

March 3, 2009

*OK! HANDLES PHK*

TO: Rod H. Kubomoto

FROM: Patricia Wood *P.W.*  
Facilities Section

**SAYRE FIRE  
BURNED AREA REPORT  
FILE NO. 2-11.40**

The Sayre Fire occurred on November 14 to 20, 2008, and burned a total of 11,262 acres, all of which were within the Los Angeles County Flood Control District boundary. The majority of the burned area is in the Angeles National Forest.

Recommendations

1. Authorize us, by copy of this report, to provide confirmation to the following:
  - a) Flood Maintenance Division (FMD) of the potential sediment impacts to all storm drains and debris retention facilities maintained by Public Works within/below the burned area including Pacoima Reservoir, May No. 1, May No. 2, Wilson, Schoolhouse, Hog, Sombrero, and Stetson Debris Basins. As discussed with FMD staff, FMD will monitor these facilities for postfire sediment impacts during storms and clean out these facilities in accordance with established criteria and within environmental regulatory requirements. The monitoring should continue for the next four to five years until the watershed has significantly recovered from the burn.
  - b) Road Maintenance Division (RMD) of the potential sediment impacts to all roads and culverts maintained by Public Works within/below the burned area. It is our understanding from RMD that its established maintenance routines already incorporate monitoring for postfire sediment impacts during storms and cleaning out these facilities in accordance with established criteria.
  - c) Construction Division (CON) of the potential sediment impacts to the improved soft-bottom channel (PD 1846 and PD 2089, untransferred facilities) along Newhall Creek. It is recommended that CON notify the affected developer(s) or owner(s) of the drains of the potential impacts so they can provide mitigation measures as necessary and monitor and clean their facilities. The monitoring should continue for the next four to five years until the watershed has significantly recovered from the burn.

*AS*

2. Authorize us to send copies of this report to the following entities apprising them of the potential impacts of the burn and recommended measures:
  - Supervisor Michael D. Antonovich's Office
  - Supervisor Zev Yaroslavsky's Office
  - U.S. Representative Brad Sherman's Office
  - U.S. Representative Howard "Buck" McKeon's Office
  - State Senator Alex Padilla's Office
  - State Senator George Runner's Office
  - State Assembly Member Felipe Fuente's Office
  - State Assembly Member Cameron Smyth's Office
  - U.S. Forest Service, Angeles National Forest
  - Natural Resources Conservation Service (NRCS)
  - California Department of Water Resources
  - California Department of Transportation (Caltrans)
  - Mountains Recreation Conservation Authority
  - County of Los Angeles Fire Department
  - Olive View/UCLA Medical Center
  - City of Los Angeles Fire Department
  - City of Santa Clarita Public Works
  - Southern California Edison

#### Attachments

- A. Burned Area Map
- 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

#### Summary of Potential Sediment Impact

The Sayre Fire, which started on November 14, 2008, burned approximately 11,262 acres in the City of Los Angeles, unincorporated area of Los Angeles County, and in the Angeles National Forest. The burned area (see Attachment A) is divided into a total of 63 subarea watersheds and several Debris Producing Areas (DPA Zones 1, 2, 3, and 6) lie within the area. Portions of the burned area were previously burned by the

2004 Foothill Fire. The detailed evaluation of potential mudflow impacts to facilities and residences in this report concentrates on County facilities and residences in unincorporated areas. Evaluation of impacts to non-County facilities and residents within the incorporated limits of the Cities of Los Angeles and Santa Clarita are under the Cities' purview.

During a major storm, sediment flows from the burned hillsides and canyons above Olive View/UCLA Medical Center (OVMC) could potentially subject a few housing buildings on the campus to mudflow impact and deposit sediment in parking areas and the pads of the burned buildings within the hospital compound adjacent to the burned hillsides/canyons. Staff from Water Resources Division (WRD) met with staff from Project Management Division I (PMD I) and OVMC's Facilities Department to discuss the potential impacts. WRD provided advice on postfire mudflow protection measures to the Director of the OVMC facilities. PMD I is still working with OVMC to implement the measures and obtain Federal financial assistance for them.

Increased sediment inflow is anticipated at Pacoima Dam and Reservoir, May Sediment Placement Site (SPS), several debris basins (Hog, May No. 1, May No. 2, Schoolhouse, Sombrero, Stetson, and Wilson), debris retaining inlets, and storm drain inlets in the Sylmar area. FMD and WRD staff reviewed these facilities and discussed the potential impacts. FMD performed immediate cleanouts of Sombrero and Stetson Debris Basins, implemented mudflow protection measures in May SPS, and at Pacoima Dam and Reservoir initiated evaluation of repairs to damaged debris protection structures along the access road to the dam and installed additional mudflow protection measures at the dam facility. FMD will monitor the debris basins, inlets, SPS, and facility access roads during storms and clean them when necessary. FMD and WRD will coordinate in monitoring sediment deposition at the dam's outlet works.

Sierra Highway, including its road drains below the burned area, may be subject to potential flooding/mudflow and deposition during storms causing possible periodic closure to traffic. The road and its drains are maintained by Public Works. RMD (MD5) was apprised of the potential impacts. It is our understanding from RMD that its maintenance routine for the road already incorporates monitoring of the roads and its drains during storms for debris deposition and cleaning them when needed.

There is an improved soft-bottom channel along Newhall Creek next to developed properties near the intersection of San Fernando Road and Valle Del Oro Street in the City of Santa Clarita. This channel may be subject to heavy debris flow. During heavy rains, flow in the channel may overflow and potentially impact the adjacent developed properties. This channel is comprised of two privately built drains (PD 1846 and PD 2089) that have not been transferred to Public Works. WRD staff apprised CON of the potential impacts and the need to inform the developer(s) or owner(s) of the channel

of the potential impact and the need to monitor these facilities closely throughout the storm season and clean them as needed for the next five years of the burned watershed's recovery.

It is anticipated that during storms, there will be potential mudflow impacts to the City of Los Angeles's debris basins/debris retaining inlet facilities, drainage devices/inlets to storm drains, and potential debris deposition on the City streets below the debris control facilities. Evaluation of these impacts is under the City's purview. It is our understanding City personnel are evaluating and monitoring these facilities.

It is also anticipated there will be mudflow impacts to Caltrans freeway facilities, including culvert inlets below the burned hillsides on the east side of Antelope Valley Freeway (I-14). WRD staff informed Tom Cowan, Caltrans's Maintenance Superintendent for the area, of the potential mudflow impact to the freeway facilities and suggested Caltrans personnel monitor the drains below the burn for potential plugging during storms.

The crossing and culvert (non-Public Works structure) over Newhall Creek at the entrance driveway to the Polynesian Trailer Park at 23450 San Fernando Road in the City of Santa Clarita may be subject to potential heavy debris flow. The Polynesian Trailer Park constructed the crossing and culvert following the 2005 storms that inundated and damaged the former crossing at that location. The crossing and culvert are not under the purview of Public Works, so the structure's design storm flow capacity is not known to Public Works. Monitoring of the crossing and culvert during storms is under the purview of the Polynesian Trailer Park management.

WRD staff provided postburn mudflow protection advice to the potentially impacted unincorporated area properties, which are located along the westerly boundary of the burn area. Impacts to properties within the incorporated limits of the City of Los Angeles below the burn area are under the purview of the City.

Details of potential sediment impacts are provided in Attachment B (Description of Burn and Potential Sediment Impact).

The approved Burned Area Report will be posted on the Internet at site <http://www.dpw.lacounty.gov/wrd/fire>.

#### Mudflow Phase Maps

The phase maps for the fire are found in Attachment C. These maps are prepared when potential mudflows pose a major threat to homes, roadways, flood control facilities, or other public infrastructure. The phase maps identify the critical locations

and magnitudes of potential mudflow impacts below the burned areas and are used in conjunction with the mudflow phase forecasts that are prepared prior to and during significant storms. The maps and mudflow phase forecasts can be accessed by emergency response agencies and the public at Public Works' website. The website also provides the means for individuals to sign up for automatic notifications of newly posted mudflow forecasts.

#### Other Interagency Coordination

The U.S. Forest Service formed a Burned Area Emergency Response (BAER) Committee that included the agency, Public Works, Natural Resources Conservation Service (NRCS), CALFIRE, California Department of Fish and Game, California Regional Water Quality Control Board, California Department of Water Resources, Caltrans, County of Los Angeles Fire Department, County Sheriff, City of Los Angeles Fire Department, and the City's Police Department. The BAER Committee met twice in December 2008 to allow participants to provide updates on the various potential postburn impacts to structures, facilities, and habitat, the scope of needed postburn monitoring and protection measures, and progress on their implementation. During these meetings, WRD and RMD informed the Committee of the potential impacts to Public Works' facilities and the measures it is taking. These meetings were also attended by staff from Federal, State, and local elected officials.

Due to the Federal and State Declarations of Disaster for the Sayre Fire, a Burned Area Recovery Team (BART) was formed. The BART was headed by the California Department of Water Resources and also comprised of the NRCS, California Office of Emergency Services, CALFIRE, California Department of Fish and Game, California Regional Water Quality Control Board, Caltrans, and County of Los Angeles Fire Department. The BART field reviewed the fire area and potentially impacted infrastructure, neighborhoods, and habitat. WRD and FMD staff coordinated with the BART in its review of Public Works' flood control facilities. The BART recognized that Public Works' facilities, their number, their good condition, and the postfire measures being taken at them significantly reduced potential hazards to the neighborhoods below the Sayre Fire. On December 11, 2008, the BART held a community meeting to apprise local residents of the scope of potential postfire impacts and recommended postfire measures. At the meeting, FMD provided updates on the measures being undertaken by Public Works in the fire area.

Rod H. Kubomoto  
February 23, 2009  
Page 6

The approved Burned Area Report will be posted on the internet at <http://www.dpw.lacounty.gov/wrd/fire>.

If you have any questions regarding this report, please contact Patricia Wood at 458-6131.

HR/LPS:yg

P:\WRD\General\Facilities\Users\Hans.Sayre Fire\Sayre Fire BAR

Attach.

cc: Diego Cadena  
Patrick DeChellis  
Jacob Williams  
Construction (Adhami)  
Disaster Services (Bui)  
Flood Maintenance (Lee, Van der Vis)  
Project Management (Howard, Moey)  
Road Maintenance (Lehman, Caddick)  
Watershed Management (George)  
Water Resources (Lilley, Walden, Wood, Files)

**ATTACHMENT A**  
**BURNED AREA MAP**

## **ATTACHMENT B**

# **DESCRIPTION OF BURN AND POTENTIAL SEDIMENT IMPACT**

## ATTACHMENT B

### Sayre Fire Description of Burn and Potential Sediment Impact

Fire Name: Sayre Fire  
Date of Fire: November 14 to November 20, 2008  
Burned Area: Approximately 11,262 acres  
Location: Above the Sylmar area in the City of Los Angeles, the burned area boundary is delineated in Attachment A (Thomas Guide pages 481, 482, 4641, and 4642).

#### Vegetation Type Before Burn

Grass  
Chaparral  
Mixed Sage Scrub  
Oak Woodland

#### Improvements Damaged

The Los Angeles County Fire Department reports more than 600 structures were destroyed as a result of this fire including 477 residences, 124 out buildings (more than 40 of them at the County's Olive View/UCLA Medical Center), and 10 commercial buildings. Damaged properties include 23 residences, 6 outbuildings, and 1 commercial building.

#### Fire History

The July 17, 2004, Foothill Fire is the most recent significant fire in the same area. The 6,060-acre Foothill Fire burned area overlapped 20 percent of the Sayre Fire burned area. The Loop Fire on November 1, 1966, and the Newhall Fire on August 28, 1962, are other significant fires which burned in the same area.

#### Potential Sediment Impact Below/Within the Burned Area

The burned area is divided into a total of 63 subarea watersheds (see Attachment A). Several Debris Producing Areas (DPA-1, 2, 3, and 6) lie within the burned area.

#### Subarea 1 □ Pacoima Reservoir Watershed

Subarea 1 comprises the watershed of Pacoima Dam and Reservoir and has an area of 18,048 acres. The subarea was three percent burned and is located on lands owned by the Angeles National Forest, the Los Angeles County Flood Control District (LACFCD),

and privately owned property in unincorporated Los Angeles County area. An additional one percent of the watershed was burned as a result of the October 2008 Marek Fire. The adjusted debris production potential of the watershed as a result of the Sayre and Marek Fires is 1,292,500 cubic yards. The areas burned by the two fires are located along the lower reaches of the reservoir. As a result, during a major storm, approximately 130,000 cubic yards from the burned hillsides could potentially deposit directly into Pacoima Reservoir near the face of the dam. As discussed with Flood Maintenance Division (FMD), FMD will monitor sediment deposition behind the dam after major storms and coordinate with Water Resources Division (WRD) to evaluate potential impacts to the dam's outlet works.

### Subarea 1a

Subarea 1a consists of a series of side canyons below Pacoima Dam with a total area of 227 acres and is located on lands owned by the Angeles National Forest and the LACFCD. The subarea was 100 percent burned creating an adjusted debris production potential of 53,900 cubic yards. During storms, mud and debris flows from the burned hillsides on the west side of Pacoima Canyon may flow onto the northerly portion of Pacoima Canyon Road and into the Pacoima Canyon Wash. During major storms, sediment is anticipated to heavily deposit on Pacoima Canyon Road below Pacoima Dam, and a dip crossing across Pacoima Wash is expected to be inundated. The deposition on the roadway may impede access to the dam. As discussed with FMD, FMD will monitor and clean the roadway as needed to maintain access to the dam.

### Subarea 2

Subarea 2 has an area of 44 acres and is located in the City of Los Angeles and the Angeles National Forest. The subarea was 100 percent burned creating an adjusted debris production potential of 16,500 cubic yards. During storms, mud and debris may flow down and spill into a concrete channel located across the mouth of the burned canyon. The concrete channel is maintained by the City of Los Angeles. The debris in the channel will eventually flow into Pacoima Wash and spread out in the natural channel.

### Subarea 3

Subarea 3 has an area 132 acres and is located in the City of Los Angeles and the Angeles National Forest. The subarea was 100 percent burned creating an adjusted debris production potential of 36,700 cubic yards. During storms, mud and debris may flow down the burned canyon to an inlet which directs flows into a concrete channel at the foot of Subarea 2 watershed. The debris in the channel will eventually flow into Pacoima Wash and spread out in the natural channel.

#### Subarea 4 □ Loop Canyon

Subarea 4 has an area of 699 acres and spans across lands owned by the Angeles National Forest, County of Los Angeles, and privately owned property within the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 131,100 cubic yards. During storms, mud and debris may flow into a debris basin at the mouth of the canyon. The debris basin is maintained by the City of Los Angeles, so the available capacity of the debris basin is not known to Public Works.

#### Subareas 5 and 6

Subareas 5 and 6 have areas of 32 acres and 4 acres, respectively, and are located on Federally owned lands, land owned by the County of Los Angeles, and privately owned property within the City of Los Angeles. The subareas were 100 percent burned creating an adjusted debris production potential of 7,100 cubic yards and 1,000 cubic yards. During storms, mud and debris are expected to flow into what appear to be small debris retaining inlets at the mouth of the burned canyons. The inlets are maintained by the City of Los Angeles, so the sediment storage capacities are not known to Public Works. If the facilities overflow, sediment deposition may occur on May Canyon Trucktrail and Parkland Circle. A few residences at the intersection Parkland Circle and May Canyon Trucktrail in the City of Los Angeles may be impacted by mudflow. Evaluation of impacts to these facilities and residences are under the City's purview.

#### Subarea 7

Subarea 7 has an area of 16 acres and is located on Federally owned lands and privately owned property within in the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 3,700 cubic yards. During storms, mud and debris from the burned canyon flows into what appears to be a debris retaining inlet. The inlet is maintained by the City of Los Angeles so the facility's storage capacity is not known to Public Works. If the facility overflows, sediment deposition may occur on Parkland Circle and Simshaw Avenue and a few residences in the City of Los Angeles may be impacted by mudflow. Evaluation of impacts to these facilities and residences is under the City's purview.

#### Subarea 8

Subarea 8 has an area of 51 acres and is located on Federally owned lands spanning County of Los Angeles unincorporated area, the City of Los Angeles, and land owned by the LACFCD. The subarea was 100 percent burned creating an adjusted debris production potential of 11,600 cubic yards. During storms, mud and debris from the canyon may deposit in May Debris Basin No. 2 (a Public Works maintained facility) at the mouth of the canyon. The debris basin has a maximum storage capacity of 13,000 cubic yards and, according to FMD, storm events that occurred after the fire

deposited sediment in the basin to a level that exceeds the five percent full criterion established for basin cleanouts in burned watershed conditions. As discussed with FMD staff, FMD has scheduled to clean out this facility as quickly as possible. While the burned watershed recovers, FMD will continue to monitor this facility for postfire sediment inflow during major storms and continue to clean it out when it meets the five percent full cleanout criterion.

#### Subarea 9 May Canyon

Subarea 9 has an area of 453 acres and spans lands owned by the Angeles National Forest, Federally owned land outside the Forest boundary, and land owned by the LACFCD. The subarea was 100 percent burned creating an adjusted debris production potential of 58,000 cubic yards. During storms, mud and debris may deposit in May Debris Basin No. 1 (a Public Works maintained facility) at the mouth of the canyon. The debris basin has a maximum storage capacity of 64,000 cubic yards and, according to FMD, storm events that occurred after the fire deposited sediment in the basin to a level that exceeds the five percent full criterion established for basin cleanouts in burned watershed conditions. As discussed with FMD staff, FMD has scheduled to clean out this facility as quickly as possible. While the burned watershed recovers, FMD will continue to monitor this facility for postfire sediment inflow during major storms and continue to clean it out when it meets the five percent full cleanout criterion.

#### Subarea 10

Subarea 10 has an area of 13 acres and is located on Federally owned land outside the Angeles National Forest boundary and lands owned by the State of California (Santa Monica Mountains Conservancy). The subarea was 100 percent burned creating an adjusted debris production potential of 3,100 cubic yards. Mud and debris from the burned canyon is anticipated to flow into what appears to be a small debris basin at the top of Bermax Avenue. The basin is maintained by the City of Los Angeles, so its design capacity is unknown to Public Works. Assessment of potential impacts to the basin and street is under the City's purview.

#### Subarea 11

Subarea 11 has an area of 13 acres and is located on lands owned by the State of California (Santa Monica Mountains Conservancy) and the LACFCD within the City of Los Angeles and unincorporated County of Los Angeles area. The subarea was 100 percent burned creating an adjusted debris production potential of 2,900 cubic yards. During storms, mud and debris flow from the watershed will be collected in a debris retaining inlet (a Public Works maintained facility). As discussed with FMD staff, FMD will monitor sediment inflow to the facility during storms and clean it when needed.

## Subarea 12

Subarea 12 has an area of 9 acres and is located on lands owned by the State of California (Santa Monica Mountains Conservancy) and the LACFCD within the City of Los Angeles, and unincorporated County of Los Angeles area. The subarea was 100 percent burned creating an adjusted debris production potential of 2,100 cubic yards. During storms, mud and debris flow from the watershed will be collected into the rail and timber structure at the mouth of the canyon. Downstream of the rail and timber structure, an earth berm behind the residences along Almetz Street directs the flow to a debris retaining inlet east of the northerly end of Winlaw Avenue. The rail and timber structure, berm, and inlet are maintained by Public Works. As discussed with FMD staff, FMD will monitor the sediment inflow to the facilities and clean them as needed.

## Subarea 13

Subarea 13 has an area of 8 acres and is located on land owned by the LACFCD within the City of Los Angeles and unincorporated County of Los Angeles area. The subarea was 100 percent burned creating an adjusted debris production potential of 1,900 cubic yards. During major storms, mud and debris flow from the watershed would follow its natural watercourse to a debris retaining inlet that is maintained by Public Works. As discussed with FMD staff, FMD will monitor sediment inflow to the inlet and clean it when needed.

## Subarea 14

Subarea 14 has an area of 38 acres and is located on land owned by the LACFCD within the May SPS. The subarea was 100 percent burned creating an adjusted debris production potential of 8,700 cubic yards. During major storms, mud and debris flow from the watershed will be collected into a debris retaining inlet within Public Works May SPS. If the inlet overflows, the mud and debris may spill over the access road and flow into another debris retaining inlet below. As discussed with FMD staff, FMD will monitor sediment inflow to both inlets and clean them when needed.

## Subarea 15

Subarea 15 has an area of 17 acres and is located on land owned by the LACFCD within unincorporated County of Los Angeles area. The subarea was 100 percent burned creating an adjusted debris production potential of 4,000 cubic yards. During storms, mud and debris flows are retained behind a low pipe and timber debris retaining structure, which is maintained by Public Works. As discussed with FMD staff, FMD will replace the burned timber planks on the pipe and timber structure and monitor the sediment inflow to the structure and clean it when needed. If the structure overflows, debris would spill onto an access road and into a non-Public Works debris retaining structure on the south side of the road located within the City of Los Angeles. The

capacity of the structure is unknown to Public Works. Assessment of the potential impact to the structure is within the City's purview.

### Subarea 16

Subarea 16 watershed is a low hillside above a fire road and has a total area of 7 acres. The subarea was 100 percent burned creating an adjusted debris production potential of 1,600 cubic yards. During storms, debris from the hillside would spread out onto the access road. The subarea is located on land owned by the State of California (Santa Monica Mountains Conservancy), so assessment of impacts to the road is under its purview.

### Subarea 17 □ Wilson Canyon

Subarea 17 has an area of 1,653 acres and spans across lands owned by the Angeles National Forest, the State of California (Santa Monica Mountains Conservancy), County of Los Angeles, and LACFCD. The subarea was 100 percent burned creating an adjusted debris production potential of 171,700 cubic yards. Debris flow is anticipated to deposit in Wilson Debris Basin (a Public Works maintained facility). The debris basin has a maximum storage capacity of 313,000 cubic yards and, according to FMD, storm events that occurred after the fire deposited sediment in the basin to a level that exceeds the five percent full criterion established for basin cleanouts in burned watershed conditions. As discussed with FMD staff, FMD has scheduled to clean out this facility as quickly as possible. While the burned watershed recovers FMD will continue to monitor this facility for postfire sediment inflow during major storms and continue to clean it out when it meets the "five percent full" cleanout criterion.

### Subarea 18

Subarea 18 has an area of 47 acres and is located above the Olive View/UCLA Medical Center (OVMC). The subarea spans across lands owned by County of Los Angeles and the State of California (Santa Monica Mountains Conservancy). The subarea was 100 percent burned creating an adjusted debris production potential of 10,600 cubic yards. A low rail and timber structure (a non-Public Works facility) located approximately 150 feet from the mouth of the canyon exists. The structure's timber planks are burned. The facility is nearly full of sediment. Sediment flow from the watershed would exit onto the parking area at the mouth of the canyon and continue southerly to Sycamore Avenue. The flow may continue further in a westerly direction along the road. The sediment would potentially deposit on a parking area and on the road. Some of the housing buildings along the road may be potentially impacted by mudflow.

The rail and timber structure, parking area, road, and buildings are maintained by the OVMC. WRD staff met with the Director of OVMC's facilities to assess and discuss the potential mudflow impact from the burn to the medical center's facilities and to provide

engineering advice. The advice included the recommendations to repair and clean out behind the existing rail and timber structure and to install a secondary debris barrier structure at the mouth of the canyon to trap additional sediment from the watershed. Public Works Project Management Division (PMD I) is assisting OVMC in implementing the recommended measures and obtaining financial assistance from the Federal Emergency Management Agency (FEMA) for them.

### Subarea 19

Subarea 19 has an area of 11 acres and is located on land owned by County of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 2,400 cubic yards. During storms, mud and debris from the burned area may exit onto a dirt road above a parking area and behind buildings on the OVMC grounds and continue to Hillcrest Avenue. The debris material potentially may spill into the parking area, spread out across Hillcrest Avenue, and onto an open grassy area on the Medical Center grounds. All of the impacted facilities are under the purview of OVMC. WRD discussed the potential mudflow impacts of the burned area and recommended measures with OVMC and PMD I.

### Subarea 20

Subarea 20 has an area of 13 acres and is located on land owned by County of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 2,900 cubic yards. During storms, mud and debris from the burned area are anticipated to flow into what appears to be a small debris retaining inlet. The approximately 30-inch CMP inlet may potentially plug with debris during major storms. Overflow from the plugged inlet may potentially impact a building downstream that was partially burned in the recent fire. All of the impacted facilities are under the purview of OVMC. WRD discussed the potential mudflow impacts of the burned area and recommended measures with OVMC and PMD I.

### Subarea 21

Subarea 21 has an area of 17 acres and is located on land owned by County of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 3,800 cubic yards. During storms, mud and debris from the burned area are anticipated to flow into what appears to be a small debris retaining basin. The partially plugged double-barrel box inlet downstream of the retaining basin may become completely plugged by debris during major storms. The resulting overflow would spill onto the road below and may impact a nearby building (the same building as described above in Subarea 20). All of the impacted facilities are under the purview of OVMC. WRD discussed the potential mudflow impacts of the burned area with OVMC's facilities staff and PMD I. OVMC has installed k-rails downstream of the inlet for added mudflow protection. PMD I is assisting OVMC in implementing recommended measures and obtaining financial assistance from FEMA for them.

## Subarea 22

Subarea 22 has an area of 10 acres and is located on land owned by County of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 2,700 cubic yards. During storms, mud and debris from the burned area would be collected into a culvert (an approximately 30-inch diameter corrugated metal pipe). The flow would exit on the south side of the road into a wide, flat open area on the OVMC grounds. No buildings are located near the outlet. The culvert and road are under the purview of OVMC. WRD discussed the potential mudflow impacts with the OVMC's facilities staff and PMD I.

## Subarea 23

Subarea 23 has an area of 2 acres and is located on land owned by County of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 900 cubic yards. During storms, mud and debris from the burned area would spread onto the road and the wide, flat open area on the OVMC grounds. WRD discussed the potential mudflow impacts with the OVMC's facilities staff and PMD I.

## Subarea 24

Subarea 24 has an area of 10 acres and is located on land owned by County of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 3,800 cubic yards. During storms, mud and debris from the small watershed would be collected behind a pipe and timber debris barrier at the mouth of the canyon. The structure's timber planks were burned by the fire and need to be replaced. If the facility is ever overtopped, the overflow from the facility would spread and deposit in a wide, flat open area downstream. The existing buildings below the structure were all burned. All of these facilities are under the purview of OVMC. WRD discussed the potential mudflow impacts with the OVMC's facilities staff and PMD I. The OVMC's Facilities Department removed the accumulated sediment from behind the existing structure to increase the sediment storage capacity of the facility. PMD I is assisting OVMC in implementing recommended measures and obtaining financial assistance from FEMA for them.

## Subarea 25

Subarea 25 has an area of 25 acres and is located on land owned by County of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 9,400 cubic yards. During storms, mud and debris from the small canyon will be collected into the pipe and timber debris barrier at the mouth of the canyon. The timbers of this structure burned as a result of the recent fire and should be replaced. Below the rail and timber there is a vertical inlet with a trashrack grate. If the inlet overflows, mud and debris potentially may reach and deposit at the intersection of

Olive View Drive and Bucher Avenue creating a traffic nuisance. Some material may deposit and spread on the wide, flat area below the inlet and may also potentially spill into Mansfield Channel, which is maintained by Public Works. Public Works discussed the potential mudflow impacts and mitigation measures with OVMC's facilities Department staff and PMD I. PMD I is assisting OVMC in implementing recommended measures and obtaining financial assistance from FEMA for them.

#### Subarea 26 □ Schoolhouse Canyon

Subarea 26 has an area of 183 acres and spans across land that is owned by County of Los Angeles, the LACFCD, and the Angeles National Forest. The subarea was 100 percent burned creating an adjusted debris production potential of 45,900 cubic yards. During storms, mud and debris from the burned area is anticipated to deposit in Schoolhouse Debris Basin (a Public Works maintained facility). The debris basin has a maximum storage capacity of 68,000 cubic yards. According to FMD, storm events that occurred after the fire have deposited sediment in the basin to a level that exceeds the five percent full criterion established for basin cleanouts in burned watershed conditions. As discussed with FMD staff, FMD has scheduled to clean out this facility as quickly as possible. While the burned watershed recovers, FMD will continue to monitor this facility for postfire sediment inflow during major storms and continue to clean it out when it meets the "five percent full" cleanout criterion.

#### Subarea 27

Subarea 27 has an area of 42 acres and is located on lands owned by the County of Los Angeles and a privately owned mobile home park within the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 15,600 cubic yards. During a major storm, sediment flow from the burned area above the mobile homes along Hillsboro Street potentially would exit into a concrete terrace drain and be directed toward a wide grassy area at the easterly end of the street. Hillsboro Street may experience sediment deposition that can potentially cause a debris nuisance. Some sediment may reach the freeway (Interstate 210) culvert inlet. Assessment of impacts to the residences and street is under the City's purview.

#### Subarea 28 □ Hog Canyon

Subarea 28 has an area of 204 acres and is located on lands owned by the County of Los Angeles, the LACFCD, and the Angeles National Forest. The subarea was 100 percent burned creating an adjusted debris production potential of 49,600 cubic yards. During storms, debris flow from the burned area is anticipated to deposit in Hog Debris Basin (a Public Works maintained facility). The debris basin has a maximum storage capacity of 43,000 cubic yards and, according to FMD, storm events that occurred after the fire deposited sediment in the basin to a level that exceeds the five percent full criterion established for basin cleanouts in burned watershed conditions. As discussed with FMD staff, FMD has scheduled to clean out this facility as quickly as

possible. While the burned watershed recovers, FMD will continue to monitor this facility for postfire sediment inflow during major storms and continue to clean it out when it meets the five percent full cleanout criterion.

### Subarea 29

Subarea 29 consists of two small side canyons and has a total area of 13 acres. The subarea is on lands owned by County of Los Angeles and a privately owned mobile home park within the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 4,700 cubic yards. During a major storm, sediment flows from the burned area will be collected into a concrete terrace drain behind the mobile homes along Sycamore Street and would be directed easterly toward Coyote Street. Sediment deposition on Coyote Street may potentially cause a debris nuisance. Assessment of impacts to the residences and street is under the City's purview.

### Subarea 30 Sombrero Canyon

Subarea 30 has an area of 677 acres and spans across lands owned by the Angeles National Forest, the State of California (Mountains Recreation Conservation Authority (MRCA)), and LACFCD. The subarea was 100 percent burned creating an adjusted debris production potential of 128,000 cubic yards. During storms, mud and debris are anticipated to deposit in Sombrero Debris Basin (a Public Works maintained facility). The debris basin has a maximum storage capacity of 88,000 cubic yards. Immediately after the fire occurred, according to FMD the debris basin was cleaned out and 22,190 cubic yards of sediment was removed. Storms that occurred after the fire deposited in the basin additional sediment to a level that exceeds the five percent full criterion established for basin cleanouts in burned watershed conditions. As discussed with FMD staff, FMD has scheduled to clean out this facility as quickly as possible. While the burned watershed recovers, FMD will monitor this facility for postfire sediment inflow during major storms and clean out this facility as it meets the established five percent full cleanout criterion.

### Subarea 31

Subarea 31 has an area of 16 acres and is located on lands owned by the State of California (MRCA) and on privately owned properties within the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 5,900 cubic yards. During storms, mud and debris from the burned canyon will be collected into an inlet and discharged a few feet downstream into Sombrero Canyon Channel (an underground concrete box drain). If the inlet plugs, flow would spill over and spread out across a wide flat area adjacent to Sombrero Road. The mobile homes below the inlet were burned in the recent fire. The inlet and channel are maintained by Public Works. FMD is looking into the feasibility of installing k-rail barriers around the

inlet to contain debris overflow from the inlet. Furthermore, FMD will monitor the inlet for potential plugging during storms and clean it as necessary.

### Subarea 32

Subarea 32 has an area of 25 acres and is located on lands owned by the State of California (MRCA), Southern California Edison, and privately owned properties within the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 9,400 cubic yards. During major storms, debris flow from the burned canyons would be collected into small inlets at the concrete terrace gutter and at the mouth of the canyon. Ownership of the structure remains unclear. If the inlets plug, debris may potentially spill into the mobile home spaces along the north side of Olive Street. The mobile homes were burned in the recent fire. Assessment of impacts to the inlets, residences and street is under the City's purview.

### Subarea 33 □ Stetson Canyon

Subarea 33 has an area of 189 acres and spans lands owned by the Angeles National Forest, the State of California (MRCA), Southern California Edison, the LACFCD, and privately owned properties within the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 47,100 cubic yards. During storms, mud and debris from the burned area are anticipated to deposit in Stetson Debris Basin (a Public Works maintained facility). The debris basin has a maximum storage capacity of 41,000 cubic yards. Immediately after the fire occurred, according to FMD, the debris basin was cleaned out and 6,120 cubic yards of sediment was removed. Storms that occurred after the fire deposited in the basin additional sediment to a level that exceeds the five percent full criterion established for basin cleanouts in burned watershed conditions. As discussed with FMD staff, FMD has scheduled to clean out this facility as quickly as possible. While the burned watershed recovers, FMD will monitor this facility for postfire sediment inflow during major storms and clean out this facility as it meets the established □five percent full□cleanout criterion.

### Subarea 34

Subarea 34 has a total area of 38 acres and is located on privately owned properties within the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 8,600 cubic yards. During major storms, mud and debris from several burned canyons will be collected into the inlets at the mouth of those canyons. The inlets are not maintained by Public Works. Assessment of the potential impacts to the inlets and private property are under the purview of the City. Assessment of the impacts to the storm drain inlet (Caltrans drain) at the westbound Yarnell Street off ramp of Interstate 210 is under the purview of Caltrans.

### Subarea 35

Subarea 35 has an area of 16 acres and is located on land owned by Southern California Edison and privately owned properties within the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 3,600 cubic yards. During major storms, mud and debris from the burned area will be collected into what appears to be a debris retaining inlet behind residences on Saddle Ridge Road. The inlet is not maintained by Public Works. Assessment of impacts to the inlet, residences, and street is under the City's purview.

### Subarea 36

Subarea 36 has an area of 50 acres and spans across portions of the City of Los Angeles, the unincorporated County of Los Angeles territory, and the Angeles National Forest. The subarea was 100 percent burned creating an adjusted debris production potential of 11,300 cubic yards. During major storms, mud and debris flows from the burned canyon would spread out onto a graded construction site. Assessment of impacts to the site is under the City's purview.

### Subarea 36a

Subarea 36a consists of a series of small canyons straddling the Angeles National Forest and privately owned property in the City of Los Angeles. The subarea is 52 acres. The subarea was 100 percent burned creating an adjusted debris production potential of 11,800 cubic yards. The entire area below this subarea and the adjacent two subareas to the west are under construction for development. During storms, mud and debris from the burned canyons may spread out onto the construction site. Assessment of impacts to the site is under the City's purview.

### Subarea 37 □ Grapevine Canyon

Subarea 37 has an area of 315 acres and spans across portions of the City of Los Angeles, the unincorporated County of Los Angeles territory, and the Angeles National Forest. The subarea was 100 percent burned creating an adjusted debris production potential of 43,800 cubic yards. During storms, mud and debris flows may not stay within the natural watercourse of Grapevine Canyon and potentially may impact modular buildings in the canyon that appear to be used for storage. At the mouth of the canyon, debris flows would spread out onto a graded construction site. Assessment of impacts to the site is under the City's purview.

### Subarea 38

Subarea 38 has an area of 23 acres and is located in the City of Los Angeles. A portion of the watershed at the bottom of the canyon is part of the old Cascades Golf Course. The subarea was 100 percent burned creating an adjusted debris production potential

of 1,500 cubic yards. During storms, mud and debris from two small canyons may flow into what appear to be small debris retaining inlets. Assessment of impacts to the site is under the City's purview.

#### Subarea 39

Subarea 39 has an area of 25 acres and is located in the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 1,800 cubic yards. During storms, mud and debris from the burned area may exit onto Balboa Boulevard. No homes exist below this subarea. Assessment of impacts to the street is under the City's purview.

#### Subarea 40

Subarea 40 is a hillside and has an area of 6 acres and is located in the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 500 cubic yards. During storms, mud and debris from the burned area may potentially impact the residential properties along Mission Tierra Way. Assessment of impacts to the residences and street is under the City's purview.

#### Subarea 41

Subarea 41 has an area of 10 acres and is located in the City of Los Angeles. The subarea was 100 percent burned with an adjusted debris production potential of 700 cubic yards. During storms, mud and debris from the small canyon may potentially impact a property at the northerly end of Mission Tierra Way and the rear of a property along Timber Ridge Drive. Assessment of impacts to the residences and streets is under the City's purview.

#### Subarea 42

Subarea 42 has an area of 33 acres and is located in the City of Los Angeles. The subarea was 100 percent burned with an adjusted debris production potential of 2,400 cubic yards. During storms, mud and debris from the burned canyon will be collected into what appears to be a debris retaining inlet at the mouth of the canyon. The inlet is not maintained by Public Works, so its capacity is not known. Assessment of impacts to the inlet is under the City's purview.

#### Subarea 43

Subarea 43 has an area of 57 acres and is located in the City of Los Angeles. The subarea was 100 percent burned with an adjusted debris production potential of 4,200 cubic yards. During storms, mud and debris from the burned area may flow out onto San Fernando Road. No homes exist below the burned area. Assessment of impacts to the street is under the City's purview.

#### Subarea 44

Subarea 44 has an area of 16 acres and is located in the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 1,200 cubic yards. During storms, mud and debris from the small burned canyon will be collected into what appears to be a debris retaining inlet at the mouth of the canyon. The inlet is not maintained by Public Works, so its capacity is unknown. Assessment of impacts to the street is under the City's purview.

#### Subarea 44a

Subarea 44a has an area of 11 acres and is located in the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 800 cubic yards. During storms, mud and debris from the burned area may spread and settle on the wide, flat area below the watershed. Some sediment may spill onto Sesnon Boulevard. Assessment of impacts to the street is under the City's purview.

#### Subarea 45

Subarea 45 has an area of 105 acres and is located in the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 6,600 cubic yards. During storms, mud and debris from the burned area may reach a culvert under Sesnon Boulevard and flow into what appears to be a debris retaining inlet. The inlet is not maintained by Public Works, so its capacity is unknown to Public Works. If the culvert plugs, there could potentially be inundation of Sesnon Boulevard. Assessment of impacts to the culvert, inlet, and street is under the City's purview.

#### Subarea 46

Subarea 46 has an area of 13 acres and is located in the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 1,000 cubic yards. During storms, mud and debris from the burned area may spread out and deposit onto a wide, flat area at the mouth of the canyon. Some sediment may spill onto Sesnon Boulevard. Assessment of impacts to the street is under the City's purview.

#### Subarea 47 □ Bee Canyon

Subarea 47 has an area of 1,216 acres and is located on lands owned by the County of Los Angeles, private property in unincorporated County of Los Angeles area, and lands owned by the City of Los Angeles. The subarea was 84 percent burned creating an adjusted debris production potential of 40,000 cubic yards. During storms, mud and debris from the burned watershed may potentially reach the box culvert under Sesnon Boulevard. If the culvert plugs, inundation at the culvert crossing may result. Debris

flow may spread out across the roadway and spill back into the natural channel on the other side. Some residences at the Meadowlark Avenue and Van Gogh Street intersection may be impacted by mudflow. Omelveny Park, in the canyon bottom, may experience mudflow and sediment deposition. Assessment of impacts to the residences and streets is under the City's purview. Eventually, the natural watercourse discharges into Bull Creek Retention Basin, which is maintained by Public Works; sediment may reach there in a major flow event.

#### Subarea 48 ☐ Sunshine Canyon

Subarea 48 has an area of 909 acres of privately owned properties located in the City of Los Angeles and unincorporated County of Los Angeles area. The subarea was 31 percent burned creating an adjusted debris production potential of 22,000 cubic yards. The subarea contains the Sunshine Canyon Landfill. The landfill operator, Browning Ferris Industries, maintains an extensive drainage and liner system in the facility. Sediment flow from the burned area would potentially impact the landfill facility.

#### Subarea 49

Subarea 49 has an area of 123 acres and is located in unincorporated County of Los Angeles territory and the City of Los Angeles. The Los Angeles Aqueduct runs through the area, but it is underground. The subarea was 100 percent burned creating an adjusted debris production potential of 7,300 cubic yards. During storms, mud and debris from the burned canyon may flow down and spread out across a wide, flat open area at the mouth of the canyon. No homes exist within/below the burned area. Assessment of sites within the City limits is under the City's purview.

#### Subarea 49a

Subarea 49a has an area of 27 acres and is located in the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 2,000 cubic yards. During storms, mud and debris from the burned area may spread out across a wide open area at the mouth of the canyon. No homes exist within/below the burned area. Assessment of the site is under the City's purview.

#### Subarea 50

Subarea 50 has an area of 20 acres and is located in unincorporated County of Los Angeles area and the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 1,500 cubic yards. During storms, mud and debris are anticipated to flow down the hillsides and into a culvert inlet at the mouth of the canyon. If the culvert plugs, the flow will spill over onto Sierra Highway and deposit on the roadway. The culvert and road are maintained by Public Works. Road Maintenance Division (RMD) has confirmed that monitoring the highway for

potential flooding/mudflow, cleaning the road facilities, and/or closing the road as necessary are activities already incorporated into their maintenance routine for the road.

#### Subarea 50a

Subarea 50a has an area of 25 acres and is located in unincorporated County of Los Angeles area and the City of Los Angeles. The subarea was 100 percent burned creating an adjusted debris production potential of 1,900 cubic yards. During storms, mud and debris are anticipated to flow down the hillsides and into a culvert inlet at the mouth of the canyon. If the culvert plugs, the flow may spill over onto Sierra Highway and deposit sediment on the roadway. The culvert and road are maintained by Public Works. RMD has confirmed that monitoring the highway for potential flooding/mudflow, cleaning the road facilities, and/or closing the road as necessary are activities already incorporated into their maintenance routine for the road. No homes exist with/below the burned area.

#### Subarea 51

Subarea 51 has an area of 64 acres and is located in unincorporated County of Los Angeles area. The subarea was 100 percent burned creating an adjusted debris production potential of 4,800 cubic yards. Debris is anticipated to flow down the canyon to what appears to be a small debris retaining inlet structure (a non-Public Works facility). The privately owned and maintained facility is estimated to have a storage capacity of approximately 500 cubic yards. During a large storm event, it is anticipated debris flows will overtop the small debris basin, flow onto the private driveway and eventually to Sierra Highway (which is maintained by Public Works). As this subarea was burned by the 2004 Foothill Fire, the owner of the property was sent a copy of the advice provided to the property in 2004. This debris may spill over onto the west side of the road where the first of two 24-inch RCP catch basins exist. The road could be inundated with sediment and the catch basins plugged. RMD has confirmed that monitoring the road and catch basins during storms and removing deposited sediment and/or closing the road as necessary are activities already incorporated into their maintenance routine for the road.

#### Subarea 52

Subarea 52 has an area of 36 acres and is located in unincorporated County of Los Angeles area. The subarea was 100 percent burned creating an adjusted debris production potential of 2,700 cubic yards. During storms, mud and debris are anticipated to flow down the canyon to a small debris inlet structure (a non-Public Works facility). The privately owned and maintained facility is estimated to have a storage capacity of approximately 500 cubic yards. During a large storm event, debris flows that overtop the small debris basin are anticipated to flow onto private property driveway and eventually to Sierra Highway (which is maintained by Public Works). As this subarea was burned by the 2004 Foothill Fire, the owner of the property was sent a copy of the

advice provided to the property in 2004. This debris may spill over onto the west side of the road where the second of two 24-inch RCPs with catch basins exists. The road is anticipated to be inundated with sediment and the catch basins plugged. RMD has confirmed that monitoring the highway for potential mudflow/flooding during storms, cleaning the roadway, and/or closing the road as necessary are activities already incorporated into their maintenance routine for the road.

### Subarea 53

Subarea 53 has an area of 3 acres and is located in unincorporated County of Los Angeles territory. The subarea was 100 percent burned creating an adjusted debris production potential of 200 cubic yards. During major storms, mud and debris are anticipated to flow down the hillsides and spread out onto a flat area at the mouth of the canyon resulting in debris nuisance on a private driveway.

### Subarea 54

Subarea 54 has an area of 31 acres and is located in unincorporated County of Los Angeles area. The subarea was 100 percent burned creating an adjusted debris production potential of 2,300 cubic yards. During storms, mud and debris are anticipated to flow down the hillsides and into a culvert (5-foot diameter CMP) at Sierra Highway, which is maintained by Public Works. If the culvert plugs, debris is anticipated to spill onto the roadway causing a potential traffic hazard. RMD has confirmed that monitoring the highway facilities for potential mudflow/flooding during storms, cleaning the facilities, and/or closing the road as necessary are activities already incorporated into their maintenance routine for the road.

### Subarea 55

Subarea 55 is a series of canyons with a collective area of 94 acres located in the unincorporated County of Los Angeles area. The subarea was 100 percent burned creating an adjusted debris production potential of 17,200 cubic yards. Three culverts under the 14 Freeway and a service road (Caltrans maintained) alongside the freeway may plug during a major storm. If that happens, flow would pond initially at the inlets and then spill onto the service road and onto the freeway. Minor amounts of debris may spill onto the outside northbound lane of the freeway. It is recommended that these facilities be monitored for sediment inflow and cleaned when needed. No homes exist within/below the burned area.

### Subarea 56

Subarea 56 has an area of 33 acres and is located in unincorporated County of Los Angeles territory. The subarea was 100 percent burned creating an adjusted debris production potential of 7,100 cubic yards. During storms, mud and debris from the

burned canyon may flow under the 14 Freeway and onto Remsen Street, an abandoned road within the City of Santa Clarita. No homes exist within/below the burned canyon.

#### Subarea 57 □ Elsmere Canyon

Subarea 57 has an area of 1,378 acres and is located in unincorporated County of Los Angeles area and the Angeles National Forest. The subarea was 100 percent burned creating an adjusted debris production potential of 111,900 cubic yards. The subarea was 98 percent burned by the Foothill Fire in 2004. During storms, mud and debris will flow down the canyon to a 9-foot diameter single barrel culvert (Caltrans maintained) under the 14 Freeway prior to its confluence with Newhall Creek and Whitney Canyon near the intersection of Sierra Highway and San Fernando Road. The flow continues westerly along Newhall Creek under the new privately owned crossing at the driveway to the Polynesian Trailer Park (23450 San Fernando Road), which is located on the west side of Sierra Highway in the City of Santa Clarita. The owners of the trailer park constructed the new crossing following the 2005 storms that inundated and damaged the former crossing and culvert at the same location. The flow capacity of the new crossing is not known to Public Works. Assessment of potential impacts to the crossing is under the purview of the owner of the crossing.

Further downstream of the bridge, an improved soft-bottom channel (PD 1846 and PD 2089, untransferred facilities) along Newhall Creek next to a development near the intersection of San Fernando Road and Valle Del Oro Street in the City of Santa Clarita may also be subject to heavy debris flow. During heavy rains, flow in the channel may overflow and potentially impact the adjacent developments. As discussed with Public Works □ Construction Division (CON), it is recommended CON inform the developer(s) or owner(s) of the channel of the potential impact and need for them to monitor these facilities closely throughout the storm season.

#### Subarea 58

Subarea 58 has an area of 92 acres and is located in unincorporated County of Los Angeles area. The subarea was 100 percent burned creating an adjusted debris production potential of 17,300 cubic yards. Four culverts under the 14 Freeway (Caltrans maintained) may plug during a major storm. If that happens, flow is anticipated to spill over the embankment and reach the freeway's outside northbound lane causing debris nuisance on the roadway. It is recommended that these facilities be monitored for sediment inflow and cleaned when needed. Final assessment of the burned area's impacts on the freeway is under Caltrans □ purview

#### Subarea 59 □ Whitney Canyon

Subarea 59 has an area of 1,325 acres and is located in the Angeles National Forest. The subarea was 12 percent burned creating an adjusted debris production potential of 71,700 cubic yards. The burned area is in the higher elevations of the watershed.

Sediment flow from the small burned area is minor and may not cause potential significant impacts to the downstream at the culvert under the 14 Freeway. Final assessment of the burned area's impacts on the freeway is under Caltrans's purview.

#### Subarea 60

Subarea 60 has an area of 180 acres and is located in the Angeles National Forest. The subarea was 35 percent burned creating an adjusted debris production potential of 24,600 cubic yards. During storms, it is anticipated that increased postburn sediment would flow into the natural watercourse of an unnamed canyon tributary to Los Pinetos Canyon Creek. No homes appear to be potentially impacted by mudflow.

#### Subarea 61

Subarea 61 has an area of 403 acres and is located in the Angeles National Forest. The subarea was 81 percent burned creating an adjusted debris production potential of 31,700 cubic yards. During major storms, it is anticipated that increased postburn sediment would flow into the natural watercourse of an unnamed canyon tributary to Los Pinetos Canyon Creek. No homes exist within/below the burned area.

#### Subarea 62 □ Gorman Canyon

Subarea 62 has an area of 169 acres and is located in the Angeles National Forest. The subarea was 35 percent burned creating an adjusted debris production potential of 19,000 cubic yards. During major storms, it is anticipated that increased postburn sediment would flow into the natural watercourse of Gorman Canyon Creek. Any improvements close to the streambed may be potentially impacted by mudflow. No access for evaluation was available.

#### Subarea 63 □ Coyote Canyon

Subarea 63 has an area of 490 acres and is located in the unincorporated County of Los Angeles territory and the Angeles National Forest. The subarea was 12 percent burned creating an adjusted debris production potential of 39,300 cubic yards. During major storms, it is anticipated that increased postburn sediment would flow into the natural watercourse of Coyote Canyon Creek. The small burned area is in the higher elevations of the watershed. Sediment flow from the small burned area is minor and may not cause potential significant impacts to the area at the mouth of the subarea watershed. No access for evaluation was available.

# **ATTACHMENT C**

**PHASE 1 MAP C-1**

**PHASE 2 MAP C-2**

**PHASE 3 MAP C-3**