



January 14, 2010

TO: Christopher Stone 
FROM: Patricia Wood 
Facilities Section
Water Resources Division

**STATION FIRE
BURNED AREA BRIEF**

The Station Fire started on August 26, 2009, and was contained on October 16, 2009. The fire burned 161,189 acres, primarily in the Angeles National Forest. This brief discusses, in general, potential debris flow impacts to County flood control facilities and residences within or below the burned area.

Summary of Potential Sediment Impact

The Station Fire burned area, which spread across numerous Debris Production Areas (DPA), is subdivided into 74 subarea watersheds (see Attachment A for the Burned Area Maps). During a design storm event (a 50-year frequency rainfall), debris flow from the burned canyons may impact several debris basins/debris retaining inlets, and flood control channels that are under the purview of the Los Angeles County Flood Control District (LACFCD) and are maintained by Flood Maintenance Division (FMD). As discussed with Water Resources Division's (WRD) Dams and Operations Sections, debris flow from the burned hillsides will deposit into several reservoirs. Debris flows from the burned canyons may also impact numerous underlying culverts along roads, which are maintained by Road Maintenance Division (RMD). Several roads and debris retaining facilities, maintained by the United States Forest Service (USFS), Army Corps of Engineers (ACOE), and Caltrans, may also be subject to flooding and debris flows.

Detailed descriptions of potential sediment impacts are contained in Attachment B.

Attachments

- A. Burned Area Maps
- B. Description of Burn and Potential Sediment Impact
- C. Mudflow Phase Maps:
 - Attachment C-1, Phase 1 Map
 - Attachment C-2, Phase 2 Map
 - Attachment C-3, Phase 3 Map

Debris Flow Phase Maps

The phase maps for the fire are found in Attachment C. The phase maps (Phases 1, 2, and 3) identify the critical locations of potential debris flow impacts below the burned area for varying storm magnitudes. These maps are prepared when potential debris flows pose a major impact to homes, roadways, flood control facilities, or other public infrastructure. These maps and the Burned Area Brief, when approved, can be accessed through the internet at <http://www.dpw.lacounty.gov/wrd/fire>. The phase maps have been provided to FMD, RMD, and affected emergency response agencies. WRD will post debris and debris flow potential forecasts on the internet at the aforementioned site for each forecasted significant storm event throughout this storm season and the four subsequent storm seasons.

Coordination

On September 2, 2009, WRD staff conducted a field reconnaissance of the burned area looking for residences and/or County facilities that could be potentially impacted by debris flow during storms. In coordination with staff from the Cities of Glendale, La Canada Flintridge, and Los Angeles; WRD staff provided or offered engineering advice to 460 residences in numerous foothill communities that may potentially be impacted by debris flows during storm events.

A Burned Area Emergency Recovery (BAER) team was organized by the USFS in the wake of the fire. On September 16, 2009, the BAER team met with representatives from the Natural Resources Conservation Service (NRCS), United States Geological Survey (USGS), National Weather Service (NOAA), ACOE, the State Office of Emergency Services, the State Department of Fish and Game, Caltrans, CalFire, Public Works (WRD and RMD), Los Angeles County Sheriff, Los Angeles County Fire Department, City of Los Angeles Police and Fire Departments, Cities of La Canada Flintridge, Glendale, Pasadena, and Los Angeles, Metropolitan Water District, Southern California Edison, and Southern California Gas Company. The BAER team's findings and recommendations can be found at www.fs.fed.us/r5/angeles/. One result of the BAER team meeting was the formation of joint interagency information and public outreach program known as the Coordinated Agency Recovery Effort (C.A.R.E.). In addition to Public Works, the agencies participating in C.A.R.E. comprise of the USFS, USGS, NOAA, NRCS, Caltrans, County Office of Emergency Services, and County Fire and Sherriff Departments.

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If you have any questions regarding this fire report, please contact Michael Miranda at Extension 6164.

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Attach.

cc: Disaster Services (Bui)
Flood Maintenance (Lee, Vander Vis)
Road Maintenance (Lehman, Caddick, Diotalevi)
Water Resources (Lilley, Walden, Wood)

ATTACHMENT A

BURNED AREA MAPS

KEY MAP

- ATTACHMENT A-1 (EAST LA CANADA FLINTRIDGE)**
- ATTACHMENT A-2 (WEST LA CANADA FLINTRIDGE)**
- ATTACHMENT A-3 (GLENDALE/LA CRESCENTA)**
- ATTACHMENT A-4 (LOWER BIG TUJUNGA/SUNLAND)**
- ATTACHMENT A-5 (PACOIMA CANYON)**
- ATTACHMENT A-6 (SOLEDAD CANYON)**
- ATTACHMENT A-7 (ALISO CANYON)**
- ATTACHMENT A-8 (LITTLE ROCK CREEK)**
- ATTACHMENT A-9 (UPPER BIG TUJUNGA CANYON)**
- ATTACHMENT A-10 (COGSWELL RESERVOIR)**
- ATTACHMENT A-11 (EATON CANYON)**
- ATTACHMENT A-12 (ARROYO SECO CANYON)**

ATTACHMENT B

DESCRIPTION OF BURN AND POTENTIAL SEDIMENT IMPACT

ATTACHMENT B

STATION FIRE DESCRIPTION OF BURN AND POTENTIAL SEDIMENT IMPACT

Fire Name: Station Fire
Date of Fire: August 26, 2009
Burned Area: 161,189 acres
Location: From Pacoima Canyon to Mt. Waterman, and from Soledad Canyon to La Canada Flintridge (approximately 250 square miles). Thomas Guide pages 504, 505, 507, 4464, 4466, 4467, 4643, 4645, and 4647. The burned area boundary is plotted on the map in Attachment A.

Vegetation Types before Burn

Chaparral Communities, Chamise and Mixed Chaparral, Sage Scrub, Desert Scrub, Coniferous Forest, and Oak and Riparian Woodlands

Improvements Damaged

As a result of the Station Fire, 209 structures were destroyed, including 89 residences, 26 commercial structures, and 94 outbuildings in the communities of Altadena, La Canada Flintridge, La Crescenta, Glendale, Sunland, Tujunga, Acton, and Little Rock.

Fire History

The Station Fire (161,189 acres) has surpassed the size of all other fires, which have occurred in Los Angeles County. Previously, the largest fire in the County's history was the Ravenna Fire at 79,440 acres. The Ravenna Fire occurred in October 1919 and also burned across the Angeles National Forest.

The Pickens Canyon Fire, which occurred on November 22, 1933, and consumed 49,200 acres of the Angeles National Forest, was devastating because of the destructive debris flow which happened during the storm of December 31, 1933-January 1, 1934 over the burned watershed. The debris flow from the burned hillsides flowed into the communities of La Crescenta and Montrose, resulting in the death of more than 45 people and the destruction of about 200 homes. This disaster led to the construction in the canyons above the community of the first debris basins in the County.

In November of 1975, the Mill Fire burned 49,200 acres above the communities of La Canada Flintridge and La Crescenta. The February 1978 storm over the burned watershed caused another disastrous debris flow for residences in La Canada Flintridge

and La Crescenta. The event led to revisions in the LACFCD's debris basin design standards and the enlargement of the Shields Upper Debris Basin.

Potential Sediment Impact Below/Within Burned Area

The Debris Production Zones (DPA) within the Station Fire burned area range from high debris production (DPA-1) to low debris production (DPA-8). The Station Fire is subdivided into 74 subarea watersheds as shown in Attachment A.

Dams and Reservoirs

The Station Fire impacted five of the LACFCD's Dams and Reservoirs.

1. Big Tujunga Reservoir

The fire burned almost the entire watershed of the facility. The adjusted debris production potential of the watershed (using a 50-year frequency rainfall) is approximately 6.6 million cubic yards. This amount is approximately 71 percent of the available post-fire capacity of the reservoir.

2. Devil's Gate Dam (Arroyo Seco Canyon)

The fire burned almost the entire watershed of the facility. The adjusted debris production potential of the watershed (using a 50-year frequency rainfall) is approximately 2 million cubic yards. This amount is approximately 24 percent of the available post-fire capacity of the reservoir.

3. Cogswell Reservoir

The fire burned almost the entire watershed of the facility. The adjusted debris production potential of the watershed (using a 50-year frequency rainfall) is approximately 3.2 million cubic yards. This amount is approximately 18 percent of the available post-fire capacity of the reservoir.

4. Pacoima Reservoir

The fire burned a majority of the facility's watershed. The watershed was also impacted by the Marek and Sayre Fires in 2008. The adjusted debris production potential of the watershed (using a 50-year frequency rainfall) is now approximately 2.2 million cubic yards. This amount is approximately 44 percent of the available post-fire capacity of the reservoir.

5. Eaton Canyon and Reservoir

The fire burned approximately 13 percent of the facility's watershed. The adjusted debris production potential of the burned portion of the watershed is approximately 89,000 cubic yards. This amount is approximately 8 percent of the available post-fire capacity of the reservoir.

Burned watershed debris depositing in the reservoirs could significantly impact the outlet works of the dams and the flood and water conservation storage capacities of the reservoirs.

Debris Basins and DRIs

Approximately 31 debris basins and debris retaining inlets (DRI) were impacted by the Station Fire. FMD will over the next four to five years monitor these facilities and clean them out as necessary.

Roads/Culverts

RMD will monitor debris impacts on County-maintained roads, streets, and culverts below the burned hillsides during the next 4 to 5 years and remove debris as necessary.

Evacuations

Evacuations of potentially impacted properties are under the purview of local law enforcement.

Engineering Advice

Public Works reviewed potential impacts to 642 residences below the burned canyons and hillsides. Engineering advice offers of advice were provided to 460 residents in the communities of La Canada Flintridge, La Crescenta, Glendale, Los Angeles, Big and Little Tujunga Canyons, Soledad Canyon, Acton, and Aliso Canyon.

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ATTACHMENT C

PHASE MAPS

C-1 (LA CANADA FLINTRIDGE)

C-2 (LA CRESCENTA)

C-3 (GLENDALE)

C-4 (CITY OF LA-1)

C-5 (CITY OF LA-2)

C-6 (CITY OF LA-3)

C-7 (CITY OF LA-4)

C-8 (ACTON/SOLEDAD)

C-9 (ALISO CANYON)