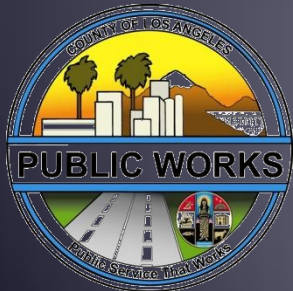


DEVIL'S GATE DAM & RESERVOIR

POSTFIRE SEDIMENT REMOVAL

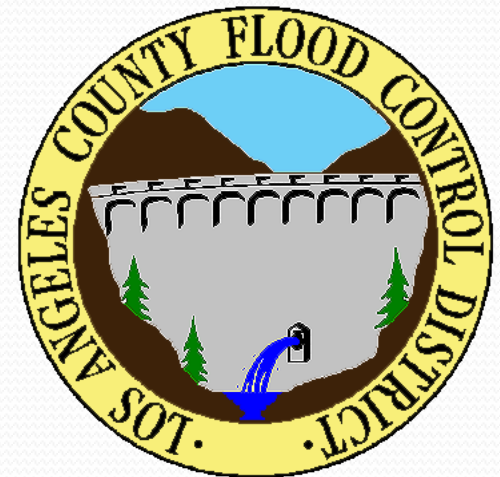


Presented by
Los Angeles County Flood Control District

Flood Control District

Owens and operates complex flood protection and water conservation systems that includes:

- 14 major dams
- 155 debris basins
- 500 miles of open channels
- 20 sediment placement sites



Devil's Gate Reservoir

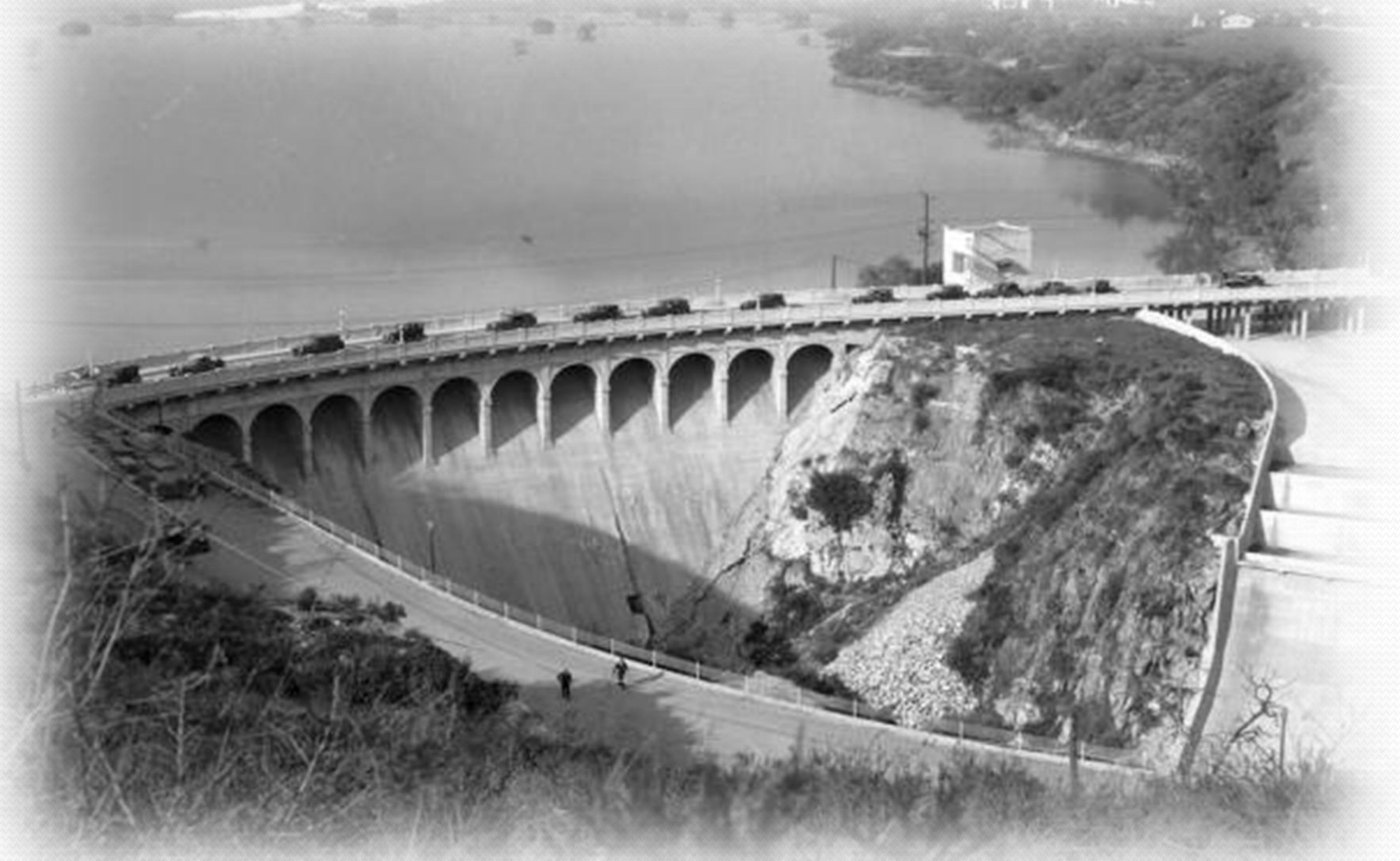
- Constructed in 1920
- Purpose: Flood Control and Water Conservation
- Watershed Size: 39.1 sq. miles
- Reservoir Size: 0.18 sq. mile
- Original Capacity: 7,423,000 cy
- Offers flood protection to the Cities of:
 - Pasadena
 - South Pasadena
 - Los Angeles

Devil's Gate Reservoir: photo taken in 1935.



Source: Arroyo Seco Foundation

Devil's Gate Reservoir with a Water Conservation Pool



2009 Station Fire

The 2009 Station Fire burned over 160,000 acres in the San Gabriel Mountains above:

- Altadena
- La Canada Flintridge
- La Crescenta
- Glendale
- Tujunga
- Acton



Source: Scientific American

Five County Reservoirs were significantly effected...

- Eaton Wash (13% burned)
- Pacoima (73% burned)
- Big Tujunga (87% burned)
- Cogswell (90% burned)
- Devils Gate (nearly 100% of undeveloped watershed burned)

**Typically it takes 3-5 years to recover
from a forest fire.**

Five County Reservoirs were significantly effected...

Eaton Wash (13% burned)



Five County Reservoirs were significantly effected...

Pacoima (73% burned)



Five County Reservoirs were significantly effected...

Big Tujunga (87% burned)



Five County Reservoirs were significantly effected...

Cogswell (90% burned)



Five County Reservoirs were significantly effected...

**Devil's Gate Reservoir
(nearly 100% undeveloped watershed burned)**



State of Emergency

- August 28, 2009 - Governor proclaimed State of Emergency in Los Angeles County due to Wildfires
- January 21, 2010 - Acting Governor proclaimed State of Emergency in Los Angeles due to Severe Winter Storms
- October 21, 2010 – California Department of Water Resources Division of Safety of Dams (DSOD) recommends removal of silt/sediment buildup and vegetation growth in Devil's Gate Reservoir.






Source: Arroyo Seco Foundation

California Environmental Quality Act (CEQA)

CEQA Document: Notice of Exemption (NOE)

- State of California
Public Resources Code - §21080(b)(3)
- Los Angeles County Board of Supervisors
Environmental Reporting Procedures - §307.B.(5)

Project Permitting

-  California Department of Fish and Game
-  Los Angeles Regional Water Quality Control Board
-  United States Army Corps of Engineers

Station Fire Effects on Devil's Gate

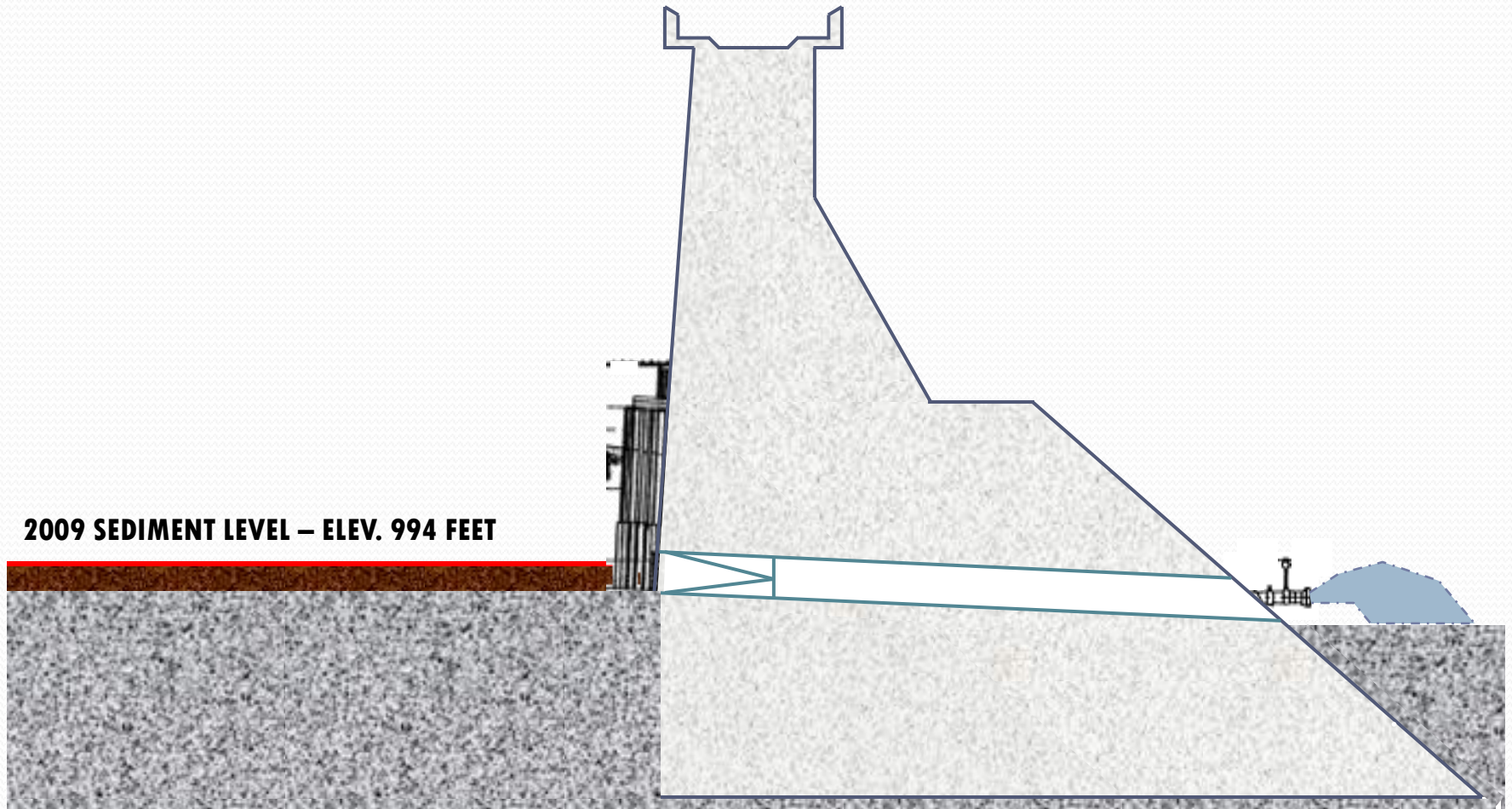
- 2009-2010 Storms brought in 936,000 cy of sediment after only 1st year
- Estimated Current Capacity: 1,242,000 cy (~17%)



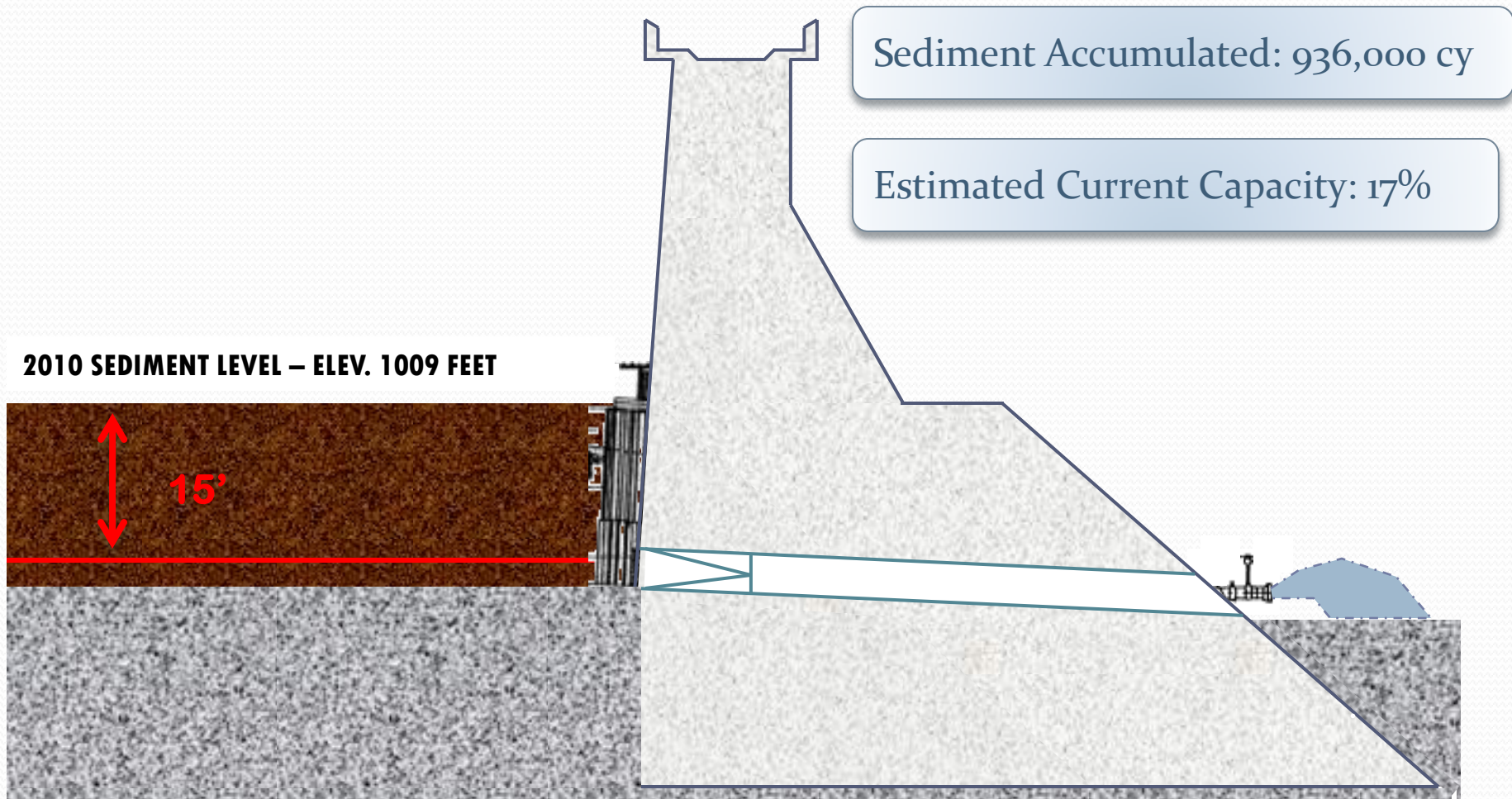
Source: Google

The Rose Bowl \approx 400,000 cubic yards

Threat to Devil's Gate Dam



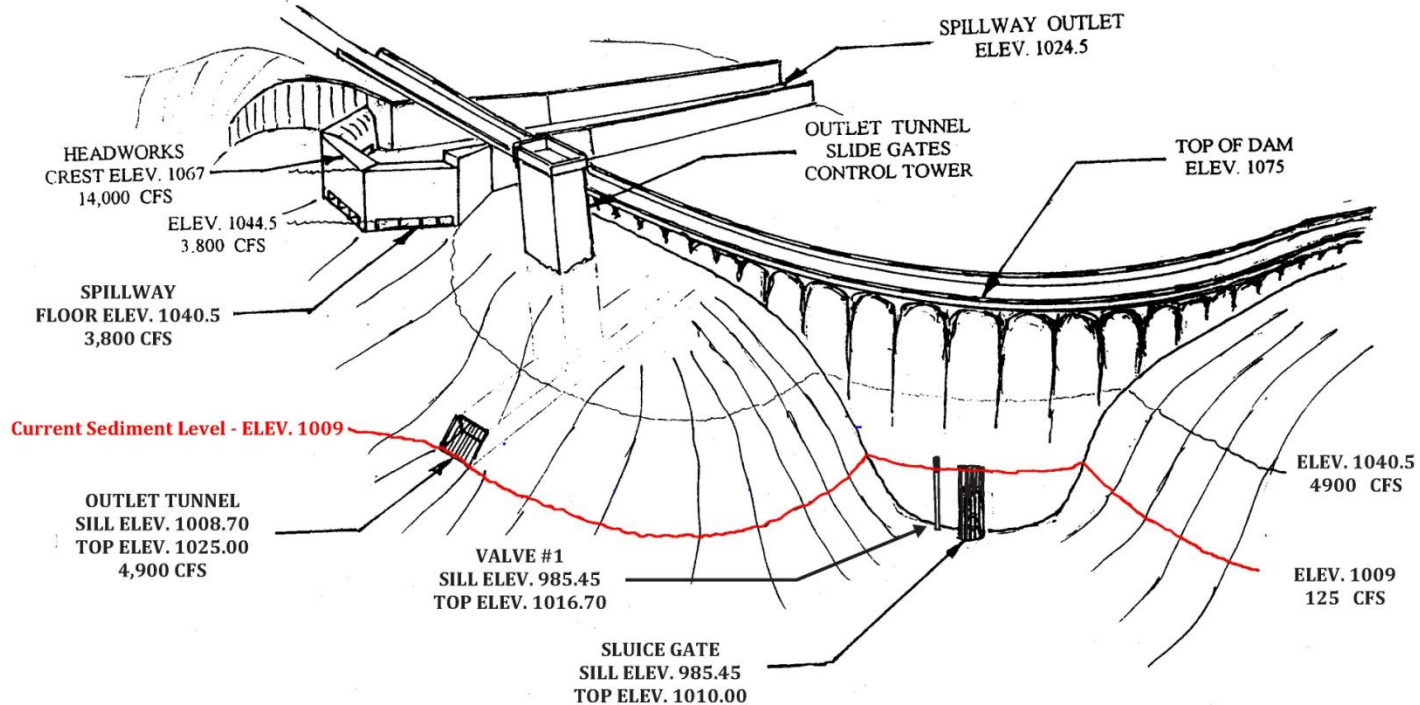
Threat to Devil's Gate Dam



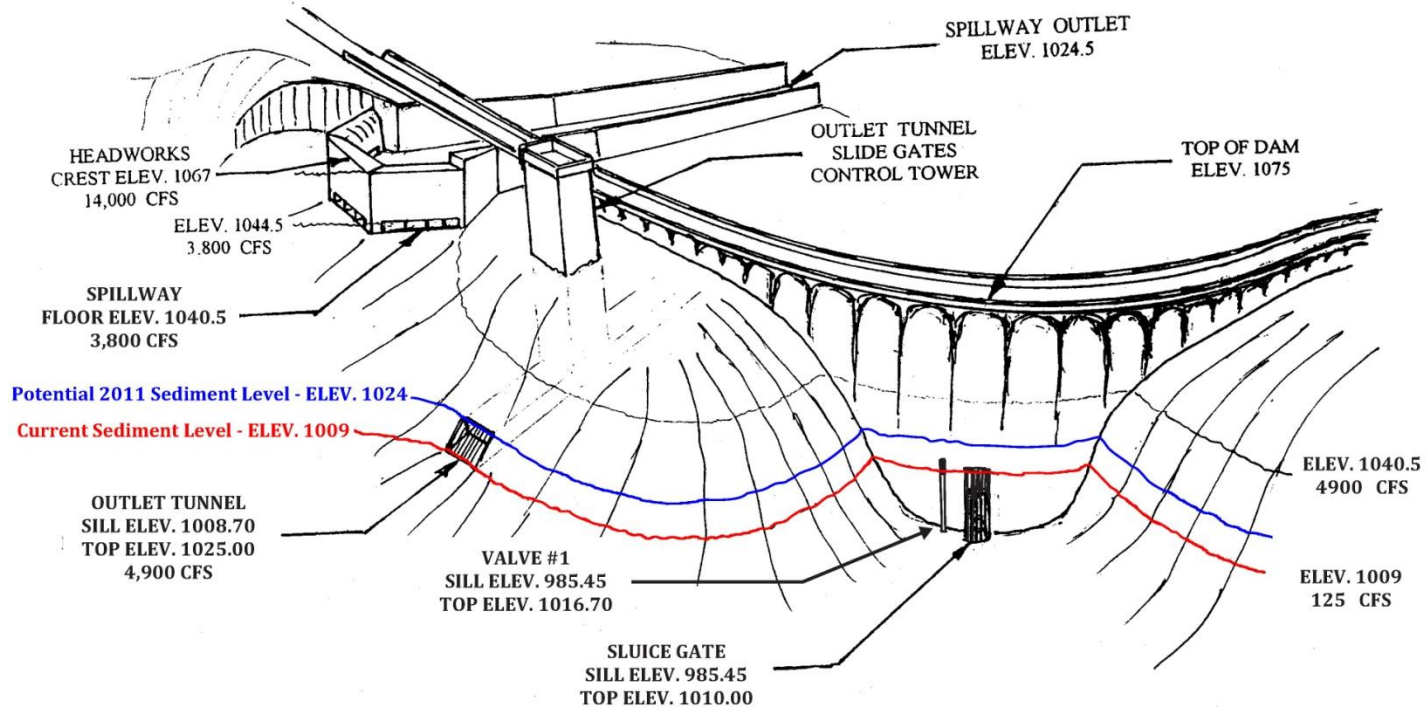
Trash Racks clogged due to sediment buildup.



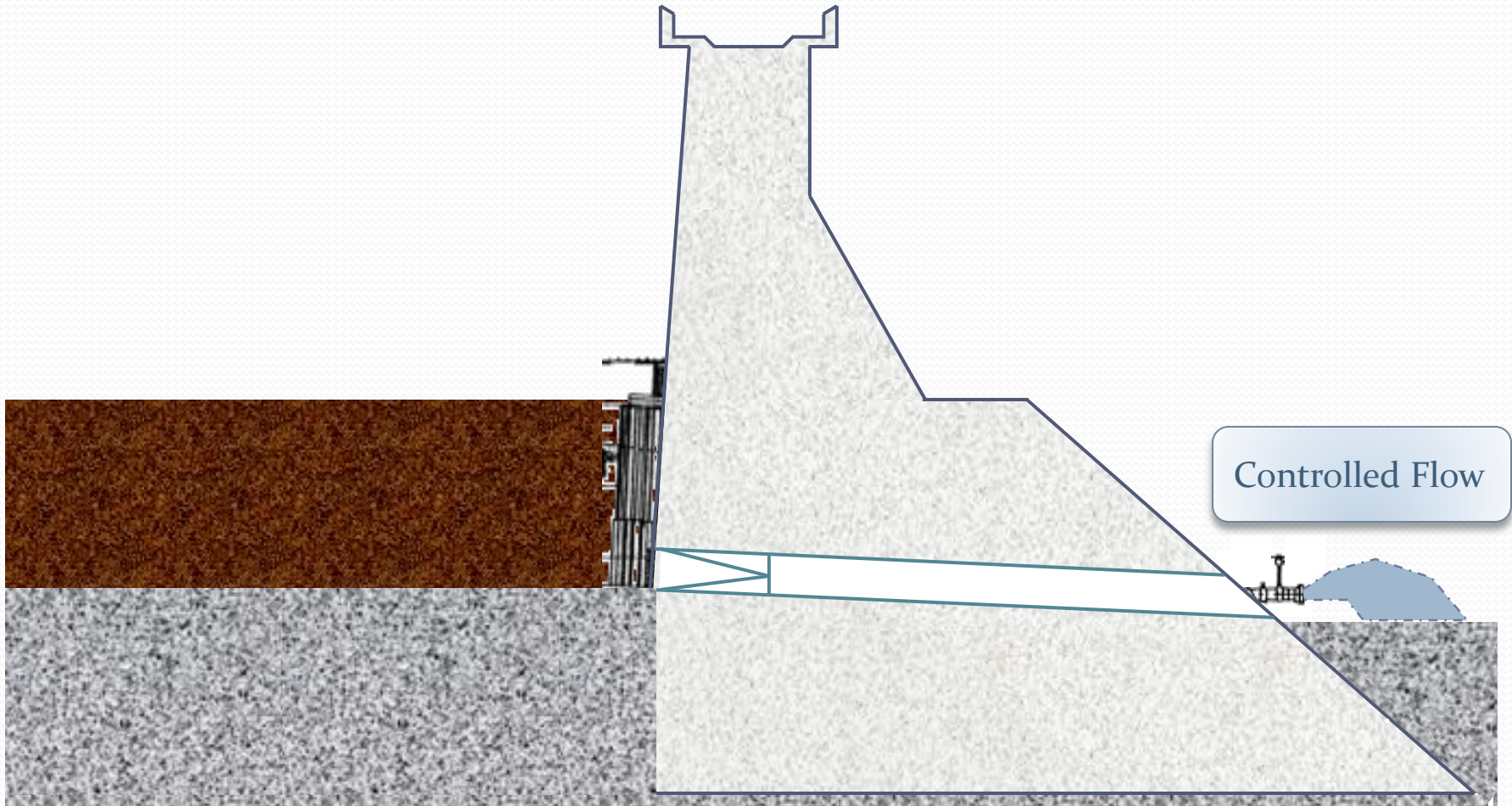
Future Sedimentation



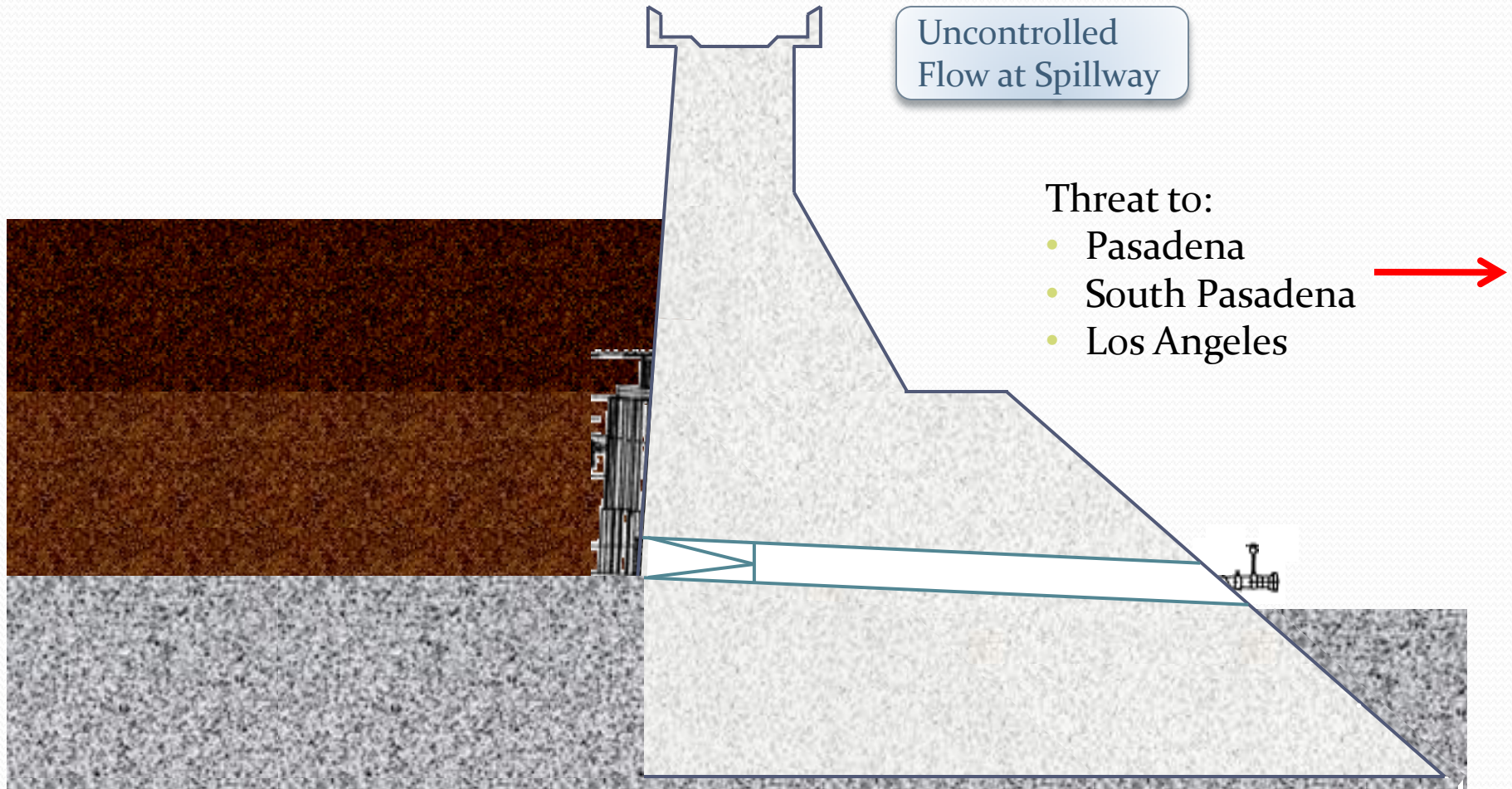
Future Sedimentation



Threat to Downstream Residence



Threat to Downstream Residence



Design Debris Event (DDE)

- Estimated increased sediment accumulation after a 50-year storm over an entirely burnt watershed.
- Devil's Gate DDE: **1,671,000 cy**

Postfire Sediment Removal Project

Emergency Response to the 2009 Station Fire and 2010 Severe Winter Storms



- Planning to remove **1,671,000 cy** (1 DDE) of sediment due to expected 5 year recovery
- Construction to begin September 2011
- Estimated 3 years to complete
- Sediment will be hauled to Manning Pit SPS and Azusa Land Reclamation

Excavation Site

- Excavation Area: < 50 acres
- Willow Tree Removal (permanent) : ≤ 15 acres
- Avoidance of sensitive species

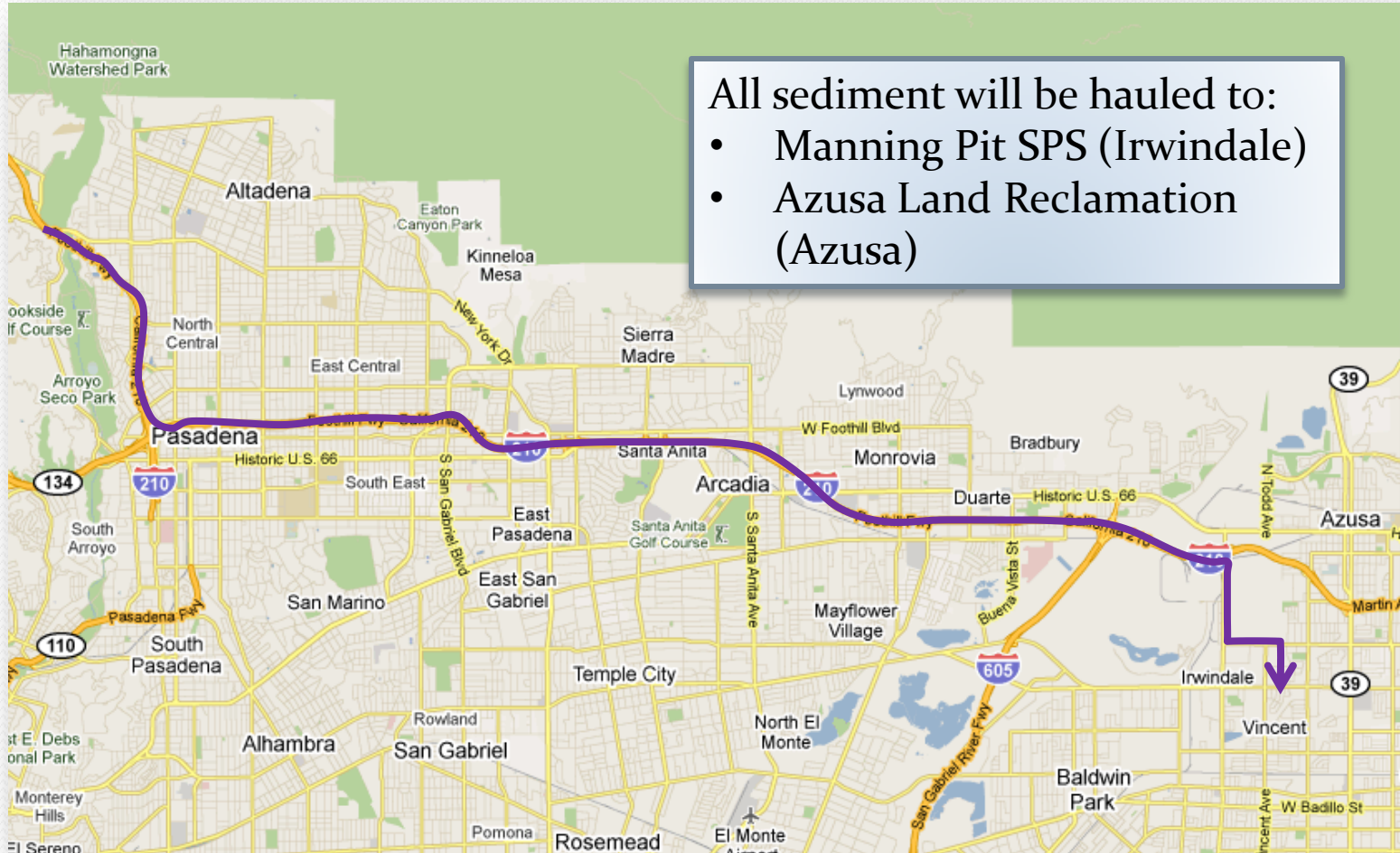
VEGETATION

COMMUNITY

	Alder Woodland
	Alluvial Fan Sage Scrub
	Black Willow Series
	Coast Live Oak Woodland - Disturbed
	Coastal Sage Scrub
	Mule Fat Scrub - Disturbed
	Peppergrass Series
	Posion Hemlock Series/ Mule Fat Scrub - Disturbed
	Riparian Herbaceous
	Stream
	Ephemeral Pond
	Disturbed
	Ornamental



Haul Route



All sediment will be hauled to:

- Manning Pit SPS (Irwindale)
- Azusa Land Reclamation (Azusa)

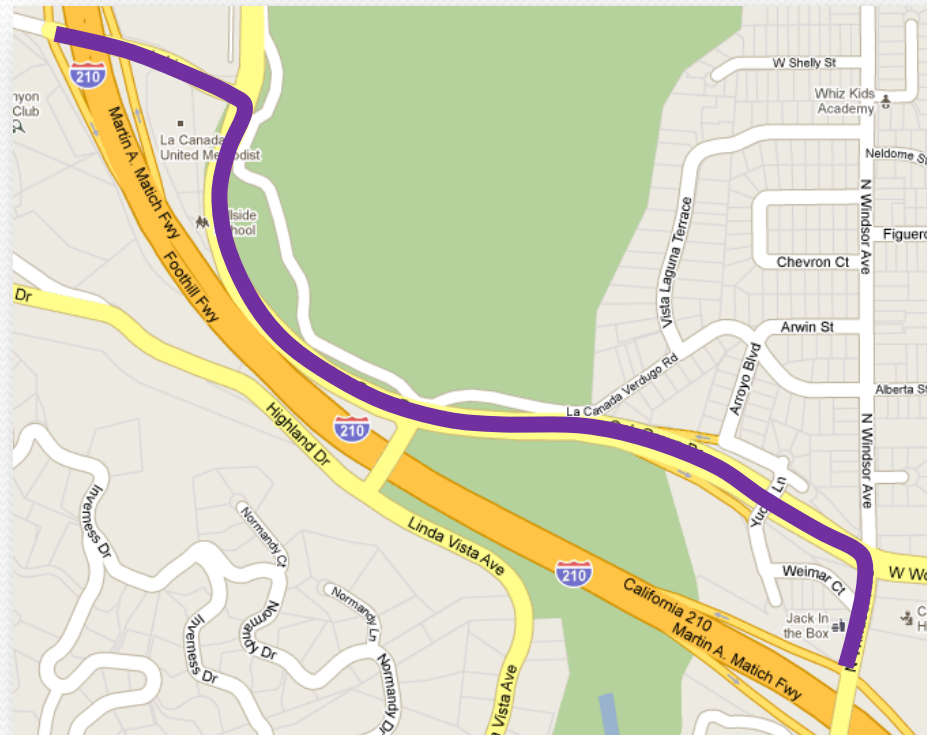
Haul Route



Source: Google Maps

Haul Route Through Pasadena

- Approximately 300-400 truck loads per day
- Work Season: May -December
- Working Days: Monday – Friday
- Working Hours: 7:30am – 5:00pm
- 3 years of work



Source: Google Maps

— Impacted Roadway

Haul Route in the Reservoir

- Widening of the west maintenance road.
- Possible impacts to local trails.
- Alternatives considered



Source: Google Maps

— Maintenance Road

- - Trail

Working with City of Pasadena

- Excavation area is consistent with Master Plan
- Our project is not meant to impede the Hahamongna Master Plan
- Current plans are to haul sediment off-site, but open to leaving sediment for fill once Multi-benefit Project is underway



Project Benefits

- Relieves threat to Devil's Gate Dam outlet works
- Establishes a permanent maintenance area
- Increased capacity = regaining necessary Flood Protection
- Improved Water Conservation
- Opportunity for better Water Conservation in the future (pool)



QUESTIONS?