

Approved 
Christopher Stone

March 21, 2017

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

FISH FIRE – BURNED AREA REPORT

The Fish Fire started on June 20, 2016, and was contained on June 24, 2016. The fire burned approximately 5,302 acres, primarily in the Angeles National Forest and the Cities of Azusa and Duarte. This report focuses on potential debris flow impacts to County flood control facilities and residences within or below the burned area.

Summary of Potential Sediment Impact

In June 2016, Water Resources Division's (WRD) staff conducted a field reconnaissance of the burned area to determine the residences and/or County-owned/maintained facilities that could potentially be impacted by flooding/debris flows during storm events.

The Fish Fire burned area is subdivided into 34 subarea watersheds across one Debris Production Area Zone 1 (DPA 1) (see Attachment A for the Burned Area Maps). During storm events, debris flows from the burned area may impact:

- Debris basins and inlets under the purview of the Los Angeles County Flood Control District (District) and maintained by Flood Maintenance Division (FMD): Bradbury, Spinks, Maddock, Crestview, and Las Lomas Debris Basins and Cedarwood Debris Retaining Inlet.
- Debris basins and inlet under the purview of the City of Duarte: Starpine Debris Basin, a debris basin near the north end of Tocino Drive, and a debris retaining inlet at the north end of Greenbank Avenue.
- Streets within the boundaries of the City of Duarte: Greenbank Avenue, Deerland Drive, Mel Canyon Road, Brookridge Road, and Mountain Crest Road, which are maintained by the City of Duarte.
- Valley View Elementary School, Duarte Unified School District.
- Fish Canyon Road, which is maintained by the City of Azusa.

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

Debris Flow Phase Map and Debris Flow Forecasts

The Debris Flow Phase Map for the Fish Fire is provided as Attachment C. The Phase Map (for Phases 1, 2, and 3) identifies the critical locations of potential debris flow hazards below the burned area for varying storm magnitudes. Debris Flow Phase Maps are prepared when potential debris flows pose a severe threat to residences, roadways, flood protection facilities, or other public infrastructure. WRD will prepare and post Debris Flow Potential Forecasts on the internet on Public Works' website for each forecasted significant storm event throughout the storm season for the next 4 to 5 years of burned area recovery. The approved Burned Area Report, Burned Area Map, Debris Flow Phase Map, and all future debris flow potential forecasts will be posted on the internet at <http://www.dpw.lacounty.gov/wrd/fire> for the next 5 years.

Debris Flow Mitigation Measures

The watersheds of Maddock, Crestview, and Las Lomas Debris Basins and Cedarwood Debris Retaining Inlet in the vicinity of the fire area are more than 20 percent burned. The cleanout threshold for these facilities should be reduced to five percent full during the next 5 years of post-fire recovery in the fire area. FMD field staff reviewed the flood protection facilities in the fire area in August 2016 and found all debris basins were under five percent full. The watershed of Spinks Debris Basin is less than 20 percent burned. The cleanout threshold for Spinks Debris Basin should remain at 25 percent full. It is FMD's established post-fire routine to monitor its facilities in fire areas for debris inflow during storms and clean out the facilities as necessary. The monitoring and as-needed cleanouts are expected to last the next 4 to 5 years until the burned area has significantly recovered from the burn.

Outreach

Local Property Owners/Managers

Between June 30 and July 27, 2016, WRD staff went into the potentially affected neighborhoods and offered advice to 56 properties. WRD visited each property and discussed protective measures with those who were home. At properties where no one was present, WRD left a mudflow information packet with a contact number in clear view at their door. A list of residences visited and a summary of all advice given is provided in Attachment D.

Other outreach activities are described in Attachment E.

Christopher Stone
March 21, 2017
Page 3

Attachments

- A. Burned Area Maps:
 - Sheet 1 of 3, Fish Fire Burned Area
 - Sheet 2 of 3, City of Duarte Area
 - Sheet 3 of 3, City of Azusa Area
- B. Description of Burn and Potential Debris Impacts
- C. Debris Flow Phase Maps:
 - Sheet 1 of 2, City of Duarte Area
 - Sheet 2 of 2, City of Azusa Area
- D. Residences Visited for Engineering Advice
- E. Outreach Activities

If you have any questions regarding this report, please contact Gary Guo at Extension 6342.

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Attach.

cc: Disaster Services (Doudar, Eazell)
Flood Maintenance (Kumar, Sheridan)
Water Resources (Klippel, Wood)

ATTACHMENT B

**DESCRIPTION OF BURN AND
POTENTIAL DEBRIS IMPACTS**

ATTACHMENT B

FISH FIRE DESCRIPTION OF BURN AND POTENTIAL DEBRIS IMPACTS

Fire Name: Fish Fire
Date of Fire: June 20, 2016
Burned Area: 5,302 acres
Location: The fire occurred on the hillsides and canyons in the San Gabriel Mountains and Angeles National Forest above the Cities of Azusa, Bradbury, and Duarte. The burned area is entirely within the boundaries of the Los Angeles County Flood Control District (District). The burned area boundary is delineated in Attachment A. (Thomas Guide, pages 507 and 568)

Vegetation Type before Burn

Chaparral, coastal sage scrub, brush, and short grass.

Fire History

Water Resources Division's (WRD's) fire history records indicate there have been several fires that previously occurred in the same area as the Fish Fire.

Fire	Total Area Burned (AC)	Overlap with Fish Fire (AC)
2013 Madre	188	102
2013 Shooting	40	2
1980 Stable	6,520	2,787
1976 Gun Club	125	15
1975 Starpine	110	109
1974 Valleyview	9	7

Summary of Potential Post-fire Debris Flow Impacts

The Fish Fire burned approximately 5,302 acres of south facing slopes of the San Gabriel Mountains and the Angeles National Forest above the Cities of Azusa, Bradbury, and Duarte. The burn area is divided into 34 subarea watersheds across one Debris Production Area Zone (DPA 1). WRD staff offered/provided engineering advice to 56 properties identified as potentially impacted by post-fire debris flows in or below Subareas 1 through 34. The debris volumes noted herein are those resulting from a moderate to severe storm event.

The following public/community facilities are potentially impacted by post-fire debris flows:

Bradbury Debris Basin – The watershed of Subarea 1 drains to the District's Bradbury Debris Basin. During moderate to severe storms, the debris basin's watershed could produce an adjusted debris volume potential of 60,000 cubic yards (cy). The debris basin's capacity is 90,000 cy. Therefore, the debris basin can retain the full adjusted debris potential.

Spinks Debris Basin – The watershed of Subarea 2 drains to the District's Spinks Debris Basin. During moderate to severe storms, the debris basin's watershed could produce an adjusted debris volume potential of 32,800 cy. The debris basin's capacity is 56,000 cy. Therefore, the debris basin can retain the full adjusted debris potential.

Maddock Debris Basin – The watershed of Subarea 3 drains to the District's Maddock Debris Basin. During moderate to severe storms, the debris basin's watershed could produce an adjusted debris volume potential of 35,700 cy. The debris basin's capacity is 45,000 cy. Therefore, the debris basin can retain the full adjusted debris potential.

Crestview Debris Basin – The watershed of Subarea 4 drains to the District's Crestview Debris Basin. During moderate to severe storms, the debris basin's watershed could produce an adjusted debris volume potential of 5,100 cy. The debris basin's capacity is 5,900 cy. Therefore, the debris basin can retain the full adjusted debris potential.

Cedarwood Debris Retaining Inlet – The watershed of Subarea 5 drains to the District's Cedarwood Debris Retaining Inlet. During moderate to severe storms, the debris retaining inlet's watershed could produce an adjusted debris volume potential of 1,480 cy. The debris retaining inlet's capacity is 1,800 cy. Therefore, the debris retaining inlet can retain the full adjusted debris potential.

Las Lomas Debris Basin – The watershed of Subarea 7 drains to the District's Las Lomas Debris Basin. During moderate to severe storms, the debris basin's watershed could produce an adjusted debris volume potential of 17,400 cy. The debris basin's capacity is 17,900 cy. Therefore, the debris basin can retain the full adjusted debris potential.

Greenbank Avenue – The watershed at Subarea 10 drains to a debris inlet maintained by the City of Duarte. During moderate to severe storms, an adjusted debris volume potential of 4,400 cy from Subarea 10 may be produced. A portion of this debris potential may reach Greenbank Avenue, which is maintained by the City of Duarte and deposit on the road.

Valley View Elementary School, Brookridge Road, Mel Canyon Road, and Deerlane Drive – During moderate to severe storms, a debris volume potential of 260 cy, 340 cy, and 21,200 cy from Subareas 12, 13, and 14, respectively may be

produced. This debris is anticipated to settle through various locations of Valley View Elementary School and may reach and deposit on portions of Mel Canyon Road, Brookridge Road, and Deerlane Drive. These streets are maintained by the City of Duarte.

Mountain Crest Road – During moderate to severe storms, a debris volume potential of 2,400 cy from Subareas 15 may be produced. It is anticipated this debris may reach portions of Mountain Crest Road, which is maintained by the City of Duarte.

Fish Canyon Road – During moderate to severe storms, a debris volume potential of 192,000 cy from Subarea 28 may be produced. A portion of this debris potential may travel down Van Tassel Canyon and reach and deposit on Fish Canyon Road, which is maintained by the City of Azusa. A debris volume potential of 12,900 cy from Subarea 31 may be produced. A portion of this debris potential may reach Fish Canyon Road and deposit on the road.

P:\wrd\FACILITIES\FIRES\2016 Fire\Fish Fire\BAR\Attachment B - Fish Fire Description of Burn and Potential Debris Impact.docx

ATTACHMENT E
OUTREACH ACTIVITIES

ATTACHMENT E

OUTREACH ACTIVITIES

Natural Resources Conservation Service

On July 11, 2016, WRD toured the Duarte area along with the staff from the Natural Resources Conservation Service (NRCS), the City of Duarte, and the Duarte Unified School District to discuss debris mitigation measures and k-rail placement. The NRCS provided assistance to the City and School District under its Emergency Watershed Protection Program.

City of Duarte

On July 19, 2016, WRD staff attended a meeting with the staff of the City of Duarte. The following items were discussed:

- Potential post-fire debris flow impacts to residents, schedule of community meetings informing residents of debris flow impacts and protection measures, and WRD's follow-up with debris flow impact analysis products for the City's storm season preparedness.
- District's use of its Maddock Sediment Placement Site for placement of debris cleaned out of the fire area debris basins.
- Collaboration among the City, the NRCS, and the District on placing k-rails in streets to protect homes.
- Restoration of two debris mitigation structures located within the watershed above Mel Canyon Road.

On August 17, 2016, WRD staff attended a meeting with staff from the City of Duarte and Duarte Unified School District regarding the protection of Valley View Elementary School during debris flow events. K-rail locations and plans to protect the school site were discussed in the meeting.

On September 6, 2016, WRD staff participated in a community meeting held by the City of Duarte for fire area residents. The following items were discussed:

- Potential post-fire debris amounts and impacts, engineering advice the District provided to residents, and the debris flow phase forecasts the District will provide during the storm season.

- District debris basins and the SPSs that would be serving the facilities in Bradbury and Duarte.
- District's coordination with the City and the NRCS in developing k-rail placement locations to mitigate debris impacts to neighborhoods in eastern Duarte.

City of Bradbury

On August 3, 2016, WRD staff met with City of Bradbury staff to apprise them of potential post-fire debris impacts and the use of the District's Spinks Sediment Placement Site for cleanouts of Bradbury and Spinks Debris Basins.

City of Azusa

On September 12, 2016, WRD met with City of Azusa staff to go over potential post-fire debris flow impacts and storm season emergency protocols.

On September 21, 2016, WRD attended a community meeting held by the City of Azusa and gave a presentation about debris flow impacts, protection measures, debris flow phase maps, and the County's eNotify System to apprise residents of Debris Flow forecasts.

Los Angeles County Office of Emergency Management:

On October 13, 2016, WRD staff attended Los Angeles County Office of Emergency Management's multiagency meeting with first responders to go over potential post-fire impacts and storm season emergency protocols.