



# OVERVIEW OF EXPERT PANEL ACTIVITIES

October 6, 2011

# Expert Panel Overview

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## Member introductions

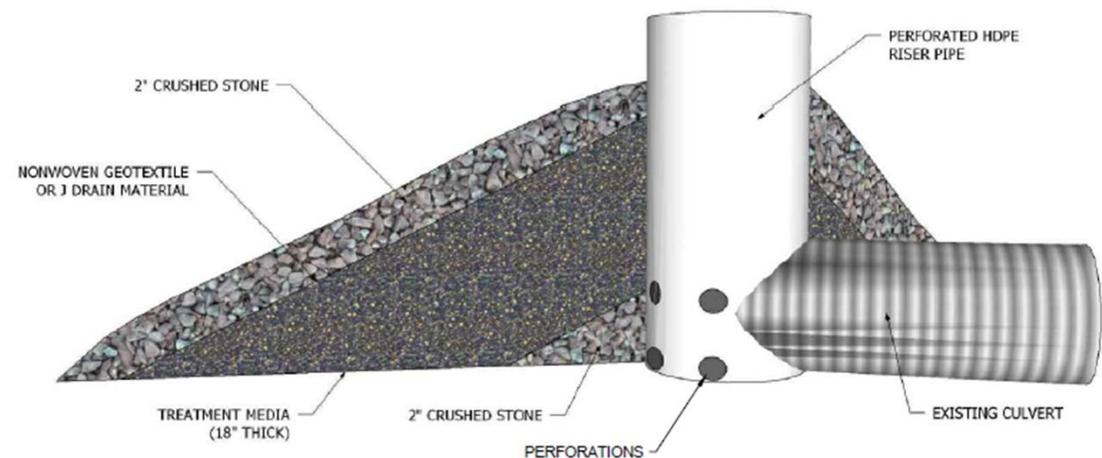
- ▣ Dr. Bob Gearheart, PE, Humboldt State University
- ▣ Jon Jones, PE, Wright Water Engineers
- ▣ Dr. Michael Josselyn, WRA Consultants
- ▣ Dr. Robert Pitt, PE, University of Alabama
- ▣ Dr. Michael Stenstrom, PE, Univ. California, Los Angeles



# Presentation Outline

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- July ISRA/BMP Annual Report
- September BMP Plan Addendum
- Construction Activities
- NPDES Compliance Update



# July ISRA/BMP Annual Report

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- Provided a review of 2010/2011 monitoring data
- Developed statistical methodology to rank the sites based on threshold comparisons while accounting for the number of usable data available at each location
- New BMPs recommended for high priority locations
- Process will be revisited annually through 2014

ISRA PERFORMANCE MONITORING AND POTENTIAL BMP  
SUBAREA MONITORING FOR THE OUTFALLS 008 AND 009  
WATERSHEDS, 2010/2011 RAINY SEASON  
SANTA SUSANA FIELD LABORATORY  
VENTURA COUNTY, CALIFORNIA

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July 2011

Prepared For:

The Boeing Company  
and  
The National Aeronautics and Space Administration

Prepared By:

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Woodland Hills, CA 91367

# September BMP Plan Addendum

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- Concepts developed for new recommended BMPs
  - ▣ LOX (NASA): Erosion controls and slope protection.
  - ▣ ELV Area (NASA): Channel restoration, detention, and media filtration.
  - ▣ Helipad (NASA): Asphalt removal, erosion control, and active re-vegetation.
  - ▣ Area 1 Landfill: New BMPs under consideration.

*Prepared for*  
The Boeing Company and the National Aeronautics and Space Administration  
Santa Susana Field Laboratory  
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Canoga Park, CA 91304-1148

**FINAL 2011 BMP PLAN ADDENDUM**  
**SANTA SUSANA FIELD LABORATORY**  
**VENTURA COUNTY, CALIFORNIA**

*Prepared by*  
**Geosyntec**  
consultants

engineers | scientists | innovators  
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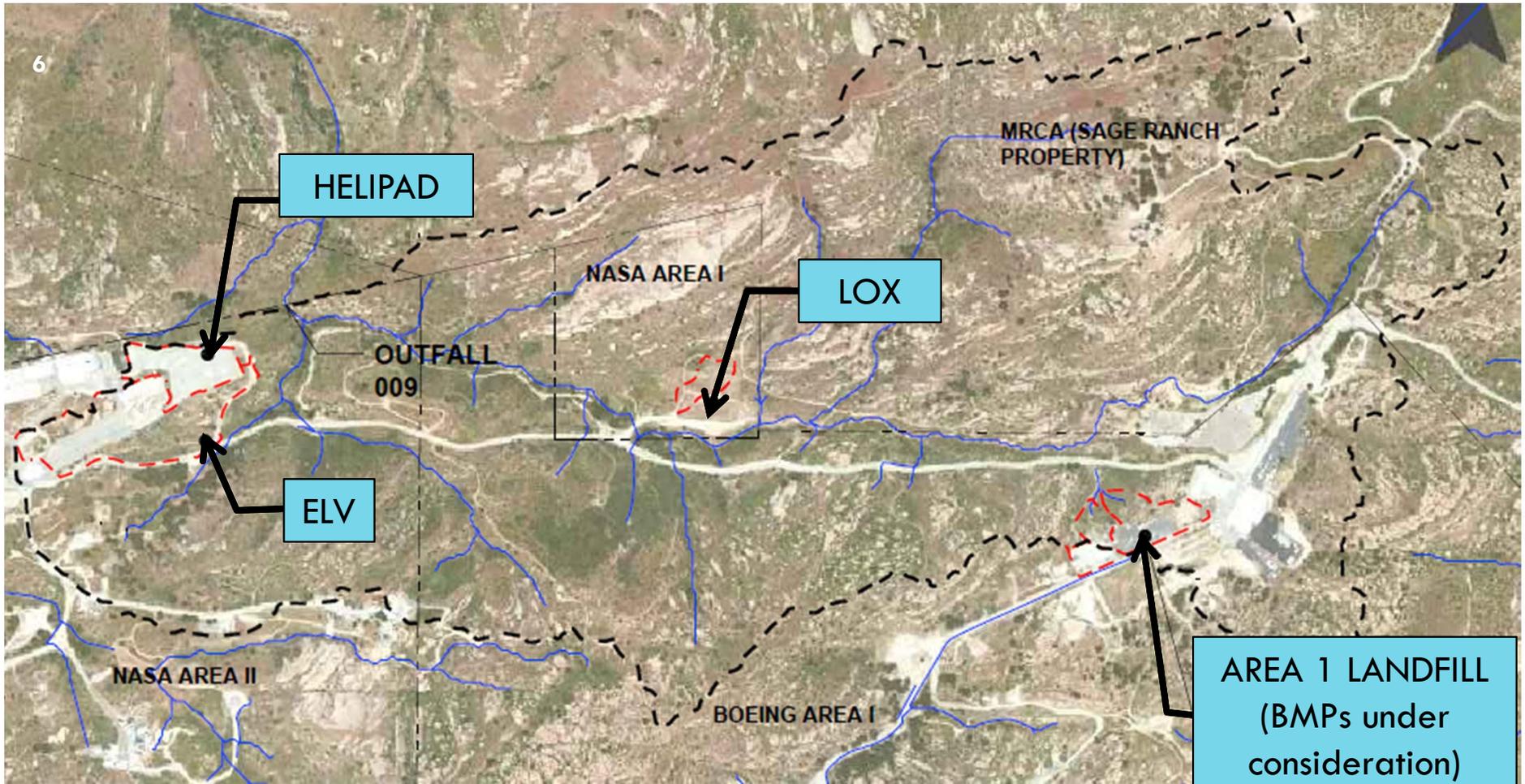
*and*

The Santa Susana Field Laboratory Surface Water Expert Panel

September 30, 2011

# New BMP Recommendation Locations

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**LEGEND:**

- 009 WATERSHED BOUNDARY
- - - SUBCATCHMENT BOUNDARY

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# Construction Activities

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- ISRA Activities
- B1 Area BMPs
- LOX BMPs
- Lower Lot BMPs
- Asphalt Removal



# ISRA Activities Update

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## Watershed 008 Summary:

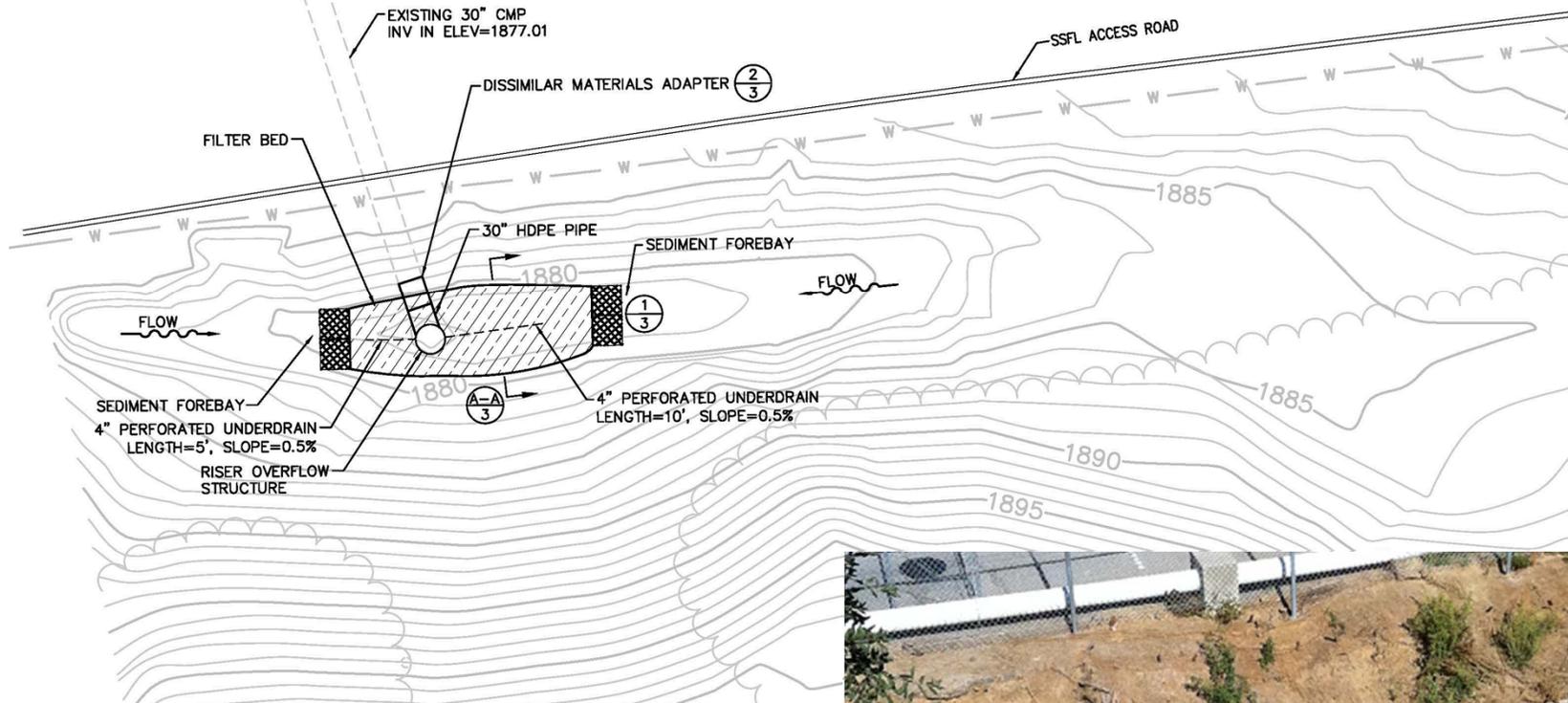
- 2009: 10 areas, total volume 5,200 cubic yards (cy)

## Watershed 009 Summary:

- 2009: 2 areas, 180 cy
- 2010: 11 areas, 7,500 cy
- 2011: 7 areas (planned), ~7,000 cy
- 2012+: 11 areas (planned), ~9,000 cy
- Erosion controls and/or containerized plants installed at all areas



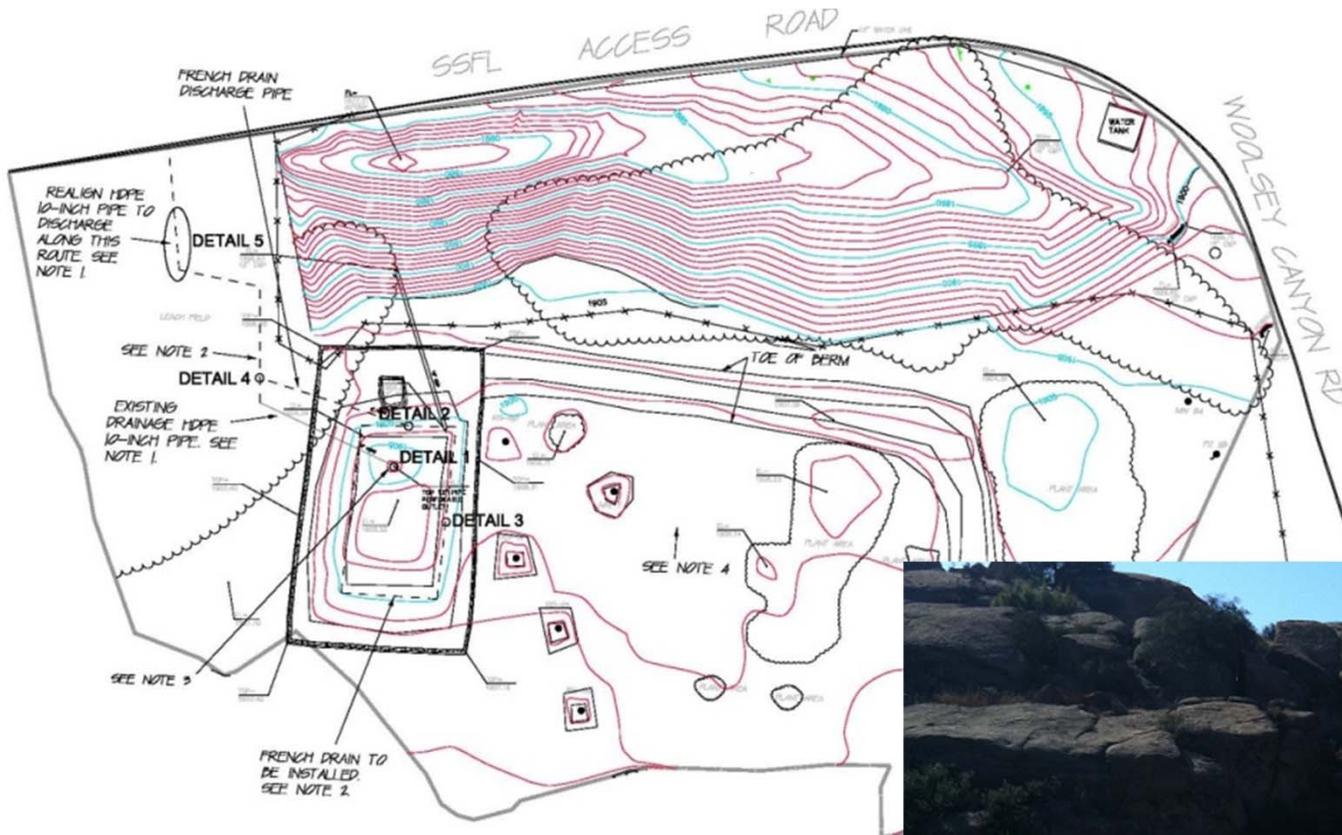
# B1 Culvert Modification



- Treat runoff from 4.4 acres including RFI/ISRA area
- Construction near complete



# B1 Sediment Basin

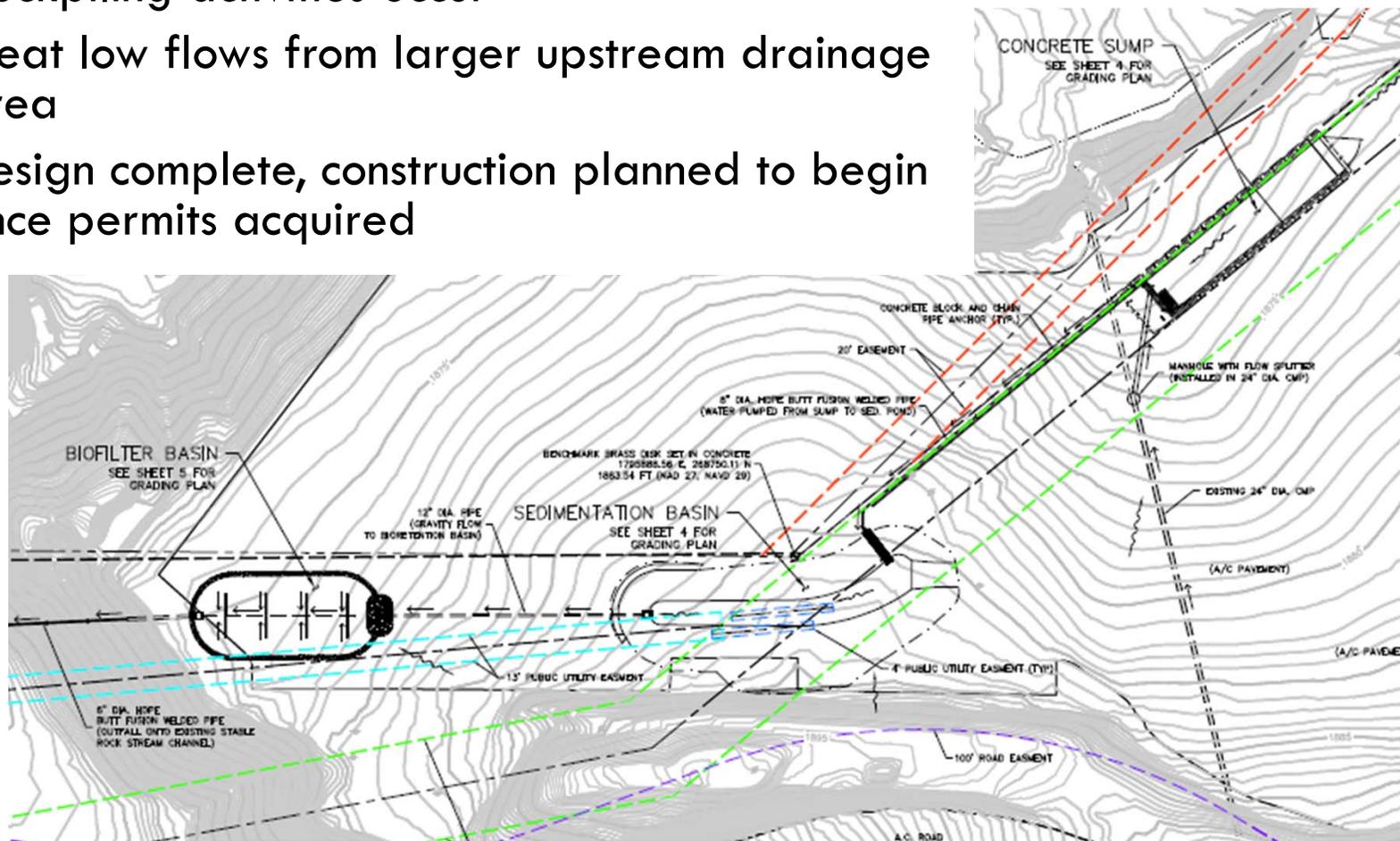


- Treat runoff from ~2 acres including RFI & ISRA areas
- Construction near complete

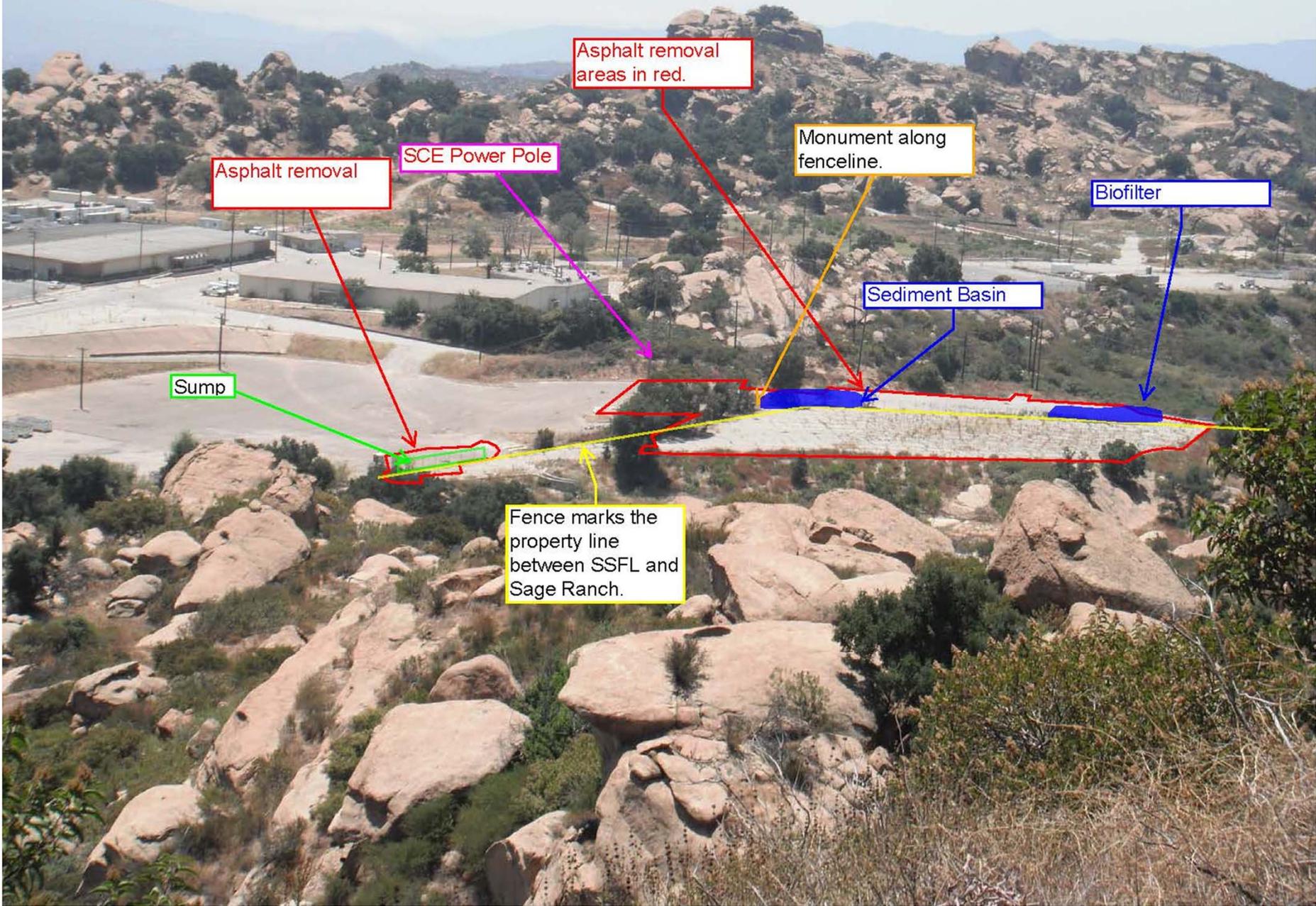
# Soil Stockpile Biofilter

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- Treat runoff from 5 acre paved lot where soil stockpiling activities occur
- Treat low flows from larger upstream drainage area
- Design complete, construction planned to begin once permits acquired



View south onto the lower lot from Sage Ranch property.



Asphalt removal

SCE Power Pole

Asphalt removal areas in red.

Monument along fenceline.

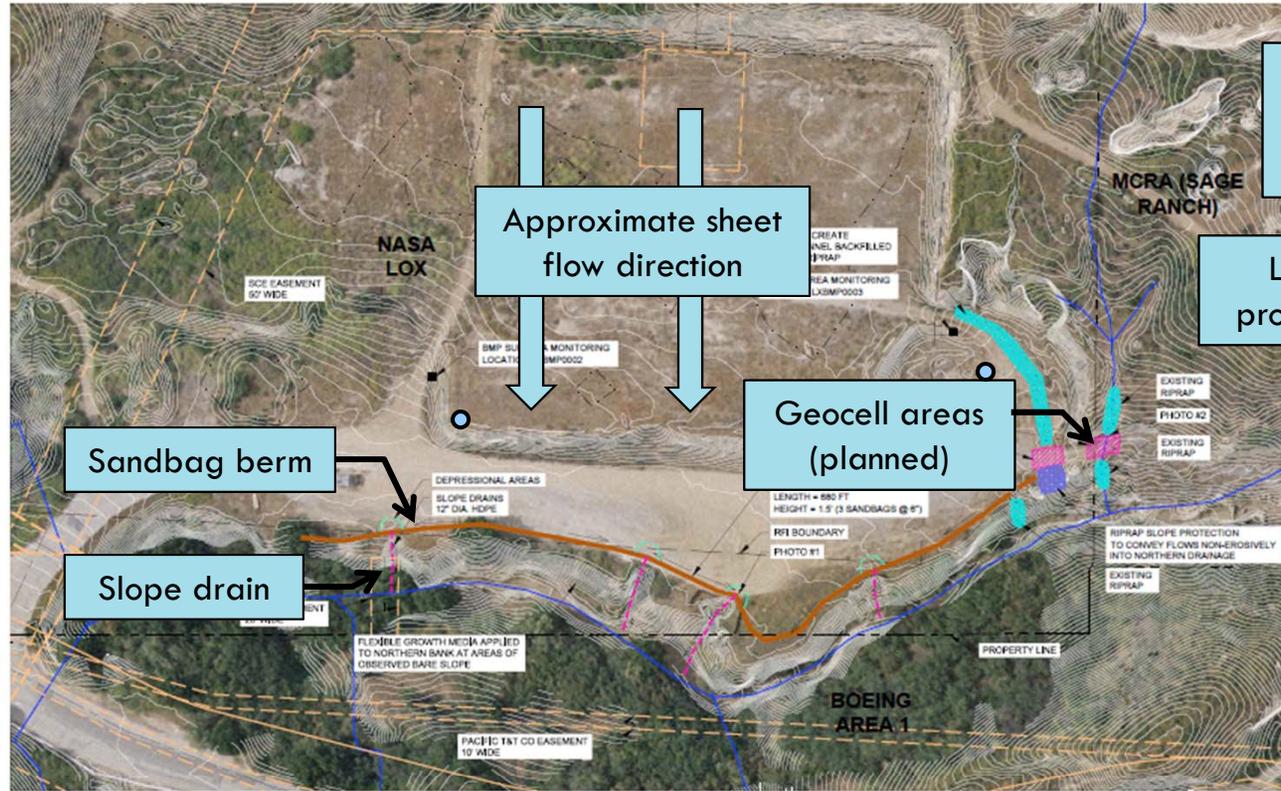
Biofilter

Sediment Basin

Sump

Fence marks the property line between SSFL and Sage Ranch.

# LOX BMP



Location of proposed slope drain

Location of proposed berm

PHOTO #1: LOOKING DOWN EROSION GULLY FROM TOP OF SLOPE. SEE MAP.



PHOTO #2: ACCESS ROAD LOOKING TOWARD SOUTH. SITE OF PROPOSED GEOCELL SHALLOW CROSSING (IN HATCHED AREA ON PHOTO). SEE MAP.

## SITE PHOTOS

### CONCEPTUAL DESIGN NOT FOR CONSTRUCTION

- NOTES:
- PROPOSED DESIGN FEATURES WERE PRELIMINARILY SIZED AND ARE APPROXIMATE. SUBAREA DRAINAGE BOUNDARIES ARE NOT SHOWN AS THEY ARE UNDERNED FOR THIS AREA. FINAL BMP DESIGN DETAILS AND SIZES WILL BE CONFIRMED BASED ON SITE VISIT AND ENGINEERING DESIGN JUDGMENT AND ANALYSIS. FINAL DESIGNS WILL BE SUBJECT TO ENGINEERING FEASIBILITY ASSESSMENT, PERMITTING CONSTRAINTS (I.E., REGULATORY AGENCY REQUIREMENTS), AND EXPERT PANEL AND PROPERTY OWNER REVIEW AND APPROVAL.
  - SLOPE DRAINS SHOULD BE KEVED IN TO THE SAND BAG BERM SO THAT WATER FLOW AROUND THE PIPE IS PREVENTED.
  - GRADED DITCH SHOULD BE CONSTRUCTED ON UPSLOPE SIDE OF BERM TO ENSURE PROPER DRAINAGE TOWARDS SLOPE DRAIN INLETS, UNLESS EXISTING GRADE ALREADY ALLOWS FOR THIS.
  - EXISTING RIPRAP SHOULD BE REINSTALLED WITH FILTERED ROCK BEDDING, AND PROPOSED RIPRAP SHOULD BE SIMILARLY INSTALLED WITH FILTERED ROCK BEDDING.
  - GEOCELL TRIBUTARY CROSSINGS SHOULD BE SHAPED INTO A CHANNEL TO ALLOW FOR CONVEYANCE OF CONCENTRATED FLOWS ACROSS THEM.

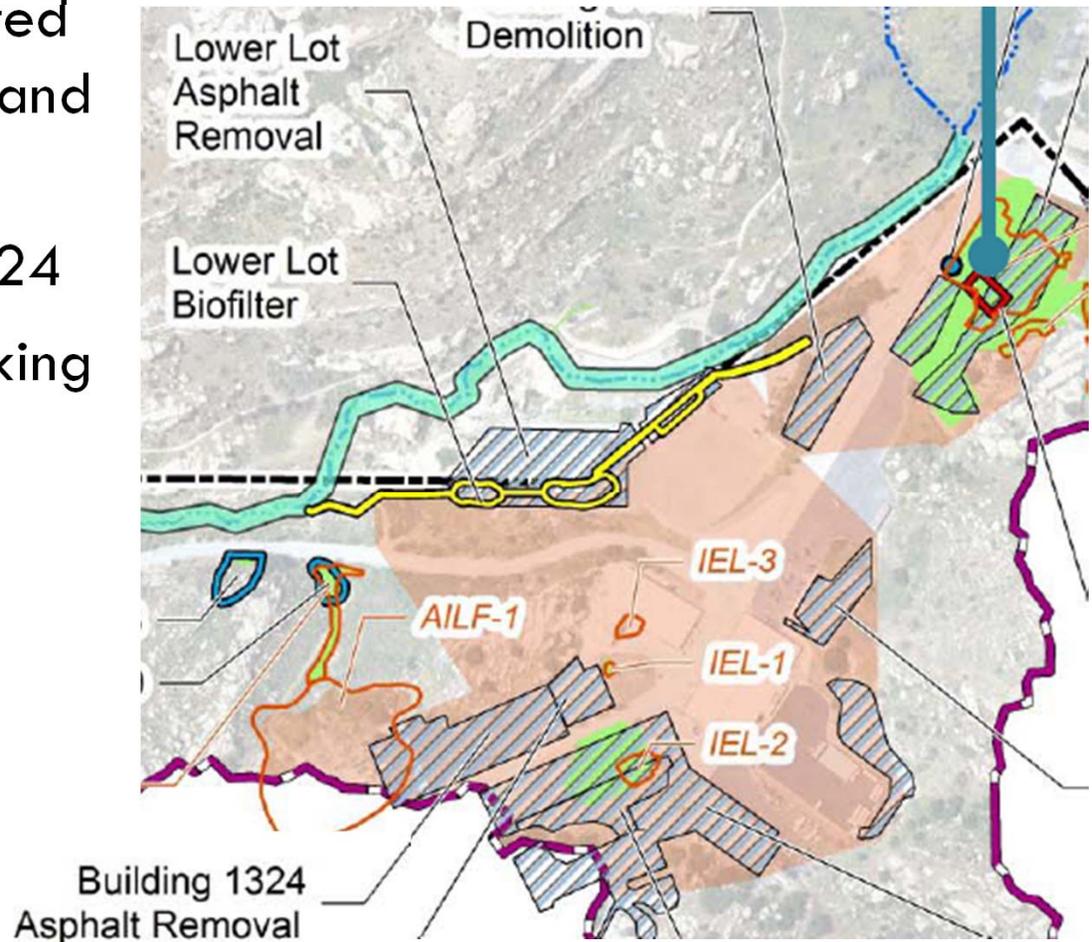


<b>TITLE</b> LOX AREA BMPS	<b>PREPARED BY:</b> Geosyntec <small>324 ANACAPA STREET, SUITE 4A                  SANTA BARBARA, CA 93101                  PHONE: 805.897.3800</small>	<b>PREPARED FOR:</b> BOEING NASA <small>SANTA SUSANA REID                  LABORATORY                  VENTURA COUNTY, CALIFORNIA</small>	<b>PROJECT:</b> STORMWATER BMP CONCEPT DESIGNS SSFL WATERSHED 005	<b>DESIGNED BY:</b> JC	<b>RECHECKED BY:</b> DHB	<b>DATE:</b> SEPT 2011	<b>DRAWING:</b> 5
				<b>DRAWN BY:</b> JC	<b>APPROVED BY:</b> BS	<b>PROJ. NO.:</b> SB0363R	

# 2011 Asphalt Removal

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- Asphalt removal is expected to reduce runoff volumes and contaminant loads
- 1.5 acres near Building 324
- 1.8 acres near lower parking lot
- Additional building and pavement areas to be demolished in 2012 and beyond

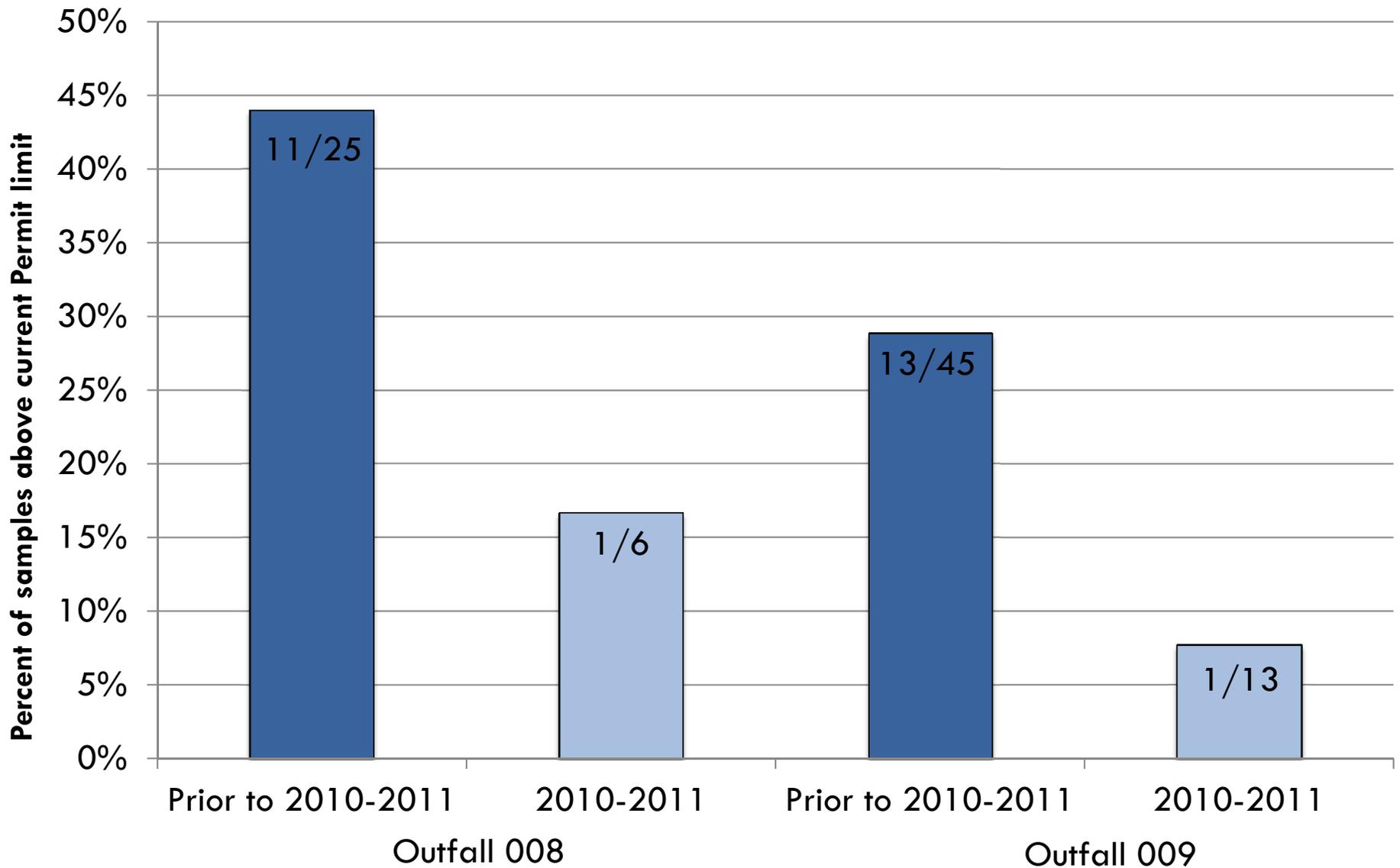


# NPDES Compliance Update

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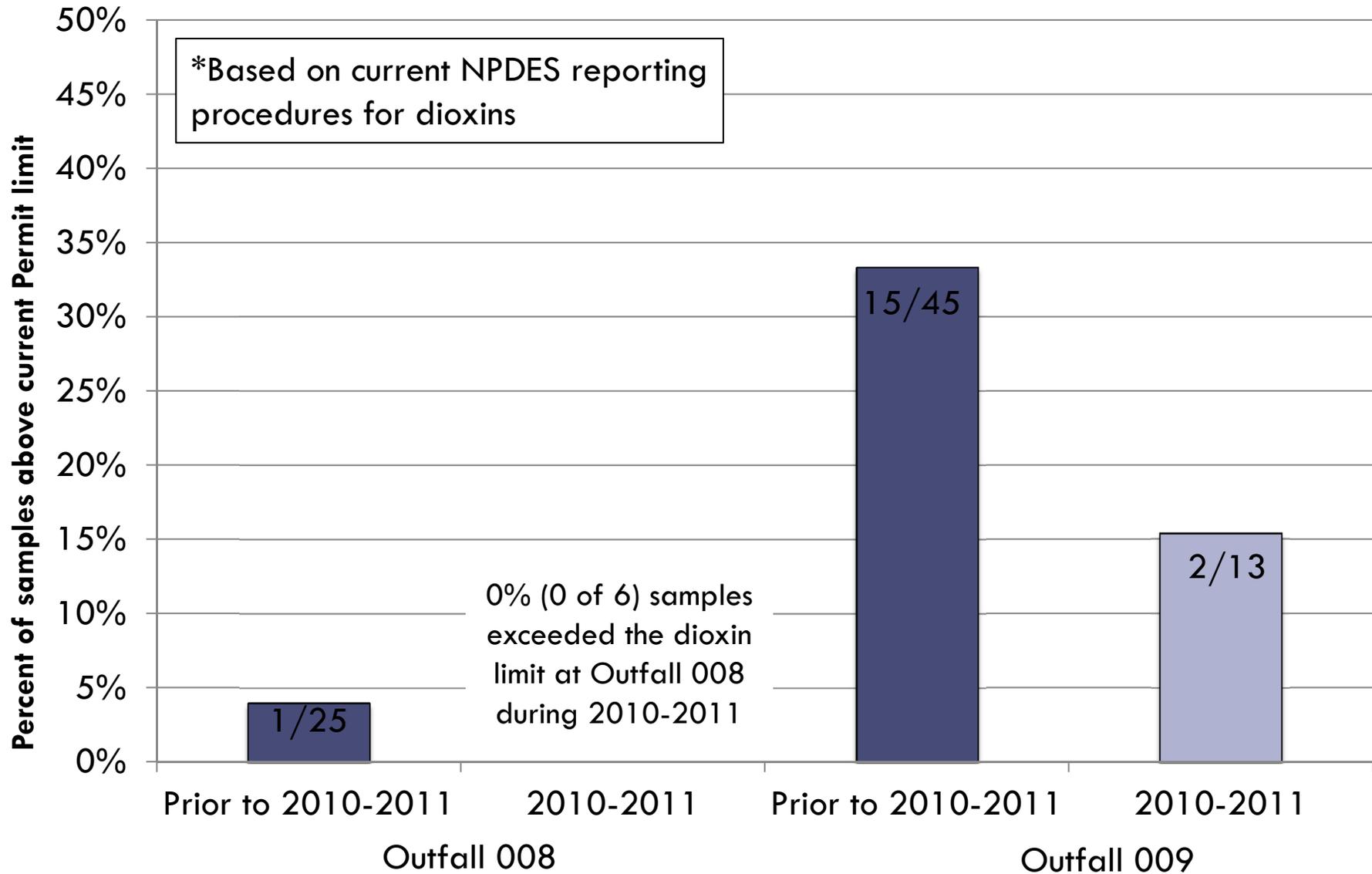
- Positive results in 2010/2011
  - ▣ Just one exceedance at Outfall 008 (lead)
  - ▣ Three exceedances at Outfall 009 (lead, dioxin [twice])
- 100% compliance is challenging due to background sources and/or natural variability.

# NPDES Exceedances Total Lead



# NPDES Exceedances

## Dioxin (TCDD TEQ [no DNQ])\*







THANK YOU