaccessible steep terrain hindering suppression efforts, and delays due to evacuations, structural loss could be very significant.

Topography

The ridge to valley elevation difference is about 400 feet with a horizontal distance of .3 miles. The topography consists of small broken canyons and steep side drainages. This type of topography causes uneven surface heating, opposing wind directions, and erratic fire behavior. There are several homes along the ridge line bordered by Soledad Mountain Road and Pacifica Drive to the south and Caminito Catalan to the north. This area encompasses homes on Palomino Circle, Desert View Drive, and Ridgegate. Homes that border the Soledad Natural Park will also be severely threatened.

Tactical and Strategical Considerations

It is imperative, under these conditions, that a very strong and aggressive air and ground attack take place at the point of origin, stopping the fire at the freeway before it spreads to the steep, fuel-laden slopes. There is no water source near the freeway. Assuming a Vegetation High Wildland Dispatch for the projected conditions, the initial response would be: 5 type 1 engines (structure engines) , 1 truck company, 5 type 3 engines (brush engines), 2 water tenders, 2 battalion chiefs, and Copter 1 if it is in service. The response times would be, on the average, 5 – 7 minutes to get the first of the above listed resource assignment to the scene.

The overall strategical objective would be to confine the fire to an area bordered by I-5 on the east, La Jolla Parkway to the north, Soledad Mountain Road (top of slope) and Via Capri to the west and Pacifica Drive to the south, and prevent spread into the brush-filled canyons on the west and north faces of Mount Soledad. While enroute to the incident, any company that observes considerable smoke shall order Air Attack and Air Tankers immediately via the Fire Communications Center. If the fire is well established upon arrival and running upslope, spotting in front of the main body of fire, or displaying erratic fire behavior, the first in officer shall call for structural protection along Soledad Mountain Road, Ridgegate, Pacifica Drive, and Via Capri. Establish a structure protection group at the Windemere gated community (approximately 285 homes just south of Soledad Cross), as these should be some of the first homes threatened. Within this community are several large stands of Eucalyptus trees, which could ignite early from spotting, and, if ignited, would pose additional spotting problems and threaten adjacent homes.

Tactically, consider branching the fire into three branches. BRANCH I, the south flank; BRANCH II, at the top of Mount Soledad Road; and BRANCH III, the north flank. The flanking operations will hopefully prevent the north and south spread, which would threaten many additional homes. Allow the Branch Directors to establish Divisions within their Branches and order the appropriate resources. If northeast winds are present, expect an active southern flank due to the relative geographical location to the winds.

Suggested Initial Attack Plan:

1. Quickly evaluate the fire's potential and direction of spread and assess the incident needs. Request a second and third alarm as required.
2. Anchor the fire at the point of origin, and establish Division Z on the north side of the anchor and Division A on the south side of the anchor point. Allow other divisions to be identified from those locations. Utilize the Type 3 apparatus to work the flanks with progressive hose lays and water tenders to support the Type 3 engines.

3. If necessary, request the closure of I-5 from Gilman to Balboa, Highway 52 from Regents to the I-5 overpass, and La Jolla Parkway exit off I-5 north up to Hidden Valley drive for personnel safety and apparatus access.
4. Based on the location and direction of fire spread, direct the four Type 1 engines and two trucks to the area that will be impacted by the fire initially. This location most likely will be the Windemere Gated Community (Windemere Structure Group).
5. Utilize Copter 1 to make water drops on the most active flank or in the area where homes are most threatened. Copter 1 can provide valuable intel on the fire activity via aerial surveillance, but Able should be requested to perform that function.
6. Branch III should start at Division Z and meander north around Mount Soledad to include Via Capri to the intersection of La Jolla Scenic South and Soledad Mountain Road. Branch II begins at that point and extends to Pacifica Drive. Branch I starts at that point and extends to Bluffside Avenue back north to Division A.
7. The two Battalion Chiefs on the initial response should coordinate with each other, and one respond to the top to the identified Command Post location and assume Mount Soledad IC. The other should respond to the bottom at the point of origin and direct operations and assume Branch III Director.
8. If conditions allow, a lookout should be posted at the Mt. Soledad Cross. This will allow for a high level observation point that can relay fire activity to the IC.
9. Incoming resources should access the incident via Soledad Mountain Road off Garnet (TB 1248 C5) or Hidden Valley Road and Via Capri off La Jolla Parkway (TB 1227 H6). If these routes are unsafe due to incident conditions, utilize Cardeno drive or Nautilus Street. The streets on the north and west of Mount Soledad are narrow and windy which may impact a quick response.
10. In addition to the Windemere Structure Group, it may be necessary to establish a second structure protection group that can remain mobile for Branch II and III.
11. Management positions to be filled as additional Battalion Chiefs and Staff Officers arrive.

Projected Required Resources

1. Six Type 1 (Structure Engine) Strike Teams for structure protection (30 Engines)
2. Two Type 3 (Brush Engines) Strike Teams to support hose lays/hand crews from the bottom (10 Engines)
3. Four Type 3 (Brush Engines) Strike Teams for spot fires to the west (20 engines)
3. Eight Type 1 Handcrews (6 at the bottom and two at the top)
4. Four water tenders at the bottom
5. Air Support
    a. Air Attack
    b. (2) Air Tankers
    c. (2) Type 2 Helicopters
    d. (1) Type 3 Helicopter for Reconnaissance
6. Operations Deputy Chief, Operations Division Chief, 6-8 Battalion Chiefs (internal Incident Management Team if developed)
7. Activate the Department Operations Center (DOC); notify the Fire Chief, City Manager, District Councilperson, and the Mayor.

Utilize the reconnaissance helicopter to check for spotting to the west. If spot fires are occurring, utilize resources at scene initially and request four Type 3 Strike Teams (mutual aid) to work this area. There are many narrow streets, exacerbated by parked vehicles, and long driveways that are difficult or impossible to access by Type 1 apparatus. In addition, there are many areas that have heavy canopies over the surface streets that can be extremely dangerous, and there are a significant number of structures with shake shingles roofs.

Evacuations and Resource Arrival

Command can anticipate the evacuation by the residents of the area in privately owned vehicles. The two main routes for evacuation will be Via Capri and Soledad Mountain Road. Secondary evacuation arteries most likely will be Foothill Boulevard and Nautilus. Access to the fire scene by fire resources will be adversely impacted and delayed by these evacuations. It will be very smoky and this will elevate the danger. This delay can result in a greater loss of property. As soon as it becomes evident that evacuation may be needed, consider requesting a command officer from the Police Department to work with a Fire Operations Section Chief to coordinate

evacuations by police officers. Establish media advisory link to assist with evacuation. A significant number of streets will have to be closed to incoming traffic and this will require strict coordination with SDPD.

Suggested Evacuation Plan:

1. Utilize SDPD to close incoming traffic on Hidden Valley Road at La Jolla Parkway (TB 1227 H6); Soledad Mountain Road at Beryl (TB 1248 B4); Pico at Felspar (TB 1248 C5); Soledad Road at Parkview (TB 1248 A3); Cardeno Drive at Alta La Jolla Drive (TB 1247 J3); Nautilus Street at Muirlands Drive (TB 1247 G1); La Jolla Scenic at El Camino Del Teatro (TB 1247 H2); all side streets off Torrey Pines Road north of Exchange Place to Hidden Valley Road
2. Citizens evacuating the area should utilize these main corridors and be directed by the PD.

Command Post and Staging locations:

A good location for the Command Post would be the 6500 block of Soledad Mountain Road, at the intersection of La Jolla Scenic South. (If the smoke conditions hamper effective command or it becomes apparent the incident is going additional logistical support, then the IC should consider Station 9 as an alternate Command Post). On the northeast corner is a Presbyterian Church with a large parking lot. Staging should be located just across Soledad Mountain Road to the southwest at the Springall Academy School. This area has a large parking lot and a large playing field that could accommodate many apparatus or land helicopters. An alternative staging area for the IC to consider is Nautilus Street near Muirlands Middle School. Soledad Cross Park (at the very top of Mount Soledad) could be used early as an observation point before aircraft arrive. Furthermore, this area could be easily and quickly closed to the public and used as a water filling station for helicopter support, as a 100 psi hydrant is located next to a large, flat parking lot. This would allow helicopters to fill without having to drop to a lower elevation.

Safety Zones

All personnel are reminded that escape routes and safety zones need to be identified based on incident conditions. This will be a function of the incident safety officer to identify these locations and communicate them to the Branch Director. A good safety zone for Branch I and II would be the Decatur Elementary School (TB 1247 J1). However, this may not work for units located on the far south flank of Branch I or the far north units on Branch III. Kate Sessions park may be a better location for Branch I units (TB 1248 A3). Branch III units could pull back to La Jolla Parkway and Hidden Valley.

Probability of Success

If the fire jumps Soledad Mountain Road or Via Capri, the probability of an early successful containment diminishes rapidly. Structural loss will be extreme and danger to firefighters and civilians will be very high.

TABLE 1: FUEL MODELS						
Fuel model	Typical complex	Fuel loading (ton/ac)				Fuel bed depth (ft)
		1 hr	10 hr	100 hr	Live	
1	Short (1 ft) grass	0.74				1.0
2	Timber	2.00	1.00	0.50	0.50	1.0
3	Tall (>2.5 ft) grass	3.01				2.5
4	**Chapparral (6 ft)**	**5.01**	**4.01**	**2.00**	**5.01**	**6.0**
5	**Brush (2 ft)**	**1.00**	**0.50**		**2.00**	**2.0**
6	Dormant brush, hardwood slash	1.50	2.50	2.00		2.5
7	Southern rough	1.13	1.87	1.50	0.37	2.5
8	Closed timber litter	1.50	1.00	2.50		.2
9	Hardwood litter	2.92	0.41	0.15		.2
10	Timber (litter and understory)	3.01	2.00	5.01	2.00	1.0
11	Light logging slash	1.50	4.51	5.51		1.0
12	Medium logging slash	4.01	14.03	16.53		2.3
13	Heavy logging slash	7.01	23.04	28.05		3.0

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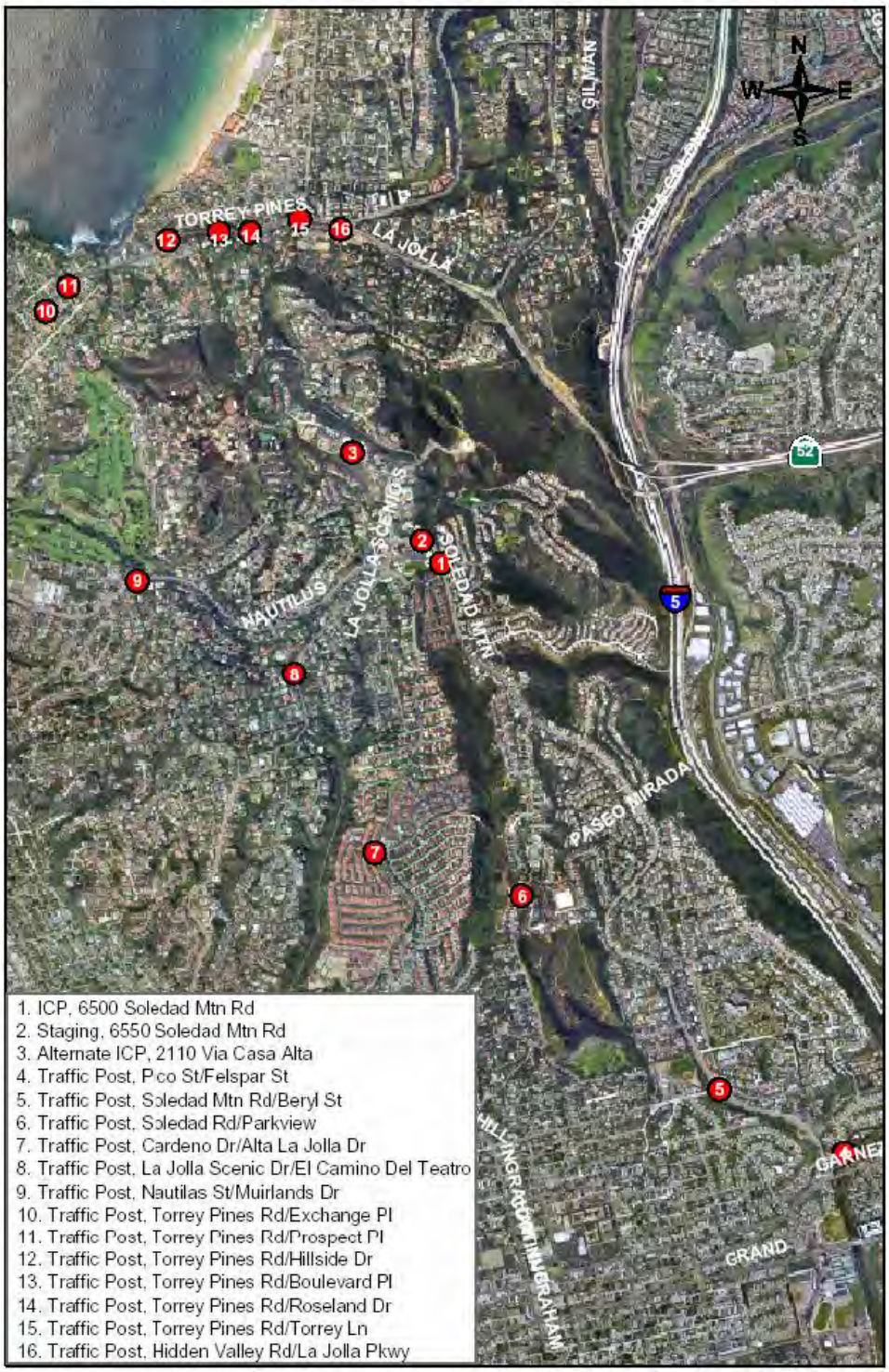

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0 0.2 0.4 0.8 Miles