



Mark Pestrella, Director

# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

*"To Enrich Lives Through Effective and Caring Service"*

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May 15, 201~~89~~

IN REPLY PLEASE  
REFER TO FILE: SWM-0

Dr. L.B. Nye  
401 Water Quality Certification Section  
California Regional Water Quality Control Board  
320 West 4th Street, Suite 200  
Los Angeles, CA 90013

Dear Dr. Nye:

**201~~78~~-1~~89~~ ANNUAL MAINTENANCE AND MONITORING REPORT  
MAINTENANCE OF EXISTING FLOOD CONTROL FACILITIES  
SECTION 401 WATER QUALITY CERTIFICATION (FILE NUMBERS 14-125, 15-038,  
14-132, 14-145)**

The Los Angeles County Flood Control District (LACFCD) is pleased to submit the enclosed 201~~78~~-1~~89~~ Annual Maintenance and Monitoring Report for the soft-bottom channel (SBC) maintenance clearing, per the Section 401 Water Quality Certification (401 Certifications) File Nos. 14-125, 15-038, 14-132, 14-145.

Enclosed is the Annual Maintenance Report documentation (PDF files) in compliance with current permit conditions associated with the 201~~78~~-1~~89~~ SBC maintenance clearing activities. It contains the following:

1. Final 201~~78~~-1~~89~~ SBC clearing schedule
2. Pre- and Post-Clearing Mitigation Forms
3. Pre- and Post-Clearing Biological Resources Monitoring Report
4. Water Quality Sampling Testing and Monitoring Results
5. Additional photos taken by LACFCD personnel
6. Copies of the 401 Certifications

**SUMMARY OF 201~~78~~-1~~89~~ MAINTENANCE ACTIVITIES**

Under these 401 Certifications, LACFCD was responsible for maintenance of six SBC Reaches: 112, 114, 115, 117, 118, and 119, during the 201~~78~~-1~~89~~ maintenance year. Of these six reaches, LACFCD performed maintenance clearing on a total of four reaches during the 201~~78~~-1~~89~~ maintenance clearing period.

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Dr. L.B. Nye  
May 15, 2018~~9~~  
Page 2

This letter also serves as certification of no net loss of wetland habitat associated with this project:

*"I declare under penalty of law that this document and all enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

Executed on the 15th day of May 2018~~9~~ in Alhambra, California.

If you have any questions regarding this report, please contact Ms. Nandini Moran of my staff at (626) 458-7810 or [ntmoran@dpw.lacounty.gov](mailto:ntmoran@dpw.lacounty.gov).

Very truly yours,

MARK PESTRELLA  
Director of Public Works

~~SREE KUMAR STEVEN SHERIDAN~~  
Assistant Deputy Director  
Stormwater Maintenance Division

~~FARVG:tpsg~~  
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Enc.

cc: Regional Water Quality Control Board (Valerie Carrillo-Zara)



Los Angeles County Department of Public Works  
Soft Bottom Channel Pre-Clearing Surveys 2018-2019  
Updated: 09/14/18

Reach Number	Sensitive Reach ?	Unarmored threespine stickleback Presence/Absence	Santa Ana Sucker Suitable Habitat? Yes/No	Santa Ana Sucker Presence/Absence	Fish Survey Date	Arroyo Toad Presence/Absence	Least Bell's Vireo Presence/Absence	Southwestern Willow Flycatcher Presence/Absence	Yellow-Billed Cuckoo Presence/Absence	Pre-Clearing General Survey Complete (Date)	Monitoring Required 2018? Yes/No	Authorized Start Date	Clear to Start Work? Yes/No	Post-Clearing General Survey Complete (Date)	Comments/Recommendations
1	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/20/2018	No	09/01/18	Yes	No	
2	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/20/2018	No	09/01/18	Yes	No	
3	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/20/2018	No	09/01/18	Yes	No	
4	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/20/2018	No	09/01/18	Yes	No	
5	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/26/2018	No	09/01/18	Yes	No	
6	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/26/2018	No	09/01/18	Yes	No	
7	Sensitive	N/A	N/A	N/A	N/A	N/A	Present (breeding)	Absent	N/A**	8/29/2018	Yes	09/16/18 Pilot Project	Yes	No	
8	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/20/2018	No	09/01/18	Yes	No	
9	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/20/2018	No	09/01/18	Yes	No	
10	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/20/2018	No	09/01/18	Yes	No	
12	Sensitive	N/A	Yes	Potentially Present	8/29/2018	N/A	Absent	Absent	N/A**	8/17/2018	Yes	09/16/18	Yes	No	
13	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/17/2018	No	09/01/18	Yes	No	
14	Sensitive	N/A	N/A	N/A	N/A	N/A	Present (breeding)	Absent	Absent	8/17/2018	Yes	09/16/18	Yes	No	Although habitat has recently burned, monitoring would still be required.
15	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/20/2018	No	09/01/18	Yes	No	
16	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/22/2018	No	09/01/18	Yes	No	
18	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/22/2018	No	09/01/18	Yes	No	
19	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/22/2018	No	09/01/2018 Pilot Project	Yes	No	
20	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/22/2018	No	09/01/2018 Pilot Project	Yes	No	
21	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/22/2018	No	09/01/2018 Pilot Project	Yes	No	
22	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/22/2018	No	09/01/18	Yes	No	
24	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/17/2018	No	09/01/2018 Pilot Project	Yes	No	
25a	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/23/2018	No	09/01/2018 Pilot Project	Yes	No	
25b	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/23/2018	No	09/01/2018 Pilot Project	Yes	No	
26	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/17/2018	No	09/01/18	Yes	No	
27	Sensitive	N/A	N/A	N/A	N/A	N/A	Absent	Absent	Absent	8/30/2018	No	09/16/18	Yes	No	
28	Sensitive	N/A	N/A	N/A	N/A	N/A	Absent	Absent	N/A**	8/26/2018	No	09/16/18	Yes	No	
29	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/20/2018	No	09/01/18	Yes	No	
32	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/26/2018	No	09/01/18	Yes	No	
33	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/26/2018	No	09/01/18	Yes	No	
35	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/26/2018	No	09/01/18	Yes	No	
36	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/26/2018	No	09/01/18	Yes	No	
37	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/26/2018	No	09/01/18	Yes	No	

Los Angeles County Department of Public Works  
Soft Bottom Channel Pre-Clearing Surveys 2018-2019  
Updated: 09/14/18

Reach Number	Sensitive Reach ?	Unarmored threespine stickleback Presence/Absence	Santa Ana Sucker Suitable Habitat? Yes/No	Santa Ana Sucker Presence/Absence	Fish Survey Date	Arroyo Toad Presence/Absence	Least Bell's Vireo Presence/Absence	Southwestern Willow Flycatcher Presence/Absence	Yellow-Billed Cuckoo Presence/Absence	Pre-Clearing General Survey Complete (Date)	Monitoring Required 2018? Yes/No	Authorized Start Date	Clear to Start Work? Yes/No	Post-Clearing General Survey Complete (Date)	Comments/Recommendations
38	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/26/2018	No	09/01/18	Yes	No	
39	Sensitive	N/A	No	Absent	8/29/2018	N/A	Absent	Absent	N/A**	8/17/2018	Yes	09/16/18	Yes	No	Although LBVI survey negative in 2017, historical presence warrants monitoring.
40a	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/23/2018	No	09/01/18	Yes	No	
40b	Sensitive	N/A	N/A	N/A	N/A	N/A	Present (breeding)	Absent	Absent	8/23/2018	Yes	09/16/18	Yes	No	Flagging completed between 9/11/18 - 9/13/18
41	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/22/2018	No	09/01/18	Yes	No	
42	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/22/2018	No	09/01/18	Yes	No	
43a	Sensitive	N/A	N/A	N/A	N/A	N/A	Present (breeding)	Absent	Absent	8/23/2018	Yes	09/16/18	Yes	No	
43b	Sensitive	N/A	N/A	N/A	N/A	N/A	Absent	Absent	Absent	8/23/2018	No	09/16/18	Yes	No	
44	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/23/2018	No	09/01/18	Yes	No	
45	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
46	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
47	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
48	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
49	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
50	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
51	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/28/2018	no	09/01/18	Yes	No	
52	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
53	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
54	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/28/2018	No	09/01/18	Yes	No	
55	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/28/2018	No	09/01/18	Yes	No	
56	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/28/2018	No	09/01/18	Yes	No	
57	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
58	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/28/2018	No	09/01/18	Yes	No	
60	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/28/2018	No	09/01/18	Yes	No	
61	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/28/2018	No	09/01/18	Yes	No	
63	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/28/2018	No	09/01/18	Yes	No	
64	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/28/2018	No	09/01/18	Yes	No	
66	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	N/A	N/A	N/A	8/28/2018	No	09/01/18	Yes	No	
67	Sensitive	Potentially Present	N/A	N/A	8/29/2018	N/A	N/A	N/A	N/A	8/21/2018	Yes	09/01/18	Yes	No	Recommended noise minimization at upstrem terminus due to bats under bridge.
69	Sensitive	Absent	N/A	N/A	8/29/2018	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	Past seasons have required monitoring due to UTS, but not this season.
70	Sensitive	Absent	N/A	N/A	8/29/2018	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
71	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	Absent	Absent	Absent	8/22/2018	No	09/16/18	Yes	No	
72	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/29/2018	No	09/01/18	Yes	No	

Los Angeles County Department of Public Works  
Soft Bottom Channel Pre-Clearing Surveys 2018-2019  
Updated: 09/14/18

Reach Number	Sensitive Reach ?	Unarmored threespine stickleback Presence/Absence	Santa Ana Sucker Suitable Habitat? Yes/No	Santa Ana Sucker Presence/Absence	Fish Survey Date	Arroyo Toad Presence/Absence	Least Bell's Vireo Presence/Absence	Southwestern Willow Flycatcher Presence/Absence	Yellow-Billed Cuckoo Presence/Absence	Pre-Clearing General Survey Complete (Date)	Monitoring Required 2018? Yes/No	Authorized Start Date	Clear to Start Work? Yes/No	Post-Clearing General Survey Complete (Date)	Comments/Recommendations
73	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/22/2018	No	09/01/18	Yes	No	
75	Sensitive	N/A	N/A	N/A	N/A	Absent	Absent	Absent	N/A**	8/22/2018	No	09/16/18	Yes	No	
76	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
77	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
78	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
79	Sensitive	Absent	N/A	N/A	8/28/2018	Absent	Absent	Absent	Absent	8/22/2018	No	09/16/18	Yes	No	
80	Sensitive	Absent	N/A	N/A	8/28/2018	Absent	Absent	Absent	Absent	8/22/2018	No	09/16/18	Yes	No	
82	Sensitive	Absent	N/A	N/A	8/29/2018	Absent	Absent	Absent	Absent	8/22/2018	No	09/16/18	Yes	No	
86	Sensitive	Absent	N/A	N/A	8/28/2018	Absent	Absent	Absent	N/A**	8/21/2018	No	09/16/18	Yes	No	
87	Sensitive	Absent	N/A	N/A	8/28/2018	Absent	Absent	Absent	Absent	8/21/2018	No	09/16/18	Yes	No	
88	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
89	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
90	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
91	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
92	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
93	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
94	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
95	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/17/2018	No	09/01/18	Yes	No	
96	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/26/2018	No	09/01/18	Yes	No	
97	Sensitive	Absent	N/A	N/A	8/28/2018	Absent	Absent	Absent	Absent	8/21/2018	No	09/16/18	Yes	No	
98	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/29/2018	No	09/01/18	Yes	No	
99	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/22/2018	No	09/01/18	Yes	No	
100	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/20/2018	No	09/01/18	Yes	No	
101	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	NOT AUTHORIZED	No	No	
102	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	NOT AUTHORIZED	No	No	
103	Sensitive	Absent	N/A	N/A	8/28/2018	N/A	Present (breeding)	Absent	Absent	8/21/2018	Yes	NOT AUTHORIZED	No	No	
104	Sensitive	Absent	N/A	N/A	8/28/2018	Absent	Absent	Absent	Absent	8/21/2018	No	NOT AUTHORIZED	No	No	
108	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/21/2018	No	09/01/18	Yes	No	
109	Sensitive	Absent	N/A	N/A	8/29/2018	Absent	Absent	Absent	Absent	8/22/2018	Yes	NOT AUTHORIZED	No	No	Although not detected in 2017 surveys, LBVI was incidentally detected in 2018. Therefore monitoring is required.
110	Sensitive	N/A	N/A	N/A	N/A	N/A	Absent	Absent	N/A**	8/21/2018	No	NOT AUTHORIZED	No	No	
112 Upper	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/31/2018	No	NOT AUTHORIZED	No	No	
112 Lower	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/31/2018	No	NOT AUTHORIZED	Yes	No	

Los Angeles County Department of Public Works  
 Soft Bottom Channel Pre-Clearing Surveys 2018-2019  
 Updated: 09/14/18

Reach Number	Sensitive Reach ?	Unarmored threespine stickleback Presence/Absence	Santa Ana Sucker Suitable Habitat? Yes/No	Santa Ana Sucker Presence/Absence	Fish Survey Date	Arroyo Toad Presence/Absence	Least Bell's Vireo Presence/Absence	Southwestern Willow Flycatcher Presence/Absence	Yellow-Billed Cuckoo Presence/Absence	Pre-Clearing General Survey Complete (Date)	Monitoring Required 2018? Yes/No	Authorized Start Date	Clear to Start Work? Yes/No	Post-Clearing General Survey Complete (Date)	Comments/Recommendations
113	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/30/2018	No	NOT AUTHORIZED	No	No	
114	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/27/2018	No	09/01/18	Yes	No	
115	Sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/29/2018	Yes	NOT AUTHORIZED	No	No	FCD current decision is NO WORK this season per Evonne Taylor.
116	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/29/2018	No	NOT AUTHORIZED	No	No	
117	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/31/2018	Yes	NOT AUTHORIZED	No	No	
118	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/31/2018	No	NOT AUTHORIZED***	Yes	No	
119	Non-sensitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8/31/2018	No	NOT AUTHORIZED***	Yes	No	
120	TBD	Absent	No	Absent	8/28/2018	N/A	N/A	N/A	N/A	8/21/2018	TBD	NOT AUTHORIZED	No	No	
121	TBD	Absent	No	Absent	8/28/2018	Absent	Absent	Absent	Absent	8/22/2018	TBD	NOT AUTHORIZED	No	No	

: restricted due to special status species survey requirements prior to conducting maintenance activities  
 N/A : Not Applicable; this species restriction is not applicable to this reach  
 TBD : Surveys have not been conducted; results are pending  
 NOT AUTHORIZED: Permit has not been issued  
 \*\*\*Hand tools only: Permit has not been issued but hand tool work is allowed  
 Authorization to proceed assumes CDFW issuance of SAA extension before Sept 1.  
 \* No work in 2018  
 \*\* For the 2018-2019 season, YBCU surveys will not be required

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 1

Special Permit Conditions (list):

*The operator shall not impact the 0.27 acres of vegetation allowed to remain in 1997. All removal shall be done by hand tools only.*

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

*Photos 27, 28; Riparian herb and ruderal vegetation in area maintained; Invasives not a problem.*

Name of Biological Monitor: Steve Moulton Date: August 20, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

*Photos 20, 21; Willows.*

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Moulton Date: November 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 2

Special Permit Conditions (list):

Operator shall not impact the 0.39 acre of vegetation allowed to remain in 1997. Hand Clearing only. Width of clearing shall not exceed 20 ft. Native trees with a DBH of 3" or greater shall not be removed.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 21, 22, 23; Riparian herb and reed vegetation in area maintained; a variety of ornamental vegetation present with most not a problem, but some ground cover are invasive.

Name of Biological Monitor: Steve Morin Date: August 20, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 22, 23, 24; willows and sycamores, but also some ornamental trees and shrubs.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morin Date: December 15, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 3

Special Permit Conditions (list):

Hand Clearing only.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; Rubus Vegetation dominates the area maintained;  
Some Castor Bean present.

Name of Biological Monitor: Steve Morris Date: August 20, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 18, 19; Eucalyptus and Coast Live Oaks.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Problems or Recommendations (if more space is needed continue on the back of this form):  
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Name of Biological Monitor: Steve Morris Date: November 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 4

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 3,4; Riparian herb and ruderal vegetation in area maintained; Castor Bean present.

Name of Biological Monitor: Steve Morris Date: August 20, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 16,17; A mix of ornamental and native trees and shrubs outside channel; invasives not a problem.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morris Date: November 28, 2018



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 5

Special Permit Conditions (list):

Hand Clearing Only. Exotic shall be removed during maintenance activities. The vegetation allowed to remain in 1997 shall not be impacted by future maintenance activities.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 21, 22, 23; Riparian herb dominated by cattails in area maintained; invasives not a problem.

Name of Biological Monitor: Steve Morik Date: August 26, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 9, 10, 11; Willow riparian.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morik Date: December 18, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 6

Special Permit Conditions (list):

Hand Clearing Only. Exotic shall be removed during maintenance activities. The vegetation allowed to remain in 1997 shall not be impacted by future maintenance activities.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 24, 25; Riparian herb, willow branches, and ruderal vegetation in area maintained; invasives not a problem.

Name of Biological Monitor: Steve Morik Date: August 26, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 12, 13; Willows, Coast live oaks, and some ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morik Date: December 18, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 7

Special Permit Conditions (list):

Special permit conditions for Least Bell's vireo (LBV) apply. Note that the ACOE/City of L.A. restoration project (2008) changed conditions at this reach.

Observation of Special Status Species: None heard during 3/29/18 visit

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3; willow saplings and cattails at toe of riprap covered levee banks; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 29, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; one large willow allowed to remain at toe of right bank (existed prior to restoration project), and willow dominated riparian vegetation on top of both banks.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Feb 13, 2019

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 8

Special Permit Conditions (list):

Hand Clearing only.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 16, 17; Riparian herb and ruderal vegetation in area maintained; downriver not a problem.

Name of Biological Monitor: Steve Morris Date: August 20, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 7, 8; No vegetation allowed to remain in the channel- adjacent ornamental trees "overhanging" the reach somewhat.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morris Date: December 18, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 9

Special Permit Conditions (list):

Hand Clearing only. Disrupts shall not exceed 0.12 acre.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 10, 11; Some ruderal vegetation in area maintained; invasives not a problem but trash present due to homeless encampment.

Name of Biological Monitor: Steve Morin Date: August 20, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; Non-native Ash Trees.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Trash from homeless camp present.

Name of Biological Monitor: Steve Morin Date: December 18, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 10

Special Permit Conditions (list):

No work done in 1997. Operator shall not impact the 2.11 acres of vegetation allowed to remain in 1997. (It was left alone due to a toxic spill).

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 12, 13, 14, 15; Ryegrass and other vegetation in area maintained; a small Washington Palm near upper end of reach.

Name of Biological Monitor: Steve Morris Date: August 20, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 3, 4, 5, 6; all vegetation removed. (There is no protected vegetation in this reach such as old willows, etc).

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morris Date: December 18, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 12

Special Permit Conditions (list):

Hand clearing only. Special permit conditions for the Santa Ana sucker (SAS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4; some cattails, few willow saplings in area maintained, but mostly dry herbaceous vegetation due to 1) ongoing drought & 2) new low flow channel outside area maintained that goes north into golf course and away from south bank of outlet; the large cottonwoods now dying.

Name of Biological Monitor: Brian Daniels Date: Aug 17, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; willows along right bank of outlet, plus two large willows inside right-of-way that are lollipoped; otherwise willows and some ornamental trees downstream of maintained (right of way) area

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

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Problems or Recommendations (if more space is needed continue on the back of this form):  
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Name of Biological Monitor: Brian Daniels Date: Feb. 13, 2019

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 13

Special Permit Conditions (list):

No special permit conditions apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; sparse growth of now dried herbaceous vegetation; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 17, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; alluvial sage scrub vegetation 2/3 of area maintained.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Dec. 11, 2018



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 14

Special Permit Conditions (list):

Operator shall not impact the 0.5 acre of vegetation allowed to remain in 1997. Special permit conditions for least Bell's vireo apply to this reach

Observation of Special Status Species: None detected

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3; mostly unvegetated in area maintained; invasives not a problem. Recent wild fire has burned some of the "protected" habitat on the banks of this reach. The wild fire and drought has severely affected this reach.

Name of Biological Monitor: Brian Daniels Date: Aug 17, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; much of the "protected" vegetation in this reach burned during the December 2007 Creek Fire. Alluvial sage scrub vegetation to south (burned) and in Palmdale Wash - north its residual.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

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Problems or Recommendations (if more space is needed continue on the back of this form):

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Name of Biological Monitor: Brian Daniels Date: Oct. 25, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 15

Special Permit Conditions (list):

Operator shall not impact the 0.01 acre vegetation  
allowed to remain in 1997.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 5, 6, 7, 8, 9; Riparian herb and sedge vegetation in area  
maintained; invasive not a problem but large amounts of  
trash due to homeless population.

Name of Biological Monitor: Steve Morris Date: August 20, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 22, 23, 24, 25, 26; No vegetation allowed to remain in channel  
except small patch (0.01 acre) at downstream end/terminus of reach.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Some trash at upstream end of reach due to homeless under the  
bridge.

Name of Biological Monitor: Steve Morris Date: November 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 16

Special Permit Conditions (list):

Hand clearing only. clumps shall not exceed 0.07 acre.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 19,20; sparse residual vegetation in area maintained; clumps not a problem.

Name of Biological Monitor: Steve North Date: August 22, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 13,14; Oak woodland at upstream end of reach.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve North Date: December 14, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 18

Special Permit Conditions (list):

Hand clearing only.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 16, 17, 18; Rubus vegetation in area maintained;  
Tree-of-Heaven continues on right bank just up of entrance bridge  
to Camp Max Strauss.

Name of Biological Monitor: Steve Moulh Date: August 22, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 10, 11, 12; Chaparral, Coast Live Oaks, and ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Moulh Date: December 14, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 19

Special Permit Conditions (list):

Hand Clearing only.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 14, 15; sparse redbud vegetation in area maintained; dune area not a problem.

Name of Biological Monitor: Steve Mord Date: August 22, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; Ornamental vegetation and some chaparral and/or alluvial sage scrub on right bank.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Mord Date: December 14, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 70

Special Permit Conditions (list):

depth shall not exceed 0.13 acre (115 FT linear by 50 FT wide).

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 12, 13; sparse, natural vegetation in area maintained; Castor Bean present upstream of bridge.

Name of Biological Monitor: Steve Morin Date: August 22, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 5, 6; oak woodland and ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Castor Bean present at upper end of reach above bridge.

Name of Biological Monitor: Steve Morin Date: December 14, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 21

Special Permit Conditions (list):

Hand clearing only. impacts shall not exceed 0.03 acre.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 10, 11; Primarily unvegetated in area maintained; invasive not a problem.

Name of Biological Monitor: Steve Moritz Date: August 22, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 3, 4; oak woodland and ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Moritz Date: December 14, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 22

Special Permit Conditions (list):

Hand clearing only.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 7, 8, 9; sparse growth of reedbed vegetation in area maintained; none Castor Bean present.

Name of Biological Monitor: Steve Morik Date: August 22, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 7, 8, 9; a mix of ornamental vegetation from adjacent houses with some chaparral, sycamores, and oaks.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Castor Bean present upstream of bridge.

Name of Biological Monitor: Steve Morik Date: December 14, 2018



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 24

Special Permit Conditions (list):

*No special permit conditions pertain to this reach, but the general terms and conditions of the permit apply.*

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

*Photos 1, 2, 3, 4, 5; Riparian herb and ruderal vegetation in area maintained; Castor Bean clumps throughout and some Arundo at upper end of reach.*

Name of Biological Monitor: Steve Morris Date: August 17, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

*Photos 1, 2, 3, 4, 5; All vegetation removed.*

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morris Date: October 29, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 25

Special Permit Conditions (list):

Operator shall not impact the 9.37 acres of vegetation allowed to remain in 1997. (NOTE: The ACOE removed much of this vegetation in 2000).

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5 (EAST BANK) & 6, 7, 8, 9, 10 (WEST BANK); Primarily riparian growth in area maintained; Castor Bean and small arundo present.

Name of Biological Monitor: Steve Morik Date: August 23, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5 (East Bank) & 6, 7, 8, 9, 10 (West Bank); All vegetation removed except large willows on East Bank.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Trash and homeless encampment in riparian on West bank near PCH bridge. (See Photo 7).

Name of Biological Monitor: Steve Morik Date: December 4, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 26

Special Permit Conditions (list):

Hard Clearing only.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 6, 7, 8, 9, 10, 11; Ruderal, Riparian Herb, and Ornamental Vegetation in area maintained; Castor Bean present.

Name of Biological Monitor: Steve Mark Date: August 17, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5, 6; Willows and ornamental trees (Mainly Ash Trees).

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Some Castor Bean at lower end of reach

Name of Biological Monitor: Steve Mark Date: October 9, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 28

Special Permit Conditions (list):

Hand Clearing only. Operator shall avoid impacts to Southwestern Pond Turtle. Clearing shall not extend beyond area cleared in 1997. Nonnative trees with a DBH of 2" or greater shall be removed.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 3, 4, 5; Primarily ruderal vegetation in area maintained, but some riparian herb under bridge; invasives not a problem.

Name of Biological Monitor: Steve Mork Date: August 26, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 12, 13, 14; Willows. Area burned badly in recent fire including Mulholland Bridge.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Mork Date: December 15, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 29

Special Permit Conditions (list):

Hand Clearing Only. Operator shall avoid impacts to Southern Pond Turtle. Operator shall not impact the 0.61 acre of vegetation allowed to remain in 1997. No mature trees with a DBH of 2" or greater shall be removed.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 18, 19, 20; Riparian herb and ruderal vegetation in area maintained; Invasives not a problem.

Name of Biological Monitor: Steve Moulk

Date: August 20, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 19, 20, 21; Willows and grassland/ruderal field. Area burned in recent fire.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Moulk

Date: December 15, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 32

Special Permit Conditions (list):

Hand Clearing only. No vegetation was allowed to remain in 1997.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 15, 16, 17, 18; Riparian herb and ruderal vegetation in area maintained; Invasives not a problem.

Name of Biological Monitor: Steve Morkh Date: August 26, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 15, 16, 17, 18; Chaparral, Oaks, and some ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morkh Date: December 15, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 33

Special Permit Conditions (list):

The maintenance activities for this project will include skid logging of willow trees, removal of exotic/non-native vegetation, and removal of debris and trash.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 12, 13, 14; Willow riparian forest and freshwater marsh habitat in areas where no clearing activities have been performed due to permit restrictions.

Name of Biological Monitor: Steve Morik Date: August 26, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 9, 10, 11; Willows and some reed beds.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morik Date: December 15, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 35

Special Permit Conditions (list):

Hand Clearing only. Clearcuts shall not exceed 0.14 acre. No  
native trees with a DBH of 2 inches or greater shall be  
removed.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 8, 9; Riparian herb and ruderal vegetation in area  
maintained; invasives not a problem.

Name of Biological Monitor: Steve Moul

Date: August 26, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 3, 4; A few shrubs and small trees (olive & bayonet).

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve G. Moul

Date: December 15, 2018



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 36

Special Permit Conditions (list):

Hard Clearing only. Operator shall not impact the 0.05 acre of vegetation allowed to remain in 1997.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 10, 11; sparse riparian vegetation in area maintained; Invasives not a problem.

Name of Biological Monitor: Steve Moritz Date: August 26, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; Willows.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Moritz Date: December 15, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 37

Special Permit Conditions (list):

Vegetation allowed to remain in 1997 shall not be impacted by future maintenance activities.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 6, 7; Riparian herb and ruderal vegetation in area maintained; invasives not a problem.

Name of Biological Monitor: Steve Morde Date: August 26, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 5, 6; Willow

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morde Date: December 15, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 38

Special Permit Conditions (list):

Hand Clearing only. impacts shall not exceed 0.19 acre. No  
native trees with a DBH of 2" or greater shall be removed.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; Riparian herb and ruderal vegetation in area maintained;  
Chenopodias not a problem.

Name of Biological Monitor: Steve Mark Date: August 26, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 7, 8; Willow and grassland.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Mark Date: December 15, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 39

Special Permit Conditions (list):

Special permit conditions for the Santa Ana sucker (SAS) and Least Bell's vireo (LBV) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4; Few cattails and willow saplings in area maintained – mostly herbaceous vegetation; some castor bean.

Name of Biological Monitor: Brian Daniels Date: Aug 17, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4; large willow on invert fell over due to strong Santa Ana winds earlier this fall and was removed – note replacement willow sapling allowed to grow on right bank near mouth of outlet.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

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Problems or Recommendations (if more space is needed continue on the back of this form):

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Name of Biological Monitor: Brian Daniels Date: Nov. 27, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 40a

Special Permit Conditions (list):

Santa Fe Dam to 8-10 Fwy: hand + mechanical clearing 10 ft. from toe of levee and 75 wide area cleared in alternate years.

Observation of Special Status Species: None observed,

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5, 6, 7, 8; two-yr. old vegetation dominated by awle fat, but also some alluvial sage scrub species, and herbaceous (non-native weeds) and ornamental species in area maintained; some castor bean present.

Name of Biological Monitor: Brian Daniels Date: Aug 23, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4; due to continuing drought, very little vegetation present in area (one-yr growth) allowed to remain this year.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Oct 25, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 406

Special Permit Conditions (list):

R-10 Hwy to Thierces Ave; protect vegetation allowed to remain in 1997. Special permit conditions for least Bell's vireo (LBR) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5, 6, 7, 8; mostly herbaceous (non-native weeds) vegetation in areas maintained, but some willow saplings also present in wetter areas (very few this year); castor bean and arundo present.

Name of Biological Monitor: Brian Daniels Date: Aug 23, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5, 6, 7; willows and mule fat

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Oct. 25, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 41

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 4,5,6; Riparian herb and ruderal vegetation in area maintained; Castor Bean present.

Name of Biological Monitor: Steve Monk Date: August 22, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 4,5,6; Willows.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Some Castor Bean present.

Name of Biological Monitor: Steve Monk Date: November 5, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 42

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: Yellow Warbler

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3; Riparian herb and ruderal vegetation in area maintained; Castor Bean present.

Name of Biological Monitor: Steve Moulle Date: August 22, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; Willows.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Moulle Date: November 5, 2018



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 43a

Special Permit Conditions (list):

Vegetation allowed to remain in 1997 shall not be impacted by future maintenance activities. Special permit conditions for Least Bell's vireo (LBV) apply to this reach.

Observation of Special Status Species: none observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5; mostly herbaceous (non-native weeds) ~~large~~ vegetation in areas maintained; arundo & castor bean continue to be difficult to manage in this reach.

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Name of Biological Monitor: Brian Daniels Date: Aug 23, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5; primarily willows and mule fat, but also some ornamental vegetation (ash trees and couple eucalyptus); arundo removed but not yet treated with herbicides.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

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Problems or Recommendations (if more space is needed continue on the back of this form):

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Name of Biological Monitor: Brian Daniels Date: Dec. 18, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 43b

Special Permit Conditions (list):

Vegetation allowed to remain in 1997 shall not be impacted by future maintenance activities. Special permit conditions for least Bell's vine (LBV) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4; mostly herbaceous (non-native weeds) vegetation in areas maintained; some castor bean.

Name of Biological Monitor: Brian Daniels Date: Aug 23, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4; mostly willows, but some mule fat along toe of right bank slope.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Dec. 13, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 44

Special Permit Conditions (list):

Maintenance activities shall not go beyond areas cleared in 1997. Vegetation allowed to remain in 1997 shall not be impacted by future maintenance activities.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14; mostly herbaceous (non-native weeds) vegetation in areas maintained, but also some cattails and few willow saplings at mouth of some side outlets with water; some castor bean.

Name of Biological Monitor: Brian Daniels Date: Aug 23, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13; primarily willows and mole rat.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 23, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 45

Special Permit Conditions (list):

Impacts shall not exceed 0.05 acre. No native trees with 2 inch or greater DBH shall be removed.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; dry herbaceous (weeds) vegetation in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; coast live oak and chaparral vegetation on left bank.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Feb. 1, 2019

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 46

Special Permit Conditions (list):

Impacts shall not exceed 0.06 acre. No native trees with 2 inch or greater DBH shall be removed.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; small patch of cattails, but mostly unvegetated; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; unvegetated ground outlet due to removal of trailer park.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Feb. 1, 2019

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 47

Special Permit Conditions (list):

Clearing shall not occur more than 20ft. beyond toe of levee. Special permit conditions for narrowed three-spike stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4; primarily un-vegetated in area maintained, but side outlets contain herbaceous (weeds + grasses) vegetation due to periodic releases of "nuisance" water; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4; alluvial sage scrub vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 5, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 48

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; mostly unvegetated in area maintained; but west area at v/s end of reach holds mix of cattails, willow saplings, Washington's palms, tree-of-heaven, and herbaceous vegetation.

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; ornamental vegetation of adjacent residences, but also some vegetation allowed to remain in channel including young willow (see photo) and the rapid regrowth of removed arundo.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 7, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 49

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; unvegetated in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; adjacent banks unvegetated.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov 7, 2018



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 50

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; sparse growth of herbaceous (weeds and grasses) in area maintained; invasives not a problem

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; ornamental trees at top of left bank.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 7, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 51

Special Permit Conditions (list):

Clearing shall not occur more than 20 ft. beyond toe of levee. Special permit conditions for unarmored three-spike stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; sparse growth of herbaceous and alluvial sage scrub vegetation in area maintained; invasives not a problem.

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Name of Biological Monitor: Brian Daniels Date: Aug 23, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; alluvial sage scrub vegetation

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Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

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Problems or Recommendations (if more space is needed continue on the back of this form):

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Name of Biological Monitor: Brian Daniels Date: Nov. 7, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 52

Special Permit Conditions (list):

Hand clearing only. Impacts shall not exceed 0.04 acre.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photo 1; sparse growth of herbaceous (non-native weeds and grasses) vegetation in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photo 1; unvegetated

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 7, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 53

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; sparse growth of herbaceous (non-native weeds and grasses) vegetation at edge of ponded water; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; primarily un-vegetated, but some residual (herbaceous weeds) vegetation still present.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 7, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 54

Special Permit Conditions (list):

Impacts shall not exceed 0.31 acre. Special permit conditions for unarmored threespine stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; sparse growth of herbaceous and alluvial sage scrub vegetation in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug. 28, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; Great Basin sagebrush, cottonwood, and eucalyptus

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 7, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 55

Special Permit Conditions (list):

Clearing shall not occur more than 20 ft. beyond toe of levee. Special permit conditions for unarmored three-spine stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5, 6, 7, 8; primarily unvegetated except for side cutlets with herbaceous (non-native weeds and grasses) vegetation in response to periodic releases of "wisence" water; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 28, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5, 6, 7, 8; alluvial sage scrub vegetation

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 7, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 56 (left bank reach)

Special Permit Conditions (list):

clearing shall not occur more than 20ft beyond toe of levee. Special permit conditions for unarmored three-spike stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3; sparse growth of herbaceous vegetation and alluvial sage scrub species in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 28, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; alluvial sage scrub vegetation

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 7, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 57

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; recent facility improvements include a concrete invert and adjoining access road. Previous adjacent vegetation (trees at left bank edge of reach) remains intact; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; residential yards with ornamental vegetation

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 7, 2018



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 58 (including former 59)

Special Permit Conditions (list):

clearing shall not occur beyond 20 ft. of toe of levee.  
Special permit conditions for unarmored three-phase  
stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5; sparse growth of herbaceous and  
alluvial sage scrub vegetation in area maintained;  
invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 28, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5; alluvial sage scrub vegetation

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 7, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 60

Special Permit Conditions (list):

Clearing shall not occur beyond 20 ft. of toe of levee.  
Special permit conditions for unarmored treespine  
stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3; sparse growth of herbaceous and  
alluvial sage scrub vegetation in areas maintained;  
invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 28, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; alluvial sage scrub vegetation

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov 7, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 61 (including former 62)

Special Permit Conditions (list):

Clearing shall not occur more than 20 ft. beyond toe of levee. Special permit conditions for unarmored trees in stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5, 6; sparse growth of herbaceous and alluvial sage scrub vegetation in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 28, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5, 6; alluvial sage scrub vegetation and some cottonwoods

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 5, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 63

Special Permit Conditions (list):

Impacts shall not exceed 0.85 acre. Special permit conditions for unarmored threespine stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3; primarily unvegetated in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 28, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; largely unvegetated, but some alluvial sage scrub close by as well as some cottonwoods and willows

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 64

Special Permit Conditions (list):

Impacts shall not exceed 0.10 acre. Special permit conditions for unarmored treespire stieldback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3; sparse growth of herbaceous vegetation v/s of aqueduct - 2/3 its a mix of herbaceous vegetation and new willow trunk fast growth (saplings and branches from vegetation allowed to remain on banks); invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 28, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; male Pat, willows, cottonwoods, and an ornamental tree

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 666

Special Permit Conditions (list):

Clearing shall not occur more than 20 ft beyond toe of levee. Special permit conditions for unarmored trapezoidal stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; primarily unvegetated in area maintained, but herbaceous vegetation at mouth of one side outlet; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 28, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; alluvial sage scrub vegetation including milk fat and a cottonwood

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Bin Daniels Date: Nov. 5, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 69

Special Permit Conditions (list):

Special permit conditions for unarmored  
threespine stickleback (UTS) apply to this  
reach

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4; alternating halves cleared annually,  
leaving one-yr. + two-yr. old strips of vegetation  
consisting of riparian scrub (willows, cottonwoods,  
mule fat) and herbaceous species, but also wet  
areas not cleared yet due to UTS potential;  
tamarisk + arundo.

Name of Biological Monitor: Brian Daniels Date: Aug. 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; one-yr. old strip of riparian/herbaceous  
vegetation on left half of invert as well as 10ft. buffer  
next to potential UTS habitat identified by the  
monitors (via pre-clearing surveys) per 2015 permits

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

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\_\_\_\_\_  
\_\_\_\_\_

Problems or Recommendations (if more space is needed continue on the back of this form):

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\_\_\_\_\_  
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Name of Biological Monitor: Brian Daniels Date: Oct. 25, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 70

Special Permit Conditions (list):

Special permit conditions for unarmored three-spine stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4; alternating halves cleared annually leaving one-yr. & two-yr. old vegetation (herbaceous species in this reach) in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4; one-yr. old growth of herbaceous (sparse) vegetation on right bank.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Oct. 25, 2018



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 21

Special Permit Conditions (list):

Clearing shall not occur beyond 20 ft. of the levee.  
Special permit conditions for unarmored three-spine  
stickleback (UTS) apply to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; very sparse growth of herbaceous  
vegetation in area maintained; invasives not  
a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 22, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; alluvial sage scrub and few cottonwoods

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 5, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 72

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; herbaceous vegetation with willow saplings at mouth of reach in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 29, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; willows and cottonwoods

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Oct. 30, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 73

Special Permit Conditions (list):

Impacts shall not exceed 0.05 acre.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; mostly unvegetated, but couple herbaceous plants and a tree-of-heaven sapling; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 22, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; unvegetated.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Oct. 30, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 75 (Lyons Ave to Orchard Village Dr.)

Special Permit Conditions (list):

The vegetation (15.37 acres) allowed to remain in 1997 shall not be impacted by future maintenance activities. (No vegetation allowed to remain between Lyons Ave and Orchard Village Dr.)

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; mix of cattails, willow saplings, and herbaceous vegetation in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 22, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; unvegetated in removal area - outside the channel and backyards of adjacent residences.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Oct. 30, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 75 (Orchard Village Dr. to Magic Mtn. Pkwy.)

Special Permit Conditions (list):

The vegetation (15.37 acres) allowed to remain in 1997 shall not be impacted by future maintenance activities. (The protected vegetation is all between Orchard Village Dr. and Magic Mtn. Pkwy.)

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13; mostly unvegetated in areas maintained, but some herbaceous vegetation with cattails and willow saplings at wet outlets; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 22, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13; willows, cottonwoods, mule fat and alluvial sage scrub vegetation

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Oct. 30, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 76

Special Permit Conditions (list):

No special permit conditions pertain to this reach, but the general conditions and measures of the permit apply.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 25, 26, 27; Reduced growth of vegetation in area maintained; duckweed not a problem.

Name of Biological Monitor: Steve Moul Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 9, 10, 11; All vegetation removed from channel.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Moul Date: November 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 77

Special Permit Conditions (list):

Vegetation (0.89 acre) allowed to remain in 1997 shall not be  
impacted by future maintenance activities.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 28, 29; Primarily unvegetated in area maintained, but a  
few ruderal species are present; invasives not a problem.

Name of Biological Monitor: Steve Morik Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 12, 13; some alluvial sedge scrub at downstream end of  
reach (at confluence with Pescita Creek - Reach 78), but otherwise  
bare dirt.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morik Date: November 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 78

Special Permit Conditions (list):

Vegetation (0.89 acre) allowed to remain in 1997 shall not be  
impacted by future maintenance activities.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 30, 31; Primarily unvegetated in area maintained, but a  
few ruderal species are present; invasives not a problem.

Name of Biological Monitor: Steve Morik Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 14, 15; Alluvial Sage scrub vegetation on banks.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morik Date: November 28, 2018



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 79

Special Permit Conditions (list):

~~Vegetation allowed to remain in 1999 shall not be impacted by future maintenance activities. Special permit conditions for unarmored threespine stickleback (UTS) apply to this reach.~~  
Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3; mostly unvegetated in area maintained, but some herbaceous vegetation in wet spot under bridge; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 22, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; Great Basin sagebrush, mule fat and cottonwoods.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 5, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 30

Special Permit Conditions (list):

Clearing shall not occur more than 20 ft. beyond toe of levee. Vegetation allowed to remain in 1997 shall not be impacted by future maintenance activities. Special permit conditions for unarmored treeless stickleback (UTS) apply to this reach.  
Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4; sparse growth of herbaceous vegetation in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 22, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4; Great Basin sagebrush, milk fat, willows and cottonwoods

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 5, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 82

Special Permit Conditions (list):

Clearing shall not extend beyond 20 ft. of toe of levee. Vegetation allowed to remain in 1997 shall not be impacted by future maintenance activities. Special permit conditions for unarmored invasive straggler (UTS) apply to this reach.  
Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4; cattails and herbaceous vegetation at wet side outlet, but otherwise sparse growth of herbaceous vegetation in area maintained (except for one area of willow saplings); invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 22, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4; mule fat, willows, and cottonwoods

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Oct. 25, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 86

Special Permit Conditions (list):

Vegetation allowed to remain in 1997 shall not be disrupted by future maintenance activities. Special permit conditions issued on 12/09/03 apply to this reach (Stitts Creek).

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3; sparse growth of riparian vegetation in low flow channel; dunes not a problem.

Name of Biological Monitor: Steve Moulton Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 6, 7, 8; Willow and Cottonwoods in Coate Creek at downstream end of reach.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Moulton Date: November 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 87

Special Permit Conditions (list):

special permit conditions issued on 12/09/03 apply to this reach  
(state but permit in 2005, but not since).

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 7, 8; Riparian herb and subalpine vegetation in area  
maintained; dunnies not a problem.

Name of Biological Monitor: Steve Moch Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 4, 5; Willows.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Moch Date: November 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 88

Special Permit Conditions (list):

Impacts shall not exceed 0.42 acre (1,085 linear FT. by 17 FT wide).

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 13,14; sparse growth of ruderal vegetation in area maintained; invasives not a problem.

Name of Biological Monitor: Steve Mouch Date: August 21, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 5,6; sage scrub / alluvial sage scrub

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Mouch Date: October 8, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 89

Special Permit Conditions (list):

Vegetation (0.02 acre) allowed to remain in 1997 shall not be disrupted by future maintenance activities.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photo 9; sparse growth of ruderal vegetation in area maintained; does not present a problem.

Name of Biological Monitor: Steve Moul Date: August 21, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photo 1; Alluvial sage scrub and ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Moul Date: October 8, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 90

Special Permit Conditions (list):

Vegetation (0.19 acre) allowed to remain in 1987 shall not be impacted by future maintenance activities.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 10, 11, 12; sparse growth of riparian vegetation in area maintained; drainage not a problem.

Name of Biological Monitor: Steve Morik Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 2, 3, 4; alluvial sage scrub and/or coastal sage scrub

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morik Date: October 8, 2018



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 91

Special Permit Conditions (list):

No special permit conditions apply to this reach, but the general conditions and measures of the permits apply.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 21, 22; sparse growth of riparian vegetation in area maintained; dunes not a problem.

Name of Biological Monitor: Steve Morin Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 13, 14; ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Some trash and downed branches have collected downstream of bridge.

Name of Biological Monitor: Steve Morin Date: October 8, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 92

Special Permit Conditions (list):

No special permit conditions apply to this reach, but the general conditions and measures of the permit apply.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 23, 24; sparse growth of ruderal vegetation in area maintained; channels not a problem.

Name of Biological Monitor: Steve Morik Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 15, 16; sage scrub / alluvial sage scrub.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morik Date: October 8, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 93

Special Permit Conditions (list):

No special permit conditions apply to this reach, but the general condition and measures of the permit apply.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 19, 20; sparse growth of arundo vegetation in area maintained; charoaria not a problem.

Name of Biological Monitor: Steve Mark Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 11, 12; oaks, chaparral, and ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Mark Date: October 8, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 94

Special Permit Conditions (list):

No special conditions for permit listed for this reach, but the general conditions and measures of the permit apply.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 15, 16, 17, 18; Very sparse growth of ruderal vegetation in area maintained; chervils not a problem.

Name of Biological Monitor: Steve Morik Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 7, 8, 9, 10; Annualized and ruderal vegetation dominant, but some sage scrub/Chaparral species present.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morik Date: October 8, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 95

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3; unvegetated in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 17, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3; unwegetated

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 96

Special Permit Conditions (list):

Hand Clearing only.

Observation of Special Status Species: None observed.

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 19, 20; Riparian herb and subcanal vegetation in area maintained; Arundo present.

Name of Biological Monitor: Steve Mork Date: August 26, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 25, 26; Willows, oaks, and some ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Mork Date: December 15, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 97

Special Permit Conditions (list):

*Operator shall not impact the vegetation (1.17 acres) allowed to remain in 1997. Special permit conditions issued on 12/09/03 apply to this reach (Mulleck present in 2005, but not since).*

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

*Photos 4, 5, 6; Riparian herb and reed bed vegetation in channel maintained; dunnets not a problem.*

Name of Biological Monitor: Steve Morin Date: August 21, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

*Photos 1, 2, 3; Willows, Cottonwoods, and Mule Fat.*

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Morin Date: November 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 98

Special Permit Conditions (list):

Impacts shall not exceed 0.03 acre

Observation of Special Status Species: none observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2; cattails and non-native grasses in area maintained; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 29, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2; few coast live oaks, but mostly non-native ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Jan 3, 2019



County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 99

Special Permit Conditions (list):

No special permit conditions pertain to this reach, but the general conditions and measures of the permit apply.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 21, 22, 23, 24, 25, 26; Riparian herb, ornamental, Willow branches and residual vegetation in area maintained; Arundo and Castor Bean present.

Name of Biological Monitor: Steve Morla Date: August 22, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 15, 16, 17, 18, 19, 20; Mostly ornamental vegetation, but also some oaks, Willow, and sycamore. Some Arundo present on both sides of Koyol Canyon Road bridge.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

If Arundo on both sides of Koyol Canyon Road bridge is not growing on private property, it should be removed.

Name of Biological Monitor: Steve Morla Date: December 14, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 100

Special Permit Conditions (list):

No special permit conditions pertain to this reach, but the general conditions and measures of the permits apply.

Observation of Special Status Species: None observed.

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 24, 25, 26; Riparian herb, ruderal vegetation, and ornamental vegetation in area maintained; invasives not a problem.

Name of Biological Monitor: Steve Mork Date: August 20, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 27, 28, 29; Willows, oaks, and some ornamental vegetation.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Steve Mork Date: December 15, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 108

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5; mix of cattails, riparian scrub (mostly willow saplings), and herbaceous species; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 21, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5; unvegetated except for ornamental vegetation of development adjacent to channel

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Nov. 28, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 114

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5, 6; low growing herbaceous vegetation on sediment bank at toe of left and right bank levees between P.C.W. and Anaheim St.; otherwise, the channel reach is unvegetated.

Name of Biological Monitor: Brian Daniels Date: Aug. 27, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5, 6; ~~is~~ unvegetated.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Brian Daniels Date: Jan 4, 2019

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 115

Special Permit Conditions (list):

Clearing of vegetation on banks shall occur with avoidance measures implemented for avoiding impacts to green sea turtles and roosting birds.

Observation of Special Status Species: None observed

Pre-Clearing Documentation

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5, 6, 7; mix of ornamental trees and shrubs on both banks – most dense upstream/less dense downstream; some arundo, castor bean, and Washingtonia palms.

Name of Biological Monitor: Brian Daniels Date: Aug 28, 2018

Post-Clearing Documentation

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4; these photos show where work has occurred on right (or west) bank – not yet complete, but work will resume during the 2019-2020 season.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Additional vegetation removal may occur as part of the ongoing Reach 115 vegetation removal project (authorized under separate regulatory permits).

Name of Biological Monitor: Brian Daniels Date: Mar. 19, 2019

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 118

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4, 5, 6; herbaceous vegetation dominates the invert of this channel reach; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 31, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4, 5, 6; All vegetation removed from inside of channel. Some ornamental vegetation hangs over side of channel.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Cristhian Mace Date: December 12, 2018

County of Los Angeles Department of Public Works  
Flood Maintenance Division  
Earth Bottom Channel Program

Biological Resources Monitoring Form

Reach Number: 119

Special Permit Conditions (list):

No special permit conditions pertain to this reach.

Observation of Special Status Species: None observed

**Pre-Clearing Documentation**

Pre-Monitoring Conditions – (briefly describe: Vegetation type, height of trees, invasive present & cover estimate. Attach photograph): List invasives present (Arundo, Castor Bean, Trash, etc.)

Photos 1, 2, 3, 4; herbaceous vegetation (primarily non-native weeds) dominates the invert of this channel reach; invasives not a problem.

Name of Biological Monitor: Brian Daniels Date: Aug 31, 2018

**Post-Clearing Documentation**

Type of vegetation remaining adjacent to removal area (briefly describe, attach photograph, include arrows to indicate important features). Estimate amount of invasives removed.

Photos 1, 2, 3, 4; All vegetation removed from inside channel. Some willows near upper end of reach and some ornamental vegetation hangs over channel.

Compliance with Permit Conditions: Full  Partial

If partial compliance is apparent, describe circumstances:

Problems or Recommendations (if more space is needed continue on the back of this form):

Name of Biological Monitor: Cristhian Mace Date: December 12, 2018



# 2018-2019 Soft Bottom Channels

## Reach 1

### Bell Creek — MTD 963 M.C.I.

Before Photos 8/20/18



After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

## Reach 2

### Dry Canyon (Calabasas) P.D. T1845

Before Photos 8/20/18





# 2018-2019 Soft Bottom Channels

## Reach 3

### Santa Susana Creek M.C.I.

Before Photos 8/20/18



After Photos 11/28/18



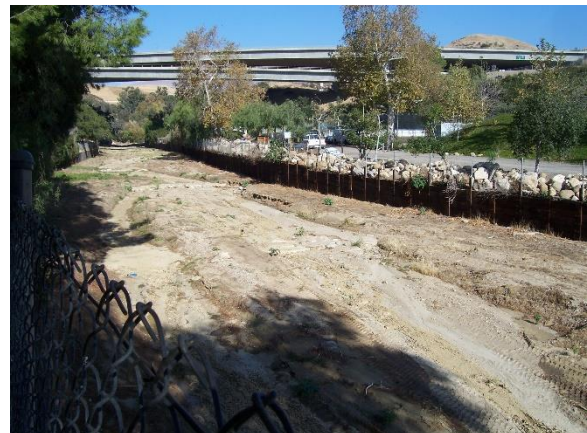
# 2018-2019 Soft Bottom Channels

Reach 4

Browns Creek

Before Photos 8/20/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

## Reach 5

### Caballero Creek M.C.I. (West Fork)

Before Photos 8/26/18

After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

## Reach 6

### Caballero Creek M.C.I. (East Fork)

Before Photos 8/26/18



After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 7

Bull Creek M.C.O.

Before Photo 8/29/18

After Photos 2/13/19





# 2018-2019 Soft Bottom Channels

## Reach 8

### Hayvenhurst Drain — Project 470 Outlet

Before Photos 8/20/18



After Photos 12/18/18



# 2018-2019 Soft Bottom Channels

Reach 9

Project 106 Outlet

Before Photos 8/20/18



After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 10

Project No. 469

Before Photos 8/20/18

After Photos 12/18/18



# 2018-2019 Soft Bottom Channels

Reach 10

Project No. 469

Before Photos 8/20/18



After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 12

Haines Canyon M.C.O.

Before Photos 8/17/18

After Photos 2/13/19





# 2018-2019 Soft Bottom Channels

Reach 13

Project No. 5215 Unit 1

Before Photos 08/17/18



After Photos 12/11/18





# 2018-2019 Soft Bottom Channels

## Reach 14

### May Channel (M.C.O. into Pacoima Canyon)

Before Photos 08/17/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 15

Pacoima Wash

Before Photos 8/20/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 15

Pacoima Wash

Before Photos 8/20/18

After Photos 11/28/18



# 2018-2019 Soft Bottom Channels

## Reach 16

### Verdugo Wash — Las Barras Canyon (Channel Inlet)

Before Photos 8/22/18



After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 18

Engleheard Channel

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 19

Pickens Canyon

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 20

Webber Channel (Storm at Private Bridge)

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

## Reach 21

### Webber Channel (Main Channel Inlet d/s Bridge)

Before Photos 8/22/18

After Photos 12/14/18





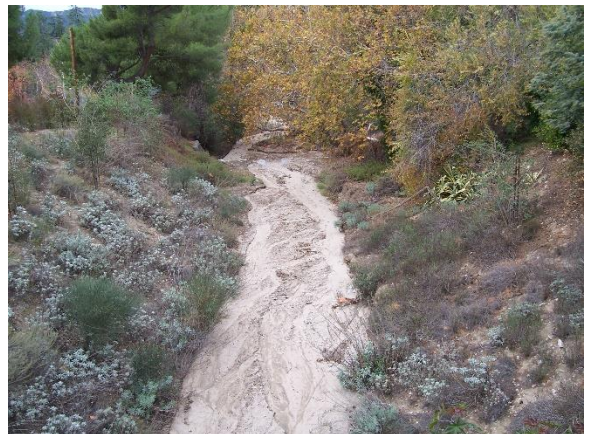
# 2018-2019 Soft Bottom Channels

Reach 22

Halls Canyon

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 24

Compton Creek

Before Photos 8/17/18

After Photos 10/29/18



# 2018-2019 Soft Bottom Channels

Reach 24

Compton Creek

Before Photos 8/17/18

After Photos 10/29/18





# 2018-2019 Soft Bottom Channels

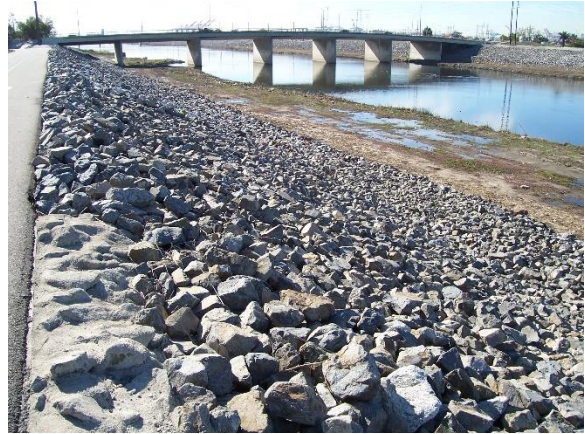
## Reach 25a

### Los Angeles River — Willow to PCH (East/Left Bank)

Before Photos 8/23/18



After Photos 12/04/18





# 2018-2019 Soft Bottom Channels

## Reach 25a

### Los Angeles River — Willow to PCH (East/Left Bank)

Before Photos 8/23/18



After Photos 12/04/18





# 2018-2019 Soft Bottom Channels

Reach 25b

Los Angeles River — Willow to PCH (West/Right Bank)

Before Photos 8/23/18

After Photos 12/04/18





# 2018-2019 Soft Bottom Channels

Reach 25b

Los Angeles River — Willow to PCH (West/Right Bank)

Before Photos 8/23/18



After Photos 12/04/18





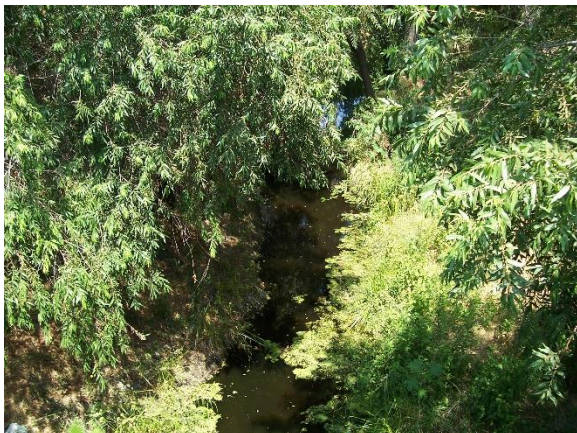
# 2018-2019 Soft Bottom Channels

Reach 26

Project 740

Before Photos 8/17/18

After Photos 10/9/18





# 2018-2019 Soft Bottom Channels

Reach 26

Project 740

Before Photos 8/17/18

After Photos 10/9/18





# 2018-2019 Soft Bottom Channels

Reach 27

Wilmington Drain (110 Freeway to s/o PCH)

Before Photos 8/30/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 27

Wilmington Drain (110 Freeway to s/o PCH)

Before Photos 8/30/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 28

Triunfo Creek (P.D. T2200)

Before Photos 8/26/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 29

Las Virgenes Creek (P.D. T1684) M.C.I.

Before Photos 8/20/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 32

Stokes Canyon Channel (P.D. T043)

Before Photos 8/26/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 32

Stokes Canyon Channel (P.D. T043)

Before Photos 8/26/18



After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 33

Medea Creek (P.D. T1378 U.2)

Before Photos 8/26/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 35

Medea Creek Main Channel Inlet — Under Route 101

Before Photos 8/26/18



After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 36

Cheseboro Main Channel Inlet

Before Photos 8/26/18



After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 37

Medea Creek/Cheseboro Creek Outlet

Before Photos 8/26/18

After Photos 12/15/18



# 2018-2019 Soft Bottom Channels

Reach 38

Lindero Main Channel Outlet

Before Photos 8/26/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 39

Beatty Channel Outlet at SGR 25+99.00

Before Photos 8/17/18

After Photos 11/27/18





# 2018-2019 Soft Bottom Channels

Reach 39

Beatty Channel Outlet at SGR 25+99.00

Before Photos 8/17/18



After Photos 11/27/18



# 2018-2019 Soft Bottom Channels

## Reach 40a

### San Gabriel River — Santa Fe Dam to I-10 Freeway

Before Photos 8/23/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 40a

San Gabriel River — Santa Fe Dam to I-10 Freeway

Before Photos 8/23/18



After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 40b

San Gabriel River — I-10 Freeway to Thienes Avenue

Before Photos 8/23/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 40b

### San Gabriel River — I-10 Freeway to Thienes Avenue

Before Photos 8/23/18

After Photos 10/25/18



# 2018-2019 Soft Bottom Channels

Reach 40b

San Gabriel River — I-10 Freeway to Thienes Avenue

Before Photos 8/23/18



After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 41

### Walnut Creek — Baldwin Park to San Gabriel River

Before Photos 8/22/18



After Photos 11/5/18





# 2018-2019 Soft Bottom Channels

Reach 42

San Jose Creek d/s 1000 feet from end of concrete channel

Before Photos 8/22/18

After Photos 11/5/18





# 2018-2019 Soft Bottom Channels

## Reach 43a

### San Gabriel River — Upper

Before Photos 8/23/18

After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 43a

San Gabriel River — Upper

Before Photos 8/23/18

After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 43b

San Gabriel River — Lower

Before Photos 8/23/18

After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 43b

San Gabriel River — Lower

Before Photos 8/23/18



After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

## Reach 44

### San Gabriel River — Rubber Dams

Before Photos 8/23/18



After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

## Reach 44

### San Gabriel River — Rubber Dams

Before Photos 8/23/18



After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

## Reach 44

### San Gabriel River — Rubber Dams

Before Photos 8/23/18



After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 44

San Gabriel River — Rubber Dams

Before Photos 8/23/18

After Photos 11/28/18



# 2018-2019 Soft Bottom Channels

Reach 44

San Gabriel River — Rubber Dams

Before Photos 8/23/18



After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 45

Sand Canyon (P.D. T1307) Main Channel Inlet

Before Photos 8/21/18



After Photos 2/1/19



# 2018-2019 Soft Bottom Channels

Reach 46

Sand Canyon (P.D. T1307) Main Channel Outlet

Before Photos 8/21/18



After Photos 2/1/19





# 2018-2019 Soft Bottom Channels

Reach 47

Santa Clara River Main Channel (P.D. T1733-Unit 1)

Before Photos 8/21/18

After Photos 11/5/18





# 2018-2019 Soft Bottom Channels

Reach 47

Santa Clara River Main Channel (P.D. T1733-Unit 1)

Before Photos 8/21/18



After Photos 11/5/18



# 2018-2019 Soft Bottom Channels

Reach 48

Mint Canyon Channel between Sierra Highway & Adon Avenue

Before Photos 8/21/18



After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 49

Mint Canyon Channel between Adon Avenue & Scherzinger Lane

Before Photos 8/21/18



After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 50

Mint Canyon Channel between Solamint Road and Soledad Canyon Road

Before Photos 8/21/18



After Photos 11/7/18



# 2018-2019 Soft Bottom Channels

Reach 51

Mint Canyon M.C.O. (P.D. 1894)/Santa Clara River — Main Channel

Before Photos 8/28/18

After Photos 11/7/18



# 2018-2019 Soft Bottom Channels

Reach 52

Sierra Highway Road Drainage (CDR 523.203)

Before Photos 8/21/18



After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 53

Santa Clara River Non-Main Channel (P.D. 832) Main Channel Inlet

Before Photos 8/21/18



After Photos 11/7/18



# 2018-2019 Soft Bottom Channels

## Reach 54

### Santa Clara River Non-Main Channel (P.D. 832) Main Outlet Channel

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 55

Santa Clara River Main Channel — Right Bank Reach

(P.D.'s 910, 832, 1758, and 1562 Unit 2)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 55

Santa Clara River Main Channel — Right Bank Reach

(P.D.'s 910, 832, 1758, and 1562 Unit 2)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 55

Santa Clara River Main Channel — Right Bank Reach

(P.D.'s 910, 832, 1758, and 1562 Unit 2)

Before Photos 8/28/18

After Photos 11/7/18





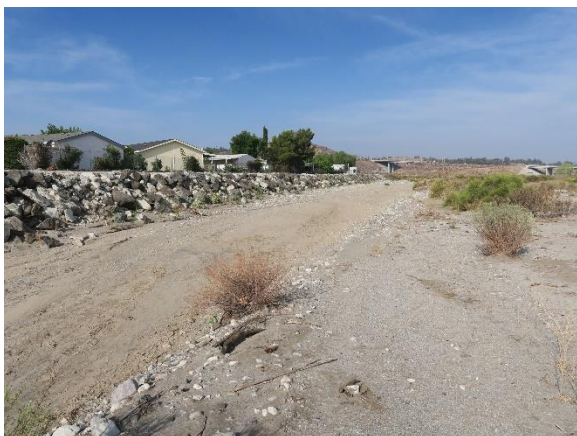
# 2018-2019 Soft Bottom Channels

Reach 56

Santa Clara River Main Channel — Left Bank Reach (P.D. 832)

Before Photos 8/28/18

After 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 57

Whites Canyon (P.D. T704 Main Channel Inlet)

Before Photos 8/21/18



After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 58 (combined with Reach 59)

Santa Clara River Main Channel — Right Bank Reach (P.D. 374)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 58 (combined with Reach 59)

Santa Clara River Main Channel — Right Bank Reach (P.D. 374)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

## Reach 60

### Santa Clara River Main Channel — Right Bank Reach (P.D.'s 1339 and 374)

Before Photos 8/28/18

After Photos 11/7/18





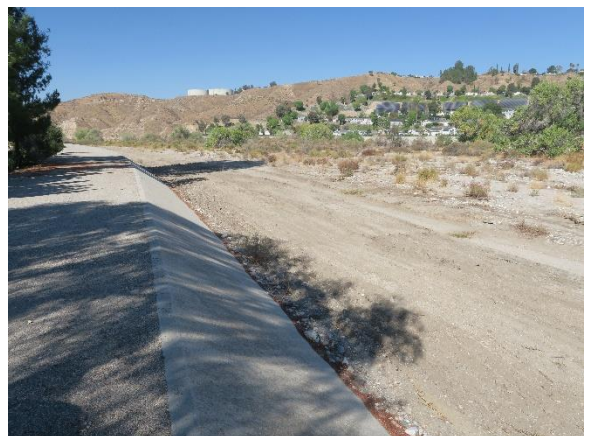
# 2018-2019 Soft Bottom Channels

Reach 61 (combined with Reach 62)

Santa Clara River Main Channel (P.D.'s 659 and 754)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 61 (combined with Reach 62)

Santa Clara River Main Channel (P.D.'s 659 and 754)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

## Reach 63

### Oak Avenue Road Drainage (CDR 523.081)

Before Photos 8/28/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

## Reach 64

### Soledad Canyon Road Drainage (CDR 523.071 D Outlet)

Before Photos 8/28/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 66

Santa Clara River Main Channel (P.D. 1538)

Before Photos 8/28/18

After Photos 11/5/18





# 2018-2019 Soft Bottom Channels

Reach 67

Bouquet Canyon Upper (P.D.'s 1201, 802, 700B, and 625)

Before Photos 8/21/18

After Photos 10/5/18





# 2018-2019 Soft Bottom Channels

Reach 69

Bouquet Canyon Middle (P.D.'s 722, 773, 1365, 1065, and 451)

Before Photos 8/21/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 70

Bouquet Canyon Lower (P.D.'s 544 and 345)

Before Photos 8/21/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 70

Bouquet Canyon Lower (P.D.'s 544 and 345)

Before Photos 8/21/18



After Photos 10/25/18



# 2018-2019 Soft Bottom Channels

Reach 71

Santa Clara River Main Channel (P.D. 1946)

Before Photos 8/22/18

After Photos 11/5/18





# 2018-2019 Soft Bottom Channels

Reach 72

South Fork — SCR (Smizer Ranch Main Channel Inlet)

Before Photos 8/29/18



After Photos 10/30/18





# 2018-2019 Soft Bottom Channels

Reach 73

Wildwood Canyon Channel (P.D. T361) Main Channel Inlet

Before Photos 8/22/18

After Photos 10/30/18





# 2018-2019 Soft Bottom Channels

## Reach 75

### South Fork — Santa Clara River (P.D.'s 725, 916, 1041, and 1300)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 75

### South Fork — Santa Clara River (P.D.'s 725, 916, 1041, and 1300)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 75

South Fork — Santa Clara River (P.D.'s 725, 916, 1041, and 1300)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 75

### South Fork — Santa Clara River (P.D.'s 725, 916, 1041, and 1300)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 75

### South Fork — Santa Clara River (P.D.'s 725, 916, 1041, and 1300)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 76

Pico Canyon (P.D. 813)

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 77

Newhall Creek Outlet

Before Photos 8/21/18

After Photos 11/28/18



# 2018-2019 Soft Bottom Channels

Reach 78

Placerita Creek

Before Photos 8/21/18



After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 79

South Fork — Santa Clara River (Valencia Boulevard Bridge Stabilizer)

Before Photos 8/22/18

After photos 11/5/18





# 2018-2019 Soft Bottom Channels

## Reach 80

### South Fork — Santa Clara River (P.D.'s 1947 and 1946)

Before Photos 8/22/18

After photos 11/5/18



# 2018-2019 Soft Bottom Channels

Reach 80

South Fork — Santa Clara River (P.D.'s 1947 and 1946)

Before Photos 8/22/18

After photos 11/5/18





# 2018-2019 Soft Bottom Channels

Reach 82

Santa Clara River Main Channel (P.D. 2278)

Before Photos 8/22/18

After Photos 10/25/18



# 2018-2019 Soft Bottom Channels

Reach 82

Santa Clara River Main Channel (P.D. 2278)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 86

Violin Canyon Main Channel Outlet

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 87

Castaic — Old Road Drainage (CDR 525.021D) Outlet

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 88

Hasley Canyon Upper (P.D. T1496)

Before Photos 8/21/18

After Photos 10/8/18



# 2018-2019 Soft Bottom Channels

Reach 89

Hasley Canyon South Fork (P.D. T1496)

Before Photos 8/21/18



After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

Reach 90

Hasley Canyon Lower (North Fork P.D. T1496)

Before Photos 8/21/18

After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

Reach 91

San Martinez Chiquito Canyon Channel u/s of Kenningston Road

Before Photos 8/21/18



After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

Reach 92

San Martinez Chiquito Canyon (North Fork) Unnamed

Before Photos 8/21/18

After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

Reach 93

San Martinez Chiquito Canyon between Kenningston Road and Val Verde Park

Before Photos 8/21/18



After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

## Reach 94

### San Martinez Chiquito Canyon between Val Verde Park and d/s of Madison Street

Before Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 94

San Martinez Chiquito Canyon between Val Verde Park and d/s of Madison Street

Before Photos 8/21/18



After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

Reach 95

Project No. 1224

Before Photos 8/17/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 96

PD 1591, Calabasas

Before Photos 8/26/18



After Photos 12/15/18





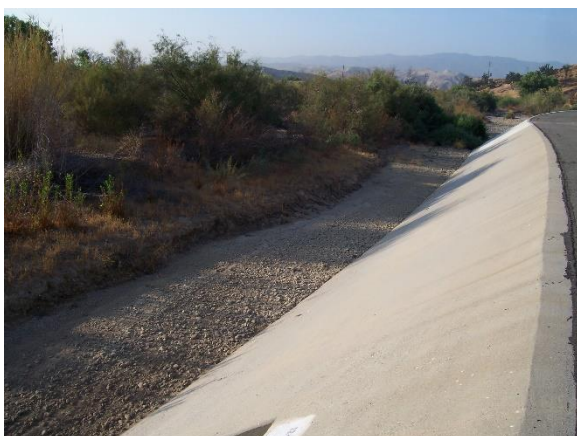
# 2018-2019 Soft Bottom Channels

Reach 97

P.D. T1982, Castaic Creek

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 98

Walnut Creek — Channel Inlet

Before Photos 8/29/18

After Photos 1/3/19





# 2018-2019 Soft Bottom Channels

Reach 99

Kagel Canyon — Tujunga Wash

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 99

Kagel Canyon — Tujunga Wash

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 100

Dry Canyon, Calabasas Creek Inlet

Before Photos 8/20/18

After Photos 12/15/18



# 2018-2019 Soft Bottom Channels

Reach 101

Violin Canyon (P.D. 2312)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 101

Violin Canyon (P.D. 2312)

**NO WORK DONE**

Photos 8/21/18



# 2017-2018 Soft Bottom Channels

Reach 102

Violin Canyon (P.D. 2275)

**NO WORK DONE**

Photos 8/21/18





# 2017-2018 Soft Bottom Channels

Reach 102

Violin Canyon (P.D. 2275)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 103

Bouquet Canyon Channel (P.D. 2225)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 103

Bouquet Canyon Channel (P.D. 2225)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 104

Castaic Creek (P.D. 2441 Unit 2)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 104

Castaic Creek (P.D. 2441 Unit 2)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 104

Castaic Creek (P.D. 2441 Unit 2)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 104

Castaic Creek (P.D. 2441 Unit 2)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 105

San Francisquito Canyon Channel (P.D. 2456)

**NO WORK DONE**

Photos 8/22/18





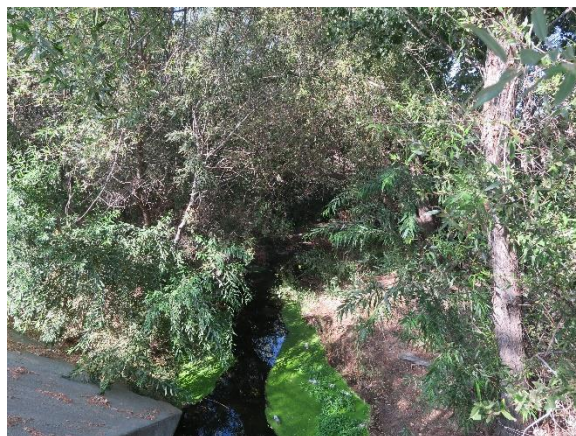
# 2018-2019 Soft Bottom Channels

Reach 105

San Francisquito Canyon Channel (P.D. 2456)

**NO WORK DONE**

Photos 8/22/18



# 2018-2019 Soft Bottom Channels

Reach 105

San Francisquito Canyon Channel (P.D. 2456)

**NO WORK DONE**

Photos 8/22/18





# 2018-2019 Soft Bottom Channels

Reach 108

Pico Canyon (P.D. 2528)

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 108

Pico Canyon (P.D. 2528)

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 109

Santa Clara River — South Bank West of McBean Parkway (MTD1510)

**NO WORK DONE**

Photos 8/22/18



# 2018-2019 Soft Bottom Channels

Reach 110

Hasley Canyon Channel (P.D. 2262)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 110

Hasley Canyon Channel (P.D. 2262)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 110

Hasley Canyon Channel (P.D. 2262)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 110

Hasley Canyon Channel (P.D. 2262)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 110

Hasley Canyon Channel (P.D. 2262)

**NO WORK DONE**

Photos 8/21/18





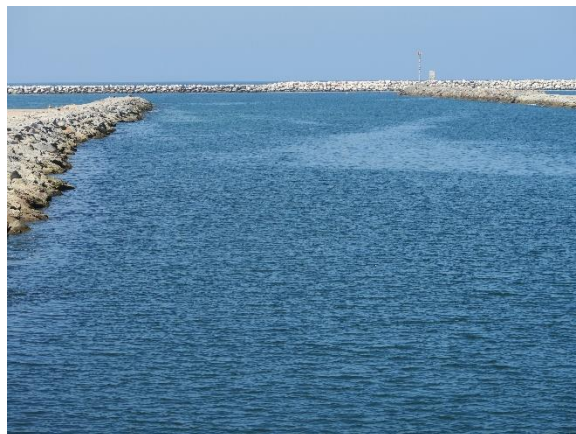
# 2018-2019 Soft Bottom Channels

Reach 112

Ballona Creek

**NO WORK DONE**

Photos 8/31/18



# 2018-2019 Soft Bottom Channels

Reach 112

Ballona Creek

**NO WORK DONE**

Photos 8/31/18





# 2018-2019 Soft Bottom Channels

Reach 113

Dominguez Channel

**NO WORK DONE**

Photos 8/30/18



# 2018-2019 Soft Bottom Channels

Reach 113

Dominguez Channel

**NO WORK DONE**

Photos 8/30/18





# 2018-2019 Soft Bottom Channels

Reach 113

Dominguez Channel

**NO WORK DONE**

Photos 8/30/18



# 2018-2019 Soft Bottom Channels

Reach 114

Los Angeles River

Before Photos 8/27/18

After Photos 1/4/19





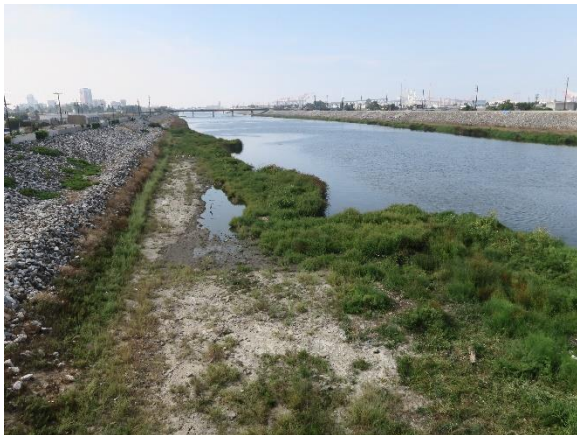
# 2018-2019 Soft Bottom Channels

Reach 114

Los Angeles River

Before Photos 8/27/18

After Photos 1/4/19





# 2018-2019 Soft Bottom Channels

Reach 115

San Gabriel River

Before Photos 8/28/18

After Photos 3/19/19



**NO WORK DONE  
IN THIS AREA**



**NO WORK DONE  
IN THIS AREA**



# 2018-2019 Soft Bottom Channels

Reach 115

San Gabriel River

Before Photos 8/28/18

After Photos 3/19/19



# 2018-2019 Soft Bottom Channels

Reach 115

San Gabriel River

Before Photos 8/28/18

After Photos 3/19/19



**NO WORK DONE  
IN THIS AREA**



# 2018-2019 Soft Bottom Channels

Reach 116

Los Cerritos Channel

**NO WORK DONE**

Photos 8/31/18



# 2018-2019 Soft Bottom Channels

Reach 116

Los Cerritos Channel

**NO WORK DONE**

Photos 8/31/18





# 2018-2019 Soft Bottom Channels

Reach 117

Centinela Creek Channel

**NO WORK DONE**

Photos 8/31/18





# 2018-2019 Soft Bottom Channels

Reach 118

Rustic Canyon

Before Photos 8/31/18

After Photos 12/12/18





# 2018-2019 Soft Bottom Channels

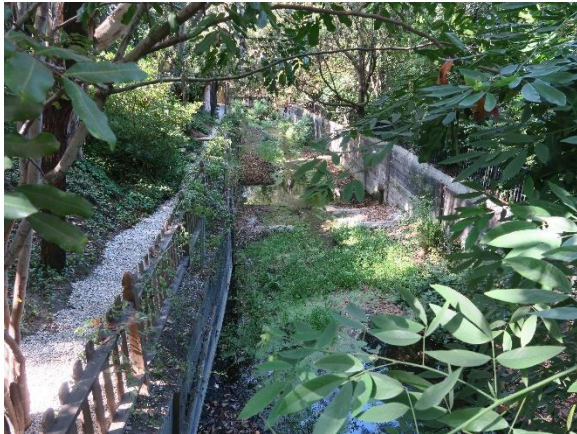
Reach 118

Rustic Canyon

Before Photos 8/31/18



After Photos 12/12/18





# 2018-2019 Soft Bottom Channels

Reach 119

Rivas Canyon Channel

Before Photo 8/31/18



After Photos 12/12/18





# 2018-2019 Soft Bottom Channels

Reach 119

Rivas Canyon Channel

Before Photo 8/31/18



After Photos 12/12/18



# 2018-2019 Soft Bottom Channels

Reach 120

Jake's Way Channel

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 120

Jake's Way Channel

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 121

San Francisquito Creek (Newhall Ranch Road)

**NO WORK DONE**

Photos 8/22/18





# 2018-2019 Soft Bottom Channels

Reach 121

San Francisquito Creek (Newhall Ranch Road)

**NO WORK DONE**

Photos 8/22/18



# 2018-2019 Soft Bottom Channels

Reach 1

Bell Creek — MTD 963 M.C.I.

Before Photos 8/20/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

## Reach 2

### Dry Canyon (Calabasas) P.D. T1845

Before Photos 8/20/18





# 2018-2019 Soft Bottom Channels

## Reach 3

### Santa Susana Creek M.C.I.

Before Photos 8/20/18



After Photos 11/28/18





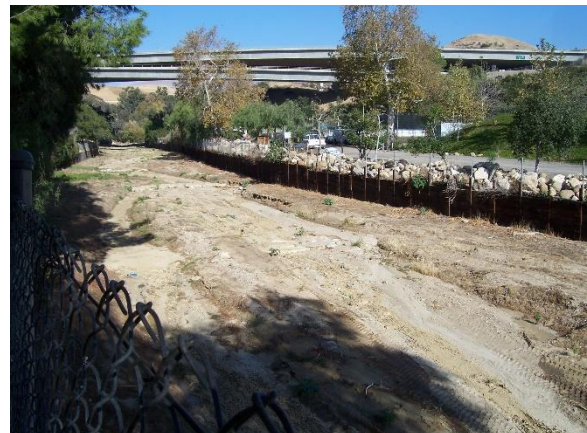
# 2018-2019 Soft Bottom Channels

Reach 4

Browns Creek

Before Photos 8/20/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

## Reach 5

### Caballero Creek M.C.I. (West Fork)

Before Photos 8/26/18

After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

## Reach 6

### Caballero Creek M.C.I. (East Fork)

Before Photos 8/26/18



After Photos 12/18/18





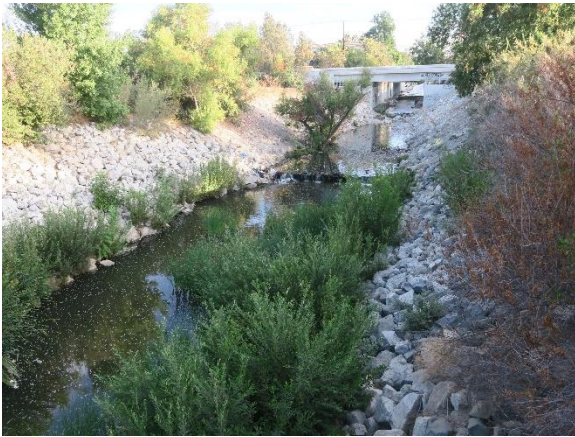
# 2018-2019 Soft Bottom Channels

Reach 7

Bull Creek M.C.O.

Before Photo 8/29/18

After Photos 2/13/19





# 2018-2019 Soft Bottom Channels

## Reach 8

### Hayvenhurst Drain — Project 470 Outlet

Before Photos 8/20/18



After Photos 12/18/18



# 2018-2019 Soft Bottom Channels

Reach 9

Project 106 Outlet

Before Photos 8/20/18

After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 10

Project No. 469

Before Photos 8/20/18

After Photos 12/18/18



# 2018-2019 Soft Bottom Channels

Reach 10

Project No. 469

Before Photos 8/20/18



After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 12

Haines Canyon M.C.O.

Before Photos 8/17/18

After Photos 2/13/19





# 2018-2019 Soft Bottom Channels

Reach 13

Project No. 5215 Unit 1

Before Photos 08/17/18



After Photos 12/11/18





# 2018-2019 Soft Bottom Channels

## Reach 14

### May Channel (M.C.O. into Pacoima Canyon)

Before Photos 08/17/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 15

Pacoima Wash

Before Photos 8/20/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 15

Pacoima Wash

Before Photos 8/20/18

After Photos 11/28/18



# 2018-2019 Soft Bottom Channels

## Reach 16

### Verdugo Wash — Las Barras Canyon (Channel Inlet)

Before Photos 8/22/18



After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 18

Engleheard Channel

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 19

Pickens Canyon

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 20

Webber Channel (Storm at Private Bridge)

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

## Reach 21

### Webber Channel (Main Channel Inlet d/s Bridge)

Before Photos 8/22/18

After Photos 12/14/18





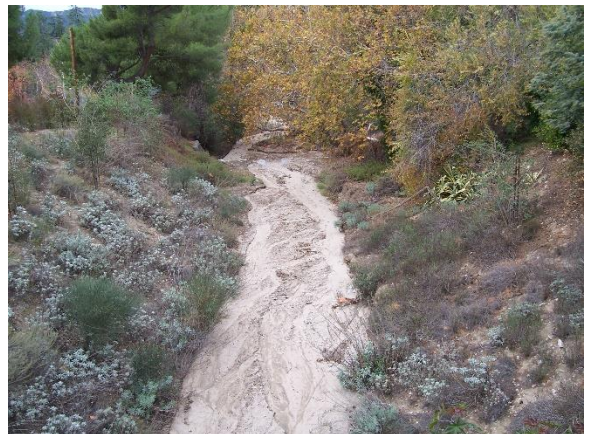
# 2018-2019 Soft Bottom Channels

Reach 22

Halls Canyon

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 24

Compton Creek

Before Photos 8/17/18

After Photos 10/29/18





# 2018-2019 Soft Bottom Channels

Reach 24

Compton Creek

Before Photos 8/17/18

After Photos 10/29/18





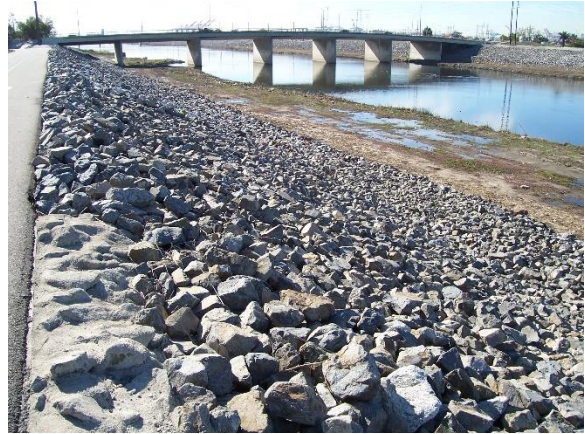
# 2018-2019 Soft Bottom Channels

Reach 25a

Los Angeles River — Willow to PCH (East/Left Bank)

Before Photos 8/23/18

After Photos 12/04/18





# 2018-2019 Soft Bottom Channels

## Reach 25a

### Los Angeles River — Willow to PCH (East/Left Bank)

Before Photos 8/23/18



After Photos 12/04/18





# 2018-2019 Soft Bottom Channels

Reach 25b

Los Angeles River — Willow to PCH (West/Right Bank)

Before Photos 8/23/18

After Photos 12/04/18





# 2018-2019 Soft Bottom Channels

Reach 25b

Los Angeles River — Willow to PCH (West/Right Bank)

Before Photos 8/23/18



After Photos 12/04/18





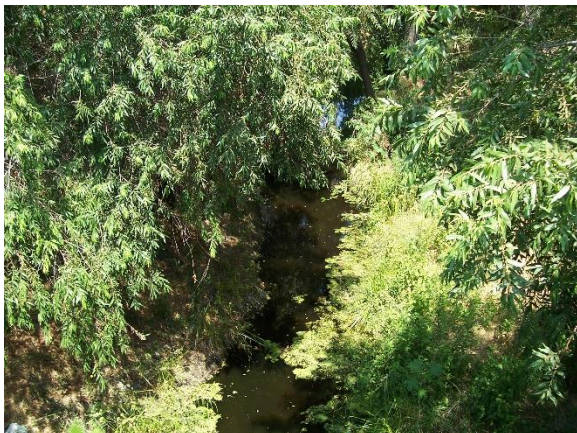
# 2018-2019 Soft Bottom Channels

Reach 26

Project 740

Before Photos 8/17/18

After Photos 10/9/18





# 2018-2019 Soft Bottom Channels

Reach 26

Project 740

Before Photos 8/17/18

After Photos 10/9/18





# 2018-2019 Soft Bottom Channels

Reach 27

Wilmington Drain (110 Freeway to s/o PCH)

Before Photos 8/30/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 27

Wilmington Drain (110 Freeway to s/o PCH)

Before Photos 8/30/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 28

Triunfo Creek (P.D. T2200)

Before Photos 8/26/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 29

Las Virgenes Creek (P.D. T1684) M.C.I.

Before Photos 8/20/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 32

Stokes Canyon Channel (P.D. T043)

Before Photos 8/26/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 32

Stokes Canyon Channel (P.D. T043)

Before Photos 8/26/18



After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 33

Medea Creek (P.D. T1378 U.2)

Before Photos 8/26/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 35

Medea Creek Main Channel Inlet — Under Route 101

Before Photos 8/26/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 36

Cheseboro Main Channel Inlet

Before Photos 8/26/18



After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 37

Medea Creek/Cheseboro Creek Outlet

Before Photos 8/26/18

After Photos 12/15/18



# 2018-2019 Soft Bottom Channels

Reach 38

Lindero Main Channel Outlet

Before Photos 8/26/18

After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 39

Beatty Channel Outlet at SGR 25+99.00

Before Photos 8/17/18

After Photos 11/27/18





# 2018-2019 Soft Bottom Channels

Reach 39

Beatty Channel Outlet at SGR 25+99.00

Before Photos 8/17/18



After Photos 11/27/18





# 2018-2019 Soft Bottom Channels

## Reach 40a

### San Gabriel River — Santa Fe Dam to I-10 Freeway

Before Photos 8/23/18

After Photos 10/25/18



# 2018-2019 Soft Bottom Channels

Reach 40a

San Gabriel River — Santa Fe Dam to I-10 Freeway

Before Photos 8/23/18



After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 40b

San Gabriel River — I-10 Freeway to Thienes Avenue

Before Photos 8/23/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 40b

### San Gabriel River — I-10 Freeway to Thienes Avenue

Before Photos 8/23/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 40b

San Gabriel River — I-10 Freeway to Thienes Avenue

Before Photos 8/23/18



After Photos 10/25/18



# 2018-2019 Soft Bottom Channels

## Reach 41

### Walnut Creek — Baldwin Park to San Gabriel River

Before Photos 8/22/18





# 2018-2019 Soft Bottom Channels

Reach 42

San Jose Creek d/s 1000 feet from end of concrete channel

Before Photos 8/22/18

After Photos 11/5/18





# 2018-2019 Soft Bottom Channels

## Reach 43a

### San Gabriel River — Upper

Before Photos 8/23/18

After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 43a

San Gabriel River — Upper

Before Photos 8/23/18

After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 43b

San Gabriel River — Lower

Before Photos 8/23/18

After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

Reach 43b

San Gabriel River — Lower

Before Photos 8/23/18



After Photos 12/18/18





# 2018-2019 Soft Bottom Channels

## Reach 44

### San Gabriel River — Rubber Dams

Before Photos 8/23/18



After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

## Reach 44

### San Gabriel River — Rubber Dams

Before Photos 8/23/18



After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

## Reach 44

### San Gabriel River — Rubber Dams

Before Photos 8/23/18



After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 44

San Gabriel River — Rubber Dams

Before Photos 8/23/18

After Photos 11/28/18



# 2018-2019 Soft Bottom Channels

Reach 44

San Gabriel River — Rubber Dams

Before Photos 8/23/18



After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 45

Sand Canyon (P.D. T1307) Main Channel Inlet

Before Photos 8/21/18



After Photos 2/1/19



# 2018-2019 Soft Bottom Channels

Reach 46

Sand Canyon (P.D. T1307) Main Channel Outlet

Before Photos 8/21/18



After Photos 2/1/19





# 2018-2019 Soft Bottom Channels

Reach 47

Santa Clara River Main Channel (P.D. T1733-Unit 1)

Before Photos 8/21/18

After Photos 11/5/18



# 2018-2019 Soft Bottom Channels

Reach 47

Santa Clara River Main Channel (P.D. T1733-Unit 1)

Before Photos 8/21/18



After Photos 11/5/18





# 2018-2019 Soft Bottom Channels

Reach 48

Mint Canyon Channel between Sierra Highway & Adon Avenue

Before Photos 8/21/18



After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 49

Mint Canyon Channel between Adon Avenue & Scherzinger Lane

Before Photos 8/21/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 50

Mint Canyon Channel between Solamint Road and Soledad Canyon Road

Before Photos 8/21/18



After Photos 11/7/18



# 2018-2019 Soft Bottom Channels

Reach 51

Mint Canyon M.C.O. (P.D. 1894)/Santa Clara River — Main Channel

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 52

Sierra Highway Road Drainage (CDR 523.203)

Before Photos 8/21/18



After Photos 11/7/18



# 2018-2019 Soft Bottom Channels

Reach 53

Santa Clara River Non-Main Channel (P.D. 832) Main Channel Inlet

Before Photos 8/21/18



After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

## Reach 54

### Santa Clara River Non-Main Channel (P.D. 832) Main Outlet Channel

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 55

Santa Clara River Main Channel — Right Bank Reach

(P.D.'s 910, 832, 1758, and 1562 Unit 2)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 55

Santa Clara River Main Channel — Right Bank Reach

(P.D.'s 910, 832, 1758, and 1562 Unit 2)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 55

Santa Clara River Main Channel — Right Bank Reach

(P.D.'s 910, 832, 1758, and 1562 Unit 2)

Before Photos 8/28/18

After Photos 11/7/18





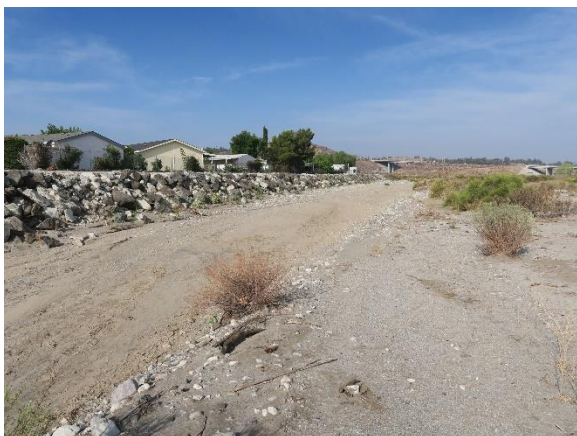
# 2018-2019 Soft Bottom Channels

Reach 56

Santa Clara River Main Channel — Left Bank Reach (P.D. 832)

Before Photos 8/28/18

After 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 57

Whites Canyon (P.D. T704 Main Channel Inlet)

Before Photos 8/21/18



After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 58 (combined with Reach 59)

Santa Clara River Main Channel — Right Bank Reach (P.D. 374)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 58 (combined with Reach 59)

Santa Clara River Main Channel — Right Bank Reach (P.D. 374)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

## Reach 60

### Santa Clara River Main Channel — Right Bank Reach (P.D.'s 1339 and 374)

Before Photos 8/28/18

After Photos 11/7/18





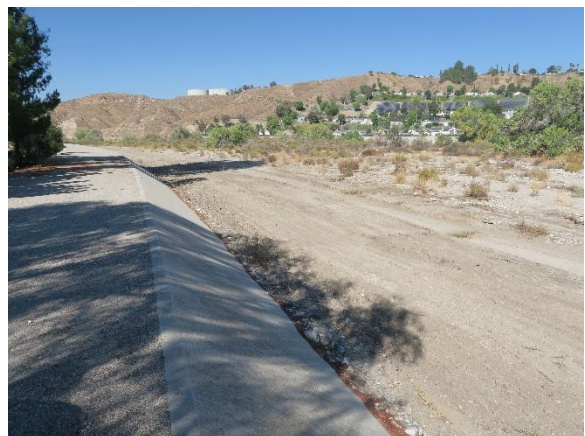
# 2018-2019 Soft Bottom Channels

Reach 61 (combined with Reach 62)

Santa Clara River Main Channel (P.D.'s 659 and 754)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

Reach 61 (combined with Reach 62)

Santa Clara River Main Channel (P.D.'s 659 and 754)

Before Photos 8/28/18

After Photos 11/7/18





# 2018-2019 Soft Bottom Channels

## Reach 63

### Oak Avenue Road Drainage (CDR 523.081)

Before Photos 8/28/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

## Reach 64

### Soledad Canyon Road Drainage (CDR 523.071 D Outlet)

Before Photos 8/28/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 66

Santa Clara River Main Channel (P.D. 1538)

Before Photos 8/28/18

After Photos 11/5/18





# 2018-2019 Soft Bottom Channels

Reach 67

Bouquet Canyon Upper (P.D.'s 1201, 802, 700B, and 625)

Before Photos 8/21/18

After Photos 10/5/18





# 2018-2019 Soft Bottom Channels

Reach 69

Bouquet Canyon Middle (P.D.'s 722, 773, 1365, 1065, and 451)

Before Photos 8/21/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 70

Bouquet Canyon Lower (P.D.'s 544 and 345)

Before Photos 8/21/18

After Photos 10/25/18



# 2018-2019 Soft Bottom Channels

Reach 70

Bouquet Canyon Lower (P.D.'s 544 and 345)

Before Photos 8/21/18



After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 71

Santa Clara River Main Channel (P.D. 1946)

Before Photos 8/22/18

After Photos 11/5/18



# 2018-2019 Soft Bottom Channels

Reach 72

South Fork — SCR (Smizer Ranch Main Channel Inlet)

Before Photos 8/29/18



After Photos 10/30/18





# 2018-2019 Soft Bottom Channels

Reach 73

Wildwood Canyon Channel (P.D. T361) Main Channel Inlet

Before Photos 8/22/18

After Photos 10/30/18





# 2018-2019 Soft Bottom Channels

## Reach 75

### South Fork — Santa Clara River (P.D.'s 725, 916, 1041, and 1300)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 75

### South Fork — Santa Clara River (P.D.'s 725, 916, 1041, and 1300)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 75

South Fork — Santa Clara River (P.D.'s 725, 916, 1041, and 1300)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 75

South Fork — Santa Clara River (P.D.'s 725, 916, 1041, and 1300)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

## Reach 75

### South Fork — Santa Clara River (P.D.'s 725, 916, 1041, and 1300)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 76

Pico Canyon (P.D. 813)

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 77

Newhall Creek Outlet

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 78

Placerita Creek

Before Photos 8/21/18



After Photos 11/28/18



# 2018-2019 Soft Bottom Channels

## Reach 79

### South Fork — Santa Clara River (Valencia Boulevard Bridge Stabilizer)

Before Photos 8/22/18

After photos 11/5/18





# 2018-2019 Soft Bottom Channels

Reach 80

South Fork — Santa Clara River (P.D.'s 1947 and 1946)

Before Photos 8/22/18

After photos 11/5/18



# 2018-2019 Soft Bottom Channels

Reach 80

South Fork — Santa Clara River (P.D.'s 1947 and 1946)

Before Photos 8/22/18

After photos 11/5/18





# 2018-2019 Soft Bottom Channels

Reach 82

Santa Clara River Main Channel (P.D. 2278)

Before Photos 8/22/18

After Photos 10/25/18



# 2018-2019 Soft Bottom Channels

Reach 82

Santa Clara River Main Channel (P.D. 2278)

Before Photos 8/22/18

After Photos 10/25/18





# 2018-2019 Soft Bottom Channels

Reach 86

Violin Canyon Main Channel Outlet

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 87

Castaic — Old Road Drainage (CDR 525.021D) Outlet

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 88

Hasley Canyon Upper (P.D. T1496)

Before Photos 8/21/18



After Photos 10/8/18



# 2018-2019 Soft Bottom Channels

Reach 89

Hasley Canyon South Fork (P.D. T1496)

Before Photos 8/21/18



After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

Reach 90

Hasley Canyon Lower (North Fork P.D. T1496)

Before Photos 8/21/18

After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

Reach 91

San Martinez Chiquito Canyon Channel u/s of Kennington Road

Before Photos 8/21/18



After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

Reach 92

San Martinez Chiquito Canyon (North Fork) Unnamed

Before Photos 8/21/18

After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

Reach 93

San Martinez Chiquito Canyon between Kenningston Road and Val Verde Park

Before Photos 8/21/18

After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

## Reach 94

### San Martinez Chiquito Canyon between Val Verde Park and d/s of Madison Street

Before Photos 8/21/18



After Photos 10/8/18



# 2018-2019 Soft Bottom Channels

Reach 94

San Martinez Chiquito Canyon between Val Verde Park and d/s of Madison Street

Before Photos 8/21/18



After Photos 10/8/18





# 2018-2019 Soft Bottom Channels

Reach 95

Project No. 1224

Before Photos 8/17/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 96

PD 1591, Calabasas

Before Photos 8/26/18



After Photos 12/15/18





# 2018-2019 Soft Bottom Channels

Reach 97

P.D. T1982, Castaic Creek

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 98

Walnut Creek — Channel Inlet

Before Photos 8/29/18

After Photos 1/3/19





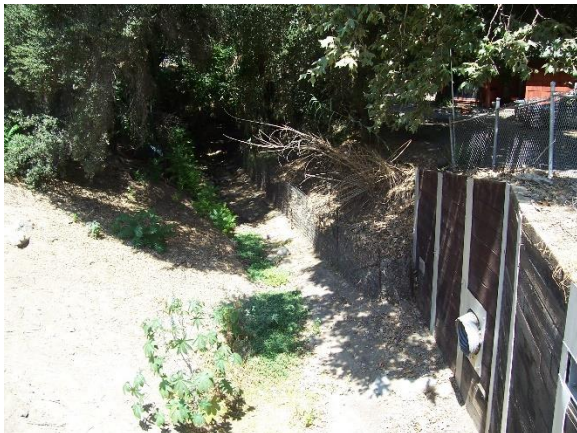
# 2018-2019 Soft Bottom Channels

Reach 99

Kagel Canyon — Tujunga Wash

Before Photos 8/22/18

After Photos 12/14/18





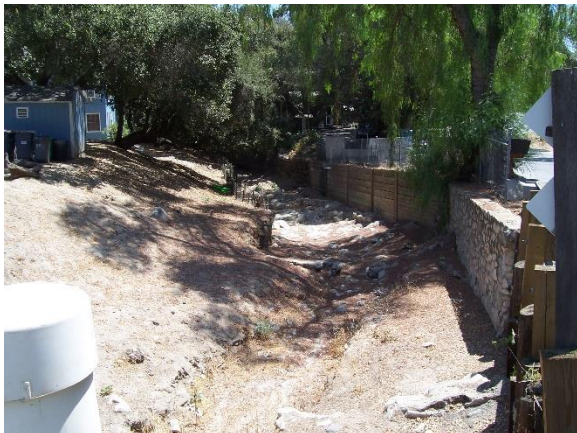
# 2018-2019 Soft Bottom Channels

Reach 99

Kagel Canyon — Tujunga Wash

Before Photos 8/22/18

After Photos 12/14/18





# 2018-2019 Soft Bottom Channels

Reach 100

Dry Canyon, Calabasas Creek Inlet

Before Photos 8/20/18

After Photos 12/15/18



# 2018-2019 Soft Bottom Channels

Reach 101

Violin Canyon (P.D. 2312)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 101

Violin Canyon (P.D. 2312)

**NO WORK DONE**

Photos 8/21/18



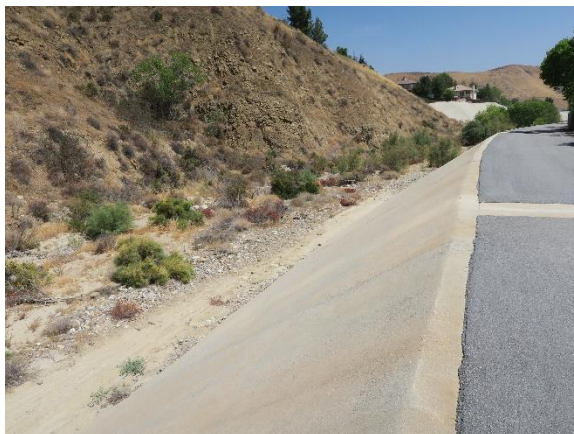
# 2017-2018 Soft Bottom Channels

Reach 102

Violin Canyon (P.D. 2275)

**NO WORK DONE**

Photos 8/21/18





# 2017-2018 Soft Bottom Channels

Reach 102

Violin Canyon (P.D. 2275)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 103

Bouquet Canyon Channel (P.D. 2225)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 103

Bouquet Canyon Channel (P.D. 2225)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 104

Castaic Creek (P.D. 2441 Unit 2)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 104

Castaic Creek (P.D. 2441 Unit 2)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 104

Castaic Creek (P.D. 2441 Unit 2)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 104

Castaic Creek (P.D. 2441 Unit 2)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 105

San Francisquito Canyon Channel (P.D. 2456)

**NO WORK DONE**

Photos 8/22/18





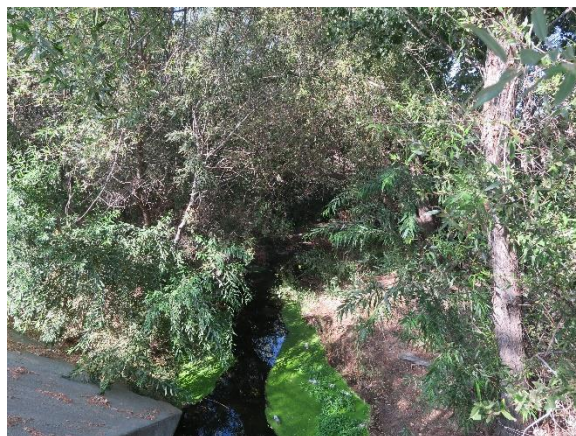
# 2018-2019 Soft Bottom Channels

Reach 105

San Francisquito Canyon Channel (P.D. 2456)

**NO WORK DONE**

Photos 8/22/18



# 2018-2019 Soft Bottom Channels

Reach 105

San Francisquito Canyon Channel (P.D. 2456)

**NO WORK DONE**

Photos 8/22/18





# 2018-2019 Soft Bottom Channels

Reach 108

Pico Canyon (P.D. 2528)

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 108

Pico Canyon (P.D. 2528)

Before Photos 8/21/18

After Photos 11/28/18





# 2018-2019 Soft Bottom Channels

Reach 109

Santa Clara River — South Bank West of McBean Parkway (MTD1510)

**NO WORK DONE**

Photos 8/22/18



# 2018-2019 Soft Bottom Channels

Reach 110

Hasley Canyon Channel (P.D. 2262)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 110

Hasley Canyon Channel (P.D. 2262)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 110

Hasley Canyon Channel (P.D. 2262)

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 110

Hasley Canyon Channel (P.D. 2262)

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 110

Hasley Canyon Channel (P.D. 2262)

**NO WORK DONE**

Photos 8/21/18





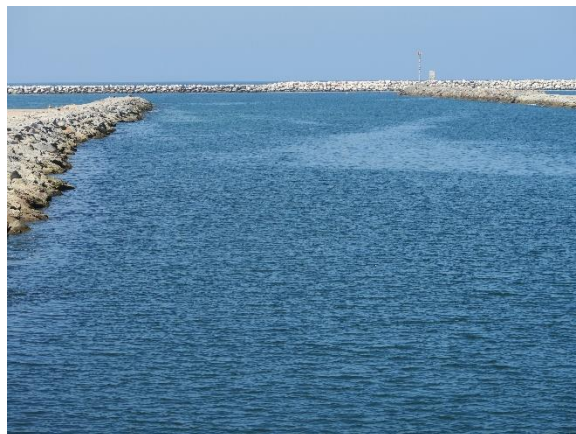
# 2018-2019 Soft Bottom Channels

Reach 112

Ballona Creek

**NO WORK DONE**

Photos 8/31/18



# 2018-2019 Soft Bottom Channels

Reach 112

Ballona Creek

**NO WORK DONE**

Photos 8/31/18





# 2018-2019 Soft Bottom Channels

Reach 113

Dominguez Channel

**NO WORK DONE**

Photos 8/30/18



# 2018-2019 Soft Bottom Channels

Reach 113

Dominguez Channel

**NO WORK DONE**

Photos 8/30/18





# 2018-2019 Soft Bottom Channels

Reach 113

Dominguez Channel

**NO WORK DONE**

Photos 8/30/18



# 2018-2019 Soft Bottom Channels

Reach 114

Los Angeles River

Before Photos 8/27/18

After Photos 1/4/19





# 2018-2019 Soft Bottom Channels

Reach 114

Los Angeles River

Before Photos 8/27/18

After Photos 1/4/19





# 2018-2019 Soft Bottom Channels

Reach 115

San Gabriel River

Before Photos 8/28/18

After Photos 3/19/19



**NO WORK DONE  
IN THIS AREA**



**NO WORK DONE  
IN THIS AREA**



# 2018-2019 Soft Bottom Channels

Reach 115

San Gabriel River

Before Photos 8/28/18

After Photos 3/19/19



# 2018-2019 Soft Bottom Channels

Reach 115

San Gabriel River

Before Photos 8/28/18

After Photos 3/19/19



**NO WORK DONE  
IN THIS AREA**



# 2018-2019 Soft Bottom Channels

Reach 116

Los Cerritos Channel

**NO WORK DONE**

Photos 8/31/18



# 2018-2019 Soft Bottom Channels

Reach 116

Los Cerritos Channel

**NO WORK DONE**

Photos 8/31/18





# 2018-2019 Soft Bottom Channels

Reach 117

Centinela Creek Channel

**NO WORK DONE**

Photos 8/31/18





# 2018-2019 Soft Bottom Channels

Reach 118

Rustic Canyon

Before Photos 8/31/18

After Photos 12/12/18





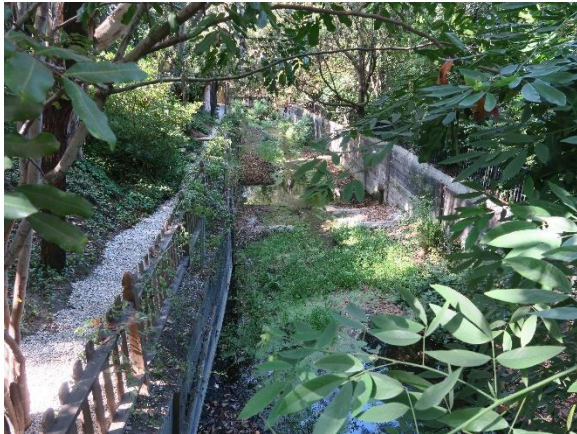
# 2018-2019 Soft Bottom Channels

Reach 118

Rustic Canyon

Before Photos 8/31/18

After Photos 12/12/18





# 2018-2019 Soft Bottom Channels

Reach 119

Rivas Canyon Channel

Before Photo 8/31/18



After Photos 12/12/18





# 2018-2019 Soft Bottom Channels

Reach 119

Rivas Canyon Channel

Before Photo 8/31/18



After Photos 12/12/18



# 2018-2019 Soft Bottom Channels

Reach 120

Jake's Way Channel

**NO WORK DONE**

Photos 8/21/18





# 2018-2019 Soft Bottom Channels

Reach 120

Jake's Way Channel

**NO WORK DONE**

Photos 8/21/18



# 2018-2019 Soft Bottom Channels

Reach 121

San Francisquito Creek (Newhall Ranch Road)

**NO WORK DONE**

Photos 8/22/18





# 2018-2019 Soft Bottom Channels

Reach 121

San Francisquito Creek (Newhall Ranch Road)

**NO WORK DONE**

Photos 8/22/18



**MEMORANDUM**

October 1, 2018

**To:**  
Nandini Moran  
Los Angeles County Flood Control District  
Flood Maintenance Division

**From:**  
Marc Blain

**Subject:** Unarmored Threespine Stickleback Pre-Clearing Presence/Absence Survey Results for  
27 Los Angeles County Department of Public Works Soft-Bottom Channels

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**INTRODUCTION**

In accordance with Special Conditions of the U.S. Army Corps of Engineers Nationwide Permit (SPL-2013-00723-BLR), and the California Department of Fish and Wildlife Streambed Alteration Agreement (SAA-1600-1999-0016-R5), visual surveys for unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) (UTS) were conducted in 2018 in drainages identified as supporting potentially suitable habitat. Pre-clearing presence/absence and focused protocol surveys for Threatened and Endangered species are conducted on a regular basis at selected soft-bottom channel (SBC) reaches maintained by the Los Angeles County Department of Public Works (LACDPW). The list of reaches for which surveys are recommended is updated periodically during annual biological monitoring and periodic habitat assessments.

Pre-clearing presence/absence surveys for UTS have been conducted within LACDPW SBC channels annually since 2005. Prior to 2014, when UTS became a State Fully Protected species, focused surveys were conducting using the seining (netting) method; survey results were conclusive with the species either present or absent. After 2014, surveys have been conducted using the visual method because handling of the UTS is no longer permitted; three survey results are possible: (1) species present; (2) species absent; or (3) species possibly present (inconclusive). In cases where potentially suitable habitat is not 100% visible, UTS is considered possibly present and monitoring is required during clearing activities. This memo describes the methods and results of pre-construction visual surveys for UTS conducted in 27 SBC reaches within the Santa Clara River watershed in 2018.

**SPECIES BACKGROUND**

UTS is a small fish requiring shallow, slow, marginal stream flows with abundant aquatic vegetation for cover. They can be found throughout a given stream of suitable habitat, but tend to mill in areas of slow flow or standing water, such as within eddies behind obstructions or in edgewater where vegetation slows the stream flow. Under optimal conditions, several hundred UTS can exist within approximately 30 feet of a stream. While strong storm flows can severely reduce localized populations due to washing downstream, as the stream stabilizes in the spring, UTS can quickly recover by recolonizing and reproducing. UTS use backwater habitats in the Santa Clara River as refugia during storm events.

Two features of UTS habitat appear to be essential for the survival of fry and juveniles; (1) slow flowing, clear water for the proper development of the eggs; any form of pollution or small amounts of turbidity interfere with normal development and (2) aquatic vegetation along the edge of the shoreline to supply cover and microscopic food organisms for the fry (Ono et al. 1983). While UTS rely upon a wide variety of foods, they prefer insects and some snails in their diet.



Nandini Moran  
 October 1, 2018  
 Page 2

The USFWS has not designated Critical Habitat for the UTS, however, the UTS Recovery Plan (USFWS 1985), defines critical habitat for federally listed species generally as: (1) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Endangered Species Act of 1973 as amended, on which are found those physical or biological features (a) essential to the conservation of the species and (b) that may require special management considerations or protection and (2) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species (45 Federal Register 76012-76015). “Conservation” means the use of all methods and procedures that are necessary to bring an Endangered or a Threatened species to the point at which listing under the Act is no longer necessary (USFWS 1998).

Three Essential Habitat zones within the Santa Clara River watershed are described under the Unarmored Threespine Stickleback Revised Recovery Plan (USFWS 1985):

1. **Del Valle Zone.** An area of land and water with the following components : Santa Clara River beginning at its confluence with San Martinez Grande Canyon, at a point 0.9 of a mile southwest of Del Valle settlement, and extending upstream approximately 5.6 miles to the Interstate Highway 5 Bridge.
2. **San Francisquito Creek Zone.** An area of land and water with the following components: San Francisquito Canyon watercourse beginning at a point where the Angeles National Forest boundary intersects the San Francisquito Canyon watercourse, approximately 2.5 miles southwest of San Francisquito Powerhouse No. 2, and extending upstream in San Francisquito Canyon approximately 8.4 miles to San Francisquito Powerhouse No. 1, near its junction with Clearwater Canyon.
3. **Soledad Canyon Zone.** An area of land and water in Los Angeles County, with the following components: Santa Clara River beginning at a point 1.4 miles upstream in Soledad Canyon from the community of Lang, at the downstream end of the area called River’s End Park extending upstream approximately 8.5 miles to its confluence with Arrastre Canyon, at a point located about 0.6 mile southwest of Los Angeles County Rehabilitation Camp, upstream in Arrastre Canyon approximately 0.8 mile.

## METHODS

Pre-clearing visual surveys for UTS were conducted by a fisheries biologist that holds a Section 10(a)(1)(A) permit (Scientific Permit) for this species at the following 27 SBC reaches:

- Santa Clara River: Reaches 47, 51, 54, 55, 56, 58, 60, 61, 63, 64, 66, 71, 82, 109, and 120
- Bouquet Canyon Creek: Reaches 67, 69, 70, and 103
- South Fork Santa Clara River: Reaches 79 and 80, at the confluence of the Santa Clara and South Fork Santa Clara Rivers
- Castaic Creek: Reaches 86, 87, 97, and 104
- San Francisquito Creek: Reaches 105 and 121

Surveys were conducted on August 27 and 29, 2018 during appropriate weather conditions for good visibility. No seining or handling of the UTS was conducted during the surveys. Each reach was visited to assess the suitability of habitat present. If potentially suitable habitat was present, the water was scanned

Nandini Moran  
 October 1, 2018  
 Page 3

visually by the fisheries biologist to determine whether UTS was present or absent. In cases where potentially suitable habitat was not 100% visible, UTS was considered possibly present.

**RESULTS**

Table 1 shows results of the 2018 pre-clearing visual surveys, in comparison to previous survey results. UTS was determined to be absent from 26 of the 27 reaches during the 2018 surveys; it was considered possibly present in Reach 67.

During the surveys, only one aquatic species was observed; the non-native green sunfish (*Lepomis cyanellus*) was observed at Reach 105.

**TABLE 1  
 SUMMARY OF 2018 RESULTS OF PRE-CLEARING UNARMORED  
 THREESPINE STICKLEBACK SURVEYS FOR THE  
 LOS ANGELES COUNTY SOFT-BOTTOM CHANNELS**

Reach Number	Reach Name/Tributary	Survey Date	2018 Unarmored Threespine Stickleback Results	Prior Presence (Year) <sup>a</sup>
<b>Santa Clara River (SCR)</b>				
47	SCR (PD 1733 Unit 1)	8/27/2018	Absent	–
51	Mint Canyon Main Channel Outlet (PD 1984) at SCR Main Channel	8/27/2018	Absent	–
54	SCR Non-main Channel (PD 832)	8/27/2018	Absent	–
55	SCR Channel (PDs 910, 832, 1758, and 1562 Unit 2)	8/27/2018	Absent	–
56	SCR (PD 1562 Unit 2)	8/27/2018	Absent	–
58	SCR (PD 374)	8/27/2018	Absent	–
60	SCR (PD 1339 and 374)	8/27/2018	Absent	–
61	SCR (PD 659)	8/27/2018	Absent	–
63	Oak Avenue Rd Drainage (CDR 523.081)	8/27/2018	Absent	–
64	Soledad Canyon Rd Drainage (CDR 523.071 D Outlet)	8/27/2018	Absent	2015 <sup>b</sup>
66	SCR (PD 1358)	8/27/2018	Absent	–
67	Bouquet Canyon Upper (PDs 1201, 802, 700B and 625)	8/29/2018	May Occur	2005, 2006, 2007, 2008, 2015 <sup>b</sup> , 2016 <sup>b</sup> , and 2017 <sup>b</sup>
69	Bouquet Canyon Middle (PDs 722, 773, 1365, 1065 and 45)	8/29/2018	Absent	2005, 2006, 2007, 2008, 2012, 2015 <sup>b</sup> , 2016 <sup>b</sup> , and 2017 <sup>b</sup>
70	Bouquet Canyon Lower (PDs 544 and 345)	8/29/2018	Absent	–
71	SCR Main Channel (PD 1946)	8/27/2018	Absent	–



**TABLE 1  
 SUMMARY OF 2018 RESULTS OF PRE-CLEARING UNARMORED  
 THREESPINE STICKLEBACK SURVEYS FOR THE  
 LOS ANGELES COUNTY SOFT-BOTTOM CHANNELS**

<b>Reach Number</b>	<b>Reach Name/Tributary</b>	<b>Survey Date</b>	<b>2018 Unarmored Threespine Stickleback Results</b>	<b>Prior Presence (Year)<sup>a</sup></b>
<b>79</b>	South Fork SCR Valencia Blvd Bridge Stabilizer	8/29/2018	Absent	–
<b>80</b>	South Fork SCR (PDs 1947 and 1946)	8/29/2018	Absent	–
<b>82</b>	SCR Main Channel (PD 2278)	8/29/2018	Absent	–
<b>86</b>	Violin Canyon Main Channel Outlet	8/27/2018	Absent	–
<b>87</b>	Castaic Old Road Drain (CDR 525.021D) Outlet	8/27/2018	Absent	–
<b>97</b>	Castaic Creek (PD 1982)	8/27/2018	Absent	–
<b>103</b>	Bouquet Canyon Channel (PD 2225)	8/27/2018	Absent	2005, 2006, 2007, 2008, 2015 <sup>b</sup> , and 2016 <sup>b</sup>
<b>104</b>	Castaic Creek (PD 2441 Unit 2)	8/27/2018	Absent	–
<b>105</b>	San Francisquito Channel (PD 2456)	8/27/2018	Absent	2015 <sup>b</sup> , 2016 <sup>b</sup>
<b>109</b>	SCR south bank west of McBean Pkwy (MTD 1510)	8/29/2018	Absent	2009, 2010, 2011, and 2015 <sup>b</sup>
<b>120</b>	Jake's Way (PD 2496)	8/27/2018 and 8/29/2018	Absent	–
<b>121</b>	San Francisquito Creek (PD 2271)	8/27/2018	Absent	–
<sup>a</sup> Sources: BonTerra; 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2016, and 2017. Note: no survey report or memorandum was generated for the 2015 presence/absence surveys, however, a Pre-Clearing Status Update table was created and shared with LACDPW and information in it was used for this table. <sup>b</sup> Species may occur				

**CONCLUSION**

As a result of these surveys, and in accordance with Special Conditions of the U.S. Army Corps of Engineers Nationwide Permit and the California Department of Fish and Wildlife Streambed Alteration Agreement, biological monitoring shall be conducted during all maintenance activities in the 2018-2019 maintenance season occurring in Reach 67.

Nandini Moran  
 October 1, 2018  
 Page 5

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September 28, 2018

Ms. Stacey Love  
Recovery Permit Coordinator  
U.S. Fish and Wildlife Service  
2177 Salk Avenue, Suite 250  
Carlsbad, California 92008

**VIA EMAIL**  
**Stacey\_love@fws.gov**

**Subject:** Results of Pre-Clearing Focused Santa Ana Sucker Surveys in Two Soft-Bottom Channel Reaches for Los Angeles County Department of Public Works (LACDPW), Los Angeles County, California

Dear Ms. Love:

This Letter Report presents the results of pre-vegetation maintenance presence/absence surveys for the Santa Ana sucker (*Catostomus santaanae*) in two soft-bottom channel reaches for Los Angeles County Department of Public Works (LACDPW). Both reaches are located in Los Angeles County, California (Exhibit 1). The purpose of the focused surveys was to determine the presence or absence of the Santa Ana sucker within the clearing limits in each reach, or if presence/absence could not be determined, if suitable habitat was present that may be supporting Santa Ana sucker. Surveys were conducted by a biologist who holds a U.S. Fish and Wildlife Service (USFWS) 10(a)1(A) recovery permit, in accordance with guidelines established by USFWS and with the requirements of the U.S. Army Corps of Engineers Nationwide Permit (SPL-2013-00723-BLR), and the California Department of Fish and Wildlife Streambed Alteration Agreement (SAA-1600-1999-0016-R5) for maintenance of the soft-bottom channel reaches. Annual pre-maintenance surveys for special status fish species, including Santa Ana sucker, have been conducted in soft-bottom channel reaches for LACDPW since 2002.

## PROJECT LOCATION

Los Angeles River Reach 12 (Haines Creek Main Channel Outlet) is located within the Tujunga Wash Watershed, approximately 0.75 mile northwest of the Oro Vista Avenue and Foothill Boulevard intersection, in the community of Sunland in the City of Los Angeles (Exhibits 2a and 3a). The limits of Reach 12 are approximately 791 feet downstream of Wentworth Street to approximately 1,228 feet downstream of Wentworth Street (437 feet total length). The reach is found on the U.S. Geological Survey's (USGS') Sunland 7.5-minute quadrangle map (Exhibit 4a).

San Gabriel River Reach 39 (Beatty Channel Outlet) is located within the San Gabriel River Watershed, approximately 0.8 mile north of the Foothill Boulevard and Irwindale Avenue intersection in the City of Azusa (Exhibits 2b and 3b). The limits of Reach 39 are approximately 2,323 feet downstream of Todd Avenue to approximately 2,415 feet downstream of Todd Avenue (145 feet total length). The reach is found on the USGS Azusa 7.5-minute quadrangle map (Exhibit 4b).

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Stacey Love  
Page 2  
September 28, 2018  
LACDPW Annual Clearing Project

## PROJECT DESCRIPTION

The LACDPW performs annual vegetation clearing in channels and minor grading to retrain channel flows consistent with the clearing limits established by the permitted maintenance plan approved by the Los Angeles Regional Water Quality Control Board, U.S. Army Corps of Engineers and the California Department of Fish and Wildlife (CDFW). This ongoing program is necessary to maintain the design capacities of the channels and to ensure the proper functioning of these facilities located within LACFCD boundaries.

Within each reach, the LACDPW vegetation clearing activities are conducted in the same areas (and acreage) that have been cleared annually since 1997. Biological impacts associated with the initial clearing of vegetation for maintenance activities in these channel reaches were previously mitigated through the maintenance and enhancement of 62.7 acres of riparian habitats at the Big Tujunga Wash Mitigation Bank site (BonTerra 1999).

Channel clearing activities are performed primarily by mechanical means, using heavy equipment (such as trucks, bulldozers, dump trucks, and loaders), as well as other specialized equipment designed for this type of work. Hand clearing is conducted in areas where mechanical equipment cannot be used or where important biological resources exist nearby. Herbicides approved by regulatory agencies are applied, as necessary, to eradicate invasive and/or non-native vegetation including, but not limited to, giant reed (*Arundo donax*) and castor bean (*Ricinus communis*).

## SPECIES BACKGROUND

Santa Ana sucker is a federally Threatened species. Its historic range included the Los Angeles, San Gabriel, and Santa Ana River systems; only the populations within its historic range are federally protected.

The CNDDDB contains several records (some historical and presumably extirpated) of Santa Ana sucker from the vicinity of the survey area (CDFW 2018):

- East Fork San Gabriel River on east side of Camp Oak Grove
- East Fork San Gabriel River at Coyote Flat
- East Fork San Gabriel River about 0.7 miles north of Coyote Flat
- Cattle Canyon/Creek near junction with Dime Canyon
- North Fork San Gabriel and West Fork San Gabriel River, approximately .5 miles below mouth of East Fork and Bear Creek in the Angeles Forest
- Tujunga Creek at Foothill Bridge, downstream to junction with Haines Creek
- Haines Creek and outlets from ponds north of creek
- Fish Canyon, 0.7 miles downstream from confluence of Fern Canyon

Santa Ana sucker is found in small, shallow streams with flows that run from slow to swift. It is most abundant where water is clear and unpolluted, although it can withstand seasonal turbidity. It is often associated with bottom materials of boulders, gravel, and cobble where there are growths of filamentous algae, though it is also occasionally found on sand or mud substrates (Thompson et al. 2010). Although Santa Ana sucker has generalized stream habitat requirements, it is intolerant of polluted or highly modified streams (Moyle 2001). It is presumed that the majority of its diet consists of algae, including lithic diatoms, and detritus that it scrapes from rock surfaces, as well as occasional aquatic insect larvae (McGinnis 2006, and Moyle *et al.* 1995).



Stacey Love  
Page 3  
September 28, 2018  
LACDPW Annual Clearing Project

Adult Santa Ana sucker rarely exceed a standard length of eight inches (measured from snout tip to anterior of the caudal fin [tail fin]). It possesses a broad mouth with notches at the junction of the upper and lower lips, and the median notch on the lower lip is less well defined. Its body coloration is silver on the ventral (belly/underside) surface and darker with irregular blotches on the dorsal (back/top) surface. Its scale pattern has longitudinal lateral (along the length of their body) striping. The interradiial membrane (membrane between the spines) of the caudal fin is pigmented, and the anal and pelvic fins normally lack pigment (Moyle 2001).

Santa Ana sucker are relatively short-lived; they become reproductively mature by the first year and spawn during the first and second years. Most Santa Ana sucker do not survive past the second year, although a few live three to four years. There is no sexual dimorphism (appearances between males and females are distinguishable), although reproductive males develop breeding tubercles (small bumps) over most of the body (Moyle 2001).

Santa Ana sucker spawning occurs from April until early July, but peaks in late May and early June. Santa Ana sucker spawn over gravel beds in flowing water where the female deposits the eggs in fine gravel substrate. The eggs hatch within 36 hours at 55.5 degrees Fahrenheit (°F), and the fry (fish hatchlings) congregate in shallow, slow-moving waters along the stream margins in water depths ranging from 1 to 5.5 inches, often over very soft sandy or muddy substrates. Edgewater habitat is probably used by fry because (1) it typically contains fewer predatory fish and (2) shallow water is warmer and probably allows the suckers to grow more quickly (USFWS 2010).

Santa Ana sucker are currently threatened by water diversions; alteration of stream channels; changes in the watershed that result in erosion and debris flows; pollution; and predation by non-native fishes. The primary cause for the extirpation of the Santa Ana sucker from lowland reaches of the Los Angeles, San Gabriel, and Santa Ana rivers is most likely due to increased urbanization (Swift 1993).

On January 4, 2005, the USFWS published a Final Rule designating 8,305 acres of Critical Habitat for Santa Ana sucker (USFWS 2010). Two areas were designated in Los Angeles County: one along the San Gabriel River (Unit 2) and the other along Big Tujunga Creek (Unit 3). This designation did not include habitat for the species in Orange, Riverside, or San Bernardino counties. Following lawsuits, the USFWS proposed a Revised Critical Habitat on December 9, 2009, adding habitat along the Santa Ana River in Orange, Riverside, and San Bernardino Counties to critical habitat for the species (USFWS 2010). This increased the Critical Habitat designation to 9,331 acres. On December 14, 2010, the USFWS published the Final Rule formalizing the Revised Critical Habitat (USFWS 2010).

The survey area for the San Gabriel River (Reach 39) is not within the 2010 revised designated Critical Habitat for Santa Ana sucker.

## **METHODS**

The initial studies conducted in 2002 included a background literature review and habitat assessment for each of the soft-bottom channel reaches that represented potentially suitable Santa Ana sucker habitat. The literature review included the documentation of relevant literature on the presence of sucker within each reach including areas both upstream and downstream. This included review of *Federal Register* listings and species data provided by the USFWS, records in the CNDDDB; consultation with qualified experts familiar with the distribution and natural history of sucker; and review of unpublished biological resource assessments conducted in the region.

Stacey Love  
Page 4  
September 28, 2018  
LACDPW Annual Clearing Project

Surveys were conducted on August 29, 2018 by Consulting Senior Fisheries Biologist Kerwin Russell (TE-86811A-1) and Psomas Biologist Sarah Thomas. During the surveys, all accessible wetted areas with potential to support Santa Ana sucker were surveyed visually. Water temperature was recorded in field notes.

**RESULTS**

Santa Ana sucker was not observed in Reach 12 during the survey. The only aquatic wildlife observed was the non-native American bullfrog (*Lithobates catesbeianus*). Low flow surface flow was present in this reach and was the result of urban runoff. The water quality appeared relatively poor; a large stagnant pond covered in duckweed (*Lemna* sp.) was present at the eastern end of the reach, although there were areas that were clear towards the western portion of the reach. The water was not suitable (too warm) for Santa Ana sucker (80.06° F) at the time of the afternoon survey; however, flow and habitat conditions were suitable (short riffle sections with gravel substrate). Therefore, this reach has potential to support Santa Ana sucker.

Santa Ana sucker was not observed in Reach 39 during the survey. The only aquatic wildlife observed were non-native mosquitofish (*Gambusia affinis*). The reach had very shallow water and no surface flow with water temperature measuring 82.04° F, which are too warm for Santa Ana sucker. Substrate at this reach appeared optimal for Santa Ana sucker; however, due to the low volume of water and high temperature, no potential exists for Santa Ana Sucker at this reach at this time.

Previous survey results for Reach 39 determined that habitat was potentially suitable for Santa Ana sucker in 2017 due to a larger volume of water present with high-flow conditions (Psomas 2017).

**CONCLUSIONS**

As a result of these surveys, and in accordance with Special Conditions of the U.S. Army Corps of Engineers Nationwide Permit and the California Department of Fish and Wildlife Streambed Alteration Agreement, no biological monitoring (as it pertains to Santa Ana sucker) is required during maintenance activities within SBC Reaches 12 or 39 during the 2018-2019 maintenance season.

Please contact Marc Blain at (626) 351-2000 if you have questions or comments.

Sincerely,

**P S O M A S**



Ann M. Johnston  
Vice President, Resource Management



Marc T. Blain  
Senior Project Manager

- Enclosures:    Exhibit 1 – Regional Location  
                  Exhibit 2a-b – Local Vicinity  
                  Exhibit 3a-b – Survey Area Aerial  
                  Exhibit 4a-b – USGS 7.5-minute Topographic Quadrangle



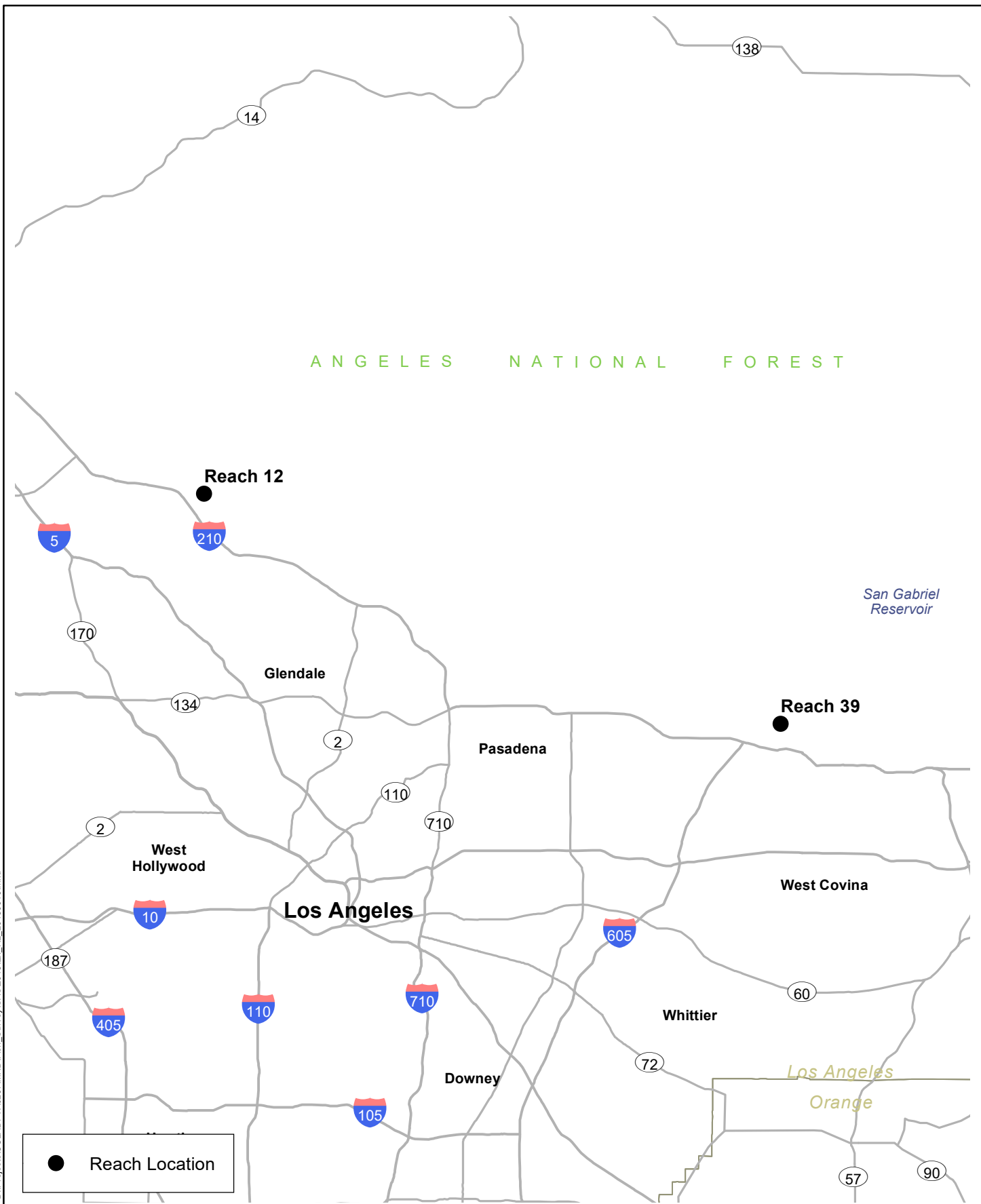
Stacey Love  
Page 5  
September 28, 2018  
LACDPW Annual Clearing Project

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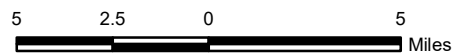
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● Reach Location

### Regional Location

Pre-Clearing Santa Ana Sucker Surveys

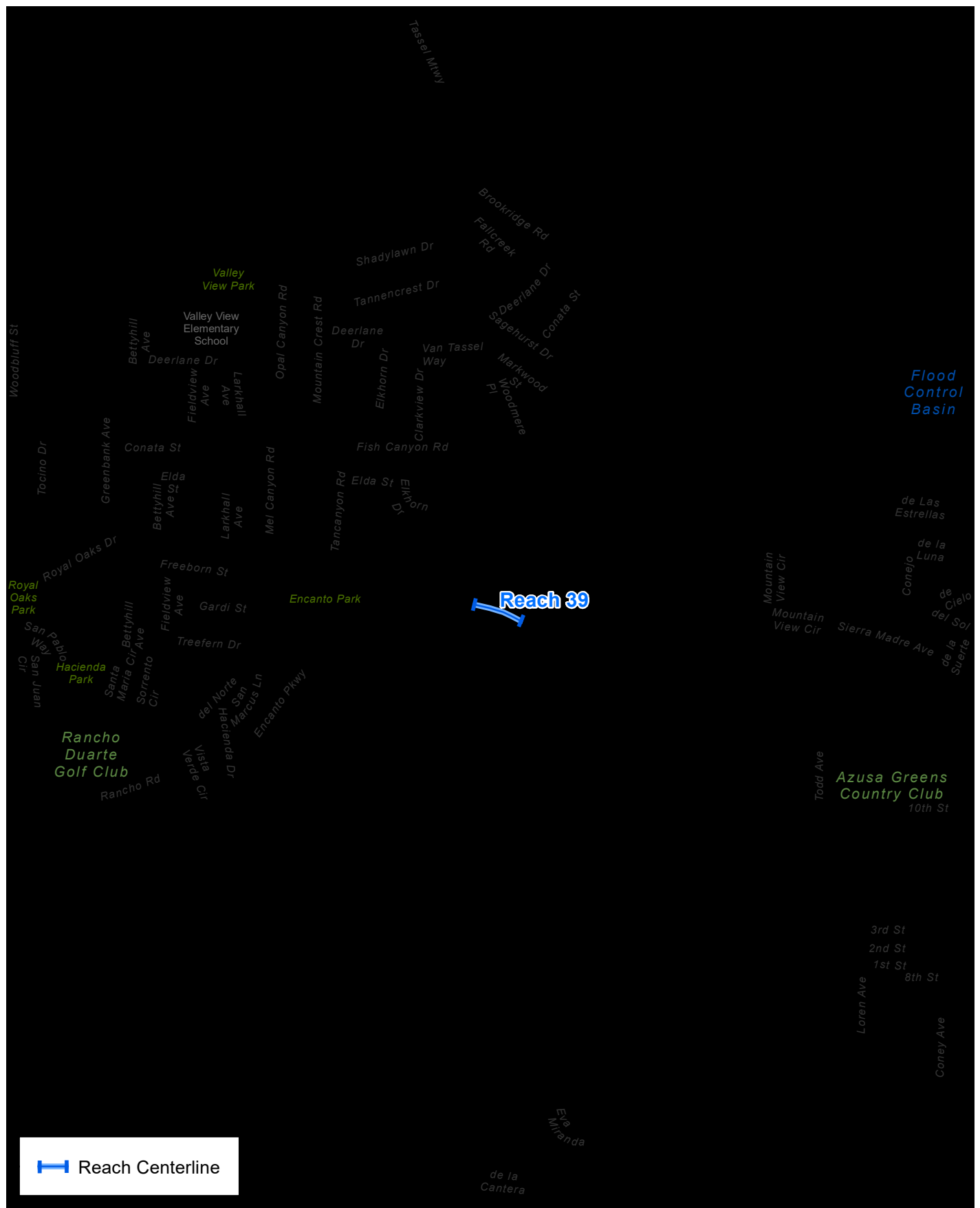


### Exhibit 1





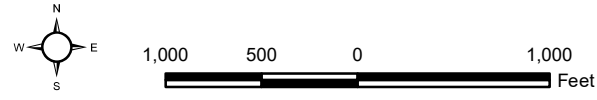




 Reach Centerline

### Local Vicinity

Pre-Clearing Santa Ana Sucker Surveys



### Exhibit 2b





Reach 12


Tujunga Valley St

Le Berthon St

Wentworth St

Sherman Grove Ave

Forsythe St

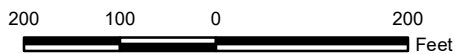
 Reach Centerline

Aerial Source: LAR-IAC 2014

# Survey Area Aerial

# Exhibit 3a

*Pre-Clearing Santa Ana Sucker Surveys*




Elda St

Elkhorn Dr

Encanto Pkwy

Royal Oaks Dr



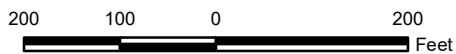
 Reach Centerline

Aerial Source: LAR-IAC 2014

# Survey Area Aerial

# Exhibit 3b

*Pre-Clearing Santa Ana Sucker Surveys*






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Reach 12



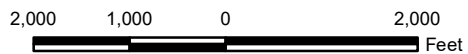
 Reach Centerline

Source: USGS 7.5-Minute Quadrangle  
Sunland, CA  
Azusa, CA

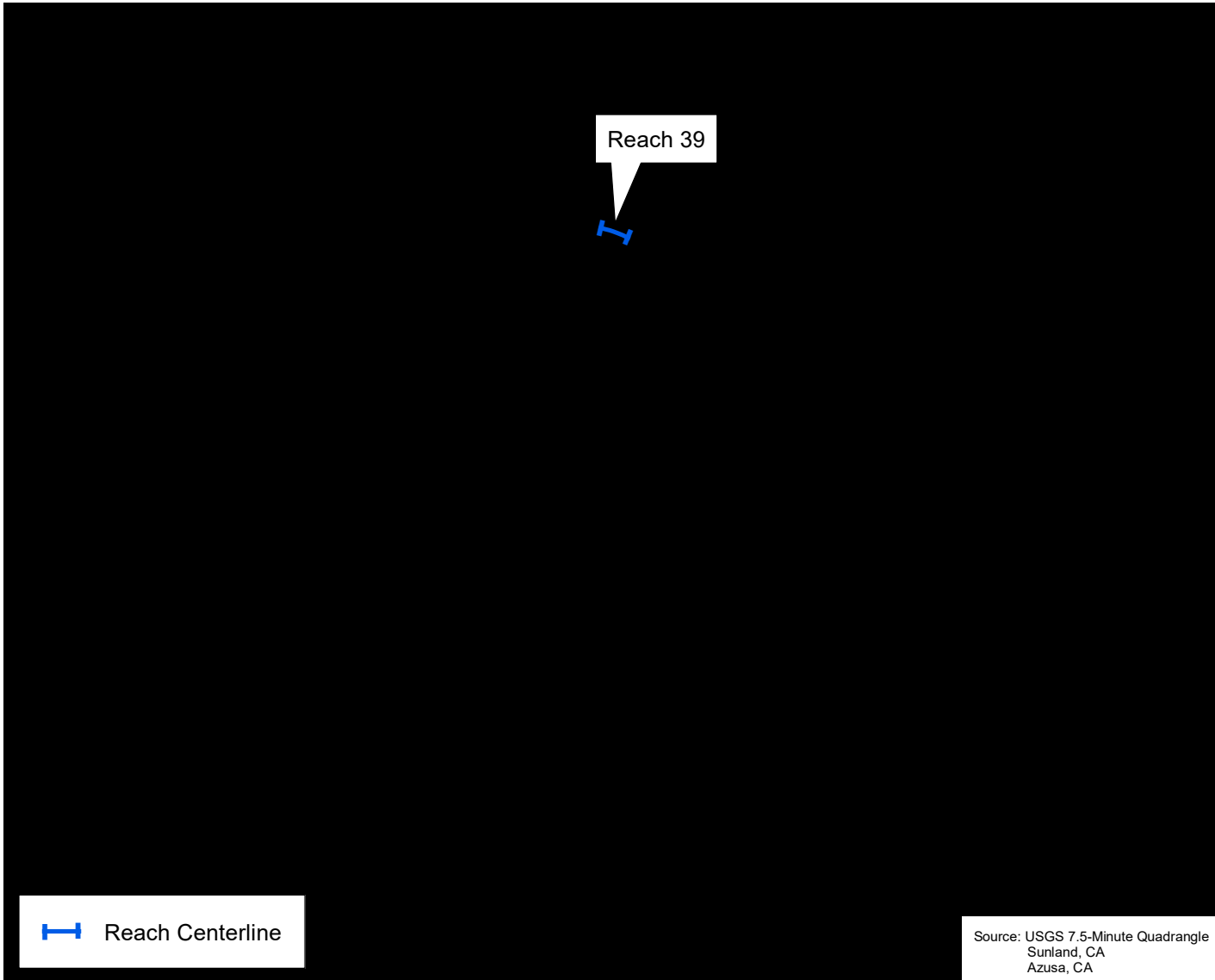
# Survey Area - USGS 7.5-minute Topographic Quadrangle

## Exhibit 4a

*Pre-Clearing Santa Ana Sucker Surveys*



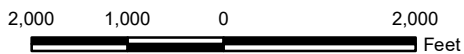
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# Survey Area - USGS 7.5-minute Topographic Quadrangle

# Exhibit 4b

*Pre-Clearing Santa Ana Sucker Surveys*





**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					Pre-Clearing/Baseline	
Reach 5 Caballero Creek East Fork	10/11/2018	LATITUDE (approximate)	34.149197°	34.150397°	34.150650°	Chris Cunningham, of GMED's Material's Lab, arrived on site about 1045 to evaluate existing conditions at the upstream, internal, and downstream sampling points prior to performing pre-work/baseline water quality monitoring and sampling. A significant amount of naturally-occurring suspended and floating debris was noted in the area of the internal sampling point which may affect turbidity and TSS values. Sampling points are in the same locations as previous monitoring events. Access to sampling points is via a locked vehicle gate off the east side of Reseda Blvd. on the west side of Caballero Creek, and then down a concrete rip-rap slope and concrete channel to sampling points. Pre-work/baseline monitoring and sampling was performed within one (1) week of placement of BMPs and proposed start of cleanout operations. Upstream sampling point (#1) is located upstream of the south end of the SBC off the east side of Reseda Blvd., just north of the intersection with Paseo Nuevo Drive. Internal sampling point (#2) is located on the west bank of the creek at the base of the concrete rip-rap slope across from the confluence with Reach 6 and about 90' south of the boundary between the end of the SBC and start of the open-box concrete channel. Downstream sampling
		LONGITUDE (approximate)	118.537010°	118.536716°	118.536638°	
		ELEVATION (approximate)	900'	891'	890'	
		TIME	1100	1110	1120	
		SAMPLE NO.	CABCRKR5-1	CABCRKR5-2	CABCRKR5-3	
		TEMP (°C)	16.40	16.03	16.80	
		pH	8.33	7.69	7.89	
		Turbidity (NTUs)	0.37	10.82	3.38	
		Dissolved O2 (mg/L)	9.45	6.21	8.46	
		Total Suspended Solids (mg/L)	6.10	126	5.10	
Reach 5 Caballero Creek East Fork	10/15/2018	LATITUDE (approximate)	34.149197°	34.150397°	34.150650°	During Work 1st day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1100 to evaluate existing conditions at the upstream, internal, and downstream sampling points prior to performing during maintenance water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sand bags across the bottom of the creek and located about 10 feet downstream of the intersection of the end of the SBC and start of the open-box concrete channel. A significant amount of naturally-occurring suspended and floating debris was noted in the area of the internal sampling point which may affect turbidity and TSS values. Internal and downstream turbidity readings of 1.64 NTU and 1.38 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 0.34 NTU (0.28 + 20%).
		LONGITUDE (approximate)	118.537010°	118.536716°	118.536638°	
		ELEVATION (approximate)	900'	891'	890'	
		TIME	1115	1125	1150	
		SAMPLE NO.	CABCRKR5-1	CABCRKR5-2	CABCRKR5-3	
		TEMP (°C)	17.01	17.04	17.56	
		pH	8.34	8.09	8.01	
		Turbidity (NTUs)	0.28	1.64	1.38	
		Dissolved O2 (mg/L)	4.49	8.50	8.24	
		Total Suspended Solids (mg/L)	ND	15.1	ND =DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 5 Caballero Creek East Fork	10/16/2018	LATITUDE (approximate)	34.149197°	34.150397°	34.150650°	<b>During Work</b>
		LONGITUDE (approximate)	118.537010°	118.536716°	118.536638°	2nd day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1040 to evaluate existing conditions at the upstream, internal, and downstream sampling points prior to performing during maintenance water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sand bags across the bottom of the creek and located about 10 feet downstream of the intersection of the end of the SBC and start of the open-box concrete channel. A significant amount of naturally-occurring suspended and floating debris was noted in the area of the internal sampling point which may affect turbidity and TSS values. The internal turbidity reading of 0.63 NTU is below the Daily Turbidity Limit (DTL) of 0.81 NTU (0.67 + 20%) whereas, the downstream turbidity reading of 7.83 NTU is over 20% above the DTL. The internal TSS value
		ELEVATION (approximate)	900'	891'	890'	
		TIME	1050	1100	1125	
		SAMPLE NO.	CABCRKR5-1	CABCRKR5-2	CABCRKR5-3	
		TEMP (°C)	16.64	14.57	15.66	
		pH	8.42	8.28	8.16	
		Turbidity (NTUs)	0.67	0.63 <DTL	7.83	
		Dissolved O2 (mg/L)	9.66	9.11	5.52	
		Total Suspended Solids (mg/L)	ND	ND =DTSSL	45.3	
Reach 5 Caballero Creek East Fork	10/17/2018	LATITUDE (approximate)	34.149197°	34.150397°	34.150650°	
		LONGITUDE (approximate)	118.537010°	118.536716°	118.536638°	3rd day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1100 to evaluate existing conditions at the upstream, internal, and downstream sampling points prior to performing during maintenance water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sand bags across the bottom of the creek and located about 10 feet downstream of the intersection of the end of the SBC and start of the open-box concrete channel. A significant amount of naturally-occurring suspended and floating debris was noted in the area of the internal sampling point which may affect turbidity and TSS values. The internal and downstream turbidity readings of 0.40 NTU and 2.01 NTU are both below the Daily Turbidity Limit (DTL) of 2.04 NTU (1.70 +
		ELEVATION (approximate)	900'	891'	890'	
		TIME	1110	1120	1210	
		SAMPLE NO.	CABCRKR5-1	CABCRKR5-2	CABCRKR5-3	
		TEMP (°C)	17.81	17.81	21.10	
		pH	8.42	8.23	8.32	
		Turbidity (NTUs)	1.70	0.40 <DTL	2.01 < DTL	
		Dissolved O2 (mg/L)	4.70	2.43	5.01	
		Total Suspended Solids (mg/L)	11.2	ND <DTSSL	8.20 <DTSSL	



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

						<b>During Work</b>
Reach 5 Caballero Creek East Fork	10/18 and 10/19/2018	LATITUDE (approximate)	34.149197°	34.150397°	34.150650°	4th and 5th (final) day of field operations. Greg Johnson, of GMED's Geology Investigations, arrived on site at various times on both days to evaluate existing conditions at the upstream, internal, and downstream sampling points prior to performing during maintenance water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sand bags across the bottom of the creek and located about 10 feet downstream of the intersection of the end of the SBC and start of the open-box concrete channel. On both days, surface water was present at the upstream and internal sampling points, but the reach was dry in the area between the two sampling points due to insufficient flow allowing the water to soak into the ground. During maintenance water quality monitoring and sampling was not performed because
		LONGITUDE (approximate)	118.537010°	118.536716°	118.536638°	
		ELEVATION (approximate)	900'	891'	890'	
		TIME	See Notes			
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (mg/L)				
						<b>Post-Work</b>
Reach 5 Caballero Creek East Fork	10/23/2018	LATITUDE (approximate)	34.149197°	34.150397°	34.150650°	Chris Cunningham, of GMED's Materials Lab, arrived on site about 1115 to evaluate existing conditions at the upstream, internal, and downstream sampling points prior to performing post-work water quality monitoring and sampling. BMP removed. Surface water was present at the upstream and internal sampling points, but the reach was dry in the area between the two sampling points due to insufficient flow allowing the water to soak into the ground. Post-work water quality monitoring and sampling was not performed because the site did not meet Regional Water Quality Control Board (RWQCB) permit specifications. A comparison of pre-work/baseline and post-work turbidity readings and TSS values was not made because the portion of the reach between sampling
		LONGITUDE (approximate)	118.537010°	118.536716°	118.536638°	
		ELEVATION (approximate)	900'	891'	890'	
		TIME	See Notes			
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (mg/L)				

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					Pre-Clearing/Baseline	
Reach 6 Caballero Creek East Fork	10/11/2018	LATITUDE (approximate)	34.150341°	34.150615°	34.150883°	Chris Cunningham, of GMED's Material's Lab, arrived on site about 1115 to evaluate existing conditions prior to performing pre-work/baseline water quality monitoring and sampling. Sampling points are in the same locations as previous monitoring events. Access to sampling points is via a locker vehicle gate off the east side of Reseda Blvd. on the west side of Caballero Creek, and then down a concrete rip-rap slope and concrete channel to sampling points. Pre-work/baseline monitoring and sampling was performed within one (1) week of placement of BMPs and proposed start of cleanout operations. Upstream sampling point (#1) located at the start of the SBC on the northeast side of the creek near the end of the reinforced concrete box about 150' southeast of the confluence with Caballero Creek Reach 5. Internal sampling point (#2) located on the southwest bank of Reach 6 across from the base of the concrete rip-rap slope at the confluence with Reach 5 and about 90' south of the boundary between the downstream end of the SBC and the start of the open-box concrete channel. Downstream sampling point (#3) located near the bottom center
		LONGITUDE (approximate)	118.536404°	118.536613°	118.536696°	
		ELEVATION (approximate)	906'	890'	887'	
		TIME	1135	1140	1150	
		SAMPLE NO.	CABCRKR6-1	CABCRKR6-2	CABCRKR6-3	
		TEMP (°C)	17.99	17.96	17.94	
		pH	8.30	8.20	7.97	
		Turbidity (NTUs)	2.15	0.68 <DTL	1.46 <DTL	
		Dissolved O2 (mg/L)	8.62	4.19	8.60	
		Total Suspended Solids (mg/L)	ND	ND	12.9	
					During Work	
Reach 6 Caballero Creek East Fork	10/15/2018	LATITUDE (approximate)	34.150341°	34.150615°	34.150883°	1st day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1215 to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sand bags across the bottom of the creek and located about 10 feet downstream of the intersection of the end of the SBC and start of the open-box concrete channel. Internal and downstream turbidity readings of 0.77 NTU and 1.38 NTU are both below the Daily Turbidity Limit (DTL) of 1.55 NTU (1.40 + 20%). The internal TSS value of 24.5 mg/L is over 10% above the Daily TSS Level (DTSSL) of ND whereas, the downstream TSS value of ND is equivalent to the DTSSL. Results forwarded via e-
		LONGITUDE (approximate)	118.536404°	118.536613°	118.536696°	
		ELEVATION (approximate)	906'	890'	887'	
		TIME	1230	1245	1250	
		SAMPLE NO.	CABCRKR6-1	CABCRKR6-2	CABCRKR6-3	
		TEMP (°C)	17.72	17.19	17.56	
		pH	7.99	8.04	8.01	
		Turbidity (NTUs)	1.40	0.77 <DTL	1.38 <DTL	
		Dissolved O2 (mg/L)	1.29	0.68	8.24	
		Total Suspended Solids (mg/L)	ND	24.5	ND =DTSSL	



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 6 Caballero Creek East Fork	10/16/2018	LATITUDE (approximate)	34.150341°	34.150615°	34.150883°	<b>During Work</b> 2nd day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1050 to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sand bags across the bottom of the creek and located about 10 feet downstream of the intersection of the end of the SBC and start of the open-box concrete channel. The internal turbidity reading of 0.76 NTU is below the Daily Turbidity Limit (DTL) of 3.00 NTU (2.50 + 20%) whereas, the downstream turbidity reading of 10.45 NTU is over 10% above the DTL. The internal TSS value of ND is equivalent to the Daily TSS Limit of ND whereas, the downstream TSS value of 10.2 mg/L is over 10%
		LONGITUDE (approximate)	118.536404°	118.536613°	118.536696°	
		ELEVATION (approximate)	906'	890'	887'	
		TIME	1105	1110	1120	
		SAMPLE NO.	CABCRKR6-1	CABCRKR6-2	CABCRKR6-3	
		TEMP (°C)	16.65	15.84	15.38	
		pH	8.24	8.16	8.20	
		Turbidity (NTUs)	2.50	0.76 <DTL	10.45	
		Dissolved O2 (mg/L)	3.71	4.16	5.56	
		Total Suspended Solids (mg/L)	ND	ND =DTSSL	10.2	
Reach 6 Caballero Creek East Fork	10/17/2018	LATITUDE (approximate)	34.150341°	34.150615°	34.150883°	<b>During Work</b> 3rd day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1120 to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sand bags across the bottom of the creek and located about 10 feet downstream of the intersection of the end of the SBC and start of the open-box concrete channel. The internal and downstream turbidity readings of 0.69 NTU and 2.20 NTU are both below the Daily Turbidity Limit (DTL) of 5.42 NTU (4.52 + 20%). The internal TSS value of ND is below the Daily TSS Limit of 12.0 mg/L (10.9 + 10%) whereas, the downstream TSS value of 58.3 mg/L is over 10% above the DTSSL. Results
		LONGITUDE (approximate)	118.536404°	118.536613°	118.536696°	
		ELEVATION (approximate)	906'	890'	887'	
		TIME	1130	1145	1220	
		SAMPLE NO.	CABCRKR6-1	CABCRKR6-2	CABCRKR6-3	
		TEMP (°C)	19.09	18.76	20.83	
		pH	8.28	8.13	8.51	
		Turbidity (NTUs)	4.52	0.69 <DTL	2.20 <DTL	
		Dissolved O2 (mg/L)	4.27	1.49	5.34	
		Total Suspended Solids (mg/L)	10.9	ND <DTSSL	58.3	
Reach 6 Caballero Creek East Fork	10/18/2018	LATITUDE (approximate)	34.150341°	34.150615°	34.150883°	<b>During Work</b> 4th day of field operations. Greg Johnson, of GMED's Geology Investigations, arrived on site about 1545 to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sand bags across the bottom of the creek and located about 10 feet downstream of the intersection of the end of the SBC and start of the open-box concrete channel. The internal and downstream turbidity readings of 1.32 NTU and 2.36 NTU are both below the Daily Turbidity Limit (DTL) of 6.24 NTU (5.20 + 20%). The internal and downstream TSS values of 7.90 mg/L and ND are both below the Daily TSS Limit of 76.3 mg/L (69.4 + 10%). Results forwarded via e-mail to personnel at FMD
		LONGITUDE (approximate)	118.536404°	118.536613°	118.536696°	
		ELEVATION (approximate)	906'	890'	887'	
		TIME	1555	1601	1611	
		SAMPLE NO.	CABCRKR6-1	CABCRKR6-2	CABCRKR6-3	
		TEMP (°C)	21.40	20.09	23.12	
		pH	8.28	8.19	8.69	
		Turbidity (NTUs)	5.20	1.32 <DTL	2.36 <DTL	
		Dissolved O2 (mg/L)	7.71	1.20	6.42	
		Total Suspended Solids (mg/L)	69.4	7.90 <DTSSL	ND <DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

		<b>During Work</b>			
Reach 6 Caballero Creek East Fork	10/19/2018	LATITUDE (approximate)	34.150341°	34.150615°	34.150883°
		LONGITUDE (approximate)	118.536404°	118.536613°	118.536696°
		ELEVATION (approximate)	906'	890'	887'
		TIME	1215	1236	1255
		SAMPLE NO.	CABCRKR6-1	CABCRKR6-2	CABCRKR6-3
		TEMP (°C)	23.67	26.01	29.30
		pH	8.32	7.18	6.62
		Turbidity (NTUs)	10.07	12.9	5.96 <DTL
		Dissolved O2 (mg/L)	9.54	9.50	9.46
		Total Suspended Solids (mg/L)	8.10	47.0	27.7
		<b>Post-Work</b>			
Reach 6 Caballero Creek East Fork	10/23/2018	LATITUDE (approximate)	34.150341°	34.150615°	34.150883°
		LONGITUDE (approximate)	118.536404°	118.536613°	118.536696°
		ELEVATION (approximate)	906'	890'	887'
		TIME	1130	1140	1155
		SAMPLE NO.	CABCRKR6-1	CABCRKR6-2	CABCRKR6-3
		TEMP (°C)	19.34	19.66	19.24
		pH	8.41	8.28	8.34
		Turbidity (NTUs)	2.31	0.92 <DTL	2.68 < 20% DTL
		Dissolved O2 (mg/L)	3.70	7.06	7.71
		Total Suspended Solids (mg/L)	5.8	ND <DTSSL	19.2

On the first and final day of field operations, Garo Avoyan, of GMED's Materials Lab, arrived on site about 1210 to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sand bags across the bottom of the creek and located about 10 feet downstream of the intersection of the end of the SBC and start of the open-box concrete channel. The internal turbidity reading of 12.9 NTU is slightly over 20% above the Daily Turbidity Limit (DTL) of 12.09 (10.07 + 20%) whereas, the downstream turbidity reading of 5.96 NTU is below the DTL. The internal and downstream TSS values of 47.0 mg/L and 27.7 mg/L are both over 10% above the Daily TSS Limit of 8.91 mg/L.

Chris Cunningham, of GMED's Materials Lab, arrived on site about 1120 to evaluate existing conditions prior to performing post-work water quality monitoring and sampling. BMP removed. The internal turbidity reading of 0.92 NTU is below the Daily Turbidity Limit (DTL) of 2.77 (2.31 + 20%) whereas, the downstream turbidity reading of 2.68 NTU is within the acceptable 20% range above the DTL. The internal TSS value of ND is below the Daily TSS Limit of 6.38 mg/L (5.80 + 10%) whereas, the downstream TSS value of 19.2 mg/L is over 10% above the DTSSL. Comparison of pre-work/baseline and post-work turbidity readings and TSS values suggests values are within the same order of magnitude and show little variation following cleanout operations. Findings forwarded



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					Pre-Clearing/Baseline	
Reach 8 Hayvenhurst Drain Project 470	10/22/2018	LATITUDE (approximate)	34.163565°	34.164211°	34.164761°	<p>Sam Hinojos, of GMED's Material's Lab, arrived on site about 0830 to evaluate conditions prior to performing pre-work/baseline water quality monitoring and sampling. Sampling points are in the same locations as previous monitoring events. Baseline monitoring and sampling was performed within one (1) week of placement of BMPs and proposed start of cleanout operations. Upstream sampling point (#1) located in the open channel on the east side of Hayvenhurst Ave. at Hartsook St. on the west edge of the drain outside the trash rack and closed concrete box channel as it exits from underneath Hayvenhurst Ave. Internal sampling point (#2) located at concrete cut-off wall extending across the channel about 310' northeast and downstream of sampling point #1. Downstream sampling point (#3) located where the open concrete channel transitions to a closed concrete double-barrel box channel below the on-ramp to the east-bound 101 Freeway from Hayvenhurst Avenue. Sampling point is about 500' northeast and</p>
		LONGITUDE (approximate)	118.492143°	118.491540°	118.491026°	
		ELEVATION (approximate)	703'	702'	702'	
		TIME	847	910	930	
		SAMPLE NO.	HDRAINR8-1	HDRAINR8-2	HDRAINR8-3	
		TEMP (°C)	18.68	18.37	18.00	
		pH	8.26	8.31	8.17	
		Turbidity (NTUs)	4.95	8.89	8.34	
		Dissolved O2 (mg/L)	10.97	9.58	10.30	
		Total Suspended Solids (mg/L)	5.80	31.1	11.2	
Reach 8 Hayvenhurst Drain Project 470	10/23/2018	LATITUDE (approximate)	34.163565°	34.164211°	34.164761°	<p>1st day of field operations. Greg Johnson, of GMED's Geology Investigations, arrived on site about 1205 to evaluate conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a straw waddle anchored with sand bags located downstream of the SBC at the beginning of the closed concrete double-barrel box channel. A significant amount of suspended sediment is present in the water exiting the underground concrete box channel at the upstream sampling point affecting turbidity and TSS values. Internal and downstream turbidity readings of 16.58 NTU and 6.07 NTU are both below the Daily Turbidity Limit (DTL) of 114 NTU (96 + 20%). Internal and downstream TSS values of 22.8 mg/L and 13.3 mg/L are both</p>
		LONGITUDE (approximate)	118.492143°	118.491540°	118.491026°	
		ELEVATION (approximate)	703'	702'	702'	
		TIME	1215	1224	1232	
		SAMPLE NO.	HDRAINR8-1	HDRAINR8-2	HDRAINR8-3	
		TEMP (°C)	19.92	21.92	23.81	
		pH	8.63	8.67	8.65	
		Turbidity (NTUs)	96	16.58 <DTL	6.07 <DTL	
		Dissolved O2 (mg/L)	4.69	5.43	5.44	
		Total Suspended Solids (mg/L)	361	22.8 <DTSSL	13.3 <DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

		<b>During Work</b>				
Reach 8 Hayvenhurst Drain Project 470	10/24/2018	LATITUDE (approximate)	34.163565°	34.164211°	34.164761°	2nd day of field operations. Greg Johnson, of GMED's Geology Investigations, arrived on site about 1330 to evaluate conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a straw waddle anchored with sand bags located downstream of the SBC at the beginning of the closed concrete double-barrel box channel. Water exiting the underground concrete box channel at the upstream sampling point is significantly clearer. Internal and downstream turbidity readings of 24.32 NTU and 16.53 NTU are both over 20% above the Daily Turbidity Limit of 3.15 NTU (2.63 + 20%). Internal and downstream TSS values of 35.4 mg/L and 37.7 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of 5.94 mg/L (5.40 + 10%). Crew is removing vegetation from the water using hand
		LONGITUDE (approximate)	118.492143°	118.491540°	118.491026°	
		ELEVATION (approximate)	703'	702'	702'	
		TIME	1337	1344	1352	
		SAMPLE NO.	HDRAINR8-1	HDRAINR8-2	HDRAINR8-3	
		TEMP (°C)	22.0	24.4	26.7	
		pH	8.74	8.59	8.54	
		Turbidity (NTUs)	2.63	24.32	16.53	
		Dissolved O2 (mg/L)	6.60	6.21	4.36	
		Total Suspended Solids (mg/L)	5.40	35.4	37.7	
Reach 8 Hayvenhurst Drain Project 470	10/25/2018	LATITUDE (approximate)	34.163565°	34.164211°	34.164761°	3rd and final day of field operations. Garo Avoyan, of GMED's Materials Lab, arrived on site about 1330 to evaluate conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a straw waddle anchored with sand bags located downstream of the SBC at the beginning of the closed concrete double-barrel box channel. Internal and downstream turbidity readings of 6.68 NTU and 9.89 NTU are both over 20% above the Daily Turbidity Limit of 3.74 NTU (3.12 + 20%). Internal and downstream TSS values of 16.7 mg/L and 23.1 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of 6.16 mg/L (5.60 + 10%). Crew is removing vegetation from the water using hand tools resulting in turbidity readings over 20%
		LONGITUDE (approximate)	118.492143°	118.491540°	118.491026°	
		ELEVATION (approximate)	703'	702'	702'	
		TIME	1345	1402	1423	
		SAMPLE NO.	HDRAINR8-1	HDRAINR8-2	HDRAINR8-3	
		TEMP (°C)	22.6	23.1	24.3	
		pH	8.03	7.43	7.31	
		Turbidity (NTUs)	3.12	6.68	9.89	
		Dissolved O2 (mg/L)	9.53	8.96	9.59	
		Total Suspended Solids (mg/L)	5.60	16.7	23.1	



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

						<b>Post-Work</b>
Reach 8 Hayvenhurst Drain Project 470	10/30/2018	LATITUDE (approximate)	34.163565°	34.164211°	34.164761°	Sam Hinojos, of GMED's Material's Lab, arrived on site about 0930 to evaluate conditions prior to performing post-work water quality monitoring and sampling. BMP removed. The internal turbidity reading of 9.30 NTU is over 20% above the Daily Turbidity Limit (DTL) of 8.73 NTU (7.27 + 20%) whereas, the downstream turbidity limit of 7.61 NTU is within the acceptable 20% limit of the DTL. Internal and downstream TSS values of 15.6 mg/L and 13.7 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of ND. Comparison of pre-work/baseline and post-work turbidity readings and TSS values indicates little change following cleanout operations with all values in the same order of magnitude. Findings forwarded via e-mail to FMD personnel at
		LONGITUDE (approximate)	118.492143°	118.491540°	118.491026°	
		ELEVATION (approximate)	703'	702'	702'	
		TIME	943	1015	1040	
		SAMPLE NO.	HDRAINR8-1	HDRAINR8-2	HDRAINR8-3	
		TEMP (°C)	19.97	18.89	18.64	
		pH	8.76	8.74	8.68	
		Turbidity (NTUs)	7.27	9.30	7.61	
		Dissolved O2 (mg/L)	6.80	7.31	9.36	
		Total Suspended Solids (mg/L)	ND	15.6	13.7	
Reach 15 Pacoima Wash	9/14/2018	LATITUDE (approximate)	See Notes			<b>Pre-Clearing/Baseline</b> Greg Johnson, of GMED Geology Investigations, arrived on site about 1215 within 7 days of the proposed start date to evaluate existing conditions prior to performing pre-clearing/baseline water quality monitoring and sampling. Very little surface water was entering the SBC in the area of the upstream sampling point. Surface water was not present at the downstream sampling point, south of Roscoe Blvd. at the intersection of the end of the SBC and start of the open-box concrete channel. Surface water is present entering the upstream portion of the reach however, it percolates into the subsurface to the extent there is no surface flow at this sampling point. In addition, there is minimal surface water and generally stagnant water conditions in the area of the internal sampling point. Pre-work/baseline water quality monitoring and sampling was not performed because the project did not meet Regional Water Quality Control Board (RWQCB) permit requirements. From a water quality standpoint, the project
		LONGITUDE (approximate)				
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

						<b>During Work</b>
Reach 15 Pacoima Wash	9/17 to 10/2/2018	LATITUDE (approximate)	See Notes			BMP consists of a snail waade anchored with sand bags. GMED personnel arrived on site at various times on 6 separate occasions from 09/17 to 10/02 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. In each case, surface water was either not present at the internal and/or downstream sampling points or was of insufficient depth to collect representative water quality samples for monitoring, sampling, and analysis. Surface water was present in he area of the upstream sampling point, but the quantity was so low it percolates into the subsurface before reaching either the internal or downstream sampling points. During maintenance water quality monitoring and sampling was not performed because the site did not meet Regional Water Quality Control Board (RWQCB) permit requirements. GMED performed periodic site checks to evaluate
		LONGITUDE (approximate)				
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				
Reach 15 Pacoima Wash	10/11/2018	LATITUDE (approximate)	See Notes			<b>Post-Work</b>  Greg Johnson, of GMED Geology Investigations, arrived on site about 1515 to evaluate existing conditions at the potential downstream sampling point prior to performing <u>post-work water quality monitoring and sampling</u> . Work was completed, and the BMP was removed on Friday, 10/05. As documented during cleanout operations, surface water was not present and the area of the downstream sampling point was dry. Post-work water quality monitoring and sampling was not performed because the site did not meet Regional Water Quality Control Board (RWQCB) permit requirements. A comparison of pre-clearing/baseline and post-work water quality parameters could not be made because the area of the downstream sampling point remained essentially dry therefore, water quality parameters were not measured
		LONGITUDE (approximate)				
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					Pre-Clearing/Baseline	
Reach 24 Compton Creek	9/14/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	Chris Cunningham, of GMED's Materials Lab, arrived on site about 1015 at the downstream sampling point to evaluate existing conditions prior to performing pre-clearing/baseline water quality monitoring and sampling. Brush was cut and removed by FMD personnel to provide access to the upstream and internal sampling points. As requested, baseline monitoring and sampling was performed within one week of placement of any BMPs and the proposed start of cleanout operations. Sampling points in the same locations as previous sampling events. Upstream sampling point (#1) located about 0.82 miles north of the Santa Fe Ave. Bridge over Compton Creek and below the east side of the railroad bridge over the creek at the second (middle) support. Internal sampling point (#2) located in the area of the small concrete crib structure with weir across Compton Creek, about 0.34 mile south of the Santa Fe Ave. Bridge over Compton Creek. Downstream sampling point (#3) located in the center of Compton Creek at the
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	
		ELEVATION (approximate)	44'	34'	27'	
		TIME	1100	1045	1030	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	22.87	21.31	21.44	
		pH	7.88	7.69	7.86	
		Turbidity (NTUs)	7.35	20.30	1.42	
		Dissolved O2 (mg/L)	1.39	9.02	7.61	
		Total Suspended Solids (TSS) (mg/L)	14.6	ND	ND	
Reach 24 Compton Creek	9/17/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	During Work  1st day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0745 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. Internal and downstream turbidity readings of 6.22 NTU and 1.13 NTU are both below the Daily Turbidity Limit (DTL) of 13.4 NTU (11.2 + 20%). Internal and downstream TSS values of 5.00 mg/L and ND are both below the Daily TSS Limit (DTSSL) of 26.4 mg/L (24.0 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	
		ELEVATION (approximate)	44'	34'	27'	
		TIME	846	815	800	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	18.95	18.54	18.68	
		pH	7.42	7.34	7.73	
		Turbidity (NTUs)	11.20	6.22 <DTL	1.13 <DTL	
		Dissolved O2 (mg/L)	8.44	0.44	9.73	
		Total Suspended Solids (TSS) (mg/L)	24.0	5.00 <DTSSL	ND <DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 24 Compton Creek	9/18/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	<b>During Work</b>
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	<p>2nd day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0810 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. Internal and downstream turbidity readings of 6.47 NTU and 2.81 NTU are both below the Daily Turbidity Limit (DTL) of 24.5 NTU (20.4 + 20%). The internal TSS value of ND is below the Daily TSS Limit (DTSSL) of 15.6 mg/L (14.2 + 10%) whereas, the downstream TSS value of 26.0 mg/L is over 10% above the DTSSL. Findings forwarded via e-mail to FMD personnel at Imperial Yard.</p>
		ELEVATION (approximate)	44'	34'	27'	
		TIME	850	840	824	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	18.67	18.23	18.40	
		pH	7.63	7.40	7.92	
		Turbidity (NTUs)	20.40	6.47 <DTL	2.81 <DTL	
		Dissolved O2 (mg/L)	9.00	8.93	9.42	
		Total Suspended Solids (TSS) (mg/L)	14.2	ND <DTSSL	26.0	
Reach 24 Compton Creek	9/19/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	<p>3rd day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0830 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. Internal and downstream turbidity readings of 8.08 NTU and 1.63 NTU are both below the Daily Turbidity Limit (DTL) of 17.5 NTU (14.6 + 20%). The internal TSS value of 15.5 mg/L is within the acceptable 20% limit of the Daily TSS Limit (DTSSL) of 16.1 mg/L (14.6 + 10%) whereas, the downstream TSS value of 8.20 mg/L is below the DTSSL. Findings forwarded via e-mail to FMD personnel at Imperial Yard.</p>
		ELEVATION (approximate)	44'	34'	27'	
		TIME	910	900	845	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	19.41	18.24	18.92	
		pH	7.50	7.53	7.95	
		Turbidity (NTUs)	14.60	8.08 <DTL	1.63 <DTL	
		Dissolved O2 (mg/L)	8.74	9.38	7.79	
		Total Suspended Solids (TSS) (mg/L)	14.6	15.5 <20% DTSSL	8.20 <DTSSL	



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 24 Compton Creek	9/20/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	<b>During Work</b>
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	<p>4th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0845 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. Internal and downstream turbidity readings of 2.25 NTU and 1.32 NTU are both below the Daily Turbidity Limit (DTL) of 25.2 NTU (21.0 + 20%). Internal and downstream TSS values of ND are both below the Daily TSS Limit (DTSSL) of 14.0 mg/L (12.7 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.</p>
		ELEVATION (approximate)	44'	34'	27'	
		TIME	925	910	852	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	19.90	18.60	19.44	
		pH	7.58	7.70	8.01	
		Turbidity (NTUs)	21.0	2.25 <DTL	1.32 <DTL	
		Dissolved O2 (mg/L)	7.88	9.13	9.63	
		Total Suspended Solids (TSS) (mg/L)	12.7	ND <DTSSL	ND <DTSSL	
Reach 24 Compton Creek	9/21/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	<p>5th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0645 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. The internal turbidity reading of 22.3 NTU is within the acceptable 20% range of the Daily Turbidity Limit (DTL) of 24.0 NTU (20.0 + 20%) whereas, the downstream turbidity reading of 1.68 NTU is below the DTL. Internal and downstream TSS values of 9.70 mg/L and ND are both below the Daily TSS Limit (DTSSL) of 13.6 mg/L (12.4 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.</p>
		ELEVATION (approximate)	44'	34'	27'	
		TIME	715	710	700	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	18.61	18.21	18.22	
		pH	7.68	7.77	8.08	
		Turbidity (NTUs)	20.0	22.3 <20% DTL	1.68 <DTL	
		Dissolved O2 (mg/L)	8.78	9.05	8.51	
		Total Suspended Solids (TSS) (mg/L)	12.4	9.70 <DTSSL	ND <DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 24 Compton Creek	9/22/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	<b>During Work</b> 6th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0630 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. The internal turbidity reading of 61.4 NTU is over 20% above the Daily Turbidity Limit (DTL) of 31.3 NTU (26.1 + 20%) whereas, the downstream turbidity reading of 0.84 NTU is below the DTL. The internal TSS value of 47.7 mg/L is over 10% above the Daily TSS Limit (DTSSL) of 38.4 mg/L (34.9 + 10%) whereas, the downstream TSS values of 20.3 mg/L is below the DTSSL. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	
		ELEVATION (approximate)	44'	34'	27'	
		TIME	710	700	645	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	18.60	18.31	18.48	
		pH	7.71	7.73	8.13	
		Turbidity (NTUs)	26.1	61.40	0.84 <DTL	
		Dissolved O2 (mg/L)	8.89	9.04	9.56	
		Total Suspended Solids (TSS) (mg/L)	34.9	47.7	20.3 <DTSSL	
Reach 24 Compton Creek	9/24/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	<b>During Work</b> 7th day and 2nd week of field operations. End of daily monitoring and start of weekly monitoring. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0830 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. The internal turbidity reading of 46.9 NTU is over 20% above the Daily Turbidity Limit (DTL) of 21.0 NTU (17.5 + 20%) whereas, the downstream turbidity reading of 1.69 NTU is below the DTL. The internal TSS value of 22.4 mg/L is over 10% above the Daily TSS Limit (DTSSL) of ND whereas, the downstream TSS values of ND is equivalent to the DTSSL. Findings forwarded via e-mail to FMD
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	
		ELEVATION (approximate)	44'	34'	27'	
		TIME	930	900	845	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	19.75	19.78	19.25	
		pH	7.87	7.59	8.03	
		Turbidity (NTUs)	17.5	46.90	1.69 <DTL	
		Dissolved O2 (mg/L)	8.86	8.56	5.38	
		Total Suspended Solids (TSS) (mg/L)	ND	22.4	ND =DTSSL	



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 24 Compton Creek	10/1/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	<b>During Work</b>  3rd week of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0810 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. The internal and downstream turbidity readings of 32.6 NTU and 31.4 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 17.3 NTU (14.4 + 20%). The internal and downstream TSS values of 46.5 mg/L and 10.9 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of ND. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	
		ELEVATION (approximate)	44'	34'	27'	
		TIME	845	830	820	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	20.40	20.42	20.49	
		pH	7.67	7.46	7.94	
		Turbidity (NTUs)	14.4	32.6	31.4	
		Dissolved O2 (mg/L)	3.17	8.32	5.39	
		Total Suspended Solids (TSS) (mg/L)	ND	46.5	10.9	
Reach 24 Compton Creek	10/9/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	<b>During Work</b>  4th week of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0905 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. The internal and downstream turbidity readings of 15.4 NTU and 47.0 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 5.23 NTU (4.35 + 20%). The internal TSS value of 4.40 mg/L is below the Daily TSS Limit (DTSSL) of 6.49 mg/L (5.90 + 10%) whereas, the downstream TSS value of 11.0 mg/L is over 10% above the DTSSL. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	
		ELEVATION (approximate)	44'	34'	27'	
		TIME	940	925	915	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	19.89	20.24	20.83	
		pH	7.52	7.35	7.95	
		Turbidity (NTUs)	4.4	15.4	47.0	
		Dissolved O2 (mg/L)	8.99	9.01	9.43	
		Total Suspended Solids (TSS) (mg/L)	5.9	4.40 <DTSSL	11.0	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 24 Compton Creek	10/15/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	<b>During Work</b>  5th week of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0820 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. The internal turbidity reading of 11.7 NTU is below the Daily Turbidity Limit (DTL) of 15.1 NTU (12.6 + 20%) whereas, the downstream turbidity reading of 18.0 NTU is over 20% above the DTL. The internal and downstream TSS values of 10.3 mg/L and 8.90 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of ND. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	
		ELEVATION (approximate)	44'	34'	27'	
		TIME	915	900	830	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	19.22	19.40	19.02	
		pH	7.65	7.40	7.83	
		Turbidity (NTUs)	12.6	11.7 <DTL	18.0	
		Dissolved O2 (mg/L)	8.89	9.09	9.79	
		Total Suspended Solids (TSS) (mg/L)	ND	10.3	8.90	
Reach 24 Compton Creek	10/22/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	<b>During Work</b>  6th and final week of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0820 at the downstream sampling point to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of two separate rows of 2-high sandbags placed across the bottom of the concrete trapezoidal channel downstream of the SBC. The internal and downstream turbidity readings of 27.1 NTU and 33.4 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 3.27 NTU (2.73 + 20%). The internal TSS value of 6.00 mg/L is over 10% above the Daily TSS Limit (DTSSL) of ND whereas, the downstream TSS value of ND is equivalent to the DTSSL. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	
		ELEVATION (approximate)	44'	34'	27'	
		TIME	850	845	830	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	18.56	19.62	20.01	
		pH	7.88	7.92	8.05	
		Turbidity (NTUs)	2.7	27.1	33.4	
		Dissolved O2 (mg/L)	6.80	8.37	2.59	
		Total Suspended Solids (TSS) (mg/L)	ND	6.00	ND =DTSSL	



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					Post-Work	
Reach 24 Compton Creek	11/5/2018	LATITUDE (approximate)	33.872235°	33.855566°	33.842356°	Chris Cunningham, of GMED's Materials Lab, arrived on site about 0805 at the downstream sampling point to evaluate existing conditions prior to performing post-work water quality monitoring and sampling. BMP removed. Post-work monitoring and sampling was not performed within 7 days after the completion of field operations and removal of the BMP because of FMD maintenance activities at the downstream end of the project. The internal and downstream turbidity readings of 6.85 NTU and 19.5 NTU are both below the Daily Turbidity Limit (DTL) of 26.4 NTU (22.0 + 20%). The internal and downstream TSS values of ND are both below the Daily TSS Limit (DTSSL) of 6.38 mg/L (5.80 + 10%). Comparison of pre-work/baseline and post-work turbidity readings and TSS values indicates generally higher post-work turbidity
		LONGITUDE (approximate)	118.216296°	118.213563°	118.204862°	
		ELEVATION (approximate)	44'	34'	27'	
		TIME	840	830	815	
		SAMPLE NO.	CCRKR24-1	CCRKR24-2	CCRKR24-3	
		TEMP (°C)	18.41	18.95	18.40	
		pH	8.05	8.01	8.31	
		Turbidity (NTUs)	22.0	6.85 <DTL	19.5 <DTL	
		Dissolved O2 (mg/L)	8.11	8.24	5.74	
		Total Suspended Solids (TSS) (mg/L)	5.80	ND <DTSSL	ND <DTSSL	
Reach 25 Los Angeles River East Willow Street to PCH	10/17/2018	LATITUDE (approximate)	33.803965°	33.800976°	33.790330°	Chris Cunningham, of GMED's Materials Lab, arrived on site about 0900 to evaluate existing conditions prior to performing pre-clearing baseline water quality monitoring and sampling. Baseline monitoring and sampling was performed within one week of placement of any BMPs and the proposed start of cleanup operations. Sampling points in the same locations as previous sampling events. Upstream sampling point (#1) located on the east bank of the river at the end of the concrete channel and start of the SBC about 85' south of the south side of the Willow Street Bridge over the L.A. River. Internal sampling point (#2) located on the east bank of the river about 1175' south of the Willow Street Bridge at the petroleum pipeline support structure. Downstream sampling point (#3) located on the east bank of the river directly below the north side of the PCH Bridge over the L.A. River. From
		LONGITUDE (approximate)	118.204929°	118.205477°	118.204970°	
		ELEVATION (approximate)	7'	3'	3'	
		TIME	920	930	940	
		SAMPLE NO.	LARR25E-1	LARR25E-2	LARR25E-3	
		TEMP (°C)	17.29	16.35	17.42	
		pH	9.19	8.22	8.81	
		Turbidity (NTUs)	3.92	9.47	5.20	
		Dissolved O2 (mg/L)	7.56	1.10	2.70	
		Total Suspended Solids (TSS) (mg/L)	11.0	36.0	10.9	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 25 Los Angeles River East Willow Street to PCH	10/18/2018	LATITUDE (approximate)	33.803965°	33.800976°	33.790330°	<b>During Work</b>  1st day of field operations. Greg Johnson, of GMED's Geology Investigations, arrived on site about 1125 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. A significant amount of floating and suspended debris from upstream sources is present in the water at the upstream sampling point affecting turbidity and TSS values. Internal and downstream turbidity readings of 14.9 NTU and 5.04 NTU are both below the Daily Turbidity Limit (DTL) of 108.2 NTU (90.2 + 20%). Internal and downstream TSS values of 19.5 mg/L and 10.7 mg/L are both below the Daily TSS Limit (DTSSL) of 356 mg/L (324 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.204929°	118.205477°	118.204970°	
		ELEVATION (approximate)	7'	3'	3'	
		TIME	1141	1155	1211	
		SAMPLE NO.	LARR25E-1	LARR25E-2	LARR25E-3	
		TEMP (°C)	23.88	22.45	20.61	
		pH	9.42	9.21	8.66	
		Turbidity (NTUs)	90.2	14.9 <DTL	5.04 <DTL	
		Dissolved O2 (mg/L)	6.11	7.96	2.62	
		Total Suspended Solids (TSS) (mg/L)	324	19.5 <DTSSL	10.7 <DTSSL	
Reach 25 Los Angeles River East Willow Street to PCH	10/19/2018	LATITUDE (approximate)	33.803965°	33.800976°	33.790330°	<b>During Work</b>  2nd day of field operations. Garo Avoyan, of GMED's Materials Lab, arrived on site about 0900 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Floating and suspended debris is present in the water at the internal sampling point from birds feeding in the river which may affect turbidity and TSS values. Internal turbidity reading of 8.96 NTU is over 20% above the Daily Turbidity Limit (DTL) of 7.41 NTU (6.17 + 20%) whereas, the downstream turbidity reading of 4.54 NTU is below the DTL. Internal and downstream TSS values of 6.70 mg/L and 7.20 mg/L are both below the Daily TSS Limit (DTSSL) of 18.3 mg/L (16.6 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.204929°	118.205477°	118.204970°	
		ELEVATION (approximate)	7'	3'	3'	
		TIME	924	948	1008	
		SAMPLE NO.	LARR25E-1	LARR25E-2	LARR25E-3	
		TEMP (°C)	19.16	19.50	20.08	
		pH	8.70	7.83	7.61	
		Turbidity (NTUs)	6.17	8.96	4.54 <DTL	
		Dissolved O2 (mg/L)	9.59	9.38	10.08	
		Total Suspended Solids (TSS) (mg/L)	16.6	6.70 <DTSSL	7.20 <DTSSL	



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 25 Los Angeles River East Willow Street to PCH	10/20/2018	LATITUDE (approximate)	33.803965°	33.800976°	33.790330°	<b>During Work</b>  3rd day of field operations. Greg Johnson, of GMED's Geology Investigations, arrived on site about 1030 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Internal and downstream turbidity readings of 14.9 NTU and 4.39 NTU are both below the Daily Turbidity Limit (DTL) of 19.4 NTU (16.2 + 20%). Internal and downstream TSS values of 14.0 mg/L and 5.00 mg/L are both below the Daily TSS Limit (DTSSL) of 39.6 mg/L (36.0 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.204929°	118.205477°	118.204970°	
		ELEVATION (approximate)	7'	3'	3'	
		TIME	1048	1101	1122	
		SAMPLE NO.	LARR25E-1	LARR25E-2	LARR25E-3	
		TEMP (°C)	21.91	21.18	21.20	
		pH	9.50	9.15	8.51	
		Turbidity (NTUs)	16.2	14.9 <DTL	4.39 <DTL	
		Dissolved O2 (mg/L)	7.10	6.71	2.64	
		Total Suspended Solids (TSS) (mg/L)	36.0	14.0 <DTSSL	5.00 <DTSSL	
Reach 25 Los Angeles River East Willow Street to PCH	10/22/2018	LATITUDE (approximate)	33.803965°	33.800976°	33.790330°	<b>During Work</b>  4th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0950 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Floating and suspended debris is present in the water at the downstream sampling point from birds feeding in the water which may affect turbidity and TSS values. Comparison of internal and downstream turbidity readings with the Daily Turbidity Limit (DTL) could not be made because the turbidity meter was not functioning properly. Internal and downstream TSS values of 42.0 mg/L and 157 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of 15.4 mg/L (14.0 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.204929°	118.205477°	118.204970°	
		ELEVATION (approximate)	7'	3'	3'	
		TIME	1010	1030	1050	
		SAMPLE NO.	LARR25E-1	LARR25E-2	LARR25E-3	
		TEMP (°C)	21.55	20.23	20.53	
		pH	9.95	8.54	8.21	
		Turbidity (NTUs) * - turbidity meter not functioning properly	-39.16	-32.19	39.87	
		Dissolved O2 (mg/L)	7.24	7.77	6.54	
		Total Suspended Solids (TSS) (mg/L)	14.0	42.0	157	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 25 Los Angeles River East Willow Street to PCH	10/23/2018	LATITUDE (approximate)	33.803965°	33.800976°	33.790330°	<b>During Work</b>  5th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0925 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Floating and suspended debris is present in the water at the internal and downstream sampling points from birds feeding in the river which may affect turbidity and TSS values. Internal and downstream turbidity readings of 6.81 NTU and 7.35 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 3.94 NTU (3.28 + 20%). Internal and downstream TSS values of 10.9 mg/L and 14.8 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of 10.3 mg/L (9.40 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.204929°	118.205477°	118.204970°	
		ELEVATION (approximate)	7'	3'	3'	
		TIME	943	1000	1020	
		SAMPLE NO.	LARR25E-1	LARR25E-2	LARR25E-3	
		TEMP (°C)	19.04	19.14	19.15	
		pH	9.57	8.33	8.58	
		Turbidity (NTUs)	3.28	6.81	7.35	
		Dissolved O2 (mg/L)	7.77	7.57	7.45	
		Total Suspended Solids (TSS) (mg/L)	9.40	10.9	14.8	
Reach 25 Los Angeles River East Willow Street to PCH	10/24/2018	LATITUDE (approximate)	33.803965°	33.800976°	33.790330°	<b>During Work</b>  6th day of field operations, end of daily monitoring and start of weekly monitoring. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0855 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Floating and suspended debris remains present in the water at the internal and downstream sampling points from birds feeding in the river which may affect turbidity and TSS values. Internal and downstream turbidity readings of 7.40 NTU and 4.63 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 4.10 NTU (3.36 + 20%). Internal and downstream TSS values of 12.8 mg/L and 13.4 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of 5.50 mg/L (5.00 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.204929°	118.205477°	118.204970°	
		ELEVATION (approximate)	7'	3'	3'	
		TIME	915	925	940	
		SAMPLE NO.	LARR25E-1	LARR25E-2	LARR25E-3	
		TEMP (°C)	18.61	18.85	18.65	
		pH	9.43	8.47	8.23	
		Turbidity (NTUs)	3.36	7.40	4.63	
		Dissolved O2 (mg/L)	7.92	7.43	5.75	
		Total Suspended Solids (TSS) (mg/L)	5.00	12.8	13.4	



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 25 Los Angeles River East Willow Street to PCH	10/31/2018	LATITUDE (approximate)	33.803965°	33.800976°	33.790330°	<b>During Work</b>  2nd week of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0905 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Internal and downstream turbidity readings of 3.99 NTU and 2.97 NTU are both below the Daily Turbidity Limit (DTL) of 5.02 NTU (4.18 + 20%). Internal and downstream TSS values of ND are both equivalent to the Daily TSS Limit (DTSSL) of ND. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.204929°	118.205477°	118.204970°	
		ELEVATION (approximate)	7'	3'	3'	
		TIME	925	935	945	
		SAMPLE NO.	LARR25E-1	LARR25E-2	LARR25E-3	
		TEMP (°C)	17.79	17.59	17.57	
		pH	9.44	8.74	9.09	
		Turbidity (NTUs)	4.18	3.99 <DTL	2.97 <DTL	
		Dissolved O2 (mg/L)	6.40	7.41	2.54	
		Total Suspended Solids (TSS) (mg/L)	ND	ND =DTSSL	ND =DTSSL	
Reach 25 Los Angeles River East Willow Street to PCH	11/7/2018	LATITUDE (approximate)	33.803965°	33.800976°	33.790330°	<b>During Work</b>  3rd week of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0745 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Floating and suspended debris remains present in the water at the internal and downstream sampling points from birds feeding in the river which may affect turbidity and TSS values. The internal turbidity reading of 3.37 NTU is below the Daily Turbidity Limit (DTL) of 5.42 NTU (4.52 + 20%) whereas, the downstream turbidity reading of 5.07 NTU is within the acceptable 20% range of the DTL. The internal TSS value of ND is below the Daily TSS Limit (DTSSL) of 9.24 mg/L (8.40 + 20%) whereas, the downstream TSS value of 17.0 mg/L is over 10% above the DTSSL. Findings forwarded via e-mail to FMD
		LONGITUDE (approximate)	118.204929°	118.205477°	118.204970°	
		ELEVATION (approximate)	7'	3'	3'	
		TIME	810	815	825	
		SAMPLE NO.	LARR25E-1	LARR25E-2	LARR25E-3	
		TEMP (°C)	18.12	18.27	18.24	
		pH	9.17	8.56	8.89	
		Turbidity (NTUs)	4.52	3.37 <DTL	5.07 <20%DTL	
		Dissolved O2 (mg/L)	8.02	3.19	7.28	
		Total Suspended Solids (TSS) (mg/L)	8.40	ND <DTSSL	17.0	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 25 Los Angeles River East Willow Street to PCH	11/14/2018	LATITUDE (approximate)	33.803965°	33.800976°	33.790330°	<b>Post-Work</b> Chris Cunningham, of GMED's Materials Lab, arrived on site about 0900 to evaluate existing conditions prior to performing post-work water quality monitoring and sampling. Monitoring and sampling completed within 1 week of completion of field operations. Floating and suspended debris remains present in the water at the internal and downstream sampling points from birds feeding in the river which may affect turbidity and TSS values. Internal and downstream turbidity readings of 5.34 NTU and 4.65 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 3.36 NTU (2.80 + 20%). The internal and downstream TSS values of 20.9 mg/L and 22.7 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of 6.27 mg/L (5.70 + 10%). Comparison of pre-work/baseline and post-work turbidity readings and TSS values
		LONGITUDE (approximate)	118.204929°	118.205477°	118.204970°	
		ELEVATION (approximate)	7'	3'	3'	
		TIME	920	935	945	
		SAMPLE NO.	LARR25E-1	LARR25E-2	LARR25E-3	
		TEMP (°C)	15.48	15.28	15.15	
		pH	9.44	8.87	8.05	
		Turbidity (NTUs)	2.80	5.34	4.65	
		Dissolved O2 (mg/L)	6.99	8.01	5.84	
		Total Suspended Solids (TSS) (mg/L)	5.70	20.9	22.7	
Reach 25 Los Angeles River West Willow Street to PCH	10/17/2018	LATITUDE (approximate)	33.803967°	33.800967°	33.790279°	<b>Pre-Clearing/Baseline</b> Chris Cunningham, of GMED's Materials Lab, arrived on site about 0850 to evaluate existing conditions prior to performing pre-clearing/baseline water quality monitoring and sampling. Baseline monitoring and sampling was performed within one week of placement of BMPs and proposed start of cleanout operations. Upstream, internal, and downstream sampling points are in the same locations as previous monitoring events. Upstream sampling point (#1) located on the west bank of the river at the end of the concrete channel and start of the SBC about 85' south of the south side of the Willow Street Bridge over the L.A. River. Internal sampling point (#2) located on the west bank of the river about 1175' south of the Willow Street Bridge at the petroleum pipeline support structure. Downstream sampling point (#3) located on the west bank of the river directly below the north
		LONGITUDE (approximate)	118.206081°	118.206024°	118.206093°	
		ELEVATION (approximate)	6'	3'	3'	
		TIME	915	910	900	
		SAMPLE NO.	LARR25W-1	LARR25W-2	LARR25W-3	
		TEMP (°C)	17.47	16.43	16.09	
		pH	9.48	8.55	9.04	
		Turbidity (NTUs)	5.31	8.35	3.88	
		Dissolved O2 (mg/L)	9.52	9.35	9.49	
		Total Suspended Solids (TSS) (mg/L)	16.2	17.2	8.90	



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 25 Los Angeles River West Willow Street to PCH	10/18/2018	LATITUDE (approximate)	33.803967°	33.800967°	33.790279°	<b>During Work</b>
		LONGITUDE (approximate)	118.206081°	118.206024°	118.206093°	1st day of field operations. Greg Johnson, of GMED's Geology Investigations, arrived on site about 1030 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Elevated turbidity readings at the internal and downstream sampling points due to naturally occurring conditions. FMD crew is working on the rock levee, not on the bank, south of the internal sampling point and has no effect on turbidity. Internal and downstream turbidity readings of 4.92 NTU and 3.44 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 3.19 NTU (2.65 + 20%). Internal and downstream TSS values of 11.1 mg/L and ND are both below the Daily TSS Limit (DTSSL) of 21.3 mg/L (19.4 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		ELEVATION (approximate)	6'	3'	3'	
		TIME	1126	1111	1045	
		SAMPLE NO.	LARR25W-1	LARR25W-2	LARR25W-3	
		TEMP (°C)	24.91	21.43	19.02	
		pH	10.36	8.43	8.46	
		Turbidity (NTUs)	2.65	4.92	3.44	
		Dissolved O2 (mg/L)	8.95	2.97	3.36	
		Total Suspended Solids (TSS) (mg/L)	19.4	11.1 <DTSSL	ND <DTSSL	
Reach 25 Los Angeles River West Willow Street to PCH	10/19/2018	LATITUDE (approximate)	33.803967°	33.800967°	33.790279°	
		LONGITUDE (approximate)	118.206081°	118.206024°	118.206093°	2nd day of field operations. Garo Avoyan, of GMED's Materials Lab, arrived on site about 0810 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. FMD crew is working on the rock levee, not on the bank, south of the internal sampling point and has no effect on turbidity. Internal and downstream turbidity readings of 7.43 NTU and 4.36 NTU are both below the Daily Turbidity Limit (DTL) of 12.97 NTU (10.81 + 20%). Internal and downstream TSS values of 5.00 mg/L and ND are both below the Daily TSS Limit (DTSSL) of 24.2 mg/L (22.0 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		ELEVATION (approximate)	6'	3'	3'	
		TIME	900	848	818	
		SAMPLE NO.	LARR25W-1	LARR25W-2	LARR25W-3	
		TEMP (°C)	18.20	17.39	16.02	
		pH	8.62	8.79	8.04	
		Turbidity (NTUs)	10.81	7.43 <DTL	4.36 <DTL	
		Dissolved O2 (mg/L)	9.12	9.48	9.65	
		Total Suspended Solids (TSS) (mg/L)	22.0	5.00 <DTSSL	ND <DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 25 Los Angeles River West Willow Street to PCH	10/20/2018	LATITUDE (approximate)	33.803967°	33.800967°	33.790279°	<b>During Work</b>
		LONGITUDE (approximate)	118.206081°	118.206024°	118.206093°	3rd day of field operations. Greg Johnson, of GMED's Geology Investigations, arrived on site about 0950 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. FMD crew is working on the rock levee, not on the bank, south of the internal sampling point and has no effect on turbidity. Internal and downstream turbidity readings of 5.38 NTU and 3.94 NTU are both below the Daily Turbidity Limit (DTL) of 19.0 NTU (15.8 + 20%). Internal and downstream TSS values of ND are both below the Daily TSS Limit (DTSSL) of 22.0 mg/L (20.0 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		ELEVATION (approximate)	6'	3'	3'	
		TIME	1041	1020	1002	
		SAMPLE NO.	LARR25W-1	LARR25W-2	LARR25W-3	
		TEMP (°C)	22.93	21.17	20.75	
		pH	10.00	8.42	8.56	
		Turbidity (NTUs)	15.80	5.38 <DTL	3.94 <DTL	
		Dissolved O2 (mg/L)	7.44	1.93	7.42	
		Total Suspended Solids (TSS) (mg/L)	20.0	ND <DTSSL	ND <DTSSL	
Reach 25 Los Angeles River West Willow Street to PCH	10/22/2018	LATITUDE (approximate)	33.803967°	33.800967°	33.790279°	
		LONGITUDE (approximate)	118.206081°	118.206024°	118.206093°	4th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0850 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. FMD crew is working on the rock levee, not on the bank, south of the internal sampling point and has no effect on turbidity. Comparison of internal and downstream turbidity readings with the Daily Turbidity Limit (DTL) could not be made because the turbidity meter was not functioning properly. Internal and downstream TSS values of 7.00 mg/L and 6.00 mg/L are either equivalent to or below the Daily TSS Limit (DTSSL) of 7.70 mg/L (7.00 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		ELEVATION (approximate)	6'	3'	3'	
		TIME	940	920	900	
		SAMPLE NO.	LARR25W-1	LARR25W-2	LARR25W-3	
		TEMP (°C)	19.06	19.58	20.76	
		pH	8.52	8.49	10.07	
		Turbidity (NTUs) * - turbidity meter not functioning properly	*	*	*	
		Dissolved O2 (mg/L)	7.31	7.75	8.67	
		Total Suspended Solids (TSS) (mg/L)	7.00	7.00 =DTSSL	6.00 <DTSSL	



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 25 Los Angeles River West Willow Street to PCH	10/23/2018	LATITUDE (approximate)	33.803967°	33.800967°	33.790279°	<b>During Work</b>
		LONGITUDE (approximate)	118.206081°	118.206024°	118.206093°	5th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0850 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Floating and suspended debris is present in the water at the internal and downstream sampling points from birds feeding in the river which may affect turbidity and TSS values. The internal turbidity reading of 8.29 NTU is over 20% above the Daily Turbidity Limit (DTL) of 3.03 NTU (2.53 + 20%) whereas, the downstream turbidity reading of 3.01 NTU is within the acceptable 20% range of the DTL. Internal and downstream TSS values of 11.0 mg/L and 8.00 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of 5.83 mg/L (5.30 + 10%). Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		ELEVATION (approximate)	6'	3'	3'	
		TIME	930	920	900	
		SAMPLE NO.	LARR25W-1	LARR25W-2	LARR25W-3	
		TEMP (°C)	18.78	18.93	18.65	
		pH	9.73	8.45	8.75	
		Turbidity (NTUs)	2.53	8.29	3.01 <20% DTL	
		Dissolved O2 (mg/L)	7.35	3.11	2.98	
		Total Suspended Solids (TSS) (mg/L)	5.30	11.0	8.00	
Reach 25 Los Angeles River West Willow Street to PCH	10/24/2018	LATITUDE (approximate)	33.803967°	33.800967°	33.790279°	
		LONGITUDE (approximate)	118.206081°	118.206024°	118.206093°	6th day and 2nd week of field operations. End of daily monitoring and start of weekly monitoring. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0815 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Floating and suspended debris is present in the water at the internal and downstream sampling points from birds feeding in the river which may affect turbidity and TSS values. The internal turbidity reading of 11.5 NTU is over 20% above the Daily Turbidity Limit (DTL) of 7.00 NTU (5.84 + 20%) whereas, the downstream turbidity readings of 3.16 NTU is below the DTL. Internal and downstream TSS values of 5.40 mg/L and 13.9 mg/L are both below the Daily TSS Limit (DTSSL) of 22.1 mg/L (20.1 + 10%). Findings forwarded via e-mail to FMD
		ELEVATION (approximate)	6'	3'	3'	
		TIME	900	845	830	
		SAMPLE NO.	LARR25W-1	LARR25W-2	LARR25W-3	
		TEMP (°C)	18.41	18.43	17.64	
		pH	9.52	8.57	9.00	
		Turbidity (NTUs)	5.84	11.5	3.16 <DTL	
		Dissolved O2 (mg/L)	6.30	7.60	8.03	
		Total Suspended Solids (TSS) (mg/L)	20.1	5.40 <DTSSL	13.9 <DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 25 Los Angeles River West Willow Street to PCH	10/31/2018	LATITUDE (approximate)	33.803967°	33.800967°	33.790279°	<b>During Work</b>
		LONGITUDE (approximate)	118.206081°	118.206024°	118.206093°	3rd week of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0840 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. The internal turbidity reading of 2.62 NTU is below the Daily Turbidity Limit (DTL) of 3.32 NTU (2.76 + 20%) and the downstream turbidity readings of 3.02 NTU is within the acceptable 20% range of DTL. Internal and downstream TSS values of ND are both equivalent to the Daily TSS Limit (DTSSL) of ND. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		ELEVATION (approximate)	6'	3'	3'	
		TIME	918	910	850	
		SAMPLE NO.	LARR25W-1	LARR25W-2	LARR25W-3	
		TEMP (°C)	17.15	17.55	17.00	
		pH	9.55	8.36	9.23	
		Turbidity (NTUs)	2.76	2.62 <DTL	3.02 <20% DTL	
		Dissolved O2 (mg/L)	8.33	7.98	3.87	
		Total Suspended Solids (TSS) (mg/L)	ND	ND =DTSSL	ND =DTSSL	
Reach 25 Los Angeles River West Willow Street to PCH	11/7/2018	LATITUDE (approximate)	33.803967°	33.800967°	33.790279°	
		LONGITUDE (approximate)	118.206081°	118.206024°	118.206093°	4th week of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0720 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. Floating and suspended debris remains present in the water at the internal and downstream sampling points from birds feeding in the river which may affect turbidity and TSS values. The internal turbidity reading of 6.63 NTU is over 20% above the Daily Turbidity Limit (DTL) of 4.00 NTU (3.34 + 20%) whereas, the downstream turbidity reading of 2.61 NTU is below the DTL. The internal TSS value of 28.5 mg/L is over 10% above the Daily TSS Limit (DTSSL) of 8.14 mg/l (7.40 + 10%) whereas, the downstream TSS value of 5.60 mg/L is below the DTSSL. Findings forwarded via e-mail to FMD personnel at
		ELEVATION (approximate)	6'	3'	3'	
		TIME	800	745	730	
		SAMPLE NO.	LARR25W-1	LARR25W-2	LARR25W-3	
		TEMP (°C)	17.93	18.16	18.28	
		pH	9.30	8.56	9.01	
		Turbidity (NTUs)	3.34	6.63	2.61 <DTL	
		Dissolved O2 (mg/L)	8.11	1.67	2.58	
		Total Suspended Solids (TSS) (mg/L)	7.40	28.5	5.60 <DTSSL	



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					<b>Post-Work</b>
Reach 25 Los Angeles River West Willow Street to PCH	11/14/2018	LATITUDE (approximate)	33.803967°	33.800967°	33.790279°
		LONGITUDE (approximate)	118.206081°	118.206024°	118.206093°
		ELEVATION (approximate)	6'	3'	3'
		TIME	910	900	840
		SAMPLE NO.	LARR25W-1	LARR25W-2	LARR25W-3
		TEMP (°C)	15.87	15.29	13.50
		pH	9.49	8.84	9.20
		Turbidity (NTUs)	3.43	3.96 <20% DTL	3.21 <DTL
		Dissolved O2 (mg/L)	7.91	5.04	4.28
		Total Suspended Solids (TSS) (mg/L)	7.50	27.2	5.80 <DTSSL
					<b>Pre-Clearing/Baseline</b>
Reach 26 Project 74	9/14/2018	LATITUDE (approximate)	33.874239°	33.872023°	33.871242°
		LONGITUDE (approximate)	118.290403°	118.290440°	118.290309°
		ELEVATION (approximate)	10'	10'	7'
		TIME	1230	1200	1139
		SAMPLE NO.	PROJ74R26-1	PROJ74R26-2	PROJ74R26-3
		TEMP (°C)	25.3	23.4	28.9
		pH	8.93	7.34	8.31
		Turbidity (NTUs)	10.6	39.4	36.10
		Dissolved O2 (mg/L)	8.74	0.08	7.02
		Total Suspended Solids (TSS) (mg/L)	24.3	16.1	11.3

Chris Cunningham, of GMED's Materials Lab, arrived on site about 0830 to evaluate existing conditions prior to performing post-work water quality monitoring and sampling. Monitoring and sampling completed within 1 week of completion of field operations. Floating and suspended debris remains present in the water at the internal and downstream sampling points from birds feeding in the river which may affect turbidity and TSS values. The internal turbidity reading of 3.96 NTU is within the acceptable 20% range of the Daily Turbidity Limit (DTL) of 4.11 NTU (3.43 + 20%) whereas, the downstream turbidity reading of 3.21 NTU is below the DTL. The internal TSS value of 27.2 mg/L is over 10% above the Daily TSS Limit (DTSSL) of 8.25 mg/l (7.50 + 10%) whereas, the downstream TSS value of 5.80 mg/L is below the DTSSL.

*Comparison of pre-work/baseline and post-work turbidity readings*

Chris Cunningham, of GMED's Materials Lab, arrived on site about 1125 to evaluate existing conditions prior to performing pre-clearing/baseline water quality monitoring and sampling. Baseline monitoring and sampling was performed within one week of placement of the BMPs and proposed start of cleanout operations. Upstream sampling point (#1) located at the intersection of the end of the open-box concrete channel and start of the SBC about 450' northeast of the intersection of the 91 Fwy and Vermont Avenue. Internal sampling point (#2) located on the east bank of the channel about 150' north of the Artesia Transit Center bridge over the channel. Downstream sampling point (#3) located in the bottom of the open-trapezoidal concrete channel about 100' south of the Artesia Transit Center bridge over the channel and just north of the Dominguez Channel. From a water quality standpoint,

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

<b>Los Angeles Basin Watershed - Soft-Bottom Channels Feasibility Studies Technical Assessments and Recommendations WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)</b>						
Reach 26 Project 74	9/17 to 9/24/2018	LATITUDE (approximate)	33.874239°	33.872023°	33.871242°	<b>During Work</b>
		LONGITUDE (approximate)	118.290403°	118.290440°	118.290309°	1st through 6th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site at various times on the specified days to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP installed consisting of two (2) separate rows of 2-high sandbags placed across the bottom of the trapezoidal concrete channel below the south edge of the Artesia Transit Center bridge over the channel. On each day, surface water was not flowing and the floor of the trapezoidal concrete channel at the downstream sampling point was dry. During work monitoring and sampling was not performed because the site did not meet Regional Water Quality Control Board (RWQCB) permit requirements. GMED performed periodic site checks to evaluate site conditions and would have performed
		ELEVATION (approximate)	10'	10'	7'	
		TIME	See Notes			
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				
Reach 26 Project 74	10/2/2018	LATITUDE (approximate)	33.874239°	33.872023°	33.871242°	
		LONGITUDE (approximate)	118.290403°	118.290440°	118.290309°	Chris Cunningham, of GMED's Materials Lab, arrived on site about 0900 at the downstream sampling point to evaluate existing conditions prior to performing <u>post-work water quality monitoring and sampling</u> . Project completed on Wednesday, 09/26 and BMP removed. Surface water was not flowing and the floor of the trapezoidal concrete channel at the downstream sampling point was dry. Post-work monitoring and sampling was not performed because the site did not meet Regional Water Quality Control Board (RWQCB) permit requirements. A comparison of pre-clearing/baseline and post-work water quality parameters could not be made because the area of the downstream sampling point was dry at the time of our field visit for post-work monitoring and sampling. Findings forwarded to FMD personnel at the 83rd
		ELEVATION (approximate)	10'	10'	7'	
		TIME	See Notes			
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					Pre-Clearing/Baseline	
Reach 27 Wilmington Drain - 110 Fwy to PCH	9/17/2018	LATITUDE (approximate)	33.798844°	33.795315°	33.791222°	Chris Cunningham, of GMED's Materials Lab, arrived on site about 0930 at the downstream sampling point to evaluate existing conditions prior to performing <u>pre-clearing/baseline water quality monitoring and sampling</u> . Two FMD Maintenance Workers were on site to assist with homeless issues and clearing brush for access to sampling points, primarily the internal sampling point. Pre-clearing/baseline monitoring and sampling was performed within one week of placement of BMPs and proposed start of cleanout operations. Sampling points in same locations are previous monitoring events. Upstream sampling point (#1) is located on the east side of the drain about 325' north of Lomita Blvd. at the end of the concrete ramp off the north side of the street. Internal sampling point (#2) is located on the west edge of the drain near the base of the access ramp about 825' south of Lomita Blvd. as measured along the access road on top of the east levee. Downstream sampling point (#3) is located on the west side of the
		LONGITUDE (approximate)	118.288449°	118.288423°	118.287808°	
		ELEVATION (approximate)	14'	13'	13'	
		TIME	1050	1026	948	
		SAMPLE NO.	WDRAINR27-1	WDRAINR27-2	WDRAINR27-3	
		TEMP (°C)	23.13	19.83	21.13	
		pH	8.82	7.87	8.19	
		Turbidity (NTUs)	4.40	19.8	19.8	
		Dissolved O2 (mg/L)	8.59	3.87	3.32	
		Total Suspended Solids (TSS) (mg/L)	10.3	572	38.9	
Reach 27 Wilmington Drain - 110 Fwy to PCH	9/18/2018	LATITUDE (approximate)	33.798844°	33.795315°	33.791222°	<b>During Work</b> 1st day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0930 at the downstream sampling point to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a floating yellow boom placed across the drain less than 100 feet north of the downstream sampling point at the pump station. The internal turbidity reading of 1.76 NTU is less than the Daily Turbidity Limit (DTL) of 9.10 NTU (7.58 + 20%) and the downstream turbidity reading of 14.5 NTU is over 20% above the DTL. The internal TSS value of 15.3 mg/L is over 10% above the Daily TSS Limit (DTSSL) of 6.93 mg/L (6.30 + 10%) whereas, the downstream TSS value of ND is below the DTSSL. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.288449°	118.288423°	118.287808°	
		ELEVATION (approximate)	14'	13'	13'	
		TIME	1010	1000	947	
		SAMPLE NO.	WDRAINR27-1	WDRAINR27-2	WDRAINR27-3	
		TEMP (°C)	21.29	19.60	19.21	
		pH	8.61	8.03	8.14	
		Turbidity (NTUs)	7.58	1.76 <DTL	14.5	
		Dissolved O2 (mg/L)	8.50	7.34	9.20	
		Total Suspended Solids (TSS) (mg/L)	6.30	15.3	ND <DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 27 Wilmington Drain - 110 Fwy to PCH	9/19/2018	LATITUDE (approximate)	33.798844°	33.795315°	33.791222°	<b>During Work</b>
		LONGITUDE (approximate)	118.288449°	118.288423°	118.287808°	2nd day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0930 at the downstream sampling point to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a floating yellow boom placed across the drain less than 100 feet north of the downstream sampling point at the pump station. The internal turbidity reading of 2.35 NTU is less than the Daily Turbidity Limit (DTL) of 8.52 NTU (7.10 + 20%) whereas, the downstream turbidity reading of 35.4 NTU is over 20% above the DTL. The internal TSS value of 8.30 mg/L is below the Daily TSS Limit (DTSSL) of 19.4 mg/L (17.6 + 10%) whereas, the downstream TSS value of 78.1 mg/L is over 10% above the DTSSL. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		ELEVATION (approximate)	14'	13'	13'	
		TIME	1000	950	943	
		SAMPLE NO.	WDRAINR27-1	WDRAINR27-2	WDRAINR27-3	
		TEMP (°C)	21.41	19.69	19.51	
		pH	8.80	8.00	8.09	
		Turbidity (NTUs)	7.10	2.35 <DTL	35.4	
		Dissolved O2 (mg/L)	8.39	4.61	9.16	
		Total Suspended Solids (TSS) (mg/L)	17.6	8.30 <DTSSL	78.1	
Reach 27 Wilmington Drain - 110 Fwy to PCH	9/20/2018	LATITUDE (approximate)	33.798844°	33.795315°	33.791222°	
		LONGITUDE (approximate)	118.288449°	118.288423°	118.287808°	3rd day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0945 at the downstream sampling point to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a floating yellow boom placed across the drain less than 100 feet north of the downstream sampling point at the pump station. The internal turbidity reading of 2.28 NTU is less than the Daily Turbidity Limit (DTL) of 6.16 NTU (5.13 + 20%) whereas, the downstream turbidity reading of 19.8 NTU is over 20% above the DTL. The internal TSS value of ND is equivalent to the Daily TSS Limit (DTSSL) of ND whereas, the downstream TSS value of 27.1 mg/L is over 10% above the DTSSL. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		ELEVATION (approximate)	14'	13'	13'	
		TIME	1030	1015	1000	
		SAMPLE NO.	WDRAINR27-1	WDRAINR27-2	WDRAINR27-3	
		TEMP (°C)	22.70	20.13	19.98	
		pH	9.10	8.09	8.16	
		Turbidity (NTUs)	5.13	2.28 <DTL	19.8	
		Dissolved O2 (mg/L)	8.22	8.78	5.69	
		Total Suspended Solids (TSS) (mg/L)	ND	ND =DTSSL	27.1	



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 27 Wilmington Drain - 110 Fwy to PCH	9/21/2018	LATITUDE (approximate)	33.798844°	33.795315°	33.791222°	<b>During Work</b>
		LONGITUDE (approximate)	118.288449°	118.288423°	118.287808°	4th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0745 at the downstream sampling point to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a floating yellow boom placed across the drain less than 100 feet north of the downstream sampling point at the pump station. The internal turbidity reading of 2.23 NTU is less than the Daily Turbidity Limit (DTL) of 14.0 NTU (11.7 + 20%) whereas, the downstream turbidity reading of 19.8 NTU is over 20% above the DTL. The internal TSS value of ND is less than the Daily TSS Limit (DTSSL) of 27.8 mg/L (25.3 + 10%) whereas, the downstream TSS value of 46.5 mg/L is over 10% above the DTSSL. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		ELEVATION (approximate)	14'	13'	13'	
		TIME	830	810	800	
		SAMPLE NO.	WDRAINR27-1	WDRAINR27-2	WDRAINR27-3	
		TEMP (°C)	19.74	19.07	19.28	
		pH	9.25	7.92	8.13	
		Turbidity (NTUs)	11.7	2.23 <DTL	19.8	
		Dissolved O2 (mg/L)	8.77	8.82	8.64	
		Total Suspended Solids (TSS) (mg/L)	25.3	ND <DTSSL	46.5	
Reach 27 Wilmington Drain - 110 Fwy to PCH	9/22/2018	LATITUDE (approximate)	33.798844°	33.795315°	33.791222°	
		LONGITUDE (approximate)	118.288449°	118.288423°	118.287808°	5th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0745 at the downstream sampling point to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a floating yellow boom placed across the drain less than 100 feet north of the downstream sampling point at the pump station. The internal turbidity reading of 3.97 NTU is less than the Daily Turbidity Limit (DTL) of 7.26 NTU (6.05 + 20%) whereas, the downstream turbidity reading of 41.2 NTU is over 20% above the DTL. The internal TSS value of 10.7 mg/L is less than the Daily TSS Limit (DTSSL) of 14.1 mg/L (12.8 + 10%) whereas, the downstream TSS value of 109 mg/L is over 10% above the DTSSL. Findings forwarded via e-mail to FMD personnel
		ELEVATION (approximate)	14'	13'	13'	
		TIME	815	800	744	
		SAMPLE NO.	WDRAINR27-1	WDRAINR27-2	WDRAINR27-3	
		TEMP (°C)	19.10	18.25	19.26	
		pH	9.03	7.93	8.22	
		Turbidity (NTUs)	6.05	3.97 <DTL	41.2	
		Dissolved O2 (mg/L)	8.76	9.11	8.96	
		Total Suspended Solids (TSS) (mg/L)	12.8	10.7 <DTSSL	109	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

<b>During Work</b>						
Reach 27 Wilmington Drain - 110 Fwy to PCH	9/24/2018	LATITUDE (approximate)	33.798844°	33.795315°	33.791222°	6th day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1000 at the downstream sampling point to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a floating yellow boom placed across the drain less than 100 feet north of the downstream sampling point at the pump station. The internal turbidity reading of 3.44 NTU is less than the Daily Turbidity Limit (DTL) of 11.1 NTU (9.26 + 20%) whereas, the downstream turbidity reading of 32.4 NTU is over 20% above the DTL. The internal TSS value of 5.50 mg/L is less than the Daily TSS Limit (DTSSL) of 31.7 mg/L (28.8 + 10%) whereas, the downstream TSS value of 78.2 mg/L is over 10% above the DTSSL. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.288449°	118.288423°	118.287808°	
		ELEVATION (approximate)	14'	13'	13'	
		TIME	1040	1024	1015	
		SAMPLE NO.	WDRAINR27-1	WDRAINR27-2	WDRAINR27-3	
		TEMP (°C)	23.50	21.30	20.63	
		pH	8.98	8.37	8.30	
		Turbidity (NTUs)	9.26	3.44 <DTL	32.4	
		Dissolved O2 (mg/L)	8.39	8.80	5.46	
		Total Suspended Solids (TSS) (mg/L)	28.8	5.50 <DTSSL	78.2	
Reach 27 Wilmington Drain - 110 Fwy to PCH	9/25/2018	LATITUDE (approximate)	33.798844°	33.795315°	33.791222°	7th day of field operations, end of daily monitoring and start of weekly monitoring. Chris Cunningham, of GMED's Materials Lab, arrived on site about 0830 at the downstream sampling point to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. BMP consists of a floating yellow boom placed across the drain less than 100 feet north of the downstream sampling point at the pump station. The internal turbidity reading of 6.26 NTU and the downstream turbidity reading of 23.4 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 5.37 NTU (4.47 + 20%). The internal TSS value of 20.9 mg/L and the downstream TSS value of 36.3 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of 12.3 mg/L (11.2 + 10%). Findings forwarded via e-mail to FMD personnel
		LONGITUDE (approximate)	118.288449°	118.288423°	118.287808°	
		ELEVATION (approximate)	14'	13'	13'	
		TIME	930	855	840	
		SAMPLE NO.	WDRAINR27-1	WDRAINR27-2	WDRAINR27-3	
		TEMP (°C)	19.82	19.50	20.53	
		pH	8.90	8.11	8.65	
		Turbidity (NTUs)	4.47	6.26	23.4	
		Dissolved O2 (mg/L)	3.17	6.98	9.39	
		Total Suspended Solids (TSS) (mg/L)	11.2	20.9	36.3	



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

<b>During Work</b>						
Reach 27 Wilmington Drain - 110 Fwy to PCH	10/02 and 10/09/2018	LATITUDE (approximate)	33.798844°	33.795315°	33.791222°	2nd and 3rd week of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site at various times on October 2nd and October 9th at the downstream sampling point to evaluate existing conditions prior to performing during maintenance water quality monitoring and sampling. For October 2nd, Storm Water Maintenance personnel were not working on the project therefore, during maintenance water quality monitoring and sampling was not performed. For October 9th, the downstream sampling point was either dry with only limited ponded water or limited surficial flow on insufficient depth to sample. During maintenance water quality monitoring and sampling was not performed because the site did not meet Regional Water Quality Control Board (RWCQB) permit specifications. Findings forwarded via e-mail to FMD personnel at
		LONGITUDE (approximate)	118.288449°	118.288423°	118.287808°	
		ELEVATION (approximate)	14'	13'	13'	
		TIME	930	855	840	
		SAMPLE NO.	See Notes			
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				
<b>Post-Work</b>						
Reach 27 Wilmington Drain - 110 Fwy to PCH	10/15/2018	LATITUDE (approximate)	33.798844°	33.795315°	33.791222°	Chris Cunningham, of GMED's Materials Lab, arrived on site about 0935 at the downstream sampling point to evaluate existing conditions prior to performing post work water quality monitoring and sampling. BMP remains to prevent floating trash from entering pump station. The internal turbidity reading of 70.2 NTU and the downstream turbidity reading of 14.5 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 3.21 NTU (2.67 + 20%). The internal TSS value of 147 mg/L and the downstream TSS value of 19.0 mg/L are both over 10% above the Daily TSS Limit (DTSSL) of ND. Comparison of pre-work/baseline and post-work turbidity readings and TSS values suggests higher turbidity readings with lower TSS values following cleanout operations. Findings forwarded via e-mail to FMD personnel at Imperial Yard.
		LONGITUDE (approximate)	118.288449°	118.288423°	118.287808°	
		ELEVATION (approximate)	14'	13'	13'	
		TIME	1015	950	945	
		SAMPLE NO.	WDRAINR27-1	WDRAINR27-2	WDRAINR27-3	
		TEMP (°C)	19.68	19.24	19.82	
		pH	8.14	7.56	7.24	
		Turbidity (NTUs)	2.67	70.2	14.5	
		Dissolved O2 (mg/L)	8.77	8.82	8.41	
		Total Suspended Solids (TSS) (mg/L)	ND	147	19.0	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					<b>Pre-Clearing/Baseline</b>
Reach 35 Medea Creek Main Channel Inlet	11/5/2018	LATITUDE (approximate)	34.145323°	34.145246°	34.145062°
		LONGITUDE (approximate)	118.757754°	118.757760°	118.757742°
		ELEVATION (approximate)	846'	844'	841'
		TIME	1055	1100	1140
		SAMPLE NO.	MCRKR35-1	MCRKR35-2	MCRKR35-3
		TEMP (°C)	19.32	18.92	21.46
		pH	8.43	8.46	9.52
		Turbidity (NTUs)	2.14	2.36	3.24
		Dissolved O2 (mg/L)	8.10	7.28	7.81
		Total Suspended Solids (TSS) (mg/L)	ND	5.80	24.2
Chris Cunningham, of GMED's Materials Lab, arrived on site about 1040 to evaluate existing conditions prior to performing pre-clearing/baseline water quality monitoring and sampling. Baseline monitoring and sampling was performed within one week of placement of the BMPs and proposed start of cleanout operations. Sampling points in similar locations as previous monitoring events. Upstream sampling point (#1) located on the west bank of the creek about 100' north and upstream of the boundary between the end of the SBC and start of the open-box concrete channel and, also directly below the south-bound lanes of the 101 Freeway. Internal sampling point (#2) located on the west bank of the creek about 65' north and upstream of the boundary between the end of the SBC and start of the open-box concrete channel. Downstream sampling point (#3) located in the center of the open-box concrete channel about 2' south and downstream of the end					
					<b>During Work</b>
Reach 35 Medea Creek Main Channel Inlet	11/7/2018	LATITUDE (approximate)	34.145323°	34.145246°	34.145062°
		LONGITUDE (approximate)	118.757754°	118.757760°	118.757742°
		ELEVATION (approximate)	846'	844'	841'
		TIME	1040	1045	1110
		SAMPLE NO.	MCRKR35-1	MCRKR35-2	MCRKR35-3
		TEMP (°C)	17.02	16.67	19.42
		pH	8.44	8.41	9.21
		Turbidity (NTUs)	1.78	2.19	3.86
		Dissolved O2 (mg/L)	7.88	5.45	7.36
		Total Suspended Solids (TSS) (mg/L)	ND	ND =DTSSL	18.8
1st day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1030 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of a straw waddle anchored with sand bags placed across the open-box concrete channel just downstream of the end of the SBC. Internal and downstream turbidity readings of 2.19 NTU and 3.86 NTU are both over 20% above the Daily Turbidity Limit (DTL) of 2.14 NTU (1.78 + 20%). The internal TSS value of ND is equivalent to the Daily TSS Limit (DTSSL) of ND (non-detect) whereas, the downstream TSS value of 18.8 mg/L is over 10% above the DTSSL. Findings forwarded via e-mail to FMD personnel at Hansen Yard.					



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 35 Medea Creek Main Channel Inlet	11/8/2018	LATITUDE (approximate)	34.145323°	34.145246°	34.145062°	<b>During Work</b>
		LONGITUDE (approximate)	118.757754°	118.757760°	118.757742°	2nd and final day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1030 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of a straw waddle anchored with sand bags placed across the open-box concrete channel just downstream of the end of the SBC. The internal turbidity reading of 2.41 NTU is within the acceptable 20% range of the Daily Turbidity Limit (DTL) of 2.43 NTU (2.03 + 20%) whereas, the downstream turbidity reading of 3.94 NTU is over 20% above the DTL. The internal TSS value of ND is equivalent to the Daily TSS Limit (DTSSL) of ND (non-detect) whereas, the downstream TSS value of 29.4 mg/L is over 10% above the DTSSL. Findings forwarded via e-mail to FMD personnel at Hansen Yard.
		ELEVATION (approximate)	846'	844'	841'	
		TIME	1018	1021	1045	
		SAMPLE NO.	MCRKR35-1	MCRKR35-2	MCRKR35-3	
		TEMP (°C)	17.97	18.35	17.75	
		pH	8.46	8.36	9.22	
		Turbidity (NTUs)	2.03	2.41 <20% DTL	3.94	
		Dissolved O2 (mg/L)	4.84	3.85	6.94	
		Total Suspended Solids (TSS) (mg/L)	ND	ND =DTSSL	29.4	
Reach 35 Medea Creek Main Channel Inlet	11/13/2018	LATITUDE (approximate)	34.145323°	34.145246°	34.145062°	
		LONGITUDE (approximate)	118.757754°	118.757760°	118.757742°	Chris Cunningham, of GMED's Materials Lab, arrived on site about 1145 to evaluate existing conditions prior to performing post-work water quality monitoring and sampling. BMP removed. The internal and downstream turbidity readings of 1.69 NTU and 1.26 NTU are both below the Daily Turbidity Limit (DTL) of 2.92 NTU (2.44 + 20%). The internal and downstream TSS values of ND are both below the Daily TSS Limit (DTSSL) of 9.02 mg/L (8.20 + 10%). Comparison of pre-work/baseline and post-work turbidity readings and TSS values indicates slightly lower post-work values for each consistent. Findings forwarded via e-mail to FMD personnel at Hansen Yard.
		ELEVATION (approximate)	846'	844'	841'	
		TIME	1153	1200	1210	
		SAMPLE NO.	MCRKR35-1	MCRKR35-2	MCRKR35-3	
		TEMP (°C)	14.43	13.28	13.22	
		pH	8.39	8.19	8.19	
		Turbidity (NTUs)	2.44	1.69 <DTL	1.26 <DTL	
		Dissolved O2 (mg/L)	3.88	3.63	5.80	
		Total Suspended Solids (TSS) (mg/L)	8.20	ND <DTSSL	ND <DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					Pre-Clearing/Baseline
Reach 37 Medea Creek Cheseboro Outlet	11/5/2018	LATITUDE (approximate)	34.142090°	34.141937°	34.141877°
		LONGITUDE (approximate)	118.758849°	118.759049°	118.759330°
		ELEVATION (approximate)	826'	826'	825'
		TIME	1110	1120	1140
		SAMPLE NO.	MCRKR37-1	MCRKR37-2	MCRKR37-3
		TEMP (°C)	18.36	20.06	21.46
		pH	10.28	9.71	9.52
		Turbidity (NTUs)	14.90	6.43	3.24
		Dissolved O2 (mg/L)	8.11	7.81	7.81
		Total Suspended Solids (TSS) (mg/L)	51.2	45.0	26.9
Chris Cunningham, of GMED's Materials Lab, arrived on site about 1100 to evaluate existing conditions prior to performing pre-clearing/baseline water quality monitoring and sampling. Baseline monitoring and sampling was performed within one week of placement of the BMPs and proposed start of cleanout operations. Sampling points in similar locations as previous monitoring events. Access to sampling points is through a locked vehicle gate on the south side of Agoura Road and the east side of Medea Creek about 1140' east of Kanan Road. Upstream sampling point (#1) is located in the open-box concrete channel of Medea Creek about 25' north and upstream of the boundary between the end of channel and start of the SBC. Internal sampling point (#2) located on the southeast bank of the creek about 60' southwest and downstream of the start of the SBC. Downstream sampling point (#3) is located on the southeast bank of the creek at a small natural waterfall about 170' southwest of the start of the SBC. From a					
					During Work
Reach 37 Medea Creek Cheseboro Outlet	11/7/2018	LATITUDE (approximate)	34.142090°	34.141937°	34.141877°
		LONGITUDE (approximate)	118.758849°	118.759049°	118.759330°
		ELEVATION (approximate)	826'	826'	825'
		TIME	1100	1105	1110
		SAMPLE NO.	MCRKR37-1	MCRKR37-2	MCRKR37-3
		TEMP (°C)	18.36	19.59	19.42
		pH	9.38	9.19	9.21
		Turbidity (NTUs)	3.43	5.44	3.86 <DTL
		Dissolved O2 (mg/L)	10.51	8.13	7.36
		Total Suspended Solids (TSS) (mg/L)	20.4	36.6	17.5 <DTSSL
1st day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1050 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sandbags placed across Medea Creek just above the downstream sampling point. The internal turbidity reading of 5.44 NTU is over the Daily Turbidity Limit (DTL) of 4.11 NTU (3.43 + 20%) whereas, the downstream turbidity reading of 3.86 NTU is below the DTL. The internal TSS value of 36.6 mg/L is over the Daily TSS Limit (DTSSL) of 22.4 mg/L (20.4 + 10%) whereas, the downstream TSS value of 17.5 mg/L is below the DTSSL. Findings forwarded via e-mail to FMD personnel at Hansen Yard.					



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 37 Medea Creek Cheseboro Outlet	11/8/2018	LATITUDE (approximate)	34.142090°	34.141937°	34.141877°	<b>During Work</b>
		LONGITUDE (approximate)	118.758849°	118.759049°	118.759330°	<p>2nd day of field operations. Chris Cunningham, of GMED's Materials Lab, arrived on site about 1020 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sandbags placed across Medea Creek just above the downstream sampling point. The internal and downstream turbidity readings of 4.18 NTU and 3.94 NTU are both below the Daily Turbidity Limit (DTL) of 5.76 NTU (4.80 + 20%). The internal and downstream TSS values of 27.5 mg/L and 62.0 mg/L are both over the Daily TSS Limit (DTSSL) of 25.7 mg/L (23.4 + 10%). Findings forwarded via e-mail to FMD personnel at Hansen Yard.</p>
		ELEVATION (approximate)	826'	826'	825'	
		TIME	1030	1040	1045	
		SAMPLE NO.	MCRKR37-1	MCRKR37-2	MCRKR37-3	
		TEMP (°C)	18.89	18.71	17.75	
		pH	9.14	9.16	9.22	
		Turbidity (NTUs)	4.80	4.18 <DTL	3.94 <DTL	
		Dissolved O2 (mg/L)	7.46	10.91	6.94	
		Total Suspended Solids (TSS) (mg/L)	23.4	27.5	62.0	
Reach 37 Medea Creek Cheseboro Outlet	12/1/2018	LATITUDE (approximate)	34.142090°	34.141937°	34.141877°	
		LONGITUDE (approximate)	118.758849°	118.759049°	118.759330°	<p>3rd and final day of field operations with delay in completion due to the Woolsey Fire. Garo Avoyan, of GMED's Materials Lab, arrived on site about 0850 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of a single straw waddle anchored with sandbags placed across Medea Creek just above the downstream sampling point. The internal and downstream turbidity readings of 1.73 NTU and 3.50 NTU are both over the Daily Turbidity Limit (DTL) of 1.57 NTU (1.31 + 20%). The internal and downstream TSS values of 10.0 mg/L and 17.0 mg/L are both over the Daily TSS Limit (DTSSL) of 9.90 mg/L (9.00 + 10%). Elevated turbidity readings discussed with FMD Crew Leader in the field. Findings forwarded via e-mail to FMD personnel at Hansen Yard.</p>
		ELEVATION (approximate)	826'	826'	825'	
		TIME	905	930	950	
		SAMPLE NO.	MCRKR37-1	MCRKR37-2	MCRKR37-3	
		TEMP (°C)	17.76	16.14	17.04	
		pH	7.34	8.14	8.16	
		Turbidity (NTUs)	1.31	1.73	3.50	
		Dissolved O2 (mg/L)	9.75	9.81	9.37	
		Total Suspended Solids (TSS) (mg/L)	9.00	10.0	17.0	

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 37 Medea Creek Cheseboro Outlet	12/3/2018	LATITUDE (approximate)	34.142090°	34.141937°	34.141877°	<b>Post-Work</b> Chris Cunningham, of GMED's Materials Lab, arrived on site about 1200 to evaluate existing conditions prior to performing post-work water quality monitoring and sampling. BMP removed. The internal and downstream turbidity readings of 1.67 NTU and 1.36 NTU are both below the Daily Turbidity Limit (DTL) of 1.78 NTU (1.48 + 20%). The internal TSS value of 63.0 mg/L is below the Daily TSS Limit (DTSSL) of 66.0 mg/L (60.0 + 10%) whereas, the downstream TSS value of 97.0 mg/L is over the DTSSL. Comparison of pre-work/baseline and post-work turbidity readings indicates lower post-work readings however, comparison of pre-work/baseline and post-work TSS values indicates higher post-work values. Findings forwarded via e-mail to FMD personnel at Hansen Yard.
		LONGITUDE (approximate)	118.758849°	118.759049°	118.759330°	
		ELEVATION (approximate)	826'	826'	825'	
		TIME	1210	1220	1230	
		SAMPLE NO.	MCRKR37-1	MCRKR37-2	MCRKR37-3	
		TEMP (°C)	13.74	13.66	15.25	
		pH	9.18	9.16	9.10	
		Turbidity (NTUs)	1.48	1.67	1.36	
		Dissolved O2 (mg/L)	8.29	8.27	7.60	
		Total Suspended Solids (TSS) (mg/L)	60.0	63.0	97.0	
Reach 42 San Jose Creek	10/16/2019	LATITUDE (approximate)	34.0325436°	34.032474°	34.032311°	<b>Pre-Clearing/Baseline</b> Greg Johnson, of GMED Geology Investigations, and Sam Pinos, of GMED's Materials Lab, arrived on site about 1030 to evaluate existing conditions prior to performing <u>pre-work baseline water quality monitoring and sampling</u> . Baseline monitoring and sampling was performed within one week of placement of the BMPs and proposed start of cleanout operations. All sampling points in same locations as previous sampling events. Upstream sampling point (#1) located on the south bank of San Jose Creek at the transition from the open-box concrete channel to the SBC about .7 mile east of workman Mill Road as measured along the access road on the south levee. Internal sampling point (#2) located near Relief Point 23 on the south side of the creek about 400' west of #1. Downstream sampling point (#3) located on the south bank of the creek about 780' west of #1. From a water quality standpoint
		LONGITUDE (approximate)	118.005706°	118.007214°	118.008240°	
		ELEVATION (approximate)	243'	242'	238'	
		TIME	1052	1113	1128	
		SAMPLE NO.	SJCRKR42-1	SJCRKR42-2	SJCRKR42-3	
		TEMP (°C)	18.92	19.97	21.36	
		pH	8.73	9.11	9.09	
		Turbidity (NTUs)	0.80	1.11	1.09	
		Dissolved O2 (mg/L)	9.96	6.93	7.82	
		Total Suspended Solids (TSS) (mg/L)	ND	7.70	ND	



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 42 San Jose Creek	10/17/2019	LATITUDE (approximate)	34.0325436°	34.032474°	34.032311°	<b>During Work</b>  1st day of field operations. Sam Hinojos, of GMED's Materials Lab, arrived on site about 0915 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of 2 separate rows of straw waddles placed across the creek and anchored with sand bags. Internal and downstream turbidity readings of 1.36 NTU and 0.76 NTU are both below the Daily Turbidity Limit (DTL) of 3.12 NTU (2.60 + 20%). Internal and downstream TSS values of ND are both equivalent to the Daily TSS Limit (DTSSL) of ND. Findings forwarded via e-mail to FMD personnel at Longden Yard.
		LONGITUDE (approximate)	118.005706°	118.007214°	118.008240°	
		ELEVATION (approximate)	243'	242'	238'	
		TIME	930	1003	1034	
		SAMPLE NO.	SJCRKR42-1	SJCRKR42-2	SJCRKR42-3	
		TEMP (°C)	15.98	16.59	17.06	
		pH	7.68	8.69	8.93	
		Turbidity (NTUs)	2.60	1.36 <DTL	0.76 <DTL	
		Dissolved O2 (mg/L)	11.39	12.09	11.68	
		Total Suspended Solids (TSS) (mg/L)	ND	ND =DTSSL	ND =DTSSL	
Reach 42 San Jose Creek	10/18/2019	LATITUDE (approximate)	34.0325436°	34.032474°	34.032311°	<b>During Work</b>  2nd day of field operations. Sam Hinojos, of GMED's Materials Lab, arrived on site about 1120 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of 2 separate rows of straw waddles placed across the creek and anchored with sand bags. Internal and downstream turbidity readings of 1.94 NTU and 1.23 NTU are both over the Daily Turbidity Limit (DTL) of 1.14 NTU (0.95 + 20%). The internal TSS value of 6.10 mg/L is over the Daily TSS Limit (DTSSL) of ND whereas, the downstream TSS value of ND is equivalent to the DTSSL. The elevated turbidity readings were discussed in the field with FMD personnel with recommendations to adjust the BMPs prior to further monitoring. Findings forwarded via e-mail to FMD personnel at Longden Yard.
		LONGITUDE (approximate)	118.005706°	118.007214°	118.008240°	
		ELEVATION (approximate)	243'	242'	238'	
		TIME	1139	1203	1234	
		SAMPLE NO.	SJCRKR42-1	SJCRKR42-2	SJCRKR42-3	
		TEMP (°C)	23.20	22.64	23.06	
		pH	8.72	9.41	8.20	
		Turbidity (NTUs)	0.95	1.94	1.23	
		Dissolved O2 (mg/L) * - oxygen sensor not functioning properly	11.16	24.53*	10.61	
		Total Suspended Solids (TSS) (mg/L)	ND	6.10	ND =DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Los Angeles Basin Watershed - Soft-Bottom Channels Feasibility Studies Technical Assessments and Recommendations WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)						
Reach 42 San Jose Creek	10/19/2019	LATITUDE (approximate)	34.0325436°	34.032474°	34.032311°	<b>During Work</b>
		LONGITUDE (approximate)	118.005706°	118.007214°	118.008240°	3rd day of field operations. Sam Hinojos, of GMED's Materials Lab, arrived on site about 0830 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of 2 separate rows of straw waddles placed across the creek and anchored with sand bags. Internal and downstream turbidity readings of 0.46 NTU and 0.26 NTU are both below the Daily Turbidity Limit (DTL) of 1.88 NTU (1.56 + 20%). The internal and downstream TSS values of ND are both equivalent to the Daily TSS Limit (DTSSL) of ND. Turbidity readings back in compliance with permit requirements indicating adequate adjustment of BMPs. Findings forwarded via e-mail to FMD personnel at Longden Yard.
		ELEVATION (approximate)	243'	242'	238'	
		TIME	855	925	956	
		SAMPLE NO.	SJCRKR42-1	SJCRKR42-2	SJCRKR42-3	
		TEMP (°C)	18.76	18.17	18.70	
		pH * - pH sensor not functioning properly	0.00*	8.02	8.36	
		Turbidity (NTUs)	1.56	0.46 <DTL	0.26 <DTL	
		Dissolved O2 (mg/L)	11.71	11.38	11.77	
		Total Suspended Solids (TSS) (mg/L)	ND	ND =DTSSL	ND =DTSSL	
Reach 42 San Jose Creek	10/23/2019	LATITUDE (approximate)	34.0325436°	34.032474°	34.032311°	
		LONGITUDE (approximate)	118.005706°	118.007214°	118.008240°	4th day of field operations. Greg Johnson5 of GMED's Materials Lab, arrived on site about 0830 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of 2 separate rows of straw waddles placed across the creek and anchored with sand bags. The internal turbidity reading of 1.06 NTU is slightly over the Daily Turbidity Limit (DTL) of 0.92 NTU (0.76 + 20%) whereas, the downstream turbidity reading of 0.85 NTU is below the DTL. The internal and downstream TSS values of 5.80 mg/L and ND are both below the Daily TSS Limit (DTSSL) of 5.83 mg/L (5.30 + 10%). Findings forwarded via e-mail to FMD personnel at Longden Yard.
		ELEVATION (approximate)	243'	242'	238'	
		TIME	907	921	932	
		SAMPLE NO.	SJCRKR42-1	SJCRKR42-2	SJCRKR42-3	
		TEMP (°C)	17.17	17.25	17.38	
		pH	9.08	9.06	8.95	
		Turbidity (NTUs)	0.76	1.06	0.85 <DTL	
		Dissolved O2 (mg/L)	8.81	9.46	9.20	
		Total Suspended Solids (TSS) (mg/L)	5.30	5.80 <DTSSL	ND <DTSSL	



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 42 San Jose Creek	10/24/2019	LATITUDE (approximate)	34.0325436°	34.032474°	34.032311°	<b>During Work</b>
		LONGITUDE (approximate)	118.005706°	118.007214°	118.008240°	5th day of field operations. Greg Johnson, of GMED Geology Investigations, arrived on site about 1200 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of 2 separate rows of straw waddles placed across the creek and anchored with sand bags. The internal and downstream turbidity readings of 2.04 NTU and 1.55 NTU are both below the Daily Turbidity Limit (DTL) of 2.27 NTU (1.89 + 20%). The internal and downstream TSS values of 7.60 mg/L and 7.90 mg/L are both below the Daily TSS Limit (DTSSL) of 10.78 mg/L (9.80 + 10%). Findings forwarded via e-mail to FMD personnel at Longden Yard.
		ELEVATION (approximate)	243'	242'	238'	
		TIME	1212	1222	1230	
		SAMPLE NO.	SJCRKR42-1	SJCRKR42-2	SJCRKR42-3	
		TEMP (°C)	23.15	23.14	23.77	
		pH	10.39	10.41	10.29	
		Turbidity (NTUs)	1.89	2.04 <DTL	1.55 <DTL	
		Dissolved O2 (mg/L)	8.68	8.51	9.29	
		Total Suspended Solids (TSS) (mg/L)	9.80	7.60 <DTSSL	7.90 <DTSSL	
Reach 42 San Jose Creek	10/25/2019	LATITUDE (approximate)	34.0325436°	34.032474°	34.032311°	
		LONGITUDE (approximate)	118.005706°	118.007214°	118.008240°	6th day of field operations. Garo Avoyan, of GMED's Materials Lab, arrived on site about 1115 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of 2 separate rows of straw waddles placed across the creek and anchored with sand bags. The internal and downstream turbidity readings of 1.72 NTU and 1.11 NTU are both below the Daily Turbidity Limit (DTL) of 2.32 NTU (1.94 + 20%). The internal and downstream TSS values of 6.40 mg/L and ND are both below the Daily TSS Limit (DTSSL) of 14.2 mg/L (12.9 + 10%). Findings forwarded via e-mail to FMD personnel at Longden Yard.
		ELEVATION (approximate)	243'	242'	238'	
		TIME	1135	1152	1215	
		SAMPLE NO.	SJCRKR42-1	SJCRKR42-2	SJCRKR42-3	
		TEMP (°C)	21.22	22.26	23.05	
		pH	8.54	9.31	8.91	
		Turbidity (NTUs)	1.94	1.72 <DTL	1.11 <DTL	
		Dissolved O2 (mg/L)	9.75	10.45	10.14	
		Total Suspended Solids (TSS) (mg/L)	12.9	6.40 <DTSSL	ND <DTSSL	

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 42 San Jose Creek	10/26/2019	LATITUDE (approximate)	34.0325436°	34.032474°	34.032311°	<b>During Work</b>  7th day of field operations. End of daily monitoring and start of weekly monitoring. Greg Johnson, of GMED Geology Investigations, arrived on site about 1125 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of 2 separate rows of straw waddles placed across the creek and anchored with sand bags. The internal and downstream turbidity readings of 1.83 NTU and 1.80 NTU are both below the Daily Turbidity Limit (DTL) of 2.16 NTU (1.80 + 20%). The internal and downstream TSS values of 9.50 mg/L and 21.4 mg/L are both below the Daily TSS Limit (DTSSL) of 21.6 mg/L (19.6 + 10%). Findings forwarded via e-mail to FMD personnel at Longden Yard.
		LONGITUDE (approximate)	118.005706°	118.007214°	118.008240°	
		ELEVATION (approximate)	243'	242'	238'	
		TIME	1138	1148	1159	
		SAMPLE NO.	SJCRKR42-1	SJCRKR42-2	SJCRKR42-3	
		TEMP (°C)	22.69	23.53	23.55	
		pH	9.91	9.89	9.83	
		Turbidity (NTUs)	1.80	1.83 <DTL	1.80 <DTL	
		Dissolved O2 (mg/L)	10.40	11.47	8.63	
		Total Suspended Solids (TSS) (mg/L)	19.6	9.50 <DTSSL	21.4 <DTSSL	
Reach 42 San Jose Creek	11/2/2019	LATITUDE (approximate)	34.0325436°	34.032474°	34.032311°	<b>Post-Work</b>  Sam Hinojos, of GMED's Materials Lab, arrived on site about 0815 to evaluate existing conditions prior to performing post-work water quality monitoring and sampling. Field operations completed on Wednesday, 10/31 and BMPs removed. The internal and downstream turbidity readings of 2.39 NTU and 2.65 NTU are both over the Daily Turbidity Limit (DTL) of 0.61 NTU (0.51 + 20%). The internal and downstream TSS values of 11.8 mg/L and 9.60 mg/L are both over the Daily TSS Limit (DTSSL) of ND. Comparison of pre-clearing/baseline and post-work turbidity readings and TSS values suggests slightly higher post-work turbidity and TSS values, particularly at the internal and downstream sampling points. Findings forwarded via e-mail to FMD personnel at Longden Yard.
		LONGITUDE (approximate)	118.005706°	118.007214°	118.008240°	
		ELEVATION (approximate)	243'	242'	238'	
		TIME	825	839	853	
		SAMPLE NO.	SJCRKR42-1	SJCRKR42-2	SJCRKR42-3	
		TEMP (°C)	16.15	15.32	14.57	
		pH	8.76	8.19	7.93	
		Turbidity (NTUs)	0.51	2.39	2.65	
		Dissolved O2 (mg/L)	10.51	12.29	10.42	
		Total Suspended Solids (TSS) (mg/L)	ND	11.8	9.60	



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 43/Upper San Gabriel River - Whittier Narrows Dam to Beverly Blvd.	11/7/2018	LATITUDE (approximate)	See Notes			<b>Pre-Clearing/Baseline</b>
		LONGITUDE (approximate)				Greg Johnson, of GMED Geology Investigations, arrived on site about 1130 within 7 days of the proposed start date to evaluate existing conditions prior to performing pre-clearing/baseline water quality monitoring and sampling. Surface water was not present in the areas of the downstream sampling point at Beverly Blvd., the internal sampling point at San Gabriel River Parkway, or the upstream sampling point at Whittier Narrows Dam. In addition, the entire extent of Reach 43 was dry. Pre-clearing/baseline water quality monitoring and sampling was not performed because the project did not meet Regional Water Quality Control Board (RWQCB) permit requirements. GMED will continue to perform periodic site checks to evaluate site conditions and will perform water quality monitoring, if warranted. From a water quality
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				
Reach 43/Upper San Gabriel River - Whittier Narrows Dam to Beverly Blvd.	11/20/18 to 12/13/18	LATITUDE (approximate)	See Notes			
		LONGITUDE (approximate)				Greg Johnson, of GMED Geology Investigations, arrived on site at various times on 11/20, 11/27, 12/04, and 12/13 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. In each case, surface water was not present at the potential downstream sampling point at Beverly Blvd. and in one case, surface water was also not present at the potential upstream sampling point at Whittier Narrows Dam. During work water quality monitoring and sampling was not performed because the site did not meet Regional Water Quality Control Board (RWQCB) permit requirements. GMED performed periodic site checks to evaluate site conditions and would have completed water quality monitoring, if warranted. Findings forwarded via e-mail to FMD personnel at Rio Hondo Spreading
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					<b>Post-Work</b>
Reach 43/Upper San Gabriel River - Whittier Narrows Dam to Beverly Blvd.	12/19/2018	LATITUDE (approximate)	See Notes		<p>Greg Johnson, of GMED Geology Investigations, arrived on site about 1215 to evaluate existing conditions prior to performing any post-work water quality monitoring and sampling. Maintenance operations completed sometime between Friday, December 14th and Tuesday, December 18th. Surface water was not present in the area of the downstream sampling point at Beverly Blvd. In addition, the entire extent of Reach 43 was dry throughout cleanout operations. Post-work water quality monitoring and sampling was not performed because the project did not meet Regional Water Quality Control Board (RWQCB) permit requirements. A comparison of pre-work/baseline and post-work water quality parameters could not be made because the entire reach remained dry therefore, water quality parameters were not</p>
		LONGITUDE (approximate)			
		ELEVATION (approximate)			
		TIME			
		SAMPLE NO.			
		TEMP (°C)			
		pH			
		Turbidity (NTUs)			
		Dissolved O2 (mg/L)			
		Total Suspended Solids (TSS) (mg/L)			
Reach 44/Lower 1 San Gabriel River - Beverly Blvd. to Rubber Dam (RD) 2	10/11/2018	LATITUDE (approximate)	See Notes		<p>Greg Johnson, of GMED Geology Investigations, arrived on site about 1215 within 7 days of the proposed start date to evaluate existing conditions prior to performing pre-clearing/baseline water quality monitoring and sampling. Surface water was not present in the area of the downstream sampling point at RD No. 2, south of Whittier Blvd., the potential internal sampling points at the Whittier Blvd. Bridge and RD No. 1, or at the upstream sampling point at the Beverly Blvd. Bridge. In addition, the entire extent of Reach 44 Lower 1 was dry. Pre-clearing/baseline water quality monitoring and sampling was not performed because the project did not meet Regional Water Quality Control Board (RWQCB) permit requirements. GMED will continue to perform periodic site checks to evaluate site conditions and will perform water quality monitoring, if warranted. From a water quality standpoint, project</p>
		LONGITUDE (approximate)			
		ELEVATION (approximate)			
		TIME			
		SAMPLE NO.			
		TEMP (°C)			
		pH			
		Turbidity (NTUs)			
		Dissolved O2 (mg/L)			
		Total Suspended Solids (TSS) (mg/L)			



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

						<b>During Work</b>
Reach 44/Lower 1 San Gabriel River - Beverly Blvd. Rubber Dam (RD) 2	10/19/18 to 12/13/18	LATITUDE (approximate)	See Notes			Greg Johnson, of GMED Geology Investigations, arrived on site at various times on 10/19, 10/24, 11/01, 11/07, 11/20, 11/27, 12/04, and 12/13 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. In each case, surface water was not present at the potential downstream sampling point at RD No. 2, south of Whittier Blvd. In some cases, surface water was present in the vicinity of the potential downstream upstream sampling point, south of RD 2, due to sporadic discharges from the San Gabriel Coastal Basin Spreading Grounds. During maintenance work water quality monitoring and sampling was not performed because the site did not meet Regional Water Quality Control Board (RWQCB) permit requirements. GMED performed periodic site checks to evaluate
		LONGITUDE (approximate)				
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				
Reach 44/Lower 1 San Gabriel River - Beverly Blvd. to Rubber Dam (RD) 2	12/19/2018	LATITUDE (approximate)	See Notes			<b>Post-Work</b> Greg Johnson, of GMED Geology Investigations, arrived on site about 1200 to evaluate existing conditions prior to performing any post-work water quality monitoring and sampling. Maintenance operations completed sometime between Friday, 12/14 and Tuesday, 12/18. Surface water was not present at the potential downstream sampling point at RD No. 2, south of Whittier Blvd. nor in the area of the upstream sampling point at the Beverly Blvd. Bridge. In addition, the entire extent of Reach 44/Lower 1 was dry throughout cleanout operations. Post-work water quality monitoring and sampling was not performed because the project did not meet Regional Water Quality Control Board (RWQCB) permit requirements. A comparison of pre-work and post-work water quality parameters could not be made because the entire reach remained dry therefore water quality parameters were not
		LONGITUDE (approximate)				
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				

**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					<b>Pre-Clearing/Baseline</b>
Reach 44/Lower 2 San Gabriel River - Rubber Dam (RD) 2 to Firestone Blvd.	10/11/2018	LATITUDE (approximate)	See Notes		<p><i>Greg Johnson, of GMED Geology Investigations, arrived on site about 1230 within 7 days of the proposed start date to evaluate existing conditions prior to performing pre-clearing/baseline water quality monitoring and sampling. Surface water was not present at the downstream sampling point north of Firestone Blvd., was not present at any of the potential internal sampling points and was not present at the upstream sampling point at Rubber Dam (RD) No. 2. Pre-clearing/baseline water quality monitoring and sampling was not performed because the project did not meet Regional Water Quality Control Board (RWQCB) permit requirements. GMED will continue to perform periodic site checks to evaluate site conditions and will perform water quality monitoring, if warranted. From a water quality standpoint, project is "good to</i></p>
		LONGITUDE (approximate)			
		ELEVATION (approximate)			
		TIME			
		SAMPLE NO.			
		TEMP (°C)			
		pH			
		Turbidity (NTUs)			
		Dissolved O2 (mg/L)			
Total Suspended Solids (TSS) (mg/L)					
Reach 44/Lower 2 San Gabriel River - Rubber Dam (RD) 2 to Firestone Blvd.	10/19/18 to 12/13/18	LATITUDE (approximate)	See Notes		<p style="text-align: center;"><b>During Work</b></p> <p><i>Greg Johnson, of GMED Geology Investigations, arrived on site at various times on 10/19, 10/24, 11/01, 11/07, 11/20, 11/27, 12/04, and 12/13 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. In each case, surface water was not present at the potential downstream sampling point, north of Firestone Blvd. In some cases, surface water was present in the vicinity of the potential upstream sampling point, south of RD 2, due to sporadic discharges from the San Gabriel Coastal Basin Spreading Grounds. During work water quality monitoring and sampling was not performed during maintenance operations because the site did not meet Regional Water Quality Control Board (RWQCB) permit requirements. GMED performed periodic site checks to evaluate site conditions</i></p>
		LONGITUDE (approximate)			
		ELEVATION (approximate)			
		TIME			
		SAMPLE NO.			
		TEMP (°C)			
		pH			
		Turbidity (NTUs)			
		Dissolved O2 (mg/L)			
Total Suspended Solids (TSS) (mg/L)					



**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 44/Lower 2 San Gabriel River - Rubber Dam (RD) 2 to Firestone Blvd.	12/19/2018	LATITUDE (approximate)	See Notes			<b>Post-Work</b>  Greg Johnson, of GMED Geology Investigations, arrived on site about 1430 to evaluate existing conditions prior to performing any post-work water quality monitoring and sampling. Surface water was not present at the potential downstream sampling point north of Firestone Blvd. nor at the upstream sampling point at RD No. 2.  In addition, the entire extent of Reach 44/Lower 2 was dry throughout cleanout operations. Post-work water quality monitoring and sampling was not performed because the project did not meet Regional Water Quality Control Board (RWQCB) permit requirements. A comparison of pre-work and post-work water quality parameters could not be made because the entire reach remained dry therefore, water quality parameters were not measured and/or recorded for the duration of cleanout
		LONGITUDE (approximate)				
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
Total Suspended Solids (TSS) (mg/L)						
Reach 98 Walnut Creek Inlet	10/4/2018	LATITUDE (approximate)	34.079783°	34.079688°	34.074596°	<b>Pre-Clearing/Baseline</b>  Greg Johnson, of GMED Geology Investigations, arrived on site about 1300 to evaluate existing conditions prior to performing <u>pre-work baseline water quality monitoring and sampling</u> at the upstream, internal, and downstream sampling points of the soft-bottom channel (SBC) for Walnut Creek Inlet Reach 98 in Covina. Due to overnight rain, a significant amount of suspended sediment was present in the water resulting in very high turbidity and TSS values. Baseline monitoring and sampling was performed within one week of placement of the BMPs and proposed start of cleanout operations. All sampling points in same locations as previous sampling events. Upstream sampling point (#1) located on the east bank of Walnut Creek where drainage swale from street drain enters the creek about 100' upstream of the intersection of the SBC and start of the open-box concrete channel. Internal sampling point (#2) located at the west end of the access road on the east bank of Walnut Creek just upstream of the intersection of the SBC and the open-box concrete channel. Downstream sampling point (#3) located slightly over 1½ miles downstream and
		LONGITUDE (approximate)	117.860395°	117.860648°	117.873093°	
		ELEVATION (approximate)	530'	530'	488'	
		TIME	1310	1317	1336	
		SAMPLE NO.	WCRKR98-1	WCRKR98-2	WCRKR98-3	
		TEMP (°C)	21.62	20.83	26.04	
		pH	7.78	7.73	8.43	
		Turbidity (NTUs)	34.29	35.43	25.57	
		Dissolved O2 (mg/L)	6.81	6.28	8.92	
		Total Suspended Solids (TSS) (mg/L)	61.6	73.0	43.2	

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

					<b>During Work</b>
Reach 98 Walnut Creek Inlet	10/9/2018	LATITUDE (approximate)	34.079783°	34.079688°	34.074596°
		LONGITUDE (approximate)	117.860395°	117.860648°	117.873093°
		ELEVATION (approximate)	530'	530'	488'
		TIME	1242	1254	1328
		SAMPLE NO.	WCRKR98-1	WCRKR98-2	WCRKR98-3
		TEMP (°C)	20.55	20.78	22.96
		pH	7.92	8.02	9.97
		Turbidity (NTUs)	2.67	15.41	1.89 <DTL
		Dissolved O2 (mg/L)	3.58	6.98	11.23
		Total Suspended Solids (TSS) (mg/L)	ND	122.0	ND =DTSSL
					1st and last day of field operations. Greg Johnson, of GMED Geology Investigations, arrived on site about 1235 to evaluate existing conditions prior to performing during work water quality monitoring and sampling. BMP consists of several rows of straw waddles placed downstream of the SBC across the bottom of the open-box concrete channel. The internal turbidity reading of 15.41 NTU is over 20% above the Daily Turbidity Limit (DTL) of 3.21 NTU (2.67 + 20%) and the downstream turbidity reading of 1.89 NTU is below the DTL. The internal TSS value of 122.0 mg/L is over 10% above the Daily TSS Limit (DTSSL) of ND whereas, the downstream TSS value of ND is equivalent to the DTSSL. Crew is working in the water to remove vegetation resulting in the elevated turbidity and TSS values at the internal sampling point. Downstream turbidity and TSS values are equivalent to or below
					<b>Post-Work</b>
Reach 98 Walnut Creek Inlet	10/11/2018	LATITUDE (approximate)	34.079783°	34.079688°	34.074596°
		LONGITUDE (approximate)	117.860395°	117.860648°	117.873093°
		ELEVATION (approximate)	530'	530'	488'
		TIME	1328	1334	1356
		SAMPLE NO.	WCRKR98-1	WCRKR98-2	WCRKR98-3
		TEMP (°C)	20.18	20.63	22.76
		pH	8.16	8.09	9.24
		Turbidity (NTUs)	6.46	11.05	1.96 <DTL
		Dissolved O2 (mg/L)	4.78	8.70	6.77
		Total Suspended Solids (TSS) (mg/L)	11.7	17.0	ND <DTSSL
					Greg Johnson, of GMED Geology Investigations, arrived on site about 1315 to evaluate existing conditions prior to performing post work water quality monitoring and sampling. BMPs removed. The internal turbidity reading of 11.05 NTU is over 20% above the Daily Turbidity Limit (DTL) of 7.76 NTU (6.46 + 20%) whereas, the downstream turbidity reading of 1.96 NTU is below the DTL. The internal TSS value of 17.0 mg/L is over 10% above the Daily TSS Limit (DTSSL) of 12.9 mg/L (11.7 + 10%) whereas, the downstream TSS value of ND is below the DTSSL. Internal turbidity and TSS values affected by kids horseback riding in the creek. A comparison of pre- and post-work turbidity and TSS values could not be made due to outside influences. Findings forwarded via e-mail to FMD personnel at San Dimas and Longden



**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 118 Rustic Channel	9/28/2018	LATITUDE (approximate)	See Notes			<b>Pre-Clearing/Baseline</b>
		LONGITUDE (approximate)				<p><i>Greg Johnson, of GMED Geology Investigations, arrived at the staging area at the end of Rustic Creek Lane about 1230 to evaluate site conditions prior to performing <u>pre-work/baseline water quality monitoring and sampling</u>. Baseline monitoring and sampling was performed within (1) one week of placement of BMPs and proposed start of cleanout operations. The upstream portion of Rustic Channel was dry in the area of the upstream sampling point and above the upstream limit of cleanout operations. Pre-work/baseline water quality monitoring and sampling was not performed because the project did not meet requirements of the Regional Water Quality Control Board (RWQCB) permit specifications. GMED will perform periodic site checks to evaluate site conditions and will perform water quality monitoring, if warranted. Surface water is present within the area of cleanout operations below and downstream of the confluence with Rivas Cyn Channel Reach 119. Surface water appears to be from springs and from nuisance water through numerous single-family residential drain pipes and outlets into the channel from street drains. Surface water is present from this area throughout the reach to the end of the SBC where it transitions to an open-trapezoidal</i></p>
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

						<b>During Work</b>
Reach 118 Rustic Channel	10/05, 10/06, 10/18, and 10/23/2018	LATITUDE (approximate)	See Notes			<p>Greg Johnson, of GMED Geology Investigations, arrived at the staging area at the end of Rustic Creek Lane on the respective dates to evaluate existing conditions before performing during maintenance water quality monitoring and sampling. October 5th = 1st day, October 6th = 2nd day, October 18th = 11th day, and October 23rd = 15th day of field operations. BMP is in place and consists of a single straw waddle across the bottom of the open-trapezoidal concrete channel. The upstream portion of Rustic Channel was dry above the upstream limit of cleanout operations. During maintenance water quality monitoring and sampling was not performed because the project did not meet requirements of the Regional Water Quality Control Board (RWQCB) permit specifications. GMED performed periodic site checks to evaluate site conditions and would have performed water quality monitoring, if warranted. Surface water was present within the area of cleanout operations below and downstream of the confluence with Rivas Cyn Channel Reach 119. Surface water appears to be from springs and from nuisance water through numerous single-family residential drain pipes and outlets into the channel from street</p>
		LONGITUDE (approximate)				
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				
Reach 118 Rustic Channel	11/2/2018	LATITUDE (approximate)	See Notes			<p style="text-align: center;"><b>Post-Work</b></p> <p>Project completed on Friday, 10/26. Greg Johnson, of GMED Geology Investigations, arrived on site about 1130 at the upstream sampling point to evaluate existing conditions prior to performing post-work water quality monitoring and sampling. BMP removed. The upstream portion of Rustic Channel remained dry above the upstream limit of cleanout operations. Post-work work water quality monitoring and sampling was not performed because the project did not meet requirements of the Regional Water Quality Control Board (RWQCB) permit specifications. A comparison of pre-work and post-work water quality parameters could not be made because the channel remained dry above the upstream limit of cleanout operations and therefore, water quality parameters were not measured and/or recorded for the duration of cleanout</p>
		LONGITUDE (approximate)				
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				



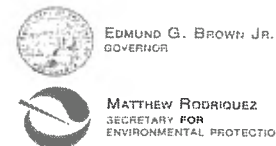
**Los Angeles Basin Watershed - Soft-Bottom Channels**  
**Feasibility Studies Technical Assessments and Recommendations**  
**WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

<b>Pre-Clearing/Baseline</b>						
Reach 119 Rivas Canyon Channel	9/28/2018	LATITUDE (approximate)	See Notes			<p>Greg Johnson, of GMED Geology Investigations, arrived on site about 1145 at the upstream sampling point to evaluate existing conditions prior to performing pre-clearing/baseline water quality monitoring and sampling. Baseline monitoring and sampling was scheduled within one week of placement of any BMPs and proposed start of cleanout operations. The entire reach was dry at the time of the field visit. The upstream sampling point is located on the north side of west-bound Sunset Blvd., immediately east of Rivas Cyn Rd. It is an open-box concrete channel area between single-family residences off Rivas Canyon Road. It runs underground north and south of this location. A possible internal sampling point, south of Sunset Blvd., is at the end of the cul-de-sac of Rustic Creek Road. Rustic Creek Road is just east of Rivas Cyn Rd. and only runs south from Sunset Blvd. The potential downstream sampling point is near the confluence with Rustic Cyn Channel, Reach 118. Baseline water quality monitoring and sampling was not performed because the project did not meet Regional Water Quality Control Board (RWQCB) permit requirements. From a water quality standpoint, project is "good to go" for proposed</p>
		LONGITUDE (approximate)				
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				
<b>During Work</b>						
Reach 119 Rivas Canyon Channel	10/5/2018	LATITUDE (approximate)	See Notes			<p>1st day of field operations. Greg Johnson, of GMED Geology Investigations, arrived on site about 1400 to evaluate the upstream, internal, and downstream sampling points prior to performing during maintenance water quality monitoring and sampling. Similar to the previous field visit on 09/28, surface was not present throughout Reach 119. During maintenance water quality monitoring and sampling was not performed because the project did not meet Regional Water Quality Control Board (RWQCB) permit requirements. Findings forwarded via e-mail to FMD personnel at 83rd Street Yard.</p>
		LONGITUDE (approximate)				
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				

**Los Angeles Basin Watershed - Soft-Bottom Channels  
Feasibility Studies Technical Assessments and Recommendations  
WATER QUALITY SAMPLING TESTING AND MONITORING RESULTS (2018)**

Reach 119 Rivas Canyon Channel	10/6/2018	LATITUDE (approximate)	See Notes			<b>Post-Work</b>
		LONGITUDE (approximate)				2nd and final day of field operations. Greg Johnson, of GMED Geology Investigations, arrived on site about 1230 to evaluate the upstream, internal, and downstream sampling points prior to performing during maintenance and post-work <u>water quality monitoring and sampling</u> . Similar to previous visits, Reach 119 remained dry. During maintenance and post-work water quality monitoring and sampling was not performed because the project did not meet Regional Water Quality Control Board (RWQCB) permit requirements. A comparison of pre-clearing/baseline and post-work turbidity readings and TSS values could not be made because Reach 119 remained dry throughout the extent of cleanout operations. Findings forwarded via e-mail to FMD personnel at 83rd Street Yard.
		ELEVATION (approximate)				
		TIME				
		SAMPLE NO.				
		TEMP (°C)				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (TSS) (mg/L)				





Los Angeles Regional Water Quality Control Board

Mr. Sree Kumar  
Los Angeles County Flood Control District  
900 S. Fremont Ave, Annex Building 2<sup>nd</sup> Floor  
Alhambra, California 91802-1460

VIA CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
No. 7008 1830 0004 3360 1134

**TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION FOR PROPOSED SOFT-BOTTOM CHANNEL REACH 114 ANNUAL MAINTENANCE AND USACE LEVEE SAFETY PROJECT (Corps' Project No. 2015-00258-BLR), LOS ANGELES RIVER, CITY OF LONG BEACH, LOS ANGELES COUNTY (File No. 15-038)**

Dear Mr. Sree Kumar,

Board staff has reviewed your request on behalf of Los Angeles County Flood Control District (Applicant) for a Clean Water Act Section 401 Water Quality Certification for the above-referenced project. Your application was deemed complete on October 12, 2015.

I hereby issue an order certifying that any discharge from the referenced project will comply with the applicable provisions of sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act, and with other applicable requirements of State law. This discharge is also regulated under State Water Resources Control Board Order No. 2003 - 0017 - DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges that have received State Water Quality Certification" which requires compliance with all conditions of this Water Quality Certification.

**Please read this entire document carefully.** The Applicant shall be liable civilly for any violations of this Certification in accordance with the California Water Code. This Certification does not eliminate the Applicant's responsibility to comply with any other applicable laws, requirements and/or permits.

Should you have questions concerning this Certification action, please contact Valerie CarrilloZara, P.G., Lead, Section 401 Program, at (213) 576-6759.

Samuel Unger  
Samuel Unger, P.E.  
Executive Officer

October 16, 2015  
Date

## DISTRIBUTION LIST

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213-244-1817

G. Mendel Stewart  
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Carlsbad, CA 92008



## ATTACHMENT A

### Project Information File No. 15-038

1. Applicant: Mr. Sree Kumar  
Los Angeles County Flood Control District  
900 S. Fremont Ave, Annex Building 2nd Floor  
Alhambra, California 91802-1460  
  
Phone: (626) 458-4145 Fax: (626) 458-4150
2. Applicant's Agent: Siya Araumi  
Los Angeles County Flood Control District  
900 S. Fremont Ave, Annex Building 2nd Floor  
Alhambra, California 91803  
  
Phone: (626) 458-4128 Fax: (626) 458-4150
3. Project Name: Soft Bottom Channel Reach 114 Annual Maintenance and USACE  
Levee Safety
4. Project Location: Long Beach, Los Angeles County  
Soft Bottom Channel Reach 114 (SBC 114)
- | <u>Latitude</u> | <u>Longitude</u> |
|-----------------|------------------|
| 33.790017       | 118.206244       |
| 33.790205       | 118.204770       |
| 33.783967       | 118.204714       |
| 33.773990       | 118.204669       |
| 33.767159       | 118.204661       |
| 33.767083       | 118.206268       |
| 33.773942       | 118.206243       |
| 33.783912       | 118.206222       |
5. Type of Project: Flood control channel maintenance
6. Project Purpose: Los Angeles County Flood Control District (LACFCD) is proposing to annually access, inspect, and maintain the channel system at SBC 114 to remove vegetation and to conduct minor repairs for structural damages in order to re-establish adequate flood protection and diminish the significant risk of flooding to the adjacent residential communities.
7. Project Description: In order to comply with U.S. Army Corps of Engineers (ACOE) Levee Safety Program and assure public safety, LACFCD must

## ATTACHMENT A

### Project Information File No. 15-038

provide maintenance and repair activities including removal of vegetation overgrowth from levee side slopes and rip-rap repair work.

In the fall of 2013, the Los Angeles County Flood Control District (LACFCD) obtained a ACOE Clean Water Act Section 404 Regional General Permit (RGP) Number 41 to authorize removal of the invasive giant reed (*Arundo donax*) along a portion of SBC Reach 114, including the Los Angeles River from Pacific Coast Highway (PCH) to Anaheim Street, in the City of Long Beach. The invasive vegetation removal activities were issued Clean Water Act Section 401 Water Quality Certification under File No.13-110.

LACFCD has developed a revised maintenance plan addressing all vegetation including the invasive giant reed and which includes the entire SBC Reach 114 from PCH to Ocean Boulevard. The maintenance plan includes areas identified by the ACOE as representing deficiencies under the Levee Safety Program. There are three identified deficient locations on the west bank of the Los Angeles River, two just north of the 1-710 freeway bridge, and one approximately 700 feet south of Pacific Coast Highway. There are also four identified deficient locations on the east bank, one is approximately 800 feet north of Ocean Boulevard, while the other three are scattered between the 1-710 freeway and Anaheim Boulevard, approximately 400-600 feet south of Anaheim Boulevard.

Proposed annual maintenance activities include, but are not limited to, mechanically removing accumulated sediment and debris, and mowing the vegetation in the channel to ensure the proper functioning of the flood control infrastructure. Weeds and grasses may be controlled by mowing or hand labor, and the channel will be cleared annually to the same baseline condition.

The vegetation to be removed consists primarily of nonnative species: Chinese golden rain tree (*Koelreuteria bipinnata*), ficus tree (*Ficus* sp.), ash tree (*Fraxinus* sp.), Brazilian pepper tree (*Schinus terebinthifolius*), gum tree (*Eucalyptus* sp.), and castor bean tree (*Ricinus communis*). Native mule fat (*Baccharis salicifolia*), occur in three to four individuals in a small footprint, however they occur in an area identified by the ACOE Levee Safety Program as creating a deficiency.



## ATTACHMENT A

### Project Information File No. 15-038

In addition, the repair work will also replace in-kind the existing side slopes, as necessary; approximately 23 cubic yards/50 tons of dirt fill, 43.4 cubic yards/100 tons of 12" riprap, and 17.8 cubic yards/25 tons of 30" riprap will be used to maintain the existing side slope grade along the channel.

The Project will also replace five (5) deteriorated storm drain flap gates located within SBC 114. The flapgates cover storm drains that flow into the Los Angeles River. UngROUTED riprap is located within the channel at the point of discharge of flows from each flapgate.

The Flap gate replacement will take place on the east bank of the Los Angeles River between Anaheim Street and Ocean Boulevard. There are two flapgate areas; the first includes four 78-inch flapgates (Project Station No. 64+76.75), located within one outlet structure approximately 1,300 feet downstream of Anaheim Street; the second project area includes one 96-inch flapgate (Project Station No. 34+73), located approximately 1,200 feet upstream of Ocean Boulevard.

A biological survey was conducted on July 30, 2014, to determine the extent of any biological impact to the marine life or surrounding ecosystems during repair of the flap gates. The July 30, 2014 survey identified one invasive species, the New Zealand mud snail (*Potamopyrgus antipodarum*) in a mudflat area, approximately 100 feet north of the four 78-inch flapgate location. This area will not be impacted or entered during construction. All maintenance activities conducted will be monitored by a qualified biologist. In the rare event the contractor comes in contact with the mud snail infestation, appropriate actions will be taken to avoid further spread of the species by implementing appropriate BMPs, which may include hot pressure-washing of any equipment and clothing during construction activity, contained within a decontamination water tarp which will be properly disposed of. If it is necessary for the maintenance crew to enter the mudflat area near the group of the four 78-inch flapgates where the New Zealand mud snail was detected, workers will follow the practices listed in the 2010 Hazard Analysis and Critical Control Point Plan (HACCP) for SBC maintenance activities within the Malibu and Santa Monica Canyon watersheds. This plan includes guidelines to prevent the spread of

## ATTACHMENT A

### Project Information File No. 15-038

the New Zealand mud snail to other aquatic habitats.

Work will be confined to the riverside of the levee slopes.

8. Federal Agency/Permit: U.S. Army Corps of Engineers  
NWP No. 31 (Permit No. 2015-00258-BLR)
9. Other Required Regulatory Approvals: California Department of Fish and Wildlife  
Streambed Alteration Agreement No. 1600-1999-0076-R5
10. California Environmental Quality Act Compliance: The proposed project is Categorical Exempt from CEQA pursuant to the CEQA Guidelines, Section 15301 Existing Facilities.
11. Receiving Water: Los Angeles River (Hydrologic Unit Code: 180701050402)
12. Designated Beneficial Uses: IND, NAV, REC-1, REC-2, COMM, EST, MAR, WILD, RARE, MIGR, SPWN, SHELL, WET
13. Impacted Waters of the United States: Vegetated streambed: 3.159 temporary acres
- 14.
15. Dredge Volume: None
16. Related Projects Implemented/to be Implemented by the Applicant: LACFCD maintains channels throughout Los Angeles County. This project is not within the programmatic Soft-Bottom Channel maintenance Waste Discharge Requirements.
- In addition, invasive vegetation, *Arundo donax*, removal activities were authorized in SBC 114 under ACOE RPG 41 and Water Quality Certification File No.13-110 in Fall of 2013.
17. Avoidance/Minimization Activities: The Applicant has proposed to implement several Best Management Practices, including, but not limited to, the following:
- A debris fence at the base of the slope along the river will be installed and sand bags, or stop logs along the base of the work site will be used to prohibit dust/debris from leaving the site that could later find its way into the watercourse.
  - All work will take place during a five day clear forecast and at low tide to ensure minimal impacts to any aquatic species



## ATTACHMENT A

### Project Information File No. 15-038

- A qualified biological monitor will be available on-site if necessary
- All work will be scheduled to occur outside of bird nesting season. If necessary to conduct work within nesting bird season (March 15 - August 31), vegetation that provides potentially suitable habitat for nesting will be surveyed weekly by a biologist within 48 hours of the start of work. Work will only proceed once the biologist has confirmed that no nesting birds are present. If a nest is discovered, an appropriate buffer determined by the biologist will be designated and demarked with flagging for crews to avoid
- If it is necessary for the maintenance crew to enter the mudflat area near the location where the New Zealand mud snail was detected during the July 30, 2014 biological survey, workers will follow the practices listed in the HACCP for SBC maintenance activities within the Malibu and Santa Monica Canyon watersheds. This plan includes guidelines to prevent the spread of the New Zealand mud snail to other aquatic habitats.

18. Proposed  
Compensatory  
Mitigation:

The Applicant has not proposed any compensatory mitigation.

19. Required  
Compensatory  
Mitigation:

The Regional Board will not require compensatory mitigation as this reach has been maintained since it was engineered prior to adoption of the Clean Water Act.

See *Attachment B, Conditions of Certifications, Additional Conditions* for modifications and additions to the above proposed compensatory mitigation.

## ATTACHMENT B

### Conditions of Certification File No. 15-038

#### STANDARD CONDITIONS

Pursuant to §3860 of Title 23 of the California Code of Regulations (23 CCR), the following three standard conditions shall apply to this project:

1. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and Article 6 (commencing with 23 CCR §3867).
2. This Certification action is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to 23 CCR Subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
3. Certification is conditioned upon total payment of any fee required pursuant to 23 CCR Chapter 28 and owed by the Applicant.

#### ADDITIONAL CONDITIONS

Pursuant to 23 CCR §3859(a), the Applicant shall comply with the following additional conditions:

1. The Applicant shall submit to this Regional Board copies of any other final permits and agreements required for this project, including, but not limited to, the U.S. Army Corps of Engineers' (ACOE) Section 404 Permit and the California Department of Fish and Wildlife's (CDFW) Streambed Alteration Agreement. **These documents shall be submitted prior to any discharge to waters of the State.**
2. The Applicant shall adhere to the most stringent conditions indicated with either this Certification, the CDFW's Streambed Alteration Agreement, or the ACOE Section 404 Permit.
3. The Applicant shall comply with all water quality objectives, prohibitions, and policies set forth in the *Water Quality Control Plan, Los Angeles Region (1994)*, as amended.
4. The Avoidance/Minimization activities proposed by the Applicant as described in Attachment A, No. 16, are incorporated as additional conditions herein.
5. The Applicant and all contractors employed by the Applicant shall have copies of this Certification, the maintenance plan and all other regulatory approvals for this project on site at all times and shall be familiar with all conditions set forth.



## ATTACHMENT B

### Conditions of Certification File No. 15-038

6. Fueling, lubrication, maintenance, operation, and storage of vehicles and equipment shall not result in a discharge or a threatened discharge to waters of the State. At no time shall the Applicant use any vehicle or equipment which leaks any substance that may impact water quality. Staging and storage areas for vehicles and equipment shall be located outside of waters of the State.
7. All excavation, construction, or maintenance activities shall follow best management practices to minimize impacts to water quality and beneficial uses. Dust control activities shall be conducted in such a manner that will not produce downstream runoff.
8. No construction material, spoils, debris, or any other substances associated with this project that may adversely impact water quality standards, shall be located in a manner which may result in a discharge or a threatened discharge to waters of the State. Designated spoil and waste areas shall be visually marked prior to any excavation and/or construction activity, and storage of the materials shall be confined to these areas.
9. All waste or dredged material removed shall be relocated to a legal point of disposal if applicable. A legal point of disposal is defined as one for which Waste Discharge Requirements have been established by a California Regional Water Quality Control Board, and is in full compliance therewith. Please contact the Land Disposal Unit for further information regarding the disposal of solid wastes.
10. The Applicant shall implement all necessary control measures to prevent the degradation of water quality from the proposed project in order to maintain compliance with the Basin Plan. The discharge shall meet all effluent limitations and toxic and effluent standards established to comply with the applicable water quality standards and other appropriate requirements, including the provisions of Sections 301, 302, 303, 306, and 307 of the Clean Water Act. This Certification does not authorize the discharge by the applicant for any other activity than specifically described in the 404 Permit.
11. The discharge shall not: a) degrade surface water communities and populations including vertebrate, invertebrate, and plant species; b) promote the breeding of mosquitoes, gnats, black flies, midges, or other pests; c) alter the color, create visual contrast with the natural appearance, nor cause aesthetically undesirable discoloration of the receiving waters; d) cause formation of sludge deposits; or e) adversely affect any designated beneficial uses.
12. The Applicant shall allow the Regional Board and its authorized representative entry to the premises, including all mitigation sites, to inspect and undertake any activity to determine compliance with this Certification, or as otherwise authorized by the California Water Code.
13. Application of pesticides must be supervised by a certified applicator and be in conformance with manufacturer's specifications for use. Compounds used must be appropriate to the

## ATTACHMENT B

### Conditions of Certification File No. 15-038

target species and habitat. All pesticides directed toward aquatic species must be approved by the Regional Board. Pesticide utilization shall be in accordance with State Water Resources Control Board Water Quality Order Nos. 2011-0003-DWQ, for Aquatic Animal Invasive Species Control; 2011-0004-DWQ, for Spray Applications; 2011-0002-DWQ, for Vector Control; and 2013-0002-DWQ, for Weed Control.

14. The Applicant shall not conduct any construction activities within waters of the State during a rainfall event. The Applicant shall maintain a **five-day (5-day) clear weather forecast** before conducting any operations within waters of the State.
15. If rain is predicted after operations have begun, grading activities must cease immediately and the site must be stabilized to prevent impacts to water quality, and minimize erosion and runoff from the site.
16. The Applicant shall utilize the services of a qualified biologist with expertise in riparian assessments during any vegetation clearing activities. The biologist shall be available on site during construction activities to ensure that all protected areas are marked properly and ensure that no vegetation outside the specified areas is removed. The biologist shall have the authority to stop the work, as necessary, if instructions are not followed. The biologist shall be available upon request from this Regional Board for consultation within 24 hours of request of consultation.
17. No activities shall involve wet excavations (i.e., no excavations shall occur below the seasonal high water table). A minimum **5-foot** buffer zone shall be maintained above the existing groundwater level. If construction or groundwater dewatering is proposed or anticipated, the Applicant shall file a **Report of Waste Discharge (ROWD)** to this Regional Board and obtain any necessary NPDES permits/Waste Discharge Requirements prior to discharging waste.

Sufficient time should be allowed to obtain any such permits (generally 180 days). If groundwater is encountered without the benefit of appropriate permits, the Applicant shall cease all activities in the areas where groundwater is present, file a Report of Waste Discharge to this Regional Board, and obtain any necessary permits prior to discharging waste.

18. All project/construction/maintenance activities not included in this Certification, and which may require a permit, must be reported to the Regional Board for appropriate permitting. Bank stabilization and grading, as well as any other ground disturbances, are subject to restoration and revegetation requirements, and may require additional Certification action.
19. All surface waters, including ponded waters, shall be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and/or any other activity which may result in a discharge to the receiving water. If surface water diversions are anticipated, the



## ATTACHMENT B

### Conditions of Certification

File No. 15-038

Applicant shall develop and submit a **Surface Water Diversion Plan** (plan) to this Regional Board. The plan shall include the proposed method and duration of diversion activities, structure configuration, construction materials, equipment, erosion and sediment controls, and a map or drawing indicating the locations of diversion and discharge points. Contingency measures shall be a part of this plan to address various flow discharge rates. The plan shall be submitted prior to any surface water diversions. If surface flows are present, then upstream and downstream monitoring for the following shall be implemented:

- pH
- temperature
- dissolved oxygen
- turbidity
- total suspended solids(TSS)

Analyses must be performed using approved US Environmental Protection Agency methods, where applicable. These constituents shall be measured at least once prior to diversion and then monitored for on a daily basis during the first week of diversion and/or dewatering activities, and then on a weekly basis, thereafter, until the in-stream work is complete.

Results of the analyses shall be submitted to this Regional Board by the 15th day of each subsequent sampling month. A map or drawing indicating the locations of sampling points shall be included with each submittal. Diversion activities shall not result in the degradation of beneficial uses or exceedance of water quality objectives of the receiving waters. Downstream TSS shall be maintained at ambient levels. Where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU), increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%. Any such violations may result in corrective and/or enforcement actions, including increased monitoring and sample collection.

20. The Applicant shall restore **all acres** of TEMPORARY IMPACTS to waters of the United States and all other areas of temporary disturbance which could result in a discharge or a threatened discharge to waters of the State. Restoration shall include grading of disturbed areas to pre-project contours.
21. The Applicant shall submit to this Regional Board **Annual Monitoring Reports** (Annual Reports) by **January 1<sup>st</sup>** of each year for a minimum period of **five (5) years** following this issuance of 401 Certification has been achieved and documented. The Annual Reports shall describe in detail all of the project activities performed during the previous year and all restoration and mitigation efforts. At a minimum the Annual Reports shall include the following documentation:
  - (a) Color photo documentation of the pre- and post-project site conditions;

## ATTACHMENT B

### Conditions of Certification File No. 15-038

- (b) The overall status of project including whether or not work has begun on the Project and a detailed schedule;
  - (c) Water quality monitoring results for each reach (as required) compiled in a spreadsheet format;
  - (d) A certified Statement of “no net loss” of wetlands associated with this project;
  - (e) Narrative and photo documentation of any BMP installations during and post-project maintenance activities;
  - (f) Evaluation of the effectiveness of BMPs utilized based on field observations and water quality monitoring data required;
  - (g) Photo documentation of any vegetation left within maintenance areas immediately following maintenance clearing (including acreage);
  - (h) Documentation of estimates of volumes of vegetation removed from the project areas including an analysis of inter-annual trends in vegetation loads by reach;
  - (i) Documentation of estimates of volumes of trash removed from the project areas including an analysis of inter-annual trends in trash loads by reach;
  - (j) Documentation of estimates of volumes of sediment removed from the project areas including an analysis of inter-annual trends in sediment loads by reach;
  - (k) Biological information including baseline biological surveys and post-surveys;
  - (l) A certified statement of "No Net Loss" of Wetlands Associated with this project;
  - (m) Discussion of any monitoring activities and exotic plant control efforts; and
  - (n) Description of all outreach activities in the previous year.
22. All applications, reports, or information submitted to the Regional Board shall be signed:
- (a) For corporations, by a principal executive officer at least of the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which discharge originates.
  - (b) For a partnership, by a general partner.
  - (c) For a sole proprietorship, by the proprietor.



ATTACHMENT B

Conditions of Certification  
File No. 15-038

- (d) For a municipal, State, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.
23. Each and any report submitted in accordance with this Certification shall contain the following completed declaration:

“I declare under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on the \_\_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_.

\_\_\_\_\_  
\_\_\_\_\_  
(Signature)  
(Title)”

24. All communications regarding this project and submitted to this Regional Board shall identify the Project File Number **15-038**. Submittals shall be sent to the attention of the 401 Certification Unit.
25. Any modifications of the proposed project may require submittal of a new Clean Water Act Section 401 Water Quality Certification application and appropriate filing fee.
26. The project shall comply with the local regulations associated with the Regional Board’s **Municipal Stormwater Permit** issued to Los Angeles County and co-permittees under NPDES No. CAS004001 and Waste Discharge Requirements Order No. R4-2012-0175. The project shall also comply with all requirements of the National Pollutant Discharge Elimination System (NPDES) **General Permit** for Storm Water Discharges Associated with Construction Activity, Order No. 2012-0011-DWQ. All stormwater treatment systems shall be located outside of any water of the State and shall not be used as a wetland or riparian mitigation credit.
27. Coverage under this Certification may be transferred to the extent the underlying federal permit may legally be transferred and further provided that the Applicant notifies the Executive Officer at least 30 days before the proposed transfer date, and the notice includes a written agreement between the existing and new Applicants containing a specific date of coverage, responsibility for compliance with this Certification, and liability between them.

## ATTACHMENT B

### Conditions of Certification File No. 15-038

28. The Applicant or their agents shall report any noncompliance. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the Applicant becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Applicant becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
29. *Enforcement:*
- (a) In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.
  - (b) In response to a suspected violation of any condition of this Certification, the State Water Resources Control Board (SWRCB) or Regional Water Quality Control Board (RWQCB) may require the holder of any permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the SWRCB deems appropriate, provided that the burden, including costs, of the reports shall be a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
  - (c) In response to any violation of the conditions of this Certification, the SWRCB or RWQCB may add to or modify the conditions of this Certification as appropriate to ensure compliance.
30. This Certification shall expire **five (5) years** from date of this Certification. **The Applicant shall submit a complete application at least 90 days** prior to termination of this Certification if renewal is requested.



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**Los Angeles Regional Water Quality Control Board**

Mr. Sree Kumar  
County of Los Angeles Flood Control District  
900 S. Fremont Ave., Annex 2<sup>nd</sup> Floor  
Alhambra, CA 91802-1460

VIA CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
No. 7007 2560 0001 7889 6934

**AMENDMENT OF CONDITIONAL WATER QUALITY CERTIFICATION FOR PROPOSED SOFT BOTTOM CHANNEL REACH 115 USACE LEVEE CERTIFICATION (Corps' Project No. SPL-2014-00691-BLR) AND ANNUAL MAINTENANCE, SAN GABRIEL RIVER ESTUARY, CITY OF LONG BEACH, LOS ANGELES COUNTY (File No. 14-132)**

Dear Mr. Kumar:

The Los Angeles Regional Water Quality Control Board (Regional Board) is in receipt of your notification on March 29, 2016, requesting modification of your Conditional Clean Water Act Section 401 Water Quality Certification for the subject project issued on April 27, 2015 (Certification).

As we understand, County of Los Angeles Flood Control District (Applicant) is requesting to extend the expiration date of the Conditional Water Quality Certification in order to be consistent with the expiration of the Army Corps of Engineers (ACOE) 404 permit which expires on March 18, 2017. Certification 14-132 is hereby extended so that the applicant may continue the proposed project through the duration of the valid 401 US ACOE permit.

In response to your request, under Attachment B, Item 32, Conditions of Certification, will read:

32. This Certification shall expire upon expiration of the underlying federal permit, Army Corp of Engineers' Clean Water Act Section 404 permit No. SPL-2014-00691-BLR. The Applicant shall submit a complete application prior to termination of this Certification if renewal is requested.

In addition, to allow for the incorporation of improved clearing methods, the first paragraphs of Item 7, Project Description, will have additional text as follows (additional text in underline):

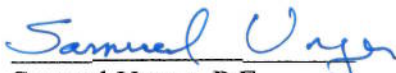
Soft-bottom channel Reach 115 is the soft-bottom portion of the San Gabriel River maintained by LACFCD bank-to-bank, totaling approximately 108 acres. Its upstream limit begins just south of the confluence with Coyote Creek (approximately 1,750 feet north of Interstate 405) and extends 18,354 feet south to Marina Drive (just north of the Pacific Ocean shore) in the City of Long Beach in

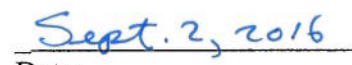
Los Angeles County. The process for vegetation removal activities will follow methods recommended by the USACE and will be based on its 2009 Engineering Technical Letter (ETL) 1110-2-571 entitled, "Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures" (Vegetation Management Guidelines). All removed vegetation will be taken to the Puente Hills landfill via dump trucks. Riprap/stone and soil will not be removed from the project site. Mowing vegetation instead of scraping sediment to remove vegetation will be used when appropriate.

I have determined that the above-proposed modification does not constitute a significant change in the nature or scope of the activities described for the project in your original application. Therefore, all of the proposed modifications are hereby incorporated into 401 Certification No. 14-132 and no additional action by this agency pursuant to Section 401 of the Clean Water Act is necessary. This determination is limited to the proposed modifications contained in your notification to this Regional Board dated April 27, 2015 and described herein, and does not eliminate the Applicant's responsibility to comply with any other applicable laws, requirements and/or permits.

Should you have questions concerning this certification action, please contact Valerie CarrilloZara, P.G., Lead, Section 401 Program, at (213) 576-6759.

Sincerely,

  
Samuel Unger, P.E.  
Executive Officer

  
Date



## DISTRIBUTION LIST

Jemellee Cruz (via electronic copy)  
Los Angeles Flood Control District  
900 S. Fremont Avenue  
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Alhambra, CA 91802-1460

Bill Orme (via electronic copy)  
State Water Resources Control Board  
Division of Water Quality  
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Brock Warmuth (via electronic copy)  
California Department of Fish and Wildlife  
Streambed Alteration Team  
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San Diego, CA. 92123-4813

Bonnie Rogers  
U.S. Army Corps of Engineers  
Regulatory Branch, Los Angeles District  
915 Wilshire Blvd., Suite 1101  
Los Angeles, CA 90017

Paul Amato (via electronic copy)  
U.S. Environmental Protection Agency, Region 9  
WTR-2-4  
75 Hawthorne Street  
San Francisco, CA 94105

G. Mendel Stewart  
Johnathan Snyder  
U.S. Fish and Wildlife Service  
2177 Salk Avenue  
Carlsbad, CA 92008

Marlene Alvarado  
California Coastal Commission  
200 OceanGate, 10th Floor  
Long Beach, CA 90802

## Los Angeles Regional Water Quality Control Board

Mr. Sree Kumar  
County of Los Angeles Flood Control District  
900 S. Fremont Ave, Annex 2<sup>nd</sup> Floor  
Alhambra, CA 91802-1460

VIA CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
No. 7007 2560 0001 7889 6927

**AMENDMENT OF CONDITIONAL WATER QUALITY CERTIFICATION FOR PROPOSED SOFT BOTTOM CHANNEL REACHES 118 AND 119: RUSTIC CANYON AND RIVAS CANYON ANNUAL MAINTENANCE PROGRAM (Corps' Project No. SPL 2014-00707-BLR), SANTA MONICA CANYON CHANNEL, CITY OF LOS ANGELES, LOS ANGELES COUNTY (File No. 14-145)**

Dear Mr. Kumar:

The Los Angeles Regional Water Quality Control Board (Regional Board) is in receipt of your notification on March 29, 2016, requesting modification of your Conditional Clean Water Act Section 401 Water Quality Certification for the subject project issued on April 27, 2015 (Certification).

As we understand, County of Los Angeles Flood Control District (Applicant) is requesting to extend the expiration date of the Conditional Water Quality Certification in order to be consistent with the expiration of the Army Corps of Engineers (ACOE) 404 permit which expires on March 18, 2017. Certification 14-145 is hereby extended so that the applicant may continue the proposed project through the duration of the valid 401 US ACOE permit.

In response to your request, under Attachment B, Item 30, Conditions of Certification, will read:

30. This Certification shall expire upon expiration of the underlying federal permit, Army Corp of Engineers' Clean Water Act Section 404 permit No. SPL-2014-00707-BLR. The Applicant shall submit a complete application prior to termination of this Certification if renewal is requested.

I have determined that the above-proposed modification does not constitute a significant change in the nature or scope of the activities described for the project in your original application. Therefore, all of the proposed modifications are hereby incorporated into 401 Certification No. 14-145 and no additional action by this agency pursuant to Section 401 of the Clean Water Act is necessary. This determination is limited to the proposed modifications contained in your notification to this Regional Board dated April 27, 2015 and described herein, and does not eliminate the Applicant's responsibility to comply with any other applicable laws, requirements and/or permits.



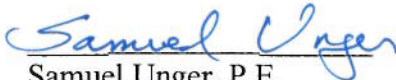
Sree Kumar  
Los Angeles Flood Control District

-2-

14-145  
Soft Bottom Channel Reaches 118 & 119

Should you have questions concerning this certification action, please contact Valerie Carrillo Zara, P.G., Lead, Section 401 Program, at (213) 576-6759.

Sincerely,

  
Samuel Unger, P.E.  
Executive Officer

Sept. 2, 2016  
Date

## DISTRIBUTION LIST

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State Water Resources Control Board  
Division of Water Quality  
P.O. Box 944213  
Sacramento, CA 94244-2130

Matt Chirdon (via electronic copy)  
California Department of Fish and Wildlife  
Streambed Alteration Team  
3883 Ruffin Rd Suite A  
San Diego, CA. 92123-4813

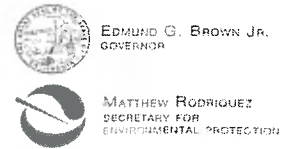
Bonnie Rogers (via electronic copy)  
U.S. Army Corps of Engineers  
Regulatory Branch, Los Angeles District  
915 Wilshire Blvd., Suite 1101  
Los Angeles, CA 90017

Paul Amato (via electronic copy)  
U.S. Environmental Protection Agency, Region 9  
WTR-2-4  
75 Hawthorne Street  
San Francisco, CA 94105

G. Mendel Stewart  
Johnathan Snyder  
U.S. Fish and Wildlife Service  
2177 Salk Avenue  
Carlsbad, CA 92008

Marlene Alvarado  
California Coastal Commission  
200 OceanGate, 10th Floor  
Long Beach, CA 90802





EDMUND G. BROWN JR.  
GOVERNOR

MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

**Los Angeles Regional Water Quality Control Board**

April 4, 2016

Mr. Sree Kumar  
Los Angeles County Flood Control District  
900 S. Fremont Ave, Annex 2<sup>nd</sup> Floor  
Alhambra, CA 91803

VIA CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
No. 7008 1140 0002 8671 9905

Dear Mr. Kumar,

**TRANSMITTAL OF THE WASTE DISCHARGE REQUIREMENTS AND CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION FOR LOS ANGELES COUNTY FLOOD CONTROL DISTRICT MAINTENANCE CLEARING OF ENGINEERED EARTH-BOTTOM FLOOD CONTROL CHANNELS, LOS ANGELES COUNTY (FILE NO. 99-011)**

In accordance with the California Water Code, this Regional Water Board, at a public meeting held on February 11, 2016, reviewed the revised, tentative Waste Discharge Requirements and Clean Water Act Section 401 Water Quality Certification (WDRs) including two changes brought to the Regional Water Board on a change sheet, considered all factors in the case and adopted Order No. R4-2015-0032 (copy enclosed).

We are sending the paper copy of the WDRs to LACFCD only. For those on the mailing list or other interested parties who would like access to a copy of the WDRs, please go to the Regional Water Board's website at:

[http://www.waterboards.ca.gov/losangeles/water\\_issues/programs/401\\_water\\_quality\\_certification/FloodControl.shtml](http://www.waterboards.ca.gov/losangeles/water_issues/programs/401_water_quality_certification/FloodControl.shtml)

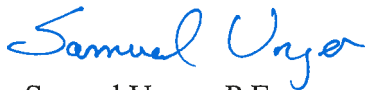
Mr. Sree Kumar  
Los Angeles County Flood Control District

- 2 -

April 4, 2016

Should you have questions concerning Order No. R4-2015-0032 please contact Valerie CarrilloZara, P.G., at (213) 576-6759 or Dr. LB Nye at (213) 576-6785.

Sincerely,



Samuel Unger, P.E.  
Executive Officer

cc:

Jemellee Cruz, Los Angeles County Flood Control District  
Matt Chirdon, California Department of Fish and Wildlife  
Daniel Swenson, US Army Corps of Engineers  
Melissa Scianni, U.S. Environmental Protection Agency, Region 9  
Jennifer Fordyce, State Water Resources Control Board  
Bill Orme, State Water Resources Control Board



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

**ORDER NO. R4-2015-0032-A1**

**WASTE DISCHARGE REQUIREMENTS FOR:**

**LOS ANGELES COUNTY FLOOD CONTROL DISTRICT, PROPOSED  
MAINTENANCE CLEARING OF ENGINEERED EARTH-BOTTOM FLOOD  
CONTROL CHANNELS, LOS ANGELES COUNTY (File No. 99-011)**

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) finds that:

1. The Los Angeles County Flood Control District (LACFCD) (Discharger) is responsible for providing flood control through a network of channels (which are also waters of the State) throughout Los Angeles County to enhance public safety. Adequate channel capacity needs to be maintained in order to reduce the risk of loss of life or property that could otherwise result from flooding during large storm events. The LACFCD is authorized to perform such maintenance pursuant to the Los Angeles County Flood Control Act (Water Code Appendix § 28-2).
2. Channel capacity is maintained by clearing sediment, vegetation and debris within the channel to an engineered, pre-designed level.
3. For dredge and fill activities such as channel clearing, the Clean Water Act (CWA) requires permitting from the Army Corps of Engineers (ACOE) under CWA section 404 and Water Quality Certification by the State under CWA section 401 (401 Certification). In addition, under California Fish and Game Code section 1600, such activities are also regulated by a Streambed Alteration Agreement (SAA) issued by the California Department of Fish and Wildlife (CDFW).
4. The State of California may also regulate such discharges through Waste Discharge Requirements (WDRs) as authorized by the California Water Code (CWC). Pursuant to CWC section 13263, the Regional Water Quality Control Boards are required to prescribe WDRs for any proposed or existing discharge unless WDRs are waived pursuant to Water Code section 13269.
5. The Regional Board has determined to regulate the subject discharge of dredge and fill materials into waters of the State by issuance of these WDRs pursuant to CWC section 13263. The Regional Board considers WDRs necessary to adequately control potential impacts to beneficial uses of waters of the State from these maintenance clearing activities to meet the objectives of the California Wetlands Conservation Policy (Executive Order W-59-93), and to accommodate and require appropriate changes over the life of the project.

6. The goals of the California Wetlands Conservation Policy (Executive Order W-59-93, signed August 23, 1993) include ensuring “no overall loss” and achieving a “...long-term net gain in the quantity, quality, and permanence of wetland acreage and values...” Senate Concurrent Resolution No. 28 states that “[i]t is the intent of the legislature to preserve, protect, restore, and enhance California’s wetlands and the multiple resources which depend on them for benefit of the people of the State.” Section 13142.5 of the CWC requires that the “[h]ighest priority shall be given to improving or eliminating discharges that adversely affect...wetlands, estuaries, and other biologically sensitive areas.”
7. CWC section 13263 authorizes the Regional Board, after any necessary hearing, to prescribe requirements as to the nature of any proposed discharge with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements must implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of CWC section 13241. In accordance with subdivision (g) of section 13263, all discharges of waste into the waters of the State are privileges, not rights, and these WDRs shall not create a vested right to continue to discharge and are subject to rescission or modification.
8. Pursuant to CWC section 13267, the Regional Board, in establishing or reviewing any water quality control plan or waste discharge requirements, or in connection with any action relating to any plan or requirement authorized by Division 7 of the CWC, may investigate the quality of any waters of the state within its region. In conducting such an investigation, the Regional Board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. These WDRs incorporate requirements for water quality monitoring, Feasibility Studies, pilot projects and monitoring and technical reports associated with those requirements, which are necessary to ensure that the discharge of waste complies with these WDRs and is protective of the environment. In addition, investigating alternative maintenance methods may result in multiple benefits including improved ecological outcomes, improved aesthetics for public recreation, and reduced use of resources (e.g., less water use, fewer truck trips for removing vegetative matter), among others.
9. The Regional Board, on June 13, 1994, adopted, in accordance with section 13240 et seq. of the CWC, a revised Water Quality Control Plan, Los Angeles Region (Basin Plan). This updated and consolidated revised Basin Plan was approved by the State Water Resources Control Board (State Board) and the Office of Administrative Law on November 17, 1994, and February 23, 1995, respectively. A summary of regulatory



provisions is contained in California Code of Regulations, title 23, section 3930. The Basin Plan designates beneficial uses for surface and ground waters in Chapter 2, establishes water quality objectives that must be attained or maintained to protect the designated beneficial uses in Chapter 3, and sets forth implementation programs to attain the water quality objectives. The Basin Plan has been amended occasionally since 1994. This Order is in compliance with the Basin Plan, and amendments thereto.

10. These WDRs are adopted pursuant to CWC sections 13263 and 13267. It sets forth requirements, prohibitions, and other conditions to implement the Basin Plan, and LACFCD's responsibilities for monitoring and reporting. LACFCD is responsible for ensuring compliance with these WDRs.
11. These WDRs do not authorize additional hardscape, concrete, or rock, and none of the maintenance activities conducted by LACFCD under these WDRs have involved hardscaping, laying concrete or placing rock in these channels.

### **Background/History**

12. The Los Angeles County Flood Control Act (ACT) was adopted by the California State Legislature in 1915. The Act established the Los Angeles County Flood Control District and empowers it to provide flood protection, water conservation, recreation and aesthetic enhancement within its boundaries. The Flood Control District is governed, as a separate entity, by the County of Los Angeles Board of Supervisors.
13. In 1997, LACFCD proposed complete clearing of 100 earth-bottom channels in anticipation of the El Niño storm season, encompassing a total of 886 acres. Of this acreage, approximately 203 acres were vegetated.
14. LACFCD developed a Maintenance Plan for the Annual Clearing of Earth-Bottom Flood Control Channels in 1999 (Maintenance Plan) in collaboration with the ACOE, CDFW (then California Department of Fish and Game (CDFG)) and the Regional Board. The Maintenance Plan has been published under later dates, but all versions of the Maintenance Plan define channel clearance by the 1997 pre-El Niño clearing.
15. The Maintenance Plan defined the reaches and included information about clearing methods for specific reaches, but the basis for determining the required extent of clearing is not documented in the Maintenance Plan and has not been transparent to the Board or the public.
16. In 1999, a Streambed Alteration Agreement, Memorandum of Understanding was entered into by LACFCD and CDFW (then CDFG) (MOU 5-076-99).
17. The ACOE permitted LACFCD's vegetation and debris clearing maintenance activities under the CWA Section 404 Nationwide Permit 31 "Maintenance of Existing Flood

Control Facilities” in 1998. The Regional Board issued a CWA Section 401 Water Quality Certification for these activities in 1999 (File No. 99-011).

18. During this time, the Regional Board and the ACOE developed the first programmatic permit and 401 Certification for the earth-bottom channel maintenance activities utilizing limits developed for the 1997 pre-El Niño clearing. However, the Regional Board recognized the need to ultimately develop a more comprehensive plan beyond direct use of the 1997 limits that would allow vegetation and the associated habitat to be preserved within these earth-bottom channels to the maximum extent feasible. At that time, the CWA Section 404 Permit and 401 Certification only authorized 48.2 acres of the approximately 203 vegetated acres for clearance activities.
19. To mitigate the 48.2 acres impacted by removal of vegetation, the Big Tujunga Wash Mitigation Bank was established, which contains 62.7 acres (achieving a 1.3:1 mitigation ratio).
20. The success criteria for the Big Tujunga Wash Mitigation Area have been met. Field data collection for the functional analysis and success monitoring studies was conducted in August 2012 and reported in the 2012 Annual Report for the Big Tujunga Wash Mitigation Area.
21. The ACOE, after evaluation of updated information, has reissued the Nationwide Permit for these channel maintenance activities by the LACFCD every five years since 1998. The latest Nationwide Permit was issued in September 2014.
22. The number of soft bottom channels reaches authorized to be maintained under the Nationwide Permit has changed during each permit cycle due to channels being combined, or the addition of new channels. The ACOE divides channels into reaches that it considers to be sensitive and non-sensitive based on a Biological Opinion from the US Fish and Wildlife Service. The ACOE normally incorporates special conditions such as avoidance of nesting seasons or hand clearing, for reaches it deems to be sensitive.
23. The 401 Certification was renewed by the Regional Board on October 17, 2003, conditionally authorizing maintenance of 99 earth-bottom channels. At that time, the ACOE permitted maintenance of the same channels under Nationwide Permit 31 in letters dated October 21, 2003 (for 61 channels) and December 22, 2003 (for 17 channels). The total number of channels identified in these two letters differs from those in the CDFW (then CDFG) SAA and the Regional Board’s 401 Certification because the ACOE combined some channels in the Nationwide Permit 31.
24. The October 17, 2003 renewal of the Water Quality Certification for 99 channels was amended in September 2006. The amended Certification allowed for maintenance clearing activities in earth-bottom channel reaches within the County of Los Angeles. The amended Certification expired on March 15, 2007.



25. In 2003, the State Board issued Order No. 2003-0017-DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges that have received State Water Quality Certification," which requires compliance with all conditions of Water Quality Certifications. The 2003 State Board Order included regulation of discharges from earth-bottom channel maintenance.
26. On March 14, 2007, a Water Quality Certification application package was submitted by LACFCD with attachments requesting renewal and amendment of the Water Quality Certification for channel maintenance clearing activities. Specifically, LACFCD requested to renew and further amend the Water Quality Certification to include additional channel reaches. The Regional Board deemed the application complete on July 10, 2008.
27. The Regional Board extended the amended October 17, 2003 Water Quality Certification by letter on September 10, 2007 until March 15, 2008, and extended it by letter again on August 29, 2008 until January 31, 2009.
28. The Regional Board letter of August 29, 2008, which extended the Water Quality Certification, required LACFCD to submit certain information to the Regional Board by November 14, 2008. To wit:

By this letter, we require the County [LACFCD] to submit to us a technical report with a reach by reach list of all the reaches proposed to be included in the renewed Certification with a hydrologic analysis of each reach and a assessment of the biological functions and values for each reach. This report shall be submitted by November 14, 2008 which will ensure we can complete the renewed certification in timely manner.

The required information was not submitted.

29. A tentative Water Quality Certification, "99-011, 2009 renewal," was released for public comment on July 6, 2009. Written comments were accepted until 5:00 p.m. on August 5, 2009. Response to comments and a revised tentative Water Quality Certification were prepared and published on the Regional Board's website.
30. The Water Quality Certification "99-011, 2009 renewal" was unable to be issued by the Regional Board because more than one year had passed from submission of a complete application (CWA § 401 [33 U.S.C. §1341] paragraph (1)). Accordingly, pursuant to federal law, LACFCD was authorized to proceed pursuant to Nationwide Permit 31 without conditions imposed by the Regional Board in the permit. The channel clearing activities continue to be regulated under and must separately comply with the provisions of LACFCD's CWA Section 404 permit and the CDFW SAA.
31. To ensure compliance with State Water Quality Standards contained in the Basin Plan and other applicable Regional and State plans and policies for Water Quality Control,

WDRs were required for the renewal of the project and were taken to the Regional Board for consideration in February of 2010. The WDRs, Order No. R4-2010-0021, were approved by the Regional Board on February 4, 2010 (2010 WDR). The 2010 WDR included 10 new channel reaches authorized to be cleared in addition to the reaches included in the previous Certification. The 2010 WDR also acted as 401 certification for those 10 reaches. The 2010 WDR also included the deletion of several reaches previously covered by the Water Quality Certification that were no longer earth-bottom channels.

32. On February 12, 2015, the Regional Board adopted Order No. R4-2015-0032, renewed WDRs for discharges associated with channel clearing activities in Los Angeles County (2015 WDR). The term of the renewed 2015 WDR was one year.
33. Regional Board direction to Regional Board staff, upon issuance of the renewed 2015 WDR, included:
  - a. Ensure transparency and clarity with regards to the use and results of LACFCD and ACOE hydraulic models to determine channel capacities and reaches where more vegetation can remain;
  - b. Facilitate greater involvement of interested non-governmental stakeholder groups in discussions and, where possible, crafting of recommendations, regarding channel clearing activities, particularly in the Los Angeles River in light of river restoration and revitalization efforts; and
  - c. Coordinate principles and discussions related to activities regulated under this WDR with other water resource management efforts such as efforts to increase stormwater retention, beneficial use protection and enhancement, and river restoration projects.
34. Regional Board staff and LACFCD staff initiated a series of in-depth discussions, referred to as “WDR Working Group Meetings,” with interested stakeholder groups including Friends of the Los Angeles River, Arroyo Seco Foundation, Heal the Bay, the Nature Conservancy, Mountains Restoration Conservation Authority, San Fernando Valley Audubon, and Santa Clara Organization for Planning the Environment, which also included participation by ACOE, CDFW, and California Coastal Commission. Nine meetings were held between April 2, 2015 and December 15, 2015. Agendas, presentations, meeting notes and sign-in sheets are available at <https://dpw.lacounty.gov/lacfd/WDR/workgroup.aspx>.
35. During these WDR Working Group Meetings, the group has:
  - a. Discussed and raised the level of understanding of hydraulic models used in Feasibility Studies (as detailed in Findings 49– 67);
  - b. Reviewed the channel maintenance obligations of the LACFCD, including ACOE requirements for ACOE-built channels, levee safety requirements, and FEMA requirements;



- c. Reviewed concerns of environmental and conservation organizations, including Friends of the Los Angeles River and Heal the Bay, especially pertaining to Reach 25 of the Los Angeles River and Compton Creek;
  - d. Discussed results of the new Risk and Uncertainty analysis required for ACOE-built channels, as applied to Reach 25 of the Los Angeles River; and
  - e. Identified, and then reviewed, results of a pilot project employing an alternative clearing method of mowing instead of scraping to remove vegetation in the lower Los Angeles River (Reach 25) and Compton Creek.
36. As described above, the WDR Working Group prioritized its discussions and pilot efforts on the lower reaches of the Los Angeles River.
37. On October 7, 2015, the Regional Board received the LACFCD's Report of Waste Discharge (ROWD), applying for reissuance of WDRs for its maintenance clearing activities in earth-bottom channels.

#### **Background on Watersheds within which the Earth-Bottom Channels are Located**

38. The reaches for which maintenance clearing activities are covered by this Order are located in the Los Angeles River watershed, San Gabriel River watershed, Santa Clara River watershed, Malibu Creek watershed, and Dominguez Channel watershed. The Los Angeles County Department of Public Works has directed the development of, or participated in the development of, Master Plans for each of these watersheds. Each of these Master Plans include objectives and plans for environmental and habitat enhancement in addition to flood control.
39. The Los Angeles River Master Plan was completed and adopted by the County of Los Angeles Board of Supervisors in 1996. The Los Angeles River Master Plan created a multi-objective program for the river. This plan recognizes the River's important purpose for flood protection, and it advocates for environmental enhancement, recreational opportunities, and economic development. In addition, the Los Angeles River Revitalization Master Plan was completed by the City of Los Angeles in April 2007 with a vision of the future of the Los Angeles River.
40. The San Gabriel River Corridor Master Plan was completed in June 2006 for the County of Los Angeles Department of Public Works to enhance habitat, recreational and open space resources along the river in a manner compatible with flood and water management.
41. The Santa Clara River Enhancement and Management Plan (SCREMP) completed in 2005 is a guidance document for the preservation, enhancement, and sustainability of the resources that occur within the 500-year floodplain limits of the Santa Clara River mainstem. This plan was prepared for the Ventura County Watershed Protection District and the Los Angeles Department of Public Works.

42. The Malibu Creek Watershed Council developed the 1995 Malibu Creek Watershed Natural Resources Plan and other studies to protect and preserve the health of the Malibu Creek Watershed. Los Angeles County Department of Public Works is a partner in the Watershed Council.
43. The Dominguez Watershed Management Master Plan was developed for the County of Los Angeles Department of Public Works in 2004. The Plan provides for the protection, enhancement, and restoration of the environment and beneficial uses of the Dominguez Watershed.
44. The Los Angeles River flows 51 miles from the western end of the San Fernando Valley to the Pacific Ocean at Long Beach and includes several major tributaries including Tujunga Wash, Burbank Western Channel, Arroyo Seco, Rio Hondo, and Compton Creek. The Los Angeles River watershed comprises an area of about 834 square miles. Of this area, the incorporated cities and unincorporated portion of Los Angeles County comprise 599 square miles. The remaining acreage consists of the Los Angeles National Forest and other uses.
45. The San Gabriel River watershed comprises a 682 square mile area of eastern Los Angeles County and has a main channel length of approximately 58 miles. It originates in the San Gabriel Mountains and flows through heavily developed areas before emptying into the Pacific Ocean in Long Beach. The main tributaries of the river are Walnut Creek, San Jose Creek, and Coyote Creek. In the middle of the watershed are large spreading grounds used for groundwater recharge. The watershed is hydraulically connected to the Los Angeles River through the Whittier Narrows Reservoir (occurring mostly during high storm flows).
46. The Santa Clara River is approximately 100 miles long and the watershed comprises approximately 1,200 square miles. The river originates in the northern slope of the San Gabriel Mountains in Los Angeles County, traverses Ventura County, and flows into the Pacific Ocean halfway between the cities of San Buenaventura and Oxnard. Large tributaries include Sespe, Piru and Santa Paula Creeks and a lagoon exists at the mouth of the river. Land use is predominately open space with concentrations of residential, agriculture, and some industrial uses along the mainstem of the river. The Santa Clara River is the largest river system in southern California that remains in a relatively natural state; this is a high quality natural resource for much of its length.
47. The Malibu Creek watershed comprises 109 square miles. The watershed extends from the Santa Monica Mountains and adjacent Simi Hills to the Pacific Coast at Santa Monica Bay. Several creeks and lakes occur in the upper portions of the watershed, and these ultimately drain into Malibu Creek at the downstream end of the watershed. Malibu Creek drains into Malibu Lagoon, a 13-acre tidal lagoon.
48. The Dominguez Channel watershed is 133 square miles. This watershed includes the Los Angeles and Long Beach Harbors. The Dominguez Channel is 15 miles long. The



watershed also includes Wilmington Drain, which empties into Machado Lake and other drainages, which drain directly or indirectly to the Los Angeles and Long Beach Harbors. Ninety-one percent of land in the watershed is developed.

### **Feasibility Study Requirements and Status**

49. As an outgrowth of the original Maintenance Plan development and the incomplete effort in 2008 to further develop an understanding of the hydrology and biological functions for each reach in order to reform and improve the required channel clearing and to make the basis transparent to the Regional Board and the public, the 2010 WDR required "Feasibility Studies," as discussed below, for each watershed.
50. The 2010 WDR required the study of the hydraulic capacity and existing conditions of all reaches covered by the 2010 WDR to determine where a potential may exist for native vegetation to remain within the soft-bottom portion of the channel (Feasibility Study). The Feasibility Studies also required identification of any channels that could potentially provide restoration opportunities for riparian habitat. These restoration opportunities were to be identified based on the Feasibility Studies and a consideration of restoration plans by other agencies.
51. The required analyses were split over multiple years to allow LACFCD flexibility in completing the required studies. The data and technical ability necessary to conduct the required analyses exists within LACFCD.
52. LACFCD implemented the Feasibility Study process with a schedule of one or more watersheds per year to be analyzed, such that completion of all watersheds/studies would occur within six (6) years of the 2010 WDR issuance. LACFCD has solicited stakeholder input during Feasibility Study Workplan development.
53. LACFCD has completed three Feasibility Study Workplans, including the Los Angeles River watershed, the San Gabriel River watershed and the Malibu and Dominguez Channel watersheds.
54. The Los Angeles River Feasibility Study Workplan was completed in July 2010. The Los Angeles River includes 25 maintained soft-bottom reaches, which range from 25 feet to 11,000 feet in length.
55. The Regional Board conditionally approved the Los Angeles River Feasibility Study Workplan on September 10, 2011 pending an additional hydraulic analysis to be completed. To date, the additional hydraulic analysis has not been completed and Regional Board staff have determined that the additional analyses are not needed at this time.
56. The Los Angeles River Feasibility Study included a comprehensive hydraulic analysis for Los Angeles River soft-bottom channel reaches and was developed using the United

States Army Corps of Engineers (USACE) Hydrologic Engineering Center's River Analysis System (HEC-RAS) computer program. HEC-RAS is designed to perform hydraulic calculations for natural and improved channels.

Channel geometry data was obtained from as-built plans, field measurements, LiDAR (Light Detection and Ranging), and recent topographic surveys. Design flow rates were used in the hydraulic analysis to ensure the soft-bottom reaches continue to provide the as-designed flood protection to the public. For undeveloped areas, design flow rates accounted for the effects of a burned watershed and the inclusion of sediment (bulking).

Estimating the roughness coefficients through calibration was not possible since stream gage stations were not available within the soft-bottom channel reaches. Roughness coefficients were determined following the procedures specified in references "Open-Channel Hydraulics" by Ven T. Chow and "Guide for Selecting Manning's Roughness Coefficients for Natural Channels and Flood Plains," United States Geological Survey Water-supply Paper 2339. Field site investigations were conducted for all soft-bottom reaches and the information gathered was used to determine appropriate adjustment factors and estimate roughness coefficients.

For reaches that were found to have additional channel capacity, the amount and type of additional vegetation that might be allowed to remain in the channel reach was determined in consultation with a qualified biologist. A revised hydraulic model was then developed using roughness coefficients adjusted to represent the recommended vegetation levels. Results of these models were checked to ensure that sufficient capacity was maintained along the entire reach. For reaches with insufficient capacity, the amount of vegetation that needs to be removed to restore flood capacity will be determined.

57. Results of these analyses conducted during the Los Angeles River Feasibility Study were presented to stakeholders at a technical workshop on June 24, 2013. Subsequently, as part of the WDR Working Group Meetings held throughout 2015, the LACFCD conducted additional analyses on the reaches of the Los Angeles River and presented the preliminary results of this additional analysis to Regional Board staff and stakeholders participating in the WDR Working Group. Of the 25 reaches in the Los Angeles River Watershed, the Los Angeles River Feasibility Study Report identified eight reaches where additional native vegetation or the replacement of non-native vegetation with native vegetation could occur. No change in current maintenance vegetation clearance practices was recommended for eleven reaches due to insufficient hydraulic capacity for additional vegetation. In six reaches, additional vegetation removal may be required.
58. The eight Los Angeles River reaches that were identified as having the capacity to contain additional native vegetation or the replacement of non-native with native vegetation are:



- a. **Reach 7, In Bull Creek Main Channel Outlet.** Additional vegetation may remain; however, concerns relating to vector control will require further analysis of current maintenance activities.
  - b. **SBC Reach 22, Halls Canyon Channel.** Except on the crib structures, allow native shrubs to grow on the invert of the entire channel reach. Selectively protect native shrubs by removing non-native vegetation
  - c. **Reach 25, Los Angeles River.** In the last 500 feet of the reach (i.e., the downstream end of reach) and on the left bank looking downstream, allow four willow trees to grow and mature at the edge of the water. The willow trees will be maintained under the existing maintenance plan that allows for trimming of lower branches.
  - d. **Reach 1, Bell Creek.** Allow willow canopy to spread outside the channel. Allow native shrubs such as coyote bush and mule fat to become established in this area. Relocate the existing chain-link fence to protect this area from current uses which include staging and storage of maintenance equipment and materials.
  - e. **Reach 20, Webber Channel, Tributary to Halls Canyon Channel.** Allow native herbaceous and shrub species to grow on right bank looking downstream. Selectively remove non-native species from right bank.
  - f. **Reach 21, Webber Channel (main channel inlet at bridge), tributary to Halls Canyon Channel.** Allow native herbaceous and shrub species to grow on left bank looking downstream underneath the coast live oak woodland. Selectively remove non-native ground cover species (e.g., ivy) from the left bank.
  - g. **Reach 19, Pickens Canyon, tributary to Verdugo Wash.** Except for on the crib structures, allow native shrubs to grow on the invert of the channel reach from the upstream end to the pedestrian bridge at Mountain Avenue. Selectively protect native shrubs by removing non-native vegetation.
  - h. **Reach 9, Tributary to the Sepulveda Flood Control Basin Project No. 106.** Remove non-native ash trees at the top of both banks and replace with native trees. Sycamore trees are the preferred native trees to be planted.
59. The Los Angeles River reaches identified in the Los Angeles River Feasibility Study Report as having insufficient capacity to allow for additional native vegetation include Reaches 3, 4, 5, 6, 8, 10, 15, 16, 24, 96, and 100. These reaches are already being fully cleared on an annual basis. The Los Angeles River reaches identified in the Los Angeles River Feasibility Study Report as having insufficient capacity to allow current areas of vegetation to remain include Reaches 2, 12, 13, 14, 18, and 99. These reaches have contained vegetation protected from removal under permits currently in force. LACFCD will seek approvals from applicable agencies to remove the vegetation that now remains in these reaches.
60. The Los Angeles River Feasibility Study Report with recommendations for changes to maintenance regimes was completed in August 2013 (without the additional hydraulic analysis). Changes to vegetation clearing maintenance consistent with the recommendations from the Feasibility Study will be incorporated into an updated

Maintenance Plan for soft-bottom reaches, which is under development as described in Finding 77.

61. The San Gabriel River Feasibility Study Workplan was completed in January 2013. The Regional Board approved the San Gabriel River Feasibility Study Workplan on January 21, 2015. The San Gabriel River includes 7 maintained soft-bottom reaches, which range from 30 feet to 31,000 feet in length.
62. The Malibu Creek and Dominguez Channel Feasibility Study Workplan was completed in April 2014. The Regional Board approved the Malibu Creek and Dominguez Channel Feasibility Study Workplan on January 21, 2015. The Malibu and Dominguez Channels includes 11 maintained soft-bottom reaches, which range from 56 feet to 3,584 feet in length.
63. The final watershed that requires feasibility studies is the Santa Clara River Watershed.
64. The San Gabriel River Feasibility Study Report was submitted to the Regional Board on January 29, 2016. In addition, substantial progress was made on the reanalysis of the Los Angeles River reaches. As requested by stakeholders at the WDR Working Group Meetings, a reanalysis of the Los Angeles River was conducted by LACFCD. The results of this analysis and a discussion of the methodology used were provided at the WDR Working Group Meetings over several sessions. LACFCD also performed the ACOE's new Risk and Uncertainty analysis on Los Angeles River Reach 25 and results were provided at the WDR Working Group Meetings.
65. While the lower reaches of the Los Angeles River were a priority for the WDR Working Group, because the engineered aspects of the lower reaches of the Los Angeles River were constructed by the ACOE, there are additional federal requirements that must be met before changing the characteristics of the channel, and therefore, flood protection. LACFCD hired WEST Consultants to perform an evaluation of the lower reach of Los Angeles River (Reach 25) using the US Army Corps of Engineers' Risk and Uncertainty analysis. A Risk and Uncertainty analysis is a statistical analysis that takes into account the uncertainty of the hydrology, hydraulics, and consequences. The preliminary results of this analysis show there is an 80% probability that the 133-year flood's water surface elevation would be below the as-constructed top of levee elevation in Los Angeles River Reach 25.
66. LACFCD is working with the ACOE to address ACOE's comments on the Risk and Uncertainty analysis. When the Risk and Uncertainty analysis is finalized, LACFCD will be able to consider applying to the ACOE to modify channel clearing activities in this reach.
67. An interagency team consisting of LACFCD, Regional Board, ACOE and CDFW are collaborating on an updated Maintenance Plan to meet the requirements of all agencies by 2017.



### **Pilot Project**

68. To investigate and determine if alternative maintenance methods for removing vegetation in lower Los Angeles River, Reach 25 and Compton Creek, would be more protective of beneficial uses and would be operationally feasible, LACFCD voluntarily executed a pilot project during their channel clearing activities in October of 2015.
69. The Reach 25 and Compton Creek pilot project included clearing invasive species by the standard methods, castor bean by hand and *Arundo donax* by excavator; however, most of the vegetation was removed by mowing from a skidsteer vehicle or a flail mower close to the water's edge. Dump truck use was reduced to less than 10% of the previous year's use and water use was reduced to less than 50% of the previous year's use. Mowing left a short growth of vegetation in place, which is expected to lessen erosion from the site and provide faster regrowth of habitat in the area. The overall scope of work and benefits of the pilot project were the same for both reaches. An evaluation of these alternative maintenance methods relative to the potential for long-term buildup of material, environmental impacts, and impacts to LACFCD operations is continuing.

### **Additional Findings**

70. During the winter season, LACFCD personnel continually monitor flow conditions in channels and inspect facilities. Urgent work conducted during and immediately after storm events is usually not routine maintenance, but instead, may be considered an emergency activity. However, many of the repairs are small in scope and would otherwise fit under the provisions of this WDR.
71. As part of the flow and water quality monitoring systems, LACFCD maintains various stations throughout the County. These stations consist of temporary and/or permanent houses with attached gauges, conduits, pumps, sensors, and probes typically placed in the invert of the channel. The houses may be mounted on bridges and/or other structures along several watercourses in the County. In order to obtain accurate data, the flow adjacent to the gauges, conduits, pumps, sensors, and probes must be laminar (i.e., non-turbulent). Routine maintenance, inspection and calibration, including clearance of accumulated sediment and/or vegetation within three feet of the water quality monitoring equipment may need to be conducted during dry weather to ensure proper operation. Stream Gages in earth-bottom reaches are maintained in the San Gabriel River and Santa Clara River and locations are included in Attachment 1.
72. Any project that is necessitated due to imminent threat to life or property is subject to ACOE Regional General Permit 63 (RGP 63). Emergency is defined as, "a sudden, unexpected, occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. Emergency includes such occurrences as fire, flood, earthquake, or other soil or geologic movement, as well as such occurrences as riot, accident, or sabotage."

73. Neither this WDR, nor any previous WDR or Water Quality Certifications, authorize any new construction or modification of flood control facilities.
74. LACFCD has developed and published watershed maps, which indicate areas of maintenance (impact acreages and types of vegetation impacted) and approximate schedules (including baseline biological surveys, post-surveys and maintenance activity descriptions). This information has been made publicly available on the LACFCD website and has been noticed to interested persons. For each reach, the information has included: (a) the proposed schedule; (b) a description of the reach's existing condition; (c) the area of proposed impact; and (d) a description of any existing aquatic resources (e.g., wetland/riparian vegetation based on readily available information and pre-clearing biological surveys).
75. LACFCD has developed and published and submitted to the Regional Board, Annual Project and Mitigation Monitoring Reports as required on May 4, 2010, for 2009-2010; August 30, 2011, for 2010-2011; April 30, 2012, for 2011 –2012; May 1 2013, for 2012-2013; and May 29, 2014, for 2013-2014.
76. LACFCD has developed and complies with a Hazard Analysis and Critical Control Points (HACCP) for Malibu and Santa Monica Canyon watersheds to limit the spread of invasive New Zealand mudsnail and giant reed (*Arundo donax*), dated April 1, 2010.
77. LACFCD has begun to draft, and proposes to complete, in collaboration with the ACOE, CDFW and Regional Board by 2017 an updated Maintenance Plan. This Maintenance Plan will incorporate revised scopes of work for previously authorized reaches, a re-evaluation of sensitive or non-sensitive status (per the US Fish and Wildlife Service's Biological Opinion) and an updated list of reach numbers and organizations. It will incorporate reaches 1-110, which after accounting for the removal and splitting of several reaches will total 108 reaches proposed for maintenance. Details of the proposed changes are listed below:
  - a. Reaches that have been removed (no longer maintained by LACFCD) include Reaches 11, 17, 23, 30, 31, 65, 68, 81, 83, 84, 85 and 111 (12 total);
  - b. Reaches that have been combined include Reach 59 into Reach 58 and Reach 62 into Reach 61;
  - c. Reaches 25, 40, and 43 now have both an (a) and (b) component and are discussed separately;
  - d. Reaches 60, 59, and 58 are no longer combined with 55, Reaches 67 and 69 are no longer combined, and Reaches 70 and 68 are no longer combined;
  - e. Consequently, there are 14 numerical reaches that will be removed and three reaches that will be added (due to the splitting of 25, 40 and 43) to the Maintenance Plan.
  - f. Within the original reaches 1-110, there are now 100 active reaches. The previous 2010 WDR already permitted Reaches 101-110 and will continue to be covered in this WDR.



- g. Land use changes have also resulted in the addition of new reaches (Reaches 112–119). Once these have been added, there will be a total of 108 reaches covered by the Maintenance Plan in development. Reaches 112–119 are not included in this Order.

### **FEMA Levee Certification**

- 78. Currently, the County of Los Angeles is a participating community in the National Flood Insurance Program (NFIP). The Federal Emergency Management Agency (FEMA) administers the NFIP, identifies flood hazards, assesses flood risks, and provides appropriate flood hazard and risk information to communities. This information is provided through Flood Insurance Rate Maps (FIRMs). FEMA has currently updated these maps and modernizing FIRMs. This effort is called Flood Map Modernization or Map Mod.
- 79. FEMA has required all levee owners to certify their levees before mapping them in Map Mod. Property owners in the communities protected by these levees have a 1-percent-annual-chance (100-year flood) level of flood protection and will likely not be required to secure flood insurance by lenders.
- 80. LACFCD has undertaken the effort to certify 65 miles of levees in Los Angeles County. LACFCD is the lead for Compton Creek (in conjunction with ACOE as a co-lead), San Gabriel River, Coyote Creek, Dominguez Channel, Santa Clara River, and tributaries to the Santa Clara.
- 81. The levee certification consists of three main technical components:
  - 1. Hydraulic analysis;
  - 2. Subsurface soil exploration and geotechnical/structural (design) analysis; and
  - 3. Formal Operation and Maintenance (O & M) Plan and Report.
- 82. The completed certification work has been submitted. FEMA may accredit the levee systems, where appropriate, and present the updated, accurate flood hazard and risk information on the maps and related documents.
- 83. In order to obtain FEMA accreditation for the levees, LACFCD is required to demonstrate that maintenance of the levees will ensure their stability, height, and overall integrity in order to continue providing protection to the adjacent residents.

### **ACOE Levee Requirements**

- 84. While FEMA accredits levees as meeting requirements set forth by the NFIP, the ACOE addresses operation and maintenance, risk management, and risk reduction levee needs as part of its responsibilities under the ACOE's Levee Safety Program. The ACOE may inspect levees in Los Angeles County and require risk reduction improvements to the levees by LACFCD.

85. The ACOE also maintains a Levee Vegetation Management Policy. The most recent descriptions of the ACOE's vegetation management policy are contained in the ETL 1110-2-583 "Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures," adopted by the ACOE on April 30, 2014, which generally requires that there is no vegetation within 15 feet of a levee structure.

#### **CWA Section 401 Certification**

86. The current Nationwide Permit 31 issued by the ACOE authorizes maintenance in 61 existing channels. Biological Consultation between the ACOE and the U.S. Fish and Wildlife Service is ongoing for 31 of the channel reaches covered by this Order. This Nationwide Permit 31 expires in 2017. This Order also acts as a CWA Section 401 Water Quality Certification for the Nationwide Permit 31 for these activities.
87. Pursuant to California Code of Regulations, title 23, section 3860, the following three standard conditions shall apply to this project:
- a. This Certification action and Order is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to CWC section 13330, and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with section 3867).
  - b. This Certification action and Order is not intended and shall not be construed to apply to any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license, unless the pertinent certification application was filed pursuant to California Code of Regulations, title 23, section 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
  - c. This Certification and Order is conditioned upon total payment of any fee required pursuant to California Code of Regulations, title 23, division 3, chapter 28, and owed by the applicant.

#### **CEQA and Notification**

88. The California Environmental Quality Act (CEQA) requires certain projects approved by State agencies to comply with CEQA, and requires a lead agency to prepare an appropriate environmental document (e.g., Environmental Impact Report or Negative Declaration) for such projects. The Regional Board finds that the proposed activities are categorically exempt from the provisions of CEQA pursuant to California Code of Regulations, title 14, section 15301(d) (Existing Facilities).
89. Any person aggrieved by this action of the Regional Board may petition the State Board to review the action in accordance with Water Code section 13320 and California Code



of Regulations, Title 23, sections 2050 and following. The State Board must receive the petition by 5:00 p.m. , 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at:

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

90. The Regional Board has notified the LACFCD and other interested agencies and persons of its intent to prescribe WDRs for this discharge and has provided an opportunity to submit written comments. Tentative amended WDRs was released for public comment on December 18, 2015. Written comments were accepted until 5:00 p.m. on January 19, 2016.
91. The Regional Board, in a public meeting on February 11, 2016, heard and considered all comments pertaining to these WDRs.

**IT IS HEREBY ORDERED** that the Los Angeles County Flood Control District, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following, pursuant to authority under California Water Code sections 13263 and 13267.

#### **Permitted Activities**

1. LACFCD proposes to clear vegetation and debris from 100 earth-bottom channel reaches in order to provide flood control and protect human health and property.
2. The 100 channels include a total of 45 miles of waterways throughout Los Angeles County and approximately 947 acres of jurisdictional waters of the United States.
3. The reaches listed in Attachment 1 are included under this Order. This list has been updated to reflect all 100 channel reaches and is consistent with the list in the Preliminary Jurisdictional Delineation Report prepared by LACFCD dated September 4, 2014. Attachment 1 includes the LACFCD reach number (1 to 110), hydrologic code, beneficial uses, length, acreage, and location information.
4. Channel reaches identified as County Reach numbers 11, 17, 23, 30, 31, 65, 68, 81, 83, 84, 85 and 111 (12 total) are not included in this Order and shall be removed from the Approved Maintenance Plan. Any required maintenance in these channels will be permitted or certified separately.
5. Land use changes have resulted in the addition of new reaches, Reaches 112–119. These new reaches will be permitted under a separate CWA Section 401 Water Quality Certification.

6. Unless approved by the Regional Board after results of the Feasibility Study and approved by other appropriate regulatory agencies including the ACOE and CDFW, channel clearing shall not exceed “1997/1998 storm season clearing level” conditions established by the Regional Board, CDFW (then CDFG), and ACOE prior to the 1997 El Niño storm season (Reaches 1-100). This baseline level was utilized to identify the maximum vegetation removal authorized for each reach, and will be incorporated into the new Maintenance Plan with changes resulting from the Feasibility Studies as the changes are approved by the appropriate regulatory agencies identified above.
7. LACFCD shall comply with the specifications of the Maintenance Plan, and the Mitigation Monitoring Program prepared for this maintenance program, or any subsequently approved plans that follow. Only revisions approved by the Regional Board Executive Officer, ACOE and CDFW shall be authorized for this project.
8. Clearing will be either through the use of heavy equipment, including trucks, bulldozers, dump trucks, and front-end loaders, along with other specialized equipment, or in areas where there are sensitive species and native vegetation, clearing shall take place by hand as specified in the approved Maintenance Plan in order to selectively avoid protected resources. Equipment will access the channels by existing access roads.

#### **Maintenance of All Existing Invert Access Ramps**

9. All existing channel invert access ramps shall be part of the approved annual maintenance for all earth-bottom channel facilities, including new reaches that have been added to the WDR. The invert access ramps, whether constructed with dirt, lined with concrete, or armored with riprap on the sides, are critical structures for access to earth-bottom channel reaches.

Maintenance activities for these ramps shall include inspection, minor maintenance repairs, and storm damage repair and rehabilitation. Storm damage repair and rehabilitation includes restoring ramps that are damaged or washed out during a storm, back to pre-storm conditions.

10. Notching and limited vegetation removal from drain channel outlets shall be conducted on reaches where mechanical removal of sediment and vegetation is allowed, and is consistent with the original channel designs. In stream reaches that are approved for mowing or hand removal of vegetation, work on installing notches at 45-degrees and clearing drain channel outlets shall be conducted by hand and/or hand tools, and shall be consistent with all terms of the Maintenance Plan and WDRs.
11. Maintenance activities may require conducting as-needed sediment removal to provide continuous flow (to address vector issues), capacity, vegetative growth, and proper drainage. Locations and amounts of sediment removed will be reported as part of the Annual Reports.



12. Non-emergency minor repairs during the winter season may include the following: regrading inverts to repair minor erosion and to remove ponded water; repair of minor storm damage; and in-kind structural repairs. These repairs may include, but are not limited to, minor in-kind riprap replacement, flap gate repair and/or replacement, invert and slope repairs, and erosion control structures.
13. In order to obtain accurate flow readings from all monitoring equipment mounted on bridges and/or other structures, vegetation within monitored channels will be cleared to bank-full capacity (unless otherwise specified in the Annual Workplan) upstream and downstream of the gauges, conduits, pumps, sensors, and probes or bridge to obtain accurate readings and prevent equipment damage. In addition, maintenance may include performing repair and replacement in kind of existing monitoring equipment if inspection results require such activities. Stream gauge maintenance will occur between September 1 and March 1. If maintenance activities on these monitoring equipment is necessary during the nesting season, appropriate nesting bird surveys will be conducted prior to starting work. Routine maintenance, inspection and calibration, including clearance of accumulated sediment and/or vegetation within three feet of the water quality monitoring equipment may need to be conducted during dry weather to ensure proper operation.

#### **Notification Protocol and Thresholds for Additional Review**

14. Pursuant to California Water Code section 13267, LACFCD shall submit an Annual Workplan with a schedule of the upcoming reaches proposed for maintenance clearing. The Annual Workplan shall include, at a minimum, the following information: (a) proposed schedule; (b) acreage of areas to be impacted (vegetated and non-vegetated); (c) a description of any existing aquatic resources; (d) site-specific BMPs to be implemented; and (e) proposed application of pesticides. The Discharger shall send the Annual Workplan not later than July 15 of each year to the Regional Board Executive Officer and 401 Certification Unit staff, and send notices of additional routine maintenance work as the needs are discovered in the field. The Executive Officer may require additional time to review or add additional requirements or require separate permitting for certain activities proposed upon review of the Annual Workplan or notice of additional routine maintenance work; however, if the Executive Officer does not provide any comments, additional requirements or a request for additional time within 60 days for the Annual Workplan, or 15 days for the notice of additional routine maintenance work, LACFCD is authorized to proceed pursuant to the Annual Workplan or notice of additional routine maintenance work as proposed.

Routine maintenance may require additional review if the work exceeds certain thresholds of impact. For projects that exceed the following thresholds, the Discharger shall provide information similar to a pre-construction notification for a 401 Water Quality Certification for 60-day review.

#### Project Exceeds Original Footprint

For any work resulting in temporary or permanent impacts within the ordinary high water

mark outside the original project boundaries, LACFCD shall submit a new proposed scope of work to the Regional Board Executive Officer with all pertinent information for consideration to support either confirmation that the project area(s) is within the scope of these WDRs or a determination that the LACFCD must apply for supplemental WDRs or a separate CWA Section 401 Water Quality Certification for the work.

Project Deviates from the Pre-Approved Surface Water Diversion Plan

If a water diversion is planned to occur in a manner which deviates from the Pre-Approved Water Diversion Plan, LACFCD shall submit the new plan to the Regional Board Executive Officer for review and approval. The Executive Officer is authorized to approve changes to the Surface Water Diversion Plan provided that it is consistent with this Order.

**Best Management Practices**

15. All appropriate Best Management Practices (BMPs) shall be implemented in order to avoid any impacts to water quality. LACFCD shall follow the “BMP Manual for Soft Bottom Clearing” developed by LACFCD in 2003 and all other necessary BMPs. The maintenance clearing activities shall not result in indirect impacts to water quality or beneficial uses of downstream water bodies. The maintenance clearing activities shall not result in changes in the quantity or quality of water in downstream waterbodies as a result of maintenance activity, or during operation subsequent to the maintenance activities. The maintenance clearing activities shall not result in changes in water quality in the channel that would cause or contribute to water quality exceedances during periods between maintenance activities, or upon their annual completion.

**Feasibility Study**

16. The Regional Board requires Feasibility Studies of the earth-bottom channels and associated maintenance activities covered by these WDRs in order to either:
  - a. Determine that the channel clearing activities have avoided and minimized where possible vegetation clearing; and appropriately mitigated for effects of vegetation clearing on the beneficial uses of the affected reaches where avoidance is not possible; or
  - b. Support modifications to channel clearing activities to achieve the appropriate and necessary levels of avoidance and minimization; and mitigation where avoidance is not possible.
17. As part of the on-going assessment of channel conditions and hydraulic capacity, LACFCD shall perform a study of the hydraulic capacity and existing conditions of all reaches covered by these WDRs to determine where the potential may exist for native vegetation to remain within the soft-bottom portion of the channel or if additional hydraulic capacity is needed. In addition, any channels which may potentially provide restoration opportunities for riparian habitat/vegetation growth shall be identified based on these assessments and a consideration of restoration plans by other agencies.



18. LACFCD shall continue the Feasibility Study process with a schedule of one or more watersheds per year. The Regional Board Executive Officer may extend the final deadline by up to 6 months for good cause. LACFCD shall continue to solicit stakeholder input during the remaining Feasibility Study Workplan development and prior to the finalization of the Technical Assessment Report and recommendations.
19. The watershed study areas shall include any channels directly or indirectly affected by proposed maintenance.
20. For each watershed, the Feasibility Study shall include (but not be limited to) the following components:
  - a. Study Workplan
  - b. Technical Assessment Report
  - c. Recommendations

### **Feasibility Study Workplans**

21. The remaining Feasibility Study Workplans shall continue to be submitted to the Regional Board Executive Officer for approval. The only pending Feasibility Study Workplan is for the Santa Clara River Watershed. The plan will include: a detailed plan for a hydrologic and hydraulic analysis of each earth-bottom segment in relation to the conveyance capacity of the upstream and downstream channels, in addition to the Water Quality Monitoring. The hydraulic analysis shall include, but not be limited to, the height and density of vegetation in the earthen channel bottom and its effect on the conveyance capacity of flood flow in the channel and shall include discussion of changes in expected stream flow in response to requirements of the Los Angeles County Municipal Separate Storm Sewer System (MS4) NPDES Permit, Standard Urban Stormwater Mitigation Plans (SUSMPs), Total Maximum Daily Loads (TMDLs) and other pertinent local plans including, but not limited to the Integrated Regional Water Management Plan (IRWMP) (including implementation of, and plans for, increased stormwater infiltration), the City of Los Angeles' Integrated Resources Plan, the relevant watershed master plan and LACFCD's Drought Management Plan. Several reasonable Manning's n should be used in the hydraulic analysis to evaluate the representative height of the channel for flood control and natural habitat purposes and should be in accordance with "Guide for Selecting Manning's Roughness Coefficients for Natural Channels and Flood Plains," United States Geological Survey Water-Supply Paper 2339 or other appropriate guidance.

The assessment of biological functions and values of these reaches should be made such that comparisons of habitat type, maturity and extent of native or invasive plants can be made between reaches.

### **Water Quality Monitoring**

22. The objectives of the water quality monitoring are to assess BMP effectiveness and to ensure that water quality is not impacted as a result of the proposed maintenance activities, or surface water diversion. BMPs are to be implemented in association with maintenance activities to avoid impacts to water quality that would result in exceedances of water quality standards. As part of the Feasibility Study, water quality assessments within each reach will be required on a one-time basis before, after, and during maintenance clearing activities. Each project reach will require three (3) sampling stations: upstream of the project reach; within the project reach; and downstream of the project reach. The testing parameters required will be the same as for Surface Water Diversion.
- pH
  - temperature
  - dissolved oxygen
  - turbidity
  - total suspended solids (TSS)

In addition, in some circumstances, more than one sampling event prior to the start of work may be advisable to establish baseline conditions when baseline conditions are variable. Or, in some circumstances, more than one monitoring location, upstream, within the project reach, or downstream, may be advisable due to the length of the reach and/or to distinguish other influences on water quality. For example, water quality may also vary due to discharges into the project area from storm drains, salt/fresh mixing zones or changes in waterbody characteristics (e.g., a change from a hard to soft, vegetated, bottom). LACFCD shall consider and document if additional sampling events, locations or parameters are needed or useful.

Downstream TSS shall be maintained at ambient levels. Where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU), increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.

Analyses must be performed using approved US Environmental Protection Agency methods, where applicable.

These constituents shall be measured at least once prior to the maintenance activity and then monitored on a daily basis during the first week of maintenance activities, and then on a weekly basis, thereafter, until the work is complete. When reaches are within the watershed designated for a Feasibility Study in a particular year, water quality monitoring should be conducted for those reaches as part of the Feasibility Study and reported with the Technical Assessment Report.

Any exceedance of water quality standards may result in corrective and/or enforcement actions, including increased monitoring and sample collection.

## **Technical Assessment Report – Hydraulic, and Water Quality Assessment**



23. Within 6 months of Workplan approval, a Technical Assessment Report (Report) shall be submitted and will include a reach-by-reach list of all the reaches included in the subject watershed with a hydraulic analysis of each reach.

For each reach, the Report shall address capacity requirements for flood control; design criteria and anticipated limitations; and an analysis of potential areas where vegetation may remain; areas with the potential for restoration of native vegetation; and/or where justification exists to clear additional vegetated area. For those areas where vegetation may remain, the Report should specify the amount(s) and type(s) of native vegetation that could remain in the channel.

A comprehensive hydraulic analysis for the existing vegetation conditions will be developed for each channel reach listed in these WDRs using HEC-RAS. The data needed to perform the hydraulic computations consists of geometric data, flow data, and roughness coefficients. Sources of channel geometry will consist of as-built plans, field measurements, LiDAR (Light Detection and Ranging), and recent topographic surveys.

The design flow rates will be obtained from various sources, including existing channel design plans, hydraulic reports, and hydrologic studies. For undeveloped areas, design flow rates will account for the effects of a burned watershed and the inclusion of sediment (bulking).

Estimating the roughness coefficients through calibration using HEC-RAS will be done when two stream gaging stations, one upstream and one downstream of a channel reach, are available. For channel reaches with no gaging stations, roughness coefficients will be determined following the procedures specified in references "Open-Channel Hydraulics" by Ven T. Chow and "Guide for Selecting Manning's Roughness Coefficients for Natural Channels and Flood Plains," United States Geological Survey Water-supply Paper 2339. These references describe the use of Cowan's formula, which starts with selecting a base roughness coefficient for native bed material in a straight, uniform, and smooth channel. Based on field site observations and sound engineering judgment, adjustments will be made to the base roughness coefficient to account for surface irregularities, channel cross-section variation in shape and size, obstructions, vegetation, and meandering. Field site investigations will be conducted for all soft-bottom reaches to note vegetation type, density and size, and obstructions within the channel. The information gathered from these site investigations will be used to determine appropriate adjustments and estimate roughness coefficients.

After the hydraulic analyses of the existing vegetation conditions had been completed, the results will be reviewed to determine which reaches have additional capacity and insufficient capacity. For reaches that are found to have additional channel capacity, the amount and type of additional vegetation that might be allowed to remain in the channel reach will be determined in consultation with qualified biologist. A hydraulic model will then be developed using roughness coefficients adjusted to represent the recommended vegetation levels. Results of these models will be checked to ensure that sufficient

capacity is maintained along the reach. For reaches with insufficient capacity, the amount of vegetation that needs to be removed to restore flood capacity will be determined.

This Report will also include an assessment of the biological functions and values for each reach and an assessment of water quality as required. These evaluations shall consider whether the vegetation in the channels is native or an exotic and/or invasive species. This will be useful when determining the value or priority of leaving the vegetation in the channel. The documentation shall also distinguish between sections of invasive/exotic species.

### **Requirements for Feasibility Study Recommendations**

24. Within 6 months of Workplan approval, LACFCD shall submit recommendations to the Regional Board Executive Officer and shall include options for reaches where vegetation may be allowed to remain or where native vegetation could be re-established. Recommendations shall also include suggested schedules of vegetation removal frequency in order to ensure the maximum habitat preservation is achieved, consistent with necessary flood control. For recommendations approved by the Executive Officer and by other appropriate regulatory agencies including the ACOE and CDFW, LACFCD shall make the necessary changes to the Maintenance Plan, including proposals for additional BMPs as may be appropriate, and shall submit such changes to the Executive Officer 21 days prior to any clearing activities.
25. By March 31, 2016, LACFCD will submit to the Regional Board, a draft Feasibility Report for the Malibu Creek and Dominguez Channel.
26. By February 28, 2017, LACFCD will submit to the Regional Board, a final Feasibility Report for the Malibu Creek and Dominguez Channel, including recommendations.
27. By August 31, 2017, LACFCD will submit to the Regional Board, a draft Feasibility Report for the Santa Clara River.
28. By February 28, 2018, LACFCD will submit to the Regional Board, a final Feasibility Report for the Santa Clara River including recommendations as described in item 24, "Requirements for Feasibility Study Recommendations."
29. LACFCD shall conduct Risk and Uncertainty analyses or other appropriate analyses, working with the ACOE, as warranted in order to identify those reaches with federally required maintenance requirements that may be candidates for revised maintenance procedures that would allow more vegetation to remain in the channel, or that would allow alternative channel clearing approaches/methods potentially more protective of beneficial uses. LACFCD, with assistance from ACOE and guidance from the WDR Working Group, will work to determine the number of reaches on which to perform Risk and Uncertainty analyses. LACFCD may apply under section 14 of the Rivers and Harbors Act of 1899 and codified in 33 USC section 408 (commonly referred to as



“Section 408”) or may pursue alternative approaches as determined by the ACOE for modification of federally required maintenance requirements with the ACOE, if appropriate.

30. LACFCD shall continue to facilitate and host WDR Working Group meetings once per month or less often with concurrence from the WDR Working Group Meeting participants during calendar year 2016, and other outreach activities, as appropriate, to involve stakeholders in review of feasibility reports and decision making concerning priorities for Risk and Uncertainty analyses, Section 408 applications, the location, type and scope of pilot projects to evaluate alternative channel clearing approaches/methods, and potential additional water quality monitoring locations and timing.

### **Pilot Projects**

31. Continuing LACFCD’s efforts begun in 2015, LACFCD shall identify pilot projects to investigate alternative vegetation management methods that may be more protective of beneficial uses, especially wildlife and habitat uses. Examples of pilot projects may include but are not limited to: mowing as opposed to scraping for vegetation clearing; clearing just one bank of a particular reach each year; replacing an invasive plant species such as *Arundo donax* with slower-growing native species; exploring different combinations of plant species in a given reach; or study and review of land use in the vicinity of a reach to determine if a level of infrequent flooding could be tolerated.
32. LACFCD shall provide to the Regional Board Executive Officer, and shall make available to stakeholders, potential pilot projects for the upcoming maintenance season (July 1 to June 30). Additional pilot projects may be identified during the maintenance season.
33. LACFCD shall investigate improved maintenance methods by conducting two or more pilot projects each year (July 1 to June 30) after consultation with the Regional Board Executive Officer, ACOE, and stakeholders. If the ACOE prohibits the proposed pilot project, the LACFCD shall identify alternative locations and/or pilot maintenance methods that are acceptable to the ACOE for implementation on a pilot basis. Alternatively, the LACFCD shall identify reaches that are not subject to federal maintenance requirements and, thus, are not subject to ACOE review.
34. LACFCD shall evaluate pilot projects in terms of: a) ecological impact, impact to beneficial uses, and impact to local communities; b) positive or negative effects on downstream water quality; c) identification of conditions in permits or other requirements that would need to be modified for the pilot project to be required as routine maintenance; and d) impacts to LACFCD operations in terms of costs, schedule, resources, etc. LACFCD shall consider the recommendations of the WDR Working Group when determining additional evaluation criteria. LACFCD shall provide a technical report evaluating the pilot project within four months of completion of the pilot project with interim recommendations or, when possible, final recommendations.

35. With Regional Board Executive Officer approval, and subject to approval by other agencies including ACOE and CDFW, as necessary, LACFCD shall implement new channel maintenance practices based on the outcomes of the pilot projects during term of this Order, as feasible.
36. A technical report containing an evaluation of the Reach 25 and Compton Creek pilot project discussed in Findings 68 and 69 with interim recommendations or, if possible, final recommendations shall be submitted to the Regional Board Executive Officer by March 31, 2016.

### **Prohibitions**

33. Fueling, lubrication, maintenance, operation, and storage of vehicles and equipment shall not result in a discharge or a threatened discharge to waters of the State. At no time shall LACFCD use any vehicle or equipment which leaks any substance that may impact water quality. Staging and storage areas for vehicles and equipment shall be located outside of waters of the State.
34. No construction material, spoils, debris, or any other substances associated with this project that may adversely impact water quality standards, shall be located in a manner which may result in a discharge or a threatened discharge to waters of the State. Designated spoil and waste areas shall be visually marked prior to any excavation and/or construction activity, and storage of the materials shall be confined to these areas.
35. The discharge shall not: a) degrade surface water communities and populations including vertebrate, invertebrate, and plant species beyond the permitted vegetation removal; b) promote the breeding of mosquitoes, gnats, black flies, midges, or other pests; c) alter the color, create visual contrast with the natural appearance, nor cause aesthetically undesirable discoloration of the receiving waters; d) cause formation of sludge deposits; or e) adversely affect any designated beneficial uses.

### **Other Requirements**

36. LACFCD shall submit copies of any other final permits and agreements required for this project, including, but not limited to, the ACOE CWA Section 404 Permit and the CDFW's Streambed Alteration Agreement to the Regional Board 401 Certification Unit. These documents shall be submitted prior to any discharge to waters of the State.
37. LACFCD shall comply with the specifications of its Mitigation Monitoring Program, and the Maintenance Plan, or any subsequently approved plans that follow.
38. Prior to any maintenance activities within the subject reaches, LACFCD shall develop and publish watershed maps which indicate areas of maintenance (impact acreages and types of vegetation impacted) and approximate schedules (including baseline biological



surveys, post-surveys and maintenance activity descriptions). This information shall be made publicly available on the LACFCD internet website and be noticed via email notification or other direct notification to watershed councils and other interested persons prior to any routine maintenance activities. For each reach, the information shall include: (a) the proposed schedule; (b) a description of the reach's existing condition; (c) the area of proposed impact; and (d) a description of any existing aquatic resources (e.g., wetland/riparian vegetation based on readily available information and pre-clearing biological surveys). After submission to the Regional Board Executive Officer, LACFCD will post the Annual Project and Mitigation Monitoring Reports as required to the LACFCD website.

39. LACFCD shall implement the Plan for Hazard Analysis and Critical Control Points dated April 1, 2010 (HACCP) or any subsequently Executive Officer-approved HACCP to limit the spread of invasive species.
40. LACFCD shall comply with all water quality objectives, prohibitions, and policies set forth in the Basin Plan, as amended.
41. LACFCD shall implement all Best Management Practices as outlined in the Maintenance Plan, including, but not limited to, the following:

Prior to start of any annual maintenance clearing, qualified biologists shall perform pre-clearing biological resource surveys and photo documentation including sensitive/endangered species focused surveys on specific reaches. No work shall commence without confirmation of findings or no findings of sensitive/endangered species from the biologists. These surveys are also meant to minimize impact on any resources that may potentially use or benefit from the channel.

During construction, biologists shall be available for consultation for any issues that may arise.

42. LACFCD and all contractors employed by LACFCD shall have copies of this Order, the approved Maintenance Plan, and all other regulatory approvals for this project on site at all times and shall be familiar with all conditions set forth therein.
43. All excavation, construction, or maintenance activities shall follow best management practices to minimize impacts to water quality and beneficial uses. Dust control activities shall be conducted in such a manner that will not produce downstream runoff.
44. All waste and/or dredged material removed shall be relocated to a legal point of disposal if applicable. A legal point of disposal is defined as one for which WDRs have been established by a California Regional Water Quality Control Board, and is in full compliance therewith. Please contact the Land Disposal Unit, at (213) 620-6600 for further information.

45. LACFCD shall implement all necessary control measures to prevent the degradation of water quality from the proposed project in order to maintain compliance with the Basin Plan. The discharge shall meet all effluent limitations and toxic and effluent standards established to comply with the applicable water quality standards and other appropriate requirements, including the provisions of sections 301, 302, 303, 306, and 307 of the CWA. This Order does not authorize the discharge by LACFCD for any other activity than specifically described in the current CWA Section 404 Permit for this project.
46. LACFCD shall allow the Regional Board and its authorized representative entry to the premises, including all mitigation sites, to inspect and undertake any activity to determine compliance with this Order, or as otherwise authorized by the CWC.
47. Application of pesticides must be supervised by a certified applicator and be in conformance with manufacturer's specifications for use. Compounds used must be appropriate to the target species and habitat. Pesticide utilization shall be in accordance with State Water Resources Control Board pesticide permits including Water Quality Order Nos. 2011-0003-DWQ, for Aquatic Animal Invasive Species Control; 2011-0004-DWQ, for Spray Applications; 2011-0002-DWQ, for Vector Control; and 2013-0002-DWQ, for Weed Control.
48. LACFCD shall not conduct any routine maintenance activities within waters of the State during a rainfall event. LACFCD shall maintain a one-day (1-day) clear weather forecast before conducting any operations within waters of the State. If rain is predicted within 12 hours after operations have begun, activities shall cease temporarily, and protective measures to prevent siltation/erosion shall be implemented and maintained.
49. LACFCD shall utilize the services of a qualified biologist with expertise in riparian assessments during all construction activities where clearing involves areas to be partially cleared (i.e., some vegetation is to remain in the same reach or in an adjacent reach). The biologist shall be available if necessary during maintenance activities to ensure that all protected areas are marked properly and ensure that no vegetation outside the specified areas is removed. The biologist shall have the authority to stop the work, as necessary, if instructions are not followed. The biologist shall be available upon request from this Regional Board for consultation within 24 hours of request of consultation.
50. No activities shall involve wet excavations (i.e., no excavations shall occur below the seasonal high water table). A minimum 5-foot buffer zone shall be maintained above the existing groundwater level. If construction or groundwater dewatering is proposed or anticipated, LACFCD shall file a Report of Waste Discharge to this Regional Board and obtain any necessary NPDES permits/WDRs prior to discharging waste. Sufficient time should be allowed to obtain any such permits (generally 180 days). If groundwater is encountered without the benefit of appropriate permits, LACFCD shall cease all activities in the areas where groundwater is present, file a Report of Waste Discharge to this Regional Board, and obtain any necessary permits prior to discharging waste.



51. All maintenance activities not included in this Order, and which may require a permit, must be reported to the Regional Board for appropriate permitting. Bank stabilization and grading, as well as any other ground disturbances, are subject to restoration and revegetation requirements, and may require additional WDR action.
52. Maintenance activities in the Santa Clara River area shall comply with the provisions of the Natural Rivers Management Plan (NRMP). The following provisions apply to soft-bottom channel reaches that are within the jurisdiction of the approved NRMP: a) Periodic clearing of vegetation immediately upstream and downstream of certain existing bridges which were not designed in accordance with the NRMP; b) Periodic removal of woody vegetation from riprap to protect its structural integrity; c) Periodic clearing of storm drain outlets to ensure proper drainage; d) Periodic removal of ponded water that causes odor problems; e) As-needed repairs of bridges; f) As-needed repairs of bank protection; and g) As-needed clearing of vegetation from water quality filters and treatment basins.
53. All surface waters, including ponded waters, shall be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and/or any other activity which may result in a discharge to the receiving water.
54. LACFCD shall develop and submit a Surface Water Diversion Plan (plan) to the Executive Officer. The Surface Water Diversion Plan shall include the proposed method and duration of diversion activities, structure configuration, construction materials, equipment, erosion and sediment controls, and a map or drawing indicating the locations of diversion and discharge points. Contingency measures to address the need for regulation of flow discharge rates and/or direction of flows to protect beneficial uses downstream of the diversion shall be included as part of the Surface Water Diversion Plan. The Surface Water Diversion Plan shall be submitted prior to any surface water diversions.
55. LACFCD shall implement the Surface Water Diversion Plan for all water diversions or, for circumstances which require a deviation from the Surface Water Diversion Plan, may submit to the Regional Board an individual plan for the surface water diversion prior to the surface water diversion.
56. If surface flows are present, then upstream and downstream monitoring for the following shall be implemented:
  - pH
  - temperature
  - dissolved oxygen
  - turbidity
  - total suspended solids (TSS)

In addition, in some circumstances, more than one sampling event prior to the start of work may be advisable to establish baseline conditions when baseline conditions are

variable. Or, in some circumstances, more than one monitoring location, upstream, within the project reach, or downstream, may be advisable due to the length of the reach and/or to distinguish other influences on water quality. For example, water quality may also vary due to discharges into the project area from storm drains, salt/fresh mixing zones or changes in waterbody characteristics (e.g., a change from a hard to soft, vegetated, bottom). LACFCD shall consider and document if additional sampling events, locations or parameters are needed or useful.

Downstream TSS shall be maintained at ambient levels. Where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU), increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.

Analyses must be performed using approved US Environmental Protection Agency methods, where applicable. These constituents shall be measured at least once prior to diversion and then monitored for on a daily basis during the first week of diversion and/or dewatering activities, and then on a weekly basis, thereafter, until the in-stream work is complete.

LACFCD shall submit results of the analyses as part of the Annual Monitoring Report to the Regional Board, to the attention of the 401 Program Unit, in a tabular format containing results of each parameter for each channel reach. Diversion activities shall not result in the degradation of beneficial uses or exceedance of water quality objectives of the receiving waters. Any such violations may result in corrective and/or enforcement actions, including increased monitoring and sample collection.

57. LACFCD shall restore all areas of TEMPORARY IMPACTS to waters of the United States and all other areas of temporary disturbance outside of areas of maintenance which could result in a discharge or a threatened discharge to waters of the State. Restoration shall include returning areas to pre-project contours and planting with native vegetation, if feasible. Restored areas shall be monitored and maintained with native species as necessary for five years. LACFCD shall implement all necessary Best Management Practices to control erosion and runoff from areas associated with this project.
58. If ongoing maintenance activities on a new channel reach were covered by previous certifications with mitigation, additional mitigation will not be required. Prior to clearing of the new reaches, or where additional clearing has been authorized by the Regional Board, LACFCD will document and provide to the Regional Board the amount of riparian vegetation to be removed for maintenance in these reaches.
59. LACFCD shall provide COMPENSATORY MITIGATION for the new impacts based on a ranking system which evaluates functions and values within each reach. Mitigation ratios will be determined on a case-by-case basis in compliance with the USEPA and ACOE 2008 Final Rule for Compensatory Mitigation for Losses of Aquatic Resources. Mitigation proposed by LACFCD will require approval by the Regional Board Executive Officer.



60. LACFCD shall submit a draft Mitigation Plan for approval by the Regional Board Executive Officer for the new permanent impacts on a timeline as agreed collectively and for approval by all regulatory agencies, including the ACOE and CDFW. The Draft Mitigation Plan will specify the proposed types of mitigation types, third party conservancies, or in lieu fee programs as determined by LACFCD, the Regional Board, ACOE, and CDFW. The Draft Mitigation Plan shall also include location, methods, monitoring, performance criteria, reporting and any other pertinent information. The Regional Board Executive Officer will approve the plan, require changes and re-submission, or will make modifications to the plan, as appropriate to achieve the no-net-loss policy of Executive Order W-59-93.
61. Mitigation shall take place in the vicinity of the impacted reach or off-site. If not feasible, within the same watershed. If LACFCD can demonstrate that there are no mitigation areas in the same watershed, mitigation may occur through in-lieu funding with an approved Mitigation Bank or via a Conservancy Group, as approved by all regulatory agencies including the ACOE and CDFW.
62. All mitigation areas shall be preserved and maintained as habitat in perpetuity.
63. To determine compliance with this Order, pursuant to CWC section 13267, LACFCD shall submit to the Regional Board Executive Officer an Annual Project and Mitigation Monitoring Report (Annual Report) by May 1<sup>st</sup> of each year for each year this Order is in effect. Any revisions to the previous Annual Reporting outline and/or technical or field checklists shall be submitted to the Regional Board Executive Officer for approval within 60 days of the issuance of this amended Order.
64. The Annual Report shall describe in detail all of the project/maintenance activities performed during the previous year and all restoration and mitigation efforts until success targets are met. The Annual Reports shall describe the status of other agreements (e.g., mitigation banking) or any delays in the mitigation process. At a minimum the Annual Reports shall include the following documentation, as set forth in the Annual Report Outline dated April 5, 2010:

Annual Report Summary

- a. List of attached documentation;
- b. Description of all project/maintenance activities performed during the previous year;
- c. Discussion of all restoration and mitigation efforts;
- d. Status of other agreements (e.g., mitigation banking) or any delays in the mitigation process;
- e. Summary of compliance with all requirements of these WDRs; and
- f. A certified statement (Declaration) from LACFCD that all information reported in the annual report is complete and accurate.

Documentation/Attachments

- a. Mitigation site: color photo documentation (pre-, during, and post-project and mitigation site conditions);
  - b. Narrative and photo documentation of any BMP installations during and post-project maintenance activities;
  - c. Evaluation of the effectiveness of BMPs utilized based on field observations and water quality monitoring data required;
  - d. Photo documentation of any vegetation left within maintenance areas immediately following maintenance clearing (including acreage);
  - e. Documentation of estimates of volumes of vegetation removed from the project areas including an analysis of inter-annual trends in vegetation loads;
  - f. Documentation of estimates of volumes of trash removed from the project areas including an analysis of inter-annual trends in trash loads;
  - g. Documentation of estimates of volumes of sediment removed from the project areas including an analysis of inter-annual trends in sediment loads;
  - h. Biological information including baseline biological surveys and post-surveys;
  - i. Geographical positioning system (GPS) coordinates in decimal-degrees format outlining the boundary of actual project and new mitigation areas (one time submittal);
  - j. The overall status of project including a detailed schedule of work;
  - k. Copies of all revised permits related to this project;
  - l. Water quality monitoring results for each reach;
  - m. A certified statement of "No Net Loss" of Wetlands Associated with this project;
  - n. Discussion of any monitoring activities and exotic plant control efforts; and
  - o. Description of all outreach activities in the previous year.
65. All applications, reports, or information submitted to the Regional Board shall be signed by either a principal executive officer, ranking elected official, or other duly authorized employee.
66. Each and any report submitted in accordance with this Order shall contain the following completed declaration;

"I declare under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on the \_\_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_.

\_\_\_\_\_ (Signature)



\_\_\_\_\_ (Title)”

67. All communications regarding this project and submitted to this Regional Board shall identify the Project File Number 99-011 2015 Amended WDR. Submittals shall be sent to the Executive Officer where identified and to the 401 Certification Unit, Attention: Valerie Carrillo Zara.
68. Any modifications of the proposed project may require submittal of a new CWA Section 401 Water Quality Certification application or Report of Waste Discharge and appropriate filing fee.

### **Compliance and Enforcement**

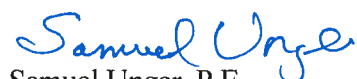
69. LACFCD or their agents shall report any noncompliance with this Order. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time LACFCD becomes aware of the circumstances. A written submission shall also be provided within five days of the time LACFCD becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
70. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under State law.
71. In response to a suspected violation of any condition of this Order, the State Board or Regional Board may require the holder of any permit or license subject to this Order to furnish, under penalty of perjury, any technical or monitoring reports the State Board or Regional Board deems appropriate, provided that the burden, including costs, of the reports shall be a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
72. In response to any violation of the conditions of this Order, the State Board or Regional Board may add to or modify the conditions of this Order as appropriate to ensure compliance.
73. After notice and opportunity for a hearing, this Order may be modified, revoked and reissued, or terminated or modified for cause, including, but not limited to:
  - a. Violation of any term or condition contained in this Order;
  - b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;

- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized reuse;
  - d. Endangerment to public health or environment that can only be regulated to acceptable levels by Order modification or termination.
74. Additional Reports: The Dischargers shall furnish any information the Regional Board may request to determine whether or not cause exists for modifying, revoking and reissuing, or terminating this Order. The Dischargers shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

**Effective Date and Term**

75. This amended Order takes effect upon its adoption by the Regional Board.
76. Term: This Order expires on July 20, 2018 or upon such time it is replaced coincident with a renewed ACOE CWA Section 404 permit, whichever is sooner. If an ACOE CWA Section 404 permit is renewed, LACFCD must file a Report of Waste Discharge with the Regional Board no later than 120 days before of the expected date of the renewed ACOE CWA Section 404 permit for consideration of issuance of new or revised requirements. If no such ACOE CWA Section 404 Permit is renewed and LACFCD wishes to continue maintenance activities after this Order expires, LACFCD must file a Report of Waste Discharge with the Regional Board no later than 120 days before the expiration date of this Order for consideration of issuance of new or revised requirements. Any discharge of waste after the expiration date of this Order is a violation of Water Code section 13264. The Regional Board is authorized to take appropriate enforcement action for any noncompliance with this provision including assessment of penalties.
77. Regional Board Order No. R4-2010-0021, adopted by the Regional Board on February 4, 2010, is hereby terminated, except for enforcement purposes.

I, Samuel Unger, Executive Officer, do hereby certify that this Order with all attachments is a full, true and correct copy of the Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on February 12, 2015, and amended on February 11, 2016.

  
Samuel Unger, P.E.  
Executive Officer

- Attachment 1. Reaches 1-110 LACFCD soft-bottom channel WDR
- Attachment 2. Reaches 1-110 permitting summary LACFCD soft-bottom channel WDR



Waters Name	Hydrological Code	Beneficial Uses	Area (acres)	Length (feet)	Upstream				Downstream			
					Latitude	Longitude	Cross streets	Latitude	Longitude	Cross Streets	Local Waterway	
1 - Bell Creek- MTD 963 M.C.I.	180701050210	MUN, GWR, REC-1, REC-2, WARM, WILD	0.9	197	34.20267	-118.65899	962' u/s of Highlander Rd	34.20242	-118.65843	766' u/s of Highlander Rd	Bell Creek	
2 - Dry Canyon Creek (Calabasas) PD T1845	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD	1.24	1549	34.14711	-118.63044	676' u/s Park Ora	34.15177	-118.63181	870' d/s Park Ora	Dry Canyon	
3 - Santa Susana Creek tributary to Browns Canyon Creek M.C.I.	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD	0.06	99	34.27091	-118.60975	5560' N of Devonshire St	34.27096	-118.60990	5635' N of Devonshire St	Santa Susana Creek	
4 - Browns Canyon Creek	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD.	3	1303	34.271614	-118.590776	1895' u/s of Rinaldi St	34.27502	-118.59174	556' u/s of Rinaldi St	Browns Creek	
5 - Caballero Creek M.C.I. (West Fork)	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD	1.3	654	34.14974	-118.536845	890' u/s of Reseda Blvd	34.15061	-118.53665	238' u/s of Reseda Blvd	Caballero Creek	
6 - Caballero Creek M.C.I. (East Fork)	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD	0.35	164	34.14991	-118.536416	588' u/s of Reseda Blvd	34.15027	-118.53674	428' u/s of Reseda Blvd	Caballero Creek	
7 - Bull Creek M.C.O.	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD	5.61	2704	34.17875	-118.4978	165' d/s of c/l of Victory Blvd	34.18617	-118.49778	Confluence w/ Los Angeles River	Bull Creek	
8 - Hayvenhurst Drain, tributary to the Sepulveda Flood Control Basin Project - Proj	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD, WET	0.3	218	34.16421	-118.491525	Hayvenhurst	34.16472	-118.49105	Ventura Fwy	Tributary of LA River	
9 - Tributary to the Sepulveda Flood Control Basin, Project 106 Outlet	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD, WET	0.12	120	34.18557	-118.47502	400' d/s of Victory Blvd	34.18524	-118.47502	520' d/s of Victory Blvd	Sepulveda Basin	
10 - Tributary to the Sepulveda Flood Control Basin, Project No 469	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD, WET.	7.12	4084	34.18843	-118.47365	751' d/s of Victory Blvd	34.18477	-118.48406	LA River (4945' d/s of Victory Blvd)	Tributary of LA River	
12 - Haines Canyon Creek M.C.O.	180701050105	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	0.4	400	34.2684	-118.32128	791' d/s of Wentworth St	34.26843	-118.32194	1228' d/s of Wentworth St	Haines Canyon	
13 - Tributary to Hansen Lake, Project No 5215 unit 1	180701050205	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	0.55	591	34.27146	-118.3591	1030' d/s of Foothill Blvd	34.26999	-118.35995	1535' d/s of Foothill Blvd	Tributary of Tujunga Wash	
14 - May Channel (M.C.O. into Pacoima Cyn)	180701050206	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	0.63	588	34.31194	-118.41056	3038' d/s of Hubbard St	34.31058	-118.40975	3728' d/s of Hubbard St/Conf. W/ Pacoima Cyn	May Channel	
15 - Pacoima Wash	180701050204	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	5.25	4656	34.22734	-118.45947	159' d/s of Parthenia	34.21471	-118.45828	1187' d/s of Lanark St	Pacoima Wash	
16 - Verdugo Wash-Las Barras Cyn (chnl inlet)	180701050207	MUN, GWR, REC-1, REC-2, WARM, WILD.	0.07	131	34.23318	-118.27123	157' u/s of conf. w/Las Barras Cyn Chnl	34.23310	-118.27142	27' u/s of conf. w/Las Barras Cyn Channel	Verdugo Wash	
18 - Engleheard Channel, tributary to Verdugo Wash	180701050207	MUN, GWR, REC-1, REC-2, WARM, WILD	1.1	744	34.20773	-118.24328	800' u/s of conf. w/ Verdugo Wash	34.20707	-118.24096	Conf. w/ Verdugo Wash	Verdugo Wash	
19 - Pickens Canyon, tributary to Verdugo Wash	180701050207	MUN, GWR, REC-1, REC-2, WARM, WILD	3.42	2461	34.22852	-118.22765	Crib dam No.7	34.22224	-118.22892	Pickens Debris Basin	Pickens Canyon	
20 - Webber Channel, tributary to Halls Canyon Channel (strm @ private bridge)	180701050207	MUN, IND, PROC, GWR, REC-1, REC-2, WARM, WILD	0.13	123	34.22804	-118.21786	861' u/s of Los Amigos St	34.22792	-118.21801	746' u/s of Los Amigos St	Webber Channel	
21 - Webber Channel, tributary to Halls Canyon Channel (main chnl inlet d/s bridge)	180701050207	MUN, IND, PROC, GWR, REC-1, REC-2, WARM, WILD	0.03	25	34.22753	-118.21875	496' u/s of Los Amigos St	34.22750	-118.21879	471' u/s of Los Amigos St	Webber Channel	
22 - Halls Canyon Channel	180701050207	MUN, IND, PROC, GWR, REC-1, REC-2, WARM, WILD	2.63	2465	34.22228	-118.22217	1370' u/s of Jessen Dr	34.22315	-118.22090	Halls Cyn Debris Basin	Halls Canyon	
24 - Compton Creek	180701060606	MUN, GWR, REC-1, REC-2, WARM, WILD, WET	30.3	13495	33.87585	-118.21981	COE Station 199+31.00	33.84239	-118.20489	Los Angeles River	Los Angeles River	
25a - Los Angeles River - Willow to PCH (East/Left bank)	180701060606	MUN, IND, PROC, GWR, NAV, REC-1, REC-2, COMM, WARM, EST, MAR, WILD, RARE, SHELL, WET	56.2	5127	33.80427	-118.20471	Willow St	33.79722	-118.20466	Pacific Coast Hwy	Los Angeles River	
25b - Los Angeles River - Willow to PCH (West/Right bank)				5127	33.79166	-118.21419	Willow St	33.79019	-118.20622	Pacific Coast Hwy	Los Angeles River	
26 - Tributary to Dominguez Channel, Project 740	180701060606	MUN, NAV, REC-1, REC-2, COMM, WARM, EST, MAR, WILD, RARE, MIGR, SPWN.	0.35	947	33.87151	-118.29046	500' u/s of Artesia Blvd	33.87407	-118.29061	400' d/s Artesia Blvd	Unnamed Tributary of Dominguez Channel	
27 - Wilmington Drain	180701060606	MUN, REC-1, REC-2, WARM, WILD, RARE, WET..	7.87	3045	33.79928	-118.28843	110 Fwy	33.79114	-118.28580	Pacific Coast Hwy	Wilmington Drain	
28 - Triunfo Ck (PD T2200)	180701050402	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	23	431	34.11493	-118.77973	384' u/s of Mulholland Hwy	34.11439	-118.77941	D/s edge of Mulholland Hwy	Triunfo Creek	
29 - Las Virgenes Creek (PD T1684) M.C.I.	180701050205	MUN, REC-1, REC-2, WARM, COLD, WILD, RARE, MIGR, SPWN, WET	1.16	357	34.16862	-118.70269	Los Angeles/Ventura County Boundary	34.16796	-118.70183	3006' u/s of Thousand Oaks Blvd	Las Virgenes Creek	
32 - Stokes Cyn Channel (PD T043)	180701050205	MUN, REC-1, REC-2, WARM, COLD, WILD, RARE, MIGR, SPWN, WET	1.4	2178	34.10891	-118.696319	Int. of Quad Sheet blue line w/east bdy Sec 6	34.11058	-118.69363	1600' u/s Mulholland Hwy & Stokes Cyn Rd	Stokes Canyon	
33 - Medea Creek (PD T1378 u.2)	180701060606	MUN, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE, WET.	0.69	818	34.15525	-118.75899	731' u/s of Thousand Oaks Blvd.	34.15420	-118.75953	215' d/s of Thousand Oaks Blvd	Medea Creek	
34 - Medea Creek (PD T1005) Main Channel Outlet (Chumasa Park)	180701060606	MUN, ND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD; WILD, RARE	0.19	413	34.14589	-118.75564	535' d/s of Kanan	34.14863	-118.75040	940' d/s of Kanan	Medea Creek	
35 - Medea Creek M.C.I.-under Route 101	180701060606	MUN, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE, WET	0.14	99	34.14384	-118.76184	98' u/s of u/s side of Roadside Dr	34.14530	-118.75767	13' u/s of u/s side of Roadside Dr	Medea Creek	
36 - Cheseboro Main Channel Inlet	180701060606	MUN, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE, WET	0.08	61	34.14262	-118.74363	100' u/s of Driver Ave	34.14579	-118.73993	44' u/s of Driver Ave	Cheseboro Main Channel Inlet	
37 - Medea Ck/Cheseboro Ck Outlet	180701060606	MUN, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE, WET	0.47	228	34.14199	-118.75937	614' d/s of Agoura Road	34.14202	-118.75899	784' d/s Agoura Road	Medea Creek	
38 - Lindero Creek M.C.O.	180701060606	MUN, REC-1, REC-2, WARM, WILD	0.19	205	34.14301	-118.76405	83' d/s of Agoura Rd	34.14271	-118.76403	270' d/s of Agoura Road	Lindero Main Channel Outlet	
39 - San Gabriel River, Beatty Channel Outlet @ SGR 25+99.00	180701060601	MUN, IND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE	0.26	406	34.14388	-117.93313	2323' d/s of Todd Ave	34.14404	-117.93377	2415' d/s of Todd Ave	Beatty Channel Outlet	
40a - San Gabriel River - Santa Fe Dam to I-10 Freeway	180701060601	MUN, IND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE	0.32	20996	34.06229	-117.97878	Santa Fe Dam	34.06452	-118.00442	I-10 Freeway	San Gabriel River	
40b - San Gabriel River - I-10 Freeway to Thienes Ave	180701060601	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	254.22	12374	34.05158	-118.0157	El Monte	34.03859	-118.02697	Thienes Ave	San Gabriel River	
41 - Walnut Creek	180701060601	MUN, GWR, REC-1, REC-2, WARM, WILD, WET	40.9	6090	34.06058	-117.99677	N Baldwin Park Blvd	34.05866	-118.00638	San Gabriel River	San Gabriel River	
42 - San Jose Creek d/s 1000' from end of concrete channel	180701060601	MUN, GWR, REC1, REC2, WILD, WET	2.75	801	34.03257	-118.00566	COE Station 87+25.00	34.03237	-118.00829	COE Station 79+25.00	San Jose Creek	
43a - San Gabriel River - Upper	180701060601	MUN, ND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD; WILD, RARE	74.61	3586	34.017319	-118.05875	Whittier Narrows Dam	34.01355	-118.06256	San Gabriel River Parkway	San Gabriel River	
43b - San Gabriel River- Lower	180701060601	MUN, ND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD; WILD, RARE		3068	34.00759	-118.06985	San Gabriel River Parkway	34.00678	-118.06849	Beverly Blvd	San Gabriel River	
44 - San Gabriel River- Rubber Dams	180701060601	MUN, ND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD; WILD, RARE	175.76	30895	33.96892	-118.08779	Beverly Blvd	33.93116	-118.10702	Firestone Blvd	San Gabriel River	
45 - Sand Canyon (PD T1307) Main Channel Inlet	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.05	102	34.43108	-118.4207	2018' u/s of Soledad Cyn Rd	34.43096	-118.42079	1916' u/s of Soledad Cyn Rd	Sand Canyon	
46 - Sand Canyon (PD T1307) Main Channel Outlet	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.03	84	34.42971	-118.42267	1100' u/s of Soledad Cyn Rd	34.42959	-118.42270	1020' u/s of Soledad Cyn Rd	Sand Canyon	

47 - Santa Clara River Main Chnl. (PD 1733 unit 1)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.76	1658	34.41467	-118.44702	D/s edge of State Route 14	34.41431	-118.44973	1875' d/s of State Route 14	Santa Clara River
48 - Mint Cyn Channel b/w Sierra Hwy & Adon Ave	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	3.1	2501	34.43035	-118.4432	Sierra Hwy	34.42489	-118.44797	1800' d/s of Sierra Hwy	Mint Cyn Channel
49 - Mint Cyn Channel b/w Adon Ave & Scherzinger	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	0.68	385	34.4244	-118.44846	Under Adon Ave	34.42398	-118.44884	382' d/s of Adon Ave	Mint Cyn Channel
50 - Mint Cyn Channel b/w Solomint & Soledad	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.54	735	34.41442	-118.44903	768' u/s of Soledad Cyn Rd	34.41683	-118.45382	99' u/s of Soledad Cyn Rd	Mint Cyn Channel
51 - Mint Cyn M.C.O. (PD 1894)/Santa Clara River - Main Channel	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	6.4	931	34.41358	-118.45596	1044' d/s of Soledad Cyn Rd	34.41323	-118.45743	SCR on d/s side of Sierra Hwy	Mint Cyn Channel
52 - Sierra Hwy Rd Drainage (CDR 523.203)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	0.4	772	34.41792	-118.45414	253' s/w of Dolan & east edge of Sierra Hwy	34.41688	-118.45393	Confluence w/ Mint Cyn Channel	Sierra Hwy Rd Drainage
53 - Santa Clara River Non-main Chnl. (PD 832) M.C.I.	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.03	35	34.40727	-118.46415	25' d/s of Sierra Hwy	34.40936	-118.46013	70' d/s of Sierra Hwy	Santa Clara River
54 - Santa Clara River Non-main Chnl. (PD 832) M.C.I.	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.31	316	34.41148	-118.4592	821' d/s of Sierra Hwy	34.41186	-118.45946	1098' d/s of Sierra Hwy	Santa Clara River
55 - Santa Clara River Main Chnl. Right Bank Reach (PD's 910, 832, 1758, 1562 unit 2)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.63	3518	34.41111	-118.46885	Sierra Hwy	34.41323	-118.45743	3049' d/s Sierra Hwy	Santa Clara River
56 - Santa Clara River Main Chnl - Left Bank Reach (PD 832)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.47	2346	34.42946	-118.4642	3049' d/s Sierra Hwy	34.42413	-118.46525	3501' d/s of Sierra Hwy (Hidaway Ave, produced)	Santa Clara River
57 - Whites Cyn (PD T704 M.C.I.)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	2.64	695	34.40849	-118.46774	1449' u/s of Foxlane	34.41080	-118.46724	753' u/s of Foxlane	Whites Cyn
58 - Santa Clara River Main Channel - Right Bank (PD 374)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.21	2644	34.41431	-118.47283	2114' u/s of old Soledad Cyn Rd bridge	34.41587	-118.47667	U/s of old Soledad Cyn Rd bridge	Santa Clara River
60 - Santa Clara River Main Channel - Right Bank Reach (PD's 1339 & 374)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.5	3166	34.41587	-118.47667	D/s side of new Soledad Cyn Rd bridge	34.42340	-118.48182	Conf. w/PD 313 (d/s Newhouse St, produced)	Santa Clara River
61 - Santa Clara River Main Channel (PD 659 & 754)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	4.3	4715	34.4205	-118.48385	D/s side of new Soledad Cyn Rd bridge	34.42665	-118.49406	1634' d/s of new Soledad Cyn Rd bridge	Santa Clara River
63 - Oak Ave Rd Drainage (CDR 523.081)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	2.8	914	34.42502	-118.502918	1400' N of Soledad Cyn Rd @ SCE lines	34.42379	-118.50258	2300' N of Soledad Cyn Rd @ SCE lines	Oak Ave Rd Drainage
64 - Soledad Cyn Rd Drain (CDR 523.071 D outlet)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.85	574	34.42052	-118.51215	(E side of) LA Aqueduct N of Soledad Cyn Rd	34.42129	-118.50404	1250' NW/o Soledad Cyn Rd & LA Aqueduct	Soledad Cyn Rd Drain
66 - Santa Clara River Main Channel (PD 1538)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.04	710	34.423209	-118.538688	1417' u/s of Bouquet Cyn Rd	34.42278	-118.53647	706' u/s of Bouquet Cyn Rd	Santa Clara River
67 - Bouquet Cyn Upper (PD's 1201, 802, 700B, & 625)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, COLD, WILD, SPWN, WET	16.3	6344	34.45979	-118.4929	63' d/s of Hob Ave, produced	34.44897	-118.50654	153' u/s of Urbandale Ave	Bouquet Cyn Upper
69 - Bouquet Cyn Middle (PD's 722, 773, 1365, 1065, & 451)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, COLD, WILD, SPWN, WET	12.51	7326	34.44828	-118.50748	122' d/s of Urbandale Ave	34.43441	-118.52395	54' d/s of middle crossing, Bouquet Cyn Rd	Bouquet Cyn Mid
70 - Bouquet Cyn Lower (PD's 544 & 345)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, COLD, WILD, SPWN, WET	8.54	3503	34.43429	-118.52399	2866' u/s lower crossing, Bouquet Cyn Rd	34.43081	-118.53445	D/s side of lower crossing, Bouquet Cyn Rd	Bouquet Cyn Lower
71 - Santa Clara River Main Channel (PD 1946)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.01	242	34.424	-118.56181	276' u/s of McBean Pkwy (conf w/ SF-SCR)	34.42401	-118.56221	D/s edge of McBean Parkway	Santa Clara River
72 - South Fork- SCR (Smizer Ranch M.C.I.)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.14	101	34.36955	-118.55678	1150' u/s of Wiley Canyon Road	34.36937	-118.55653	1050' u/s Wiley Canyon Road	Santa Clara River
73 - Wildwood Cyn Chnl (PD T361) M.C.I.	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	0.05	83	34.3715	-118.53922	109' u/s of Cedartown St	34.37128	-118.53921	U/s side of Cedartown St	Wildwood Canyon
74 - Wildwood Cyn Chnl (PD T361)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	0.02	365	34.37166	-118.53925	161' d/s of Cedartown St	34.37242	-118.53968	277' d/s of Cedartown St	Wildwood Canyon
75 - South Fork-SCR (PD's 725, 916, 1041, & 1300)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	18.92	14075	34.37972	-118.5522	255' d/s of Lyons Ave	34.41453	-118.54418	D/s edge of Magic Mtn Parkway	Santa Clara River
76 - Pico Cyn (PD 813)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	4.26	4116	34.38939	-118.552514	Vista Valencia Golf Course	34.38833	-118.54656	South Fork Santa Clara River	Pico Canyon
77 - Newhall Ck Outlet	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	6.29	2092	34.39038	-118.54311	1040' d/s of 15th St	34.39505	-118.54038	Confluence w/SCR-South Fork	Newhall Creek Outlet
78 - Placerita Creek	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	1.16	376	34.39077	-118.54067	D/s edge of San Fernando Rd	34.39169	-118.53634	Confluence w/ Newhall Creek	Placerita Creek
79 - South Fork- SCR (Valencia Blvd Bridge Stabilizer)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	1.17	168	34.41909	-118.54878	D/s edge of Valencia Blvd	34.41916	-118.54933	167' d/s of Valencia Blvd	Santa Clara River
80 - South Fork-SCR (PD's 1947 & 1946)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	8.18	2686	34.42035	-118.55385	3080' u/s of McBean Parkway	34.42399	-118.56141	276' u/s of McBean Pkwy (conf.w/SCR)	Santa Clara River
82 - Santa Clara River Main Chnl (PD 2278)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	4.8	849	34.42547	-118.57382	740' s/e of Ave. Hopkins & Ave. Rockefeller	34.42836	-118.57059	S/o Avenue Hopkins & Avenue Rockefeller	Santa Clara River
86 - Violin cyn M.C.O.	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.3	1006	34.49086	-118.61224	1021' d/s Ridge Route Rd	34.49005	-118.61100	Conf w/ Castaic Creek	Violin Canyon
87 - Castaic- Old Road Drainage (CDR 525.021D) Outlet	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.19	225	34.45146	-118.61599	610' d/s of Hasley Cyn rd, w/o The Old Rd	34.45122	-118.61621	Conf w/ Castaic Creek	Castaic Creek
88 - Hasley Cyn Upper (PD T1496)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.42	1051	34.47089	-118.66325	755' u/s of Sharp Rd	34.46816	-118.66237	330' d/s of Sharp Rd	Hasley Canyon Upper



89 - Hasley Cyn South Fork (PD T1496)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.28	341	34.46612	-118.66224	331' u/s of Romero Cyn Rd along South Fork	34.46543	-118.66150	160' u/s of Romero Cyn Rd	Hasley Canyon South Fork
90 - Hasley Cyn Lower (North Fork PD T1496)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.68	1051	34.46408	-118.66563	1089' u/s of Romero Cyn Rd along Main Line	34.46496	-118.66093	100' d/s of Romero Cyn Rd	Hasley Canyon Lower
91 - San Martinez Chiquito Cyn u/s Keningston Rd	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.31	599	34.44857	-118.67272	530' u/s of San Martinez Rd (w/o Borton St)	34.44764	-118.67108	Keningston Rd	San Martinez Chiquito Canyon
92 - San Martinez Chiquito Cyn (N. Fork) unnamed	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.29	768	34.45066	-118.67356	920' u/s of c/l of San Martinez Rd	34.44872	-118.67297	Conf. w/ San Martinez Chiquito Cyn Chnl	San Martinez Chiquito Canyon
93 - S.M.C.C. b/w Keningston/Val Verde Park	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.56	1072	34.44767	-118.67097	400' d/s of Keningston Rd	34.44693	-118.66757	1054' d/s of Keningston Rd	San Martinez Chiquito Canyon
94 - S.M.C.C. b/w Val Verde Park/ d/s of Madison St	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	1.57	2446	34.44093	-118.66301	1092' u/s of Chiquito Cyn Rd	34.44193	-118.65604	268' d/s of Madison St	San Martinez Chiquito Canyon
95 - Project No 1224	180701020201	MUN, AGR, GWR, REC1, REC2, WARM, WILD.	7.95	1823	34.54303	-117.98298	Ave T	34.54691	-117.98446	Confluence of Little rock Creek	Unnamed Tributary of Little Rock Wash
96 - PD 1591, Calabassas	180701020201	MUN, AGR, GWR, REC1, REC2, WARM, WILD.	0.92	532	34.14607	-118.63025	85' u/s of culvert under Vicasa Drive	34.14675	-118.63043	360' d/s of culvert under Vicasa Drive	Dry Canyon
97 - PD 1982, Castaic Creek	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	2.3	2002	34.45126	-118.61622	300' d/s of The Old Road	34.44625	-118.61822	2300' d/s of The Old Road	Castaic Creek
98 - Walnut Creek - Channel Inlet	180701020201	MUN, IND, PROC, AGR, GWR, REC-1, REC-2, WARM, WILD, RARE	0.14	51	34.07981	-117.86027	30' u/s of perpendicular ext. of Chaparro Rd	34.07983	-117.86020	Perpendicular extension of Chaparro Road	Walnut Creek
99 - Kagel Canyon - Tujung Wash	180701020201	MUN, GWR, REC-1, REC-2, WARM, WILD	1.67	4844	34.29612	-118.3778	Blue Sage Drive	34.28418	-118.37417	City of Los Angeles Boundary	Kagel Canyon
100 - Dry Canyon Calabassas Creek Inlet	180701020201	MUN, GWR, REC-1, REC-2, WARM, WILD	0.05	114	34.1556	-118.6328	1835' u/s of Ave San Luis	34.15534	-118.63259	1775' u/s of Ave San Luis	Dry Canyon
101 - Violin Cyn (PD 2312)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE	5.04	1818	34.50334	-118.62599	2637' u/s of Lake Hughes Road	34.49918	-118.62264	820' u/s of Lake Hughes Road	Violin Canyon
102 - Violin Cyn (PD 2275)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE	1.76	975	34.50809	-118.63997	1072' u/s of d/s face of Sierra Oak Trail RCB	34.50814	-118.63678	94' u/s of d/s face of Sierra Oak Trail RCB	Violin Canyon
103 - Bouquet Cyn Channel (PD 2225)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	7.31	1348	34.42678	-118.54201	173' d/s of centerline of Newhall Ranch Road (Beginning of Grouted Stone Toe)	34.42554	-118.54366	MWD Fee R/W on the Right Bank. Embankment turn at the Santa Clara River on Left Bank	Bouquet Canyon Channel
104 - Castaic Creek (PD 2441 Unit 2)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	38.12	2223	34.44217	-118.61282	669' u/s of Muirfield Lane Centerline	34.44582	-118.61466	478' d/s of Turnberry Lane Centerline	Castaic Creek
105 - San Francisquito Cyn Channel (PD 2456)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	13.8	833	34.44554	-118.55743	417' u/s of Decoro Drive Centerline	34.44328	-118.55789	416' d/s of Decoro Drive Centerline	San Francisquito Canyon Channel
106 - Castic Drain Outlet	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	1.46	751	34.48337	-118.61439	Toe of Grouted Riprap Apron	34.48531	-118.61523	147' D/S of Grouted Rip Rap Apron	Castic Drain Outlet
107 - The Old Road Channel	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.51	1028	34.35549	-118.55286	230' US Driveway into 24136 the Old Road	34.35775	-118.55456	U/S of Concrete Lined Channel	Unnamed Tributary Upstream of South Fork of Santa Clara River
108 - Pico Canyon ( PD 2528)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	1.38	3100	34.38166	-118.58176	Stevenson Ranch DB	34.38624	-118.5731	The Old Road	Pico Canyon
109 - Santa Clara River - S. Bank W. of Mcbean Pkwy (MTD1510)	180701020201	MUN, AGR, GWR, FRSH, REC1, REC2, WARM, WILD, WET	5.34	372	34.42412	-118.5643	371' U/S Mcbean Pkwy centerline	34.42408	-118.56308	PD 1946	Santa Clara River
110 - Hasley Canyon Channel(PD2262)	180701020201	MUN, AGR, GWR, FRSH, REC1, REC2, WARM, WILD, WET	7.79	3737	34.45157	-118.63377	PD 2508	34.4455	-118.62423	Castic Creek	Hasley Canyon Channel

Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
1	Bell Creek- MTD 963 M.C.I.	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach clearing work will involve hand cutting a 15-foot wide "tunnel" through the vegetation to the right-of-way boundary to train flows to the center of the reach inlet.	No change.  The hydrological studies identify that this reach as able to contain more vegetation. The Biological Technical Report (BTR) for the Feasibility Study (FS) recommends allowing the willow canopy to spread outside the channel on the left bank and to allow native shrubs such as coyote brush and mule fat to become established in this area. Furthermore, the BTR recommends that the existing chain-link fence be relocated to protect the native vegetation in this area (approximately 0.06 acre).
2	Dry Canyon (Calabasas) PD T1845	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach clearing work will involve maintaining and clearing a 20-foot-wide path along the centerline of the reach. Trees within and on the channel banks will not be allowed to mature. Hand clearing will be performed annually to keep the center portion of the reach clear and vegetation will be removed from the openings in the crib walls to the extent necessary to prevent structural damage to the crib walls.	The new language ("trees within and on the channel banks will not be allowed to mature") is required because the banks are vertical crib walls which large trees damage. Most, if not all of the trees on the crib walls are ornamental species.  Hydrological studies identified this reach as hydraulically deficient and requiring an additional 0.39 acre of vegetation to be removed.
3	Santa Susana Creek M.C.I.	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Hand cutting and clearing vegetation and trees will be done in an 18-foot-wide area by 75-foot long area at the inlet to the reach. Oak trees will be left in place.	No change.  The hydrological studies identified this reach as hydraulically sufficient, but without the capacity for any additional vegetation. The existing maintenance plan has been fully implemented and there are no outstanding issues.
4	Browns Creek	Approved	Non-sensitive								N/A	CAGN	Not likely to destroy or adversely modify; the upper 200 feet of this reach is in CH, but is not cleared and contains riparian woodlands habitats lacking the constituent elements necessary for suitable CAGN habitat	N/A	Mechanical equipment will be used to keep clear all vegetation from bank to bank within the rail and timber revetment.	No change.  The hydrological studies identified this reach as hydraulically sufficient, but without the capacity for any additional vegetation. The maintenance plan has been fully implemented and there are no outstanding issues.
5	Caballero Creek M.C.I. (West Fork)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The vegetation clearing work will involve hand clearing a 20-foot-wide path along the centerline of the reach.	No change.  The hydrological studies identified these two reaches as hydraulically sufficient, but without the capacity for any additional vegetation. The maintenance plan has been fully implemented and there are no outstanding issues.
6	Caballero Creek M.C.I. (East Fork)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The vegetation clearing work will involve hand clearing a 20-foot-wide path along the centerline of the reach.	No change.  The hydrological studies identified these two reaches as hydraulically sufficient, but without the capacity for any additional vegetation. The maintenance plan has been fully implemented and there are no outstanding issues.
7	Bull Creek M.C.O.	Pending	Sensitive					Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	NA	N/A	2007 - least Bell's vireo (negative) and southwestern willow flycatcher (negative)	The work will involve hand clearing of vegetation and debris from the invert to ensure unimpeded flow within the reach. This work will be done only in the first 275 feet (between the outlet and the pedestrian bridge) of the reach downstream from the concrete reach outlet to ensure that flow does not back up into the concrete reach upstream of Victory Boulevard.	The overall character of this reach has changed due to the USACE restoration project in Balboa Park that covered the earthen banks of this reach with riprap. Note that the area and length of the work are has been reduced to 275 feet due to the installation of the restoration project. The vegetation on the invert was not allowed to remain prior to the restoration project, so the updated maintenance activities do not represent a change.  This reach has nuisance flows on a continuous basis (making it a "wet reach"), and additional vegetation on the bank may interfere with mosquito abatement activities of the Los Angeles County Vector Control District. Note that the ACOE USACE Bull Creek Channel Ecosystem Restoration Project initiated in 2008 removed the 1.45 acres of "protected" vegetation in this reach.  Focused surveys not conducted since 2007 as Bull Creek including the Reach 7 segment became a riparian restoration site managed by the Army Corps of Engineers. The LACFCD also suspended clearing activities at that time. The pre-clearing habitat assessments conducted in 2014 indicated potentially suitable habitat for the LBV is once again present at Reach 7 and a resumption of these focused surveys is warranted.  The hydrological studies identified this reach as able to contain more vegetation. The BTR recommended allowing willows to grow at the toe of both levees.



Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
8	Hayvenhurst Drain - Project 470 Outlet	Approved	Non-sensitive								N/A	N/A	N/A	N/A	All vegetation in this reach will be cleared annually using mechanical or manual methods.	No change.  The hydrological studies identified this reach as hydraulically sufficient, but without the capacity for any additional vegetation. The maintenance plan has been fully implemented and there are no outstanding issues. Since the dry season in southern California overlaps the breeding season for birds, the phrase "cleared annually" is preferred.
9	Project 106 Outlet	Approved	Non-sensitive								N/A	NA	N/A	N/A	Brush and tree trimming will be performed where needed to keep growth at the levels that were left in November 1997.  Brush and tree trimming will be performed annually to keep the invert free of vegetation.	The hydrological studies identified this reach as able to contain more native vegetation. The BTR recommended replacing the non-native ash trees with native trees on both banks of this channel reach. Based on the physical parameters of this channel reach and its location, the BTR recommended that native sycamore trees be planted on both banks instead of willows. This recommendation would result in a net gain of native vegetation in this channel reach (approx. 0.12 acre).
10	Project No. 469	Approved	Non-sensitive								N/A	NA	N/A	N/A	Vegetation will be cleared annually to the extent necessary to prevent restricting flows in the storm drain upstream of Victory Boulevard. This will require mechanical clearing of vegetation in the reach for approximately 4,000 feet downstream of Victory Boulevard. Reach work will also include mechanical grading to train flows to centerline of reach.	The vegetation in this reach consists almost entirely of non-native ruderal (weedy) vegetation. The maintenance plan has not been fully implemented for this reach because of a conflict between the maintenance plan and the permits. Issuance of the 1997 CDFW permit coincided with a toxic spill in this reach and resulted in the incorrect conclusion that "no work was done in 1997." Since that time, the monitoring biologist has worked with LACFCO personnel to implement partial clearing strategies designed to meet flood-control concerns and to retain as much vegetation as possible. A rotating pattern of clearing was implemented that allowed ruderal vegetation to remain on one bank each year. As a result, the ruderal vegetation cleared each year was two years old. After several years, however, the monitoring biologist found that the bank of mowed ruderal vegetation responded favorably to the mowing and provided more "biological value" than the older (two year old) ruderal vegetation. Therefore, the monitoring biologist discontinued the rotating clearing pattern at this reach and full clearing was resumed.  The hydrological studies identified this reach as hydraulically sufficient, but without the capacity for any additional vegetation. The BTR identified less than 0.06 acre of native cattail wetland in this channel reach.
12	Haines Canyon M.C.O.	Pending	Sensitive			Potential for Santa Ana sucker (FT)		Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A (near SAS but not within)	N/A	2013 - Santa Ana sucker (negative), least Bell's vireo (negative), and southwestern willow flycatcher (negative)	Hand clearing of all vegetation will be used to keep the reach clear of vegetation, except for the vegetation that was allowed to remain in 1997. This process will be repeated annually to prevent growth from restricting flows at the outlet to the reach.	No change.  Hydrological studies identified this reach as hydraulically deficient and requiring an additional 0.14 acre of vegetation to be removed. The additional vegetation to be removed has not been identified, but most of the additional vegetation within this reach would be native and require mitigation.
13	Project No. 5215 Unit 1	Approved	Non-sensitive			2013 USACE lists potential for Santa Ana sucker (FT)					N/A	N/A	N/A	N/A	The reach clearing work involves mechanically clearing the earthen outlet reach with a backhoe and hand cutting all vegetation from the first 250 feet of the reach bottom (12-foot wide) downstream at the end of Christie Avenue. Bank vegetation and the remaining 300 feet of the reach will not be cleared.  The channel clearing work involves mechanical (backhoe) and hand clearing of a 12-foot wide path throughout its length (537 ft).	Identified as a potential SAS reach during initial informal consultation with the USFWS, but surveys by Dr. Baskin and Dr. Haglund determined that this reach has no potentially suitable habitat for SAS.  Hydrological studies identified this reach as hydraulically deficient and requiring an additional 0.29 acre of vegetation to be removed. The additional vegetation to be removed has not been identified, but most of the additional vegetation within this reach would be native and require mitigation.
14	May Channel (M.C.O. into Pacoima Canyon)	Pending	Sensitive					Known occupation by least Bell's vireo (FE/SE); potential for southwestern willow flycatcher (FE/SE)	Known occupation by least Bell's vireo (FE/SE); potential for southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013- least Bell's vireo (positive) and southwestern willow flycatcher (negative)	Hand clearing work will be performed to keep the reach invert clear of all vegetation.	This updated language reflects the actual maintenance activities that have been conducted at this reach, which have always been confined to the invert. The riparian vegetation that was allowed to remain on the banks had been the "protected" vegetation in this reach. The surveys then determined that this vegetation is occupied by the least Bell's vireo.  Hydrological studies identified this reach as hydraulically deficient and requiring an additional 0.44 acre of vegetation to be removed.
15	Pacoima Wash	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Mechanical equipment and hand cutting will be used to keep the reach cleared of all vegetation.	No change.  The hydrological studies identified this reach as hydraulically sufficient, but without the capacity for any additional vegetation. The maintenance plan has been fully implemented and there are no outstanding issues. The 0.01 acre of vegetation allowed to remain in the channel was upstream of the pedestrian bridge. This 0.01 acre consisted of cattails that was taken over by invasive species (e.g., ornamental trees and Washingtonia palms) and was relocated, at the direction of the monitoring biologist, to the downstream terminus of the channel reach.
16	Verdugo Wash - Las Barras Canyon (channel inlet)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Hand clearing work will be used to keep the reach clear of all vegetation.	No change.  The hydrological studies identified this reach as hydraulically sufficient, but without the capacity for any additional vegetation. The maintenance plan has been fully implemented and there are no outstanding issues.

Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
18	Engleheard Channel	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Hand clearing work will only involve dead vegetation and tree branches from the area between the pipe and wire revetments. All vegetation will be cleared by manual methods during the dry season.  All vegetation will be cleared annually by manual methods.	The hydrological studies identified this reach as hydraulically deficient and additional vegetation needs to be removed. No vegetation, however, within the LACFCD's right-of-way is allowed to remain.
19	Pickens Canyon	Approved	Non-sensitive					2013 USACE NWP lists potential for LBV (FE/SE)	2013 USACE NWP lists potential for LBV (FE/SE)		N/A	N/A	N/A	N/A	Manual removal of all vegetation adjacent to or growing out of the crib structures will be performed.	No change.  Identified as a potential LBV reach during initial informal consultation with the USFWS, but surveys by BonTerra biologist Brian E. Daniels determined no potential habitat for this species existed at the reach and focused LBV surveys were not warranted.  The hydrological studies identified this reach as able to contain more native vegetation. The BTR recommended allowing native shrubs to grow on the invert of the reach from the upstream end to the pedestrian bridge at Mountain Avenue. Furthermore, the BTR recommended protecting the native shrubs by removing non-natives species. No native trees would be allowed to grow on the invert. The maintenance plan has been fully implemented and there are no outstanding issues.
20	Webber Channel (Storm @ Private Bridge)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Mechanical equipment will be used to keep the reach clear of all vegetation.  Mechanical equipment will be used to keep the channel clear of all vegetation except for the native species on the right bank (looking downstream). Under the guidance of the monitoring biologist, native shrubs will be allowed to grow on the right bank and non-native species will be selectively removed.	Hydrological studies identified this reach as able to contain more native vegetation. The new maintenance plan allows for additional native vegetation to grow on the right bank (looking downstream).
21	Webber Channel (Main Channel Inlet d/s Bridge)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Hand clearing work will be performed to keep the reach clear of all vegetation.  Mechanical equipment will be used to keep the channel clear of all vegetation except for the native species on the left bank (looking downstream). Under the guidance of the monitoring biologist, native shrubs will be allowed to grow on the left bank and non-native species will be selectively removed.	Identified as a potential LBV reach; results of focused surveys have been negative to date.  The hydrological studies identified this reach as able to contain more native vegetation. The BTR recommended allowing native herbaceous and shrub species to grow on the left bank looking downstream and to selectively protect the native species by removing non-native species. No native trees would be allowed to grown on the right bank. The maintenance plan has been fully implemented and there are no outstanding issues.
22	Halls Canyon	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Manual removal of all vegetation adjacent to or growing out of the crib structures will be performed.	No change.  The hydrological studies identified this reach as able to contain more native vegetation. The BTR recommended allowing native shrubs (but not trees) to grow on the invert of the entire reach except for on the crib structures. The native species would be protected by selective removal of non-native species. The maintenance plan has been fully implemented and there are no outstanding issues.
24	Compton Creek	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Removal of all vegetation from reach and/or restore hydraulic conveyance capacity of channel by driving tracked equipment over vegetated areas.	No change.  Years of scraping the vegetation has resulted in small amounts of the soil on the invert being removed. As this minor removal happened year after year, it resulted in the invert being lower than intended and beginning to expose the toe of the grouted rip rap slopes. To compensate for this, the proposed maintenance activity will leave the "tracked" vegetation in place (which will eventually break down naturally and turn into soil). The slight roughness of the vegetation and root systems allow some sediment flowing downstream to be trapped. All invasive plants are removed before tracking to reduce them from spreading.  The hydrological studies identified this reach as hydraulically sufficient, but without the capacity for any additional vegetation. The maintenance plan has been fully implemented and there are no outstanding issues.
25	(a) Los Angeles River - Willow to PCH (East/Left Bank)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Using mechanical equipment, all exotic vegetation will be removed throughout this reach. Riparian vegetation will be kept in place at the level that was left in November 1997.	No change.  Reach has been split into (a) and (b) components.
25	(b) Los Angeles River - Willow to PCH (West/Right Bank)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Using mechanical equipment, all exotic vegetation will be removed throughout this reach. Riparian vegetation will be kept in place at the level that was left in November 1997.	No change.  Reach has been split into (a) and (b) components.  Hydrological studies identified this reach as able to contain more native vegetation. The new maintenance plan allows for additional native vegetation to grow on the left bank (looking downstream).
26	Project 740	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach will be cleared using hand clearing only. Hand labor will be used to trim the vegetation which has been allowed to remain since 1997. New growth will not be allowed to become established and will be removed annually by manual methods.	No change.



Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
27	Wilmington Drain	Pending	Sensitive					Known territory for least Bell's vireo (FE/SE); potential for southwestern willow flycatcher (FE/SE)	Known territory for least Bell's vireo (FE/SE); potential for southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013- least Bell's vireo (positive) and southwestern willow flycatcher (negative)	All vegetation from the reach in the area upstream of Lomita Boulevard will be kept cleared. Between Lomita Boulevard and Pacific Coast Highway, vegetation will be kept clear from the two channels on either side of the island, but vegetation on the island and on the reach banks will remain. Clearing work in the reach invert will be done with mechanical equipment; vegetation on the banks will be trimmed with hand tools so that it does not impede flow on the invert.	Construction for the City of Los Angeles's Wilmington Drain Multi-Use Project (Proposition O Clean Water Bond) began in spring 2013. Construction included the removal of sediment and non-native vegetation throughout the length of this reach. The channel reach provides potential habitat for the least Bell's vireo and southwestern willow flycatcher and surveys have determined that it is occupied by the vireo. The City of Los Angeles obtained the necessary "take" permits under FESA and CESA. A solitary male vireo was present during the 2013 breeding season. Construction activities were allowed to continue under the terms and conditions of the permits. Prior to this year, the maintenance plan had been fully implemented and the vireo was protected by terms and conditions under permits held by the LACFCD.
28	Triunfo Creek (PD T2200)	Pending	Sensitive					Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)	Potential for western pond turtle	May affect not likely to adversely affect	N/A	N/A	2013- least Bell's vireo (negative) and southwestern willow flycatcher (negative)	The reach clearing work will involve removing all vegetation from the ungrouted rock levee and hand clearing of all vegetation along the levee from the base to an outward distance of 20 feet.	No change.  Previous CDFW comments have indicated a concern for the western pond turtle ( <i>Emys marmorata</i> ) at this reach. The monitoring biologist has not yet detected any western pond turtles during annual pre-clearing visits to this reach; however, these pre-clearing visits are not performed in conjunction with the actual clearing activities.  Identified as a potential LBV reach; results of focused surveys have been negative to date.  The maintenance plan has been fully implemented.
29	Las Virgenes Creek (PD T1684) M.C.I.	Approved	Non-sensitive							Potential for western pond turtle	N/A	N/A (near SAS but not within)	N/A	N/A	The reach clearing work will involve hand clearing a 30-foot-wide strip along the watercourse low flow reach from the debris posts to the right-of-way boundary.	No change.  Previous CDFW comments have indicated a concern for the western pond turtle at this reach. The monitoring biologist has not yet detected any western pond turtles during annual pre-clearing visits to this reach; however, these pre-clearing visits are not performed in conjunction with the actual clearing activities. In order to comply with the HACCP plan developed by the LACFCD for the WDR and adopted on February 4, 2010, by the Los Angeles RWQCB, pre-clearing aquatic invasive species surveys will be conducted in the reaches of the Malibu Creek Watershed.  The maintenance plan has been fully implemented.
32	Stokes Canyon Channel (PD T043)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The work will involve hand clearing of all vegetation between the pipe and wire. Embankment vegetation outside the pipe and wire channel will be left in place.	No change.  In order to comply with the HACCP plan developed by the LACFCD for the WDR and adopted on February 4, 2010, by the Los Angeles RWQCB, pre-clearing aquatic invasive species surveys will be conducted in the reaches of the Malibu Creek Watershed.  The maintenance plan has been fully implemented.
33	Medea Creek (PD T1378 U.2)	Approved	Non-sensitive							Potential for western pond turtle	N/A	N/A	N/A	N/A	The work will involve mechanical or manual clearing of all vegetation in the concrete-lined part of the reach.	The maintenance plan has not been implemented in this reach since 1999 due to sensitive resources and expected mitigation requirements. The western pond turtle potentially occurs at this reach. The cattails in this reach were cleared in 1998 and were included in the overall mitigation under the agreement signed in 1997. As a result, the cattails and other vegetation in the concrete-lined part of this reach can be cleared without any additional mitigation. However, the willow dominated riparian vegetation upstream has not been cleared post-1997.  A one-time vegetation clearing and repair project is in the process of approval under CDFW Streambed Alteration Agreement Number 1600-2012-0193-R5. A special condition of this agreement includes a qualified biologist conducting trapping surveys for the western pond turtle, a California special species of concern potentially present in the reach, prior to the commencement of maintenance activities in the reach. Blocking nets shall be utilized upstream to prevent wildlife from entering the project site.
34	Medea Creek (PD T1005) Main Channel Outlet (Chumasa Park)	Approved	Non-sensitive					2013 USACE NWP lists potential for LBV (FE/SE)	2013 USACE NWP lists potential for LBV (FE/SE)		N/A	N/A	N/A	N/A	Hand clearing work will be performed to keep the reach clear of all vegetation.	No change.  Identified as a potential LBV reach during initial informal consultation with the USFWS. Focused surveys conducted with negative results in 2002 and 2003. Private development outside the reach eliminated upland habitats necessary at this location to provide potential habitat for LBV. BonTerra biologist Brian E. Daniels therefore determined potential habitat for LBV no longer existed at this reach and further focused LBV surveys were not warranted.  In order to comply with the HACCP plan developed by the LACFCD for the WDR and adopted on February 4, 2010, by the Los Angeles RWQCB, pre-clearing aquatic invasive species surveys will be conducted in the reaches of the Malibu Creek Watershed.  Maintenance plan has been fully implemented.
35	Medea Creek M.C.I. - Under Route 101	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Hand clearing will be performed to keep the reach clear of all vegetation.	No change.  In order to comply with the HACCP plan developed by the LACFCD for the WDR and adopted on February 4, 2010, by the Los Angeles RWQCB, pre-clearing aquatic invasive species surveys will be conducted in the reaches of the Malibu Creek Watershed.  Maintenance plan has been fully implemented.

Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
36	Cheseboro Main Channel Inlet	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The clearing work will involve clearing dead vegetation and trimming riparian vegetation that would obstruct flows. Tree canopy will remain, but with a clear "tunnel" path to convey flows. New vegetation will be cleared annually to prevent blockage of the inlet.	Language changed to reflect current on-site conditions.  In order to comply with the HACCP plan developed by the LACFCO for the WDR and adopted on February 4, 2010, by the Los Angeles RWQCB, pre-clearing aquatic invasive species surveys will be conducted in the reaches of the Malibu Creek Watershed.  Maintenance plan has been fully implemented.
37	Medea Creek/Cheseboro Creek Outlet	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Hand clearing work will be performed to keep the reach clear of all vegetation.	No change.  In order to comply with the HACCP plan developed by the LACFCO for the WDR and adopted on February 4, 2010, by the Los Angeles RWQCB, pre-clearing aquatic invasive species surveys will be conducted in the reaches of the Malibu Creek Watershed.
38	Lindero M.C.O.	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Hand clearing work will be performed to keep the reach clear of all vegetation.	No change.  In order to comply with the HACCP plan developed by the LACFCO for the WDR and adopted on February 4, 2010, by the Los Angeles RWQCB, pre-clearing aquatic invasive species surveys will be conducted in the reaches of the Malibu Creek Watershed.
39	Beatty Channel Outlet @ SGR 25+99.00	Pending	Sensitive			Potential for Santa Ana sucker (FT)		Known territory for least Bell's vireo (FE/SE); potential for southwestern willow flycatcher (FE/SE)	Known territory for least Bell's vireo (FE/SE); potential for southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	SWFL	Not likely to destroy or adversely modify	2013- Santa Ana sucker (negative), least Bell's vireo (positive) and southwestern willow flycatcher (negative)	Mechanical equipment will be used to keep the reach outlet clear of all vegetation.	No change.  Maintenance plan has been fully implemented. This reach provides potential habitat for the Santa Ana sucker, but it has not been found in annual pre-clearing surveys conducted since 2002. This reach also provides potential habitat for the least Bell's vireo and southwestern willow flycatcher and the surveys have determined that it is occupied by the vireo.
40	(a) San Gabriel River – Santa Fe Dam to I-10 Freeway	Approved	Non-sensitive								N/A	N/A	N/A	N/A	From Santa Fe Dam to the San Bernardino Freeway (Reach 40a), most of the vegetation consists of mule fat interspersed with various exotic species. In this reach, 10-foot-wide strips were hand cleared along the toe of each levee to provide room to maintain and inspect the levee. The 10-foot-wide strips along the levee toes will be kept clear of all vegetation annually using a combination of mechanical equipment and hand labor. In the center of the reach, the mule fat was mowed using various types of mowing equipment. The root structures of the plants were not disturbed. Two strips of vegetation, 50 and 75 feet in width, were allowed to remain along each side of the reach invert. In subsequent years, mowing will be accomplished in alternate cycles between the center portion of the reach and the two strips of vegetation. Grading to reestablish baseline conditions will be performed on an as-needed basis to maintain access ramps and low-flow reaches from side outlets.	No change.  Reach is split into (a) and (b) components.  40a does not contain potential habitat for LBV.  The maintenance plan has been fully implemented.
40	(b) San Gabriel River – I-10 Freeway to Thienes Avenue	Pending	Sensitive					Known territory for least Bell's vireo (FE/SE); potential for southwestern willow flycatcher (FE/SE)	Known territory for least Bell's vireo (FE/SE); potential for southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013- least Bell's vireo (positive) and southwestern willow flycatcher (negative)	From San Bernardino Freeway to Thienes Avenue (Reach 40b), this portion of the reach will be kept clear of all vegetation using mechanical equipment and hand labor, except for the riparian vegetation allowed to remain in place in November 1997. This process will be repeated annually and will be monitored by a biologist familiar with least Bell's vireo habitat requirements. Grading to reestablish baseline conditions will be performed on an as-needed basis to maintain access ramps and low-flow reaches from side outlets.	No change.  Reach is split into (a) and (b) components.  The maintenance plan has been fully implemented.  The riparian habitats downstream of Valley Boulevard (Reach 40b) have been occupied by the least Bell's vireo since the 2002 focused bird surveys were completed. The vireo is protected by terms and conditions contained in the permits held by the LACFCO that require flagging of "seasonally occupied habitat" to protect it and that a qualified biological monitor be present during clearing activities.
41	Walnut Creek	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Mechanical clearing of vegetation will be used to keep the channel clear of all vegetation, except for the riparian habitat allowed to remain in November 1997. Hand work will be necessary to remove some of the vegetation growing in the rock riprap along the reach sides and on the riprap at the downstream end of the concrete reach. Some trimming of the riparian vegetation may be necessary to reduce the impact on flow in the reach as future growth occurs.	No change.  The maintenance plan has been fully implemented.  Some of the riparian vegetation allowed to remain in place in November 1997 has been lost due to natural causes. Due to drought conditions, several willow trees were stressed and became susceptible to a wood borer infestation.
42	San Jose Creek d/s 1000' from end of concrete channel	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The vegetation will be cleared using mechanical equipment, except for riparian vegetation allowed to remain in November 1997. Trimming of the riparian vegetation may be necessary in the future as growth occurs. This process will be repeated annually.	No change.  The maintenance plan has been fully implemented.  Some of the riparian vegetation allowed to remain in place in November 1997 has been lost due to natural causes. Willow trees were lost due to high storm flows during the 2004-2005 rainy season. The monitoring biologist in conjunction with LACFCO personnel identified young willow trees within the same "line" for protection. However, the sediment islands had been scoured and these young willow trees did not survive subsequent rainy seasons.



Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
43	(a) San Gabriel River-Upper	Pending	Sensitive					Known territory for least Bell's vireo (FE/SE); potential for southwestern willow flycatcher (FE/SE)	Known territory for least Bell's vireo (FE/SE), potential for southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013- least Bell's vireo (positive) and southwestern willow flycatcher (negative)	Mechanical equipment will be used to keep the reach clear of all vegetation, except riparian vegetation allowed to remain in November 1997. Trimming of the riparian vegetation may be necessary in the future as growth occurs.  The vegetation that is seasonally occupied by the least Bell's vireo will be flagged and a qualified biological monitor will be present during clearing activities.	No change.  Reach has been split into (a) and (b) components.  Maintenance plan has been fully implemented.  The riparian habitat in this reach has been occupied by the least Bell's vireo. It is a migratory species that is not present during the fall/winter when the LACFCO's annual clearing activities occur. The vireo is protected by terms and conditions contained in the permits held by the LACFCO that require flagging of "seasonally occupied habitat" to protect it and that a qualified biological monitor be present during clearing activities.
43	(b) San Gabriel River-Lower	Pending	Sensitive					Known territory for least Bell's vireo (FE/SE) and potential for southwestern willow flycatcher (FE/SE)	Known territory for least Bell's vireo (FE/SE) and potential for southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013- least Bell's vireo (negative) and southwestern willow flycatcher (negative)	Mechanical equipment will be used to keep the reach clear of all vegetation, except riparian vegetation allowed to remain in November 1997. Trimming of the riparian vegetation may be necessary in the future as growth occurs.  The vegetation that is seasonally occupied by the least Bell's vireo will be flagged and a qualified biological monitor will be present during clearing activities.	No change.  Reach has been split into (a) and (b) components.  Maintenance plan has been fully implemented.  The riparian habitat in this reach has been occupied by the least Bell's vireo. It is a migratory species that is not present during the fall/winter when the LACFCO's annual clearing activities occur. The vireo is protected by terms and conditions contained in the permits held by the LACFCO that require flagging of "seasonally occupied habitat" to protect it and that a qualified biological monitor be present during clearing activities.
44	San Gabriel River - Rubber Dams	Approved	Non-sensitive					2013 USACE NWP lists potential for LBV (FE/SE)	2013 USACE NWP lists potential for LBV (FE/SE)		N/A	N/A	N/A	N/A	Mechanical equipment will be used to keep the reach clear of all vegetation, except for the riparian vegetation allowed to remain in November 1997. Trimming of the riparian vegetation may be necessary in the future as growth occurs.	No change.  Identified as a potential LBV reach during initial informal consultation with the USFWS, but surveys by BonTerra biologist Brian E. Daniels have found a lack of suitable nesting habitat (except for large trees, all vegetation is mowed which removes the dense layer of understory shrubs necessary for nesting LBV); it was therefore determined that focused LBV surveys were not warranted at this reach.
45	Sand Canyon (PD T1307) Main Channel Inlet	Approved	Non-sensitive					2013 USACE NWP lists potential habitat for LBV (FE/SE)	2013 USACE NWP lists potential habitat for LBV (FE/SE)		N/A	N/A	N/A	N/A	Mechanical clearing will be performed to keep reach clear of all vegetation.	No change.  Identified as a potential LBV reach during initial informal consultation with the USFWS, but surveys by BonTerra biologist Brian E. Daniels determined no potential habitat for this species existed at the reach and focused LBV surveys were not warranted.
46	Sand Canyon (PD T1307) Main Channel Outlet	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Mechanical clearing will be performed to keep reach clear of all vegetation.	No change.
47	Santa Clara River Main Channel (PD T1733 Unit 1)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013- unarmored threespine stickleback (negative)	The reach clearing work will involve mechanical removal of all vegetation within 20 feet from the levee slope lining along the entire reach.	No change.
48	Mint Canyon Channel between Sierra Highway & Adon Avenue	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Mechanical and hand clearing work will be performed to keep reach clear of all vegetation.	No change.
49	Mint Canyon Channel between Adon Avenue & Scherzinger Lane	Approved	Non-sensitive								N/A	N/A	N/A	N/A	All vegetation in this reach will be cleared annually using mechanical and manual methods.	No change.  Maintenance plan has been fully implemented and there are no outstanding issues.
50	Mint Canyon Channel between Solamint Road & Soledad Canyon Road	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Mechanical and hand clearing work will be performed to keep reach clear of all vegetation.	No change.
51	Mint Canyon M.C.O. (PD 1894)/Santa Clara River--Main Channel	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013- unarmored threespine stickleback (negative)	The reach clearing work will involve mechanical removal of all vegetation within 20 feet from the levee slope lining along the entire reach.	No change.
52	Sierra Highway Road Drainage (CDR 523.203)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Mechanical and hand clearing work will be performed to keep reach clear of all vegetation.	No change.
53	Santa Clara River Non-Main Channel (PD 832) Main Channel Inlet	Approved	Non-sensitive			2013 USACE NWP lists potential for UTS, as well as the CDFW (FE/SE)	2013 USACE NWP lists potential for UTS, as well as the CDFW (FE/SE)				N/A	N/A	N/A	N/A	Mechanical and hand clearing work will be performed to keep reach clear of all vegetation.	No change.  Identified as a potential UTS reach during initial informal consultation with the USFWS, but surveys by Dr. Baskin and Dr. Haglund determined that this reach has no potentially suitable habitat for UTS.
54	Santa Clara River Non-Main Channel (PD 832) Main Channel Outlet	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013- unarmored threespine stickleback (negative)	Mechanical and hand clearing work will be performed to keep reach clear of all vegetation.	No change.
55	Santa Clara River Main Channel - Right Bank Reach (PD's 910, 832, 1758, & 1562 Unit 2)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013- unarmored threespine stickleback (negative)	The reach clearing work will involve mechanical removal of all vegetation within 20 feet from the levee slope lining along the entire reach.	No change.  Reaches 60, 59, and 58 are no longer combined with 55.

Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
56	Santa Clara River Main Channel – Left Bank Reach (PD 832)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (negative)	The reach clearing work will involve mechanical removal of all vegetation within 20 feet from the levee slope lining along the entire reach.	No change.
57	Whites Canyon (PD T704 M.C.I.)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Mechanical or hand clearing work will be performed to keep reach clear of all vegetation.	No change.
58	Santa Clara River Main Channel – Right Bank Reach (PD 374)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (negative)	The reach clearing work will involve mechanical removal of all vegetation within 20 feet from the levee slope lining along the entire reach.	No change. Reaches 60, 59, and 58 are no longer combined with 55. Reach 59 is now combined with Reach 58.
60	Santa Clara River Main Channel – Right Bank Reach (PD's 1339 and 374)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (negative)	The reach clearing work will involve mechanical removal of all vegetation within 20 feet from the levee slope lining along the entire reach.	No change. Reaches 60, 59, and 58 are no longer combined with 55.
61	Santa Clara River Main Channel (PD 659 & 754)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (negative)	The reach clearing work will involve mechanical removal of all vegetation within 20 feet from the levee slope lining along the entire reach.	No change. Reach 62 is now combined with 61.
63	Oak Ave Road Drainage (CDR 523.081)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (negative)	The reach clearing work will involve mechanized removal of all vegetation bank to bank.	No change.
64	Soledad Canyon Road Drain (CDR 523.071 D outlet)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (negative)	The reach clearing work will involve mechanical (rubber-tire equipment) and manual methods to clear an 8-foot-wide path along the centerline of the channel.	The use of rubber-tire equipment will be implemented. Maintenance activities revised to allow for additional removal techniques. Maintenance plan has been fully implemented.
66	Santa Clara River Main Channel (PD 1538)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (negative)	The reach clearing work will involve mechanical removal of all vegetation within 20 feet from the levee slope lining along the entire reach.	No change.
67	Bouquet Canyon Upper (PD's 1201, 802, 700B, & 625)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (negative)	The reach clearing work will involve an alternating pattern of mechanical clearing of vegetation. Only one-half of the reach will be cleared each year. The other one-half of the reach will be cleared the following year. Reach clearing work will also include mechanical grading of sediment to train flows to the centerline of the reach. Outlet structures will be graded to drain each year.  The preferred methodology would be to clear the vegetation on the left bank on even years and the right bank on odd years. If water is present on the scheduled bank, however, the work will proceed with the opposite bank.	Reach 67 and 69 are no longer combined. Additional scheduling language added.  The 2002 focused surveys did not find the unarmored threespine stickleback in this reach; however, it was determined that this reach could support the stickleback in subsequent years. Therefore, if suitable habitat is present (i.e. water), stickleback surveys are required prior to clearing activities. The stickleback was found during pre-clearing surveys conducted in 2005, 2006, and 2007, and no clearing activities occurred.  After the October 2007 Buckweed Wildfire in the Bouquet Canyon Watershed, the LACFCD applied for a Regional General Permit (RGP) 63 permit with the USACE to authorize emergency vegetation and sediment clearing in the Bouquet Canyon flood-control reaches. The USACE issued the RGP 63 on January 22, 2008, following consultations with the U.S. Fish and Wildlife Service (USFWS), the CDFW, and the RWQCB. The pre-clearing survey conducted in January 2008 found just one stickleback. This fish was left in the reach during clearing activities, but protected with a buffer of at least 10 feet around the pool that contained it. These survey results show that without annual clearing activities, the habitat in the flood-control reach becomes less suitable for the stickleback. In particular, the annual clearing activities maintain a well-defined low flow reach that provides suitable habitat for the stickleback.  Since 2008, the LACFCD has performed annual clearing activities that use a rotational pattern where half the reach is cleared one year and the other half is cleared the following year. This clearing pattern will consequently clear vegetation that is two years old. This clearing pattern will produce a dense growth of riparian herb vegetation and not allow the tall growth that can become a liability under high flow conditions. This maintenance pattern appears to be optimal for stickleback in this man-made flood-control reach.



Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
69	Bouquet Canyon Middle (PD's 722, 773, 1365, 1065, & 451)	Pending	Sensitive			Known occurrence for unarmored threespine stickleback (FE/SE)	Known occurrence for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (positive)	The reach clearing work will involve an alternating pattern of mechanical clearing of vegetation. Only one-half of the reach will be cleared each year. The other one-half of the reach will be cleared the following year. Reach clearing work will also include mechanical grading of sediment to train flows to the centerline of the reach. Outlet structures will be graded to drain each year.  The preferred methodology would be to clear the vegetation on the left bank on even years and the right bank on odd years. If water is present on the scheduled bank, however, the work will proceed with the opposite bank.	Reach 67 and 69 are no longer combined.  Additional scheduling language added.  The 2002 focused surveys did not find the unarmored threespine stickleback in this channel reach; however, it was determined that this channel reach could support the stickleback in subsequent years. Therefore, if suitable habitat is present (i.e. water), stickleback surveys are required prior to clearing activities. The stickleback was found during pre-clearing surveys conducted in 2005, 2006, and 2007, and no clearing activities occurred.  After the October 2007 Buckweed Wildfire in the Bouquet Canyon Watershed, the LACFCD applied for a Regional General Permit (RGP) 63 permit with the USACE to authorize emergency vegetation and sediment clearing in the Bouquet Canyon flood-control reaches. The USACE issued the RGP 63 on January 22, 2008, following consultations with the USFWS, CDFW, and the RWQCB. The pre-clearing survey conducted in January 2008 found just one stickleback. This fish was left in reach 67 during clearing activities, but protected with a buffer of at least 10 feet around the pool that contained it. These survey results show that without annual clearing activities, the habitat in the flood-control reach becomes less suitable for the stickleback. In particular, the annual clearing activities maintain a well-defined low flow reach that provides suitable habitat for the stickleback.  Since 2008, the LACFCD has performed annual clearing activities that use a rotational pattern where half the reach is cleared one year and the other half is cleared the following year. This clearing pattern will consequently clear vegetation that is two years old. This clearing pattern will produce a dense growth of riparian herb vegetation and not allow the tall growth that can become a liability under high flow conditions. This maintenance pattern appears to be optimal for stickleback in this man-made flood-control reach.
70	Bouquet Canyon Lower (PD's 544 & 345)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)				May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (negative)	The reach clearing work will involve an alternating pattern of mechanical clearing of vegetation. Only one-half of the reach will be cleared each year. The other one-half of the reach will be cleared the following year. Reach clearing work will also include mechanical grading of sediment to train flows to the centerline of the reach. Outlet structures will be graded to drain each year.  The preferred methodology would be to clear the vegetation on the left bank on even years and the right bank on odd years. If water is present on the scheduled bank, however, the work will proceed with the opposite bank.	Maintenance language revised to account for current conditions post-emergency clearing. Additional scheduling language added.  Reach 70 and 68 are no longer combined, as 68 was removed.  Note that Reach 70 is not concrete-lined but is soft-bottomed.  Maintenance plan has been fully implemented. The 2002 focused surveys did not find the unarmored threespine stickleback in this reach; however, it was determined that the upper end of this channel reach could support the unarmored threespine stickleback in subsequent years (this is a mostly dry channel). Therefore, if suitable habitat is present (i.e. water), unarmored threespine stickleback surveys are required prior to any clearing activities. The upper end of this reach was occupied in 2005, 2006, and 2007 as the water is continuous with Reaches 67 and 69. See those two reaches for further background information.
71	Santa Clara River Main Channel (PD 1946)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)	Potential for arroyo toad (FE), least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013-unarmored threespine stickleback (negative), arroyo toad (negative), least Bell's vireo (negative) and southwestern willow flycatcher (negative)	The reach clearing work will involve mechanized removal of all vegetation within 20 feet from the base of the slope lining along the entire reach.	No change.  Identified as a potential LBV reach by BonTerra Psomas biologists Brian Daniels and focused surveys for this species are conducted biannually. Focused surveys found a transitory male in 2013, but no breeding has yet been documented in this reach.  The 2003 focused surveys found the arroyo toad within one kilometer of this reach. Since the USFWS defines occupied habitat for this species as any suitable habitat within one kilometer of an arroyo toad sighting, this reach was considered to be occupied by the toad.  Maintenance plan has been fully implemented. After the arroyo toad detection in 2003, the USACE did not authorize clearing activities in Reaches 71 and 82 in the permit dated December 9, 2003, because these reaches are considered occupied by the arroyo toad. A formal Biological Opinion dated October 21, 2004, was rendered by the USFWS for the channel clearing activities in Reaches 71 and 82. This Biological Opinion provided "take" to the USACE in order to permit the LACFCD to conduct these clearing activities as long as they were in compliance with the terms and conditions of the incidental take statement. The 2004 BO has since expired, and consultation will be reinitiated to determine if maintenance will require a new formal BO.
72	South Fork- SCR (Smizer Ranch M.C.I.)	Approved	Non-sensitive			2013 USACE NWP lists potential for UTS, as well as the CDFW (FE/SE)	2013 USACE NWP lists potential for UTS, as well as the CDFW (FE/SE)				N/A	N/A	N/A	N/A	The reach clearing work will involve hand clearing dead vegetation and cutting invasive and trimming riparian vegetation that would obstruct flows. Tree canopy will be retained, yet a clear "tunnel" path will be provided to convey flows.	No change.  Identified as a potential UTS reach during initial informal consultation with the USFWS, but surveys by Dr. Baskin and Dr. Haglund determined that this reach has no potentially suitable habitat for UTS (the drop structure under the Valencia Bridge prevents UTS from migrating upstream in the South Fork Santa Clara River).
73	Wildwood Canyon Channel (PD T361) Main Channel Inlet	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Mechanical and hand clearing work will be performed to keep reach clear of all vegetation.	No change.
74	Wildwood Canyon Channel (PD T361)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Mechanical or hand clearing work will be performed to keep reach clear of all vegetation.	No change.

Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
75	South Fork - Santa Clara River (PD's 725, 916, 1041, & 1300)	Pending	Sensitive			2013 USACE NWP lists potential for UTS (FE/SE)	2013 USACE NWP lists potential for UTS (FE/SE)	Potential for arroyo toad (FE), least Bell's vireo (FE/SE), and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013- arroyo toad (negative), least Bell's vireo (negative), and southwestern willow flycatcher (negative)	The reach clearing work will involve mechanical clearing and grading of all vegetation bank to bank from Lyons Avenue to Orchard Village Road. Mechanical grading and clearing of invasive vegetation from bank to bank will be performed from Orchard Village Road to the confluence with Newhall Creek. Mechanical clearing of all vegetation will be done along the base of the concrete levee from the confluence with Newhall Creek to Magic Mountain Parkway. A 20-foot-wide strip will be maintained clear along the entire length of the levee and 45 degree grading of low flow channels from side outlets to the center of the watercourse will be maintained clear of all vegetation to minimize ponding and blockage of side outlet flows. A centerline watercourse low flow 12-foot wide will be maintained clear of all vegetation and will be graded along the entire length in this reach. Two island areas supporting mature trees will be left in place as well as the riparian vegetation. Tree pruning of dead branches and limbs that could obstruct flow will be removed by hand labor.	No change.  Identified as a potential UTS reach during initial informal consultation with the USFWS, but surveys by Dr. Baskin and Dr. Haglund determined that this reach has no potentially suitable habitat for UTS (the drop structure under the Valencia Bridge prevents UTS from migrating upstream in the South Fork Santa Clara River).
76	Pico Canyon (PD 813)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach clearing work will involve bank-to-bank removal of vegetation using mechanical equipment.	No change.
77	Newhall Creek Outlet	Approved	Non-sensitive					2013 USACE NWP lists potential for LBV to occur (FE/SE)	2013 USACE NWP lists potential for LBV to occur (FE/SE)		N/A	N/A	N/A	N/A	Mechanical equipment will be used to maintain the reach clear of all vegetation.	No change.  Identified as a potential LBV reach during initial informal consultation with the USFWS, but surveys by BonTerra biologist Brian E. Daniels determined no potential habitat for this species existed at the reach and focused LBV surveys were not warranted.
78	Placerita Creek	Approved	Non-sensitive					2013 USACE NWP lists potential for LBV to occur (FE/SE)	2013 USACE NWP lists potential for LBV to occur (FE/SE)		N/A	N/A	N/A	N/A	Mechanical equipment will be used to maintain the reach clear of all vegetation.	No change.  Identified as a potential LBV reach during initial informal consultation with the USFWS, but surveys by BonTerra biologist Brian E. Daniels determined no potential habitat for this species existed at the reach and focused LBV surveys were not warranted.
79	South Fork - Santa Clara River (Valencia Boulevard Bridge Stabilizer)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)	Potential for arroyo toad (FE), least Bell's vireo (FE/SE), and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013- unarmored threespine stickleback (negative), arroyo toad (negative), least Bell's vireo (negative) and southwestern willow flycatcher (negative)	Mechanical equipment will be used to maintain the reach clear of all vegetation.	No change.  Identified as a potential LBV reach by BonTerra Psomas biologists Brian Daniels and focused surveys for this species are conducted biannually. Focused surveys have been negative through 2013.  The unarmored threespine stickleback cannot move upstream past the stabilizer under the Valencia Blvd. bridge. All waters upstream are unoccupied by the stickleback; all of the fish that have been observed occur only up to the base of the stabilizer.
80	South Fork - Santa Clara River (PD's 1947 & 1946)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)	Potential for arroyo toad (FE), least Bell's vireo (FE/SE), and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013- unarmored threespine stickleback (negative), arroyo toad (negative), least Bell's vireo (negative) and southwestern willow flycatcher (negative)	The reach clearing work will involve mechanical removal of all vegetation within 20 feet from the toe of the concrete levee along the entire length.	No change.  Identified as a potential LBV reach by BonTerra Psomas biologists Brian Daniels and focused surveys for this species are conducted biannually. Focused surveys have been negative through 2013.



Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
82	Santa Clara River Main Channel (PD 2278)	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)	Potential for arroyo toad (FE), least Bell's vireo (FE/SE), and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013 - unarmored threespine stickleback (negative), arroyo toad (negative), least Bell's vireo (negative) and southwestern willow flycatcher (negative)	The reach clearing work will involve mechanized removal of all vegetation within 20 feet from the base of the slope lining along the entire reach.	No change.  Maintenance plan has been fully implemented.  Identified as a potential LBV reach by BonTerra Psomas biologists Brian Daniels and focused surveys for this species are conducted biannually. Focused surveys have been negative through 2013.  The 2003 focused surveys found the arroyo toad within one kilometer of this reach. Since the USFWS defines occupied habitat for this species as any suitable habitat within one kilometer of an arroyo toad sighting, this reach was considered to be occupied by the toad.  After the arroyo toad detection in 2003, the USACE did not authorize clearing activities in Reaches 71 and 82 in the permit dated December 9, 2003, because these reaches are considered occupied by the arroyo toad. A formal Biological Opinion dated October 21, 2004, was rendered by the USFWS for the channel clearing activities in Reaches 71 and 82. This Biological Opinion provided "take" to the ACOE USACE in order to permit the LACFCD to conduct these clearing activities as long as they were in compliance with the terms and conditions of the incidental take statement. The 2004 BO has since expired, and consultation will be reinitiated to determine if maintenance will require a new formal BO.
86	Violin Canyon Main Channel Outlet	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)	Potential for arroyo toad (FE), least Bell's vireo (FE/SE), and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	N/A	N/A	2013 - unarmored threespine stickleback (negative) and arroyo toad (negative)	Mechanical equipment will be used to maintain the reach clear of all vegetation.	No change.  Maintenance plan has been fully implemented.  Identified as a potential LBV reach by BonTerra Psomas biologists Brian Daniels and focused surveys for this species are conducted biannually. Focused surveys have been negative through 2013.  The 2002 focused surveys did not find the unarmored threespine stickleback in this reach; however, it was determined that this reach could support the unarmored threespine stickleback in subsequent years. Therefore, if suitable habitat is present (i.e. water), unarmored threespine stickleback surveys are required prior to any clearing activities.
87	Castaic - Old Road Drainage (CDR 525.021D) Outlet	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)	Potential for arroyo toad (FE), least Bell's vireo (FE/SE), and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	ARTO, SWFL	Not likely to destroy or adversely modify.	2013 - unarmored threespine stickleback (negative), arroyo toad (negative), least Bell's vireo (negative) and southwestern willow flycatcher (negative)	The reach clearing work will involve hand cutting and clearing a 20-foot path from the riprap outlet to the main watercourse, Castaic Creek.	No change.  Identified as a potential LBV reach by BonTerra Psomas biologists Brian Daniels and focused surveys for this species are conducted biannually. Focused surveys have been negative through 2013.
88	Hasley Canyon Upper (PD T1496)	Approved	Non-sensitive					2013 USACE NWP lists potential for LBV to occur (FE/SE)	2013 USACE NWP lists potential for LBV to occur (FE/SE)		N/A	N/A	N/A	N/A	The reach clearing work will involve mechanical equipment to remove all vegetation from bank to bank from Sharp Road to 755 feet upstream. From 330 feet downstream of Sharp Road to Sharp Road, hand clearing will be done.	No change.  Identified as a potential LBV reach during initial informal consultation with the USFWS, but surveys by BonTerra biologist Brian E. Daniels determined no potential habitat for this species existed at the reach and focused LBV surveys were not warranted.
89	Hasley Canyon South Fork (PD T1496)	Approved	Non-sensitive					2013 USACE NWP lists potential for LBV to occur (FE/SE)	2013 USACE NWP lists potential for LBV to occur (FE/SE)		N/A	N/A	N/A	N/A	The reach clearing work will involve hand labor clearing of alluvial sage scrub.	No change.  Identified as a potential LBV reach during initial informal consultation with the USFWS, but surveys by BonTerra biologist Brian E. Daniels determined no potential habitat for this species existed at the reach and focused LBV surveys were not warranted.
90	Hasley Canyon Lower (North Fork PD T1496)	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach clearing work will involve hand clearing and mechanized removal of vegetation. Portions of the reach bottom will be denuded of vegetation while leaving the earthen bank vegetated, clusters of mature growth in the reach bottom will remain to the level it was left in November 1997.	No change.
91	San Martinez Chiquito Canyon Channel u/s of Keningston Road	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach clearing work will involve removal of all the vegetation within the pipe and wire reach using hand labor, but the embankment vegetation will be left in place.	No change.
92	San Martinez Chiquito Canyon (North Fork) unnamed	Approved	Non-sensitive					2013 USACE NWP lists potential for LBV to occur (FE/SE)	2013 USACE NWP lists potential for LBV to occur (FE/SE)		N/A	N/A	N/A	N/A	The reach clearing work will involve removal of all the vegetation within the pipe and wire reach using hand labor, but the embankment vegetation will be left in place.	No change.  Identified as a potential LBV reach during initial informal consultation with the USFWS, but surveys by BonTerra biologist Brian E. Daniels determined no potential habitat for this species existed at the reach and focused LBV surveys were not warranted.

Attachment 2. Additional permitting information WDR reaches 1-110 Soft-Bottom Channels Permitting Summary Table Reaches 1-110

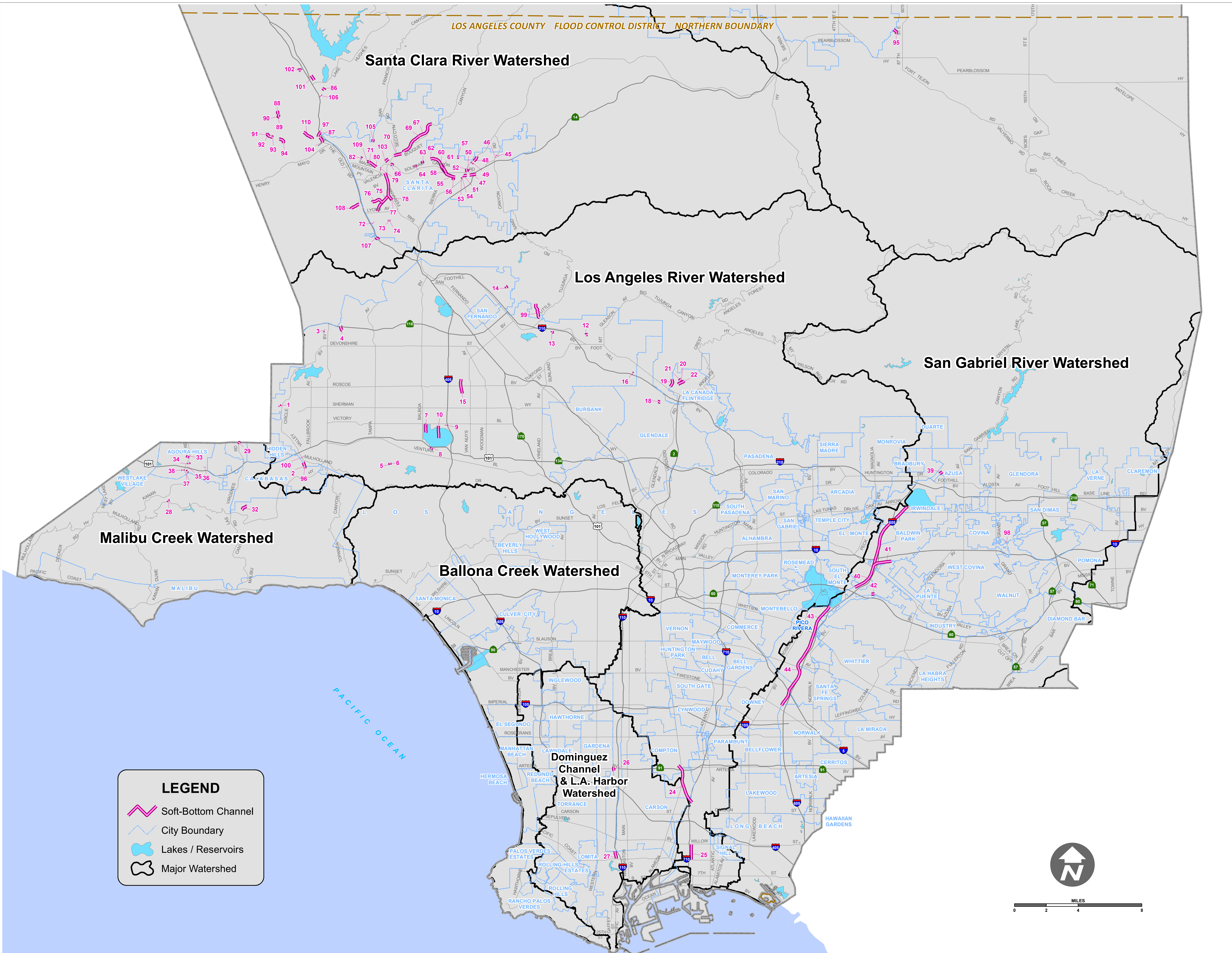
(Last updated 10/22/14)

REACH NO.	REACH NAME	PERMIT SUBMITTED/ APPROVED/ PENDING	FEDERALLY SENSITIVE/NON-SENSITIVE REACH (MAY REQUIRE USFWS CONSULTATION)	PLANT		FISH		WILDLIFE			POTENTIAL AFFECT TO SPECIES	CRITICAL HABITAT	POTENTIAL AFFECT ON CRITICAL HABITAT	LAST FOCUSED SURVEY COMPLETED	PREVIOUSLY AUTHORIZED OR PROPOSED 2015 MAINTENANCE ACTIVITIES BY REACH; PERMIT CONDITIONS FROM AGENCIES TO BE INCLUDED	EXPLANATION OF CHANGES TO PROPOSED 2015 ACTIVITY AND/OR BIOLOGICAL RESOURCES SINCE LAST APPROVED MAINTENANCE PLAN AND RESULTS OF LOS ANGELES RIVER FEASIBILITY STUDY
				FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	FEDERALLY LISTED	STATE LISTED	OTHER						
93	San Martinez Chiquito Canyon between Kenington Road and Val Verde Park	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach clearing work will involve removal of all the vegetation within the pipe and wire reach using hand labor, but the embankment vegetation will be left in place.	No change.
94	San Martinez Chiquito Canyon between Val Verde Park to d/s of Madison Street	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach clearing work will involve removal of all the vegetation within the pipe and wire reach using hand labor, but the embankment vegetation will be left in place.	No change.
95	Project No. 1224	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach clearing work will involve removal of all the vegetation within the pipe and wire reach using mechanical equipment, but the embankment vegetation will be left in place.	No change.
96	PD 1591, Calabasas	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach clearing will involve removing all the vegetation from the inlet and outlet approaches to the box culvert under Vicasa Drive. Clearing work will be done by hand labor and only within the dedicated right of way.	No change.
97	PD T1982, Castaic Creek	Pending	Sensitive			Potential for unarmored threespine stickleback (FE/SE)	Potential for unarmored threespine stickleback (FE/SE)	Potential for arroyo toad (FE), least Bell's vireo (FE/SE), and southwestern willow flycatcher (FE/SE)	Potential for least Bell's vireo (FE/SE) and southwestern willow flycatcher (FE/SE)		May affect not likely to adversely affect	ARTO, SWFL	Not likely to destroy or adversely modify	2013- unarmored threespine stickleback (negative), arroyo toad (negative), least Bell's vireo (negative) and southwestern willow flycatcher (negative)	The reach clearing work will involve hand cutting and mechanized removal of all vegetation and trees along the entire length of the levee at a width of 20 feet and clearing and grading 45-degree, 12-foot-wide low flows from the side outlets to the center of the main watercourse.	No change.  Identified as a potential LBV reach by BonTerra Psomas biologists Brian Daniels and focused surveys for this species are conducted biannually. Focused surveys have been negative through 2013.
98	Walnut Creek – Channel Inlet	Approved	Non-sensitive								N/A	N/A	N/A	N/A	To the extent that storm flows do not keep the inlet free of vegetation, mechanical equipment will be used to keep the inlet clear of all vegetation. No regrowth will be allowed to remain.	No change.
99	Kagel Canyon – Tujung Wash	Approved	Non-sensitive								N/A	N/A	N/A	N/A	Hand clearing work will be performed to keep all the vegetation clear in this reach.	No change.
100	Dry Canyon, Calabasas Creek Inlet	Approved	Non-sensitive								N/A	N/A	N/A	N/A	The reach clearing work will involve hand clearing all the vegetation at the reach inlet. Bank vegetation will be left in place.	No change.
101	Violin Canyon (PD 2312)	Pending	Sensitive	Potential for slender-horned spineflower (CRPR List 1B.1/FE/SE)	Potential for slender-horned spineflower (CRPR List 1B.1/FE/SE), and San Fernando Valley spineflower (CRPR List 1B.1/SE)						May affect not likely to adversely affect	N/A	N/A	2003 - plant surveys (negative) 2007 - arroyo toad (negative) 2014- Santa Clara River feasibility Study plant surveys (negative)	LACFCD will mechanically remove vegetation along a 12-foot wide path along the toe of the reach slope lining and clear a 12-foot training channel at 45 degree angles from the outlet to the centerline of the reach.	The proposed 2015 maintenance activities affect less area than the proposed 2005 maintenance activities. All of the reach was proposed for clearing in 2005, in alternating halves, but in 2015 the clearing is limited to 12-foot wide path at toe of the reach slope lining on both banks.





# LOS ANGELES COUNTY FLOOD CONTROL DISTRICT SOFT-BOTTOM CHANNELS



ID	CHANNEL NAME
1	BELL CREEK - MTD 963 M.C.I.
2	DRY CANYON (CALABASAS) PD T1845
3	SANTA SUSANA CREEK M.C.I.
4	BROWNS CREEK
5	CABALLERO CREEK M.C.I. (WEST FORK)
6	CABALLERO CREEK M.C.I. (EAST FORK)
7	BULL CREEK M.C.O.
8	PROJECT 470 OUTLET
9	PROJECT 106 OUTLET
10	PROJECT NO 469
12	HAINES CANYON M.C.O.
13	PROJECT NO. 5215 UNIT 1
14	MAY CHANNEL (M.C.O. INTO PACOIMA CANYON)
15	PACOIMA WASH
16	VERDUGO WASH - LAS BARRAS CYN (CHNL INLET)
18	ENGLEHEARD CHANNEL
19	PICKENS CANYON
20	WEBBER CHANNEL (STRM @ PRIVATE BRIDGE)
21	WEBBER CHANNEL (MAIN CHANNEL INLET D/S BRIDGE)
22	HALLS CANYON
24	COMPTON CREEK
25	LOS ANGELES RIVER
26	PROJECT 74
27	WILMINGTON DRAIN
28	TRIUNFO CANYON CREEK (PD T2200)
29	LAS VIRGENES CREEK (PD T1684) M.C.I.
32	STOKES CANYON CHANNEL (PD T043)
33	MEDEA CREEK (PD T1378 U.2)
34	MEDEA CREEK (PD T1005) MAIN CHANNEL OUTLET
35	MEDEA CREEK M.C.I. - UNDER ROUTE 101
36	CHESEBORO MAIN CHANNEL INLET
37	MEDEA CK/CHESEBORO CREEK OUTLET
38	LINDERO M.C.O.
39	BEATTY CHANNEL OUTLET @ SGR 25+99.00
40	SAN GABRIEL RIVER
41	WALNUT CREEK
42	SAN JOSE CREEK
43	SAN GABRIEL RIVER - UPPER
44	SAN GABRIEL RIVER - RUBBER DAMS
45	SAND CANYON (PD T1307) MAIN CHANNEL INLET
46	SAND CANYON (PD T1307) MAIN CHANNEL OUTLET
47	SANTA CLARA RIVER MAIN CHNL ( PD 1733 UNIT 1)
48	MINT CANYON CHANNEL B/W SIERRA HWY & ADON AVE
49	MINT CANYON CHANNEL B/W ADON AVE & SCHERZINGER
50	MINK CANYON CHANNEL B/W SOLOMINT & SOLEDAD
51	MINT CANYON M.C.O. (PD 1894)/SANTA CLARA RIVER
52	SIERRA HWY RD DRAINAGE (CDR 523.203)
53	SANTA CLARA RIVER NON-MAIN CHNL (PD 832) M.C.I.
54	SANTA CLARA RIVER NON-MAIN CHNL (PD 832) M.C.
55	SANTA CLARA RIVER MAIN CHNL (PD'S 910, 1758, 1562 UNIT 2)
56	SANTA CLARA RIVER MAIN CHNL (PD 832)
57	WHITES CANYON (PD T704 M.C.I.)
58	SANTA CLARA RIVER MAIN CHNL (PD 374)
60	SANTA CLARA RIVER MAIN CHANNEL (PD 1339 & 374)
61	SANTA CLARA RIVER MAIN CHNL (PD 659)
62	SANTA CLARA RIVER (PD 659 & 754)
63	OAK AVE RD DRAINAGE (CDR 523.081)
64	SOLEDAD CYN RD DRAIN (CDR 523.071 D OUTLET)
66	SANTA CLARA RIVER MAIN CHANNEL (PD 1538)
67	BOUQUET CYN UPPER (PD'S 1201, 802, 700B, 625)
69	BOUQUET CYN MID (PD'S 722, 773, 1365, 1065, 451)
70	BOUQUET CYN LOWER (PD'S 544, 345)
71	SANTA CLARA RIVER MAIN CHANNEL (PD 1946)
72	SOUTH FORK SCR (SMIZER RANCH M.C.I.)
73	WILDWOOD CYN CHNL (PD T361) M.C.I.
74	WILDWOOD CYN CHNL (PD T361)
75	SOUTH FORK SCR (PD'S 725, 916, 1041, & 1300)
76	PICO CANYON (PD 813)
77	NEWHALL CK OUTLET
78	PLACERITA CREEK
79	SOUTH FORK - SCR (VALENCIA BLVD BRIDGE STABILIZER)
80	SOUTH FORK - SCR (PD'S 1947 & 1946)
82	SANTA CLARA RIVER MAIN CHNL (PD 2278)
86	VIOLIN CANYON M.C.O.
87	CASTAIC OLD ROAD DRAIN (CDR 525.021D) OUTLET
88	HASLEY CYN UPPER (PD T1496)
89	HASLEY CYN SOUTH FORK (PD T1496)
90	HASLEY CYN LOWER (NORTH FORK PD T1496)
91	SAN MARTINEZ CHIQUITO CYN U/S KENINGSTON RD
92	SAN MARTINEZ CHIQUITO CYN (N. FORK) UNNAMED
93	S.M.C.C. B/W KENINGSTON/VAL VERDE PARK
94	S.M.C.C. B/W VAL VERDE PARK/ D/S OF MADISON ST.
95	PROJECT NO. 1224
96	PD 1591
97	PD 1982
98	INLET WALNUT CREEK
99	KAGEL CANYON
100	DRY CANYON CALABASAS
101	VIOLIN CANYON (PD 2312)
102	VIOLIN CANYON (PD 2275)
103	BOUQUET CANYON CHANNEL (PD 2225)
104	CASTAIC CREEK (PD 2441 UNITS 1 & 2)
105	SAN FRANCISQUITO CYN CHANNEL (PD 2456)
106	CASTAIC DRAIN OUTLET (RMD CHANNEL)
107	THE OLD ROAD CHANNEL (RMD CHANNEL)
108	PICO CANYON (PD 2528)
109	SANTA CLARA RIVER - S. BANK W. OF MCBEAN PKWY MTD 1510
110	HASLEY CANYON CHANNEL (PD 2262)

Data contained in this map is produced in whole or part from the Los Angeles County Department of Public Works digital database.



Waters Name	Hydrological Code	Beneficial Uses	Area (acres)	Length (feet)	Upstream				Downstream			
					Latitude	Longitude	Cross streets	Latitude	Longitude	Cross Streets	Local Waterway	
1 - Bell Creek- MTD 963 M.C.I.	180701050210	MUN, GWR, REC-1, REC-2, WARM, WILD	0.9	197	34.20267	-118.65899	962' u/s of Highlander Rd	34.20242	-118.65843	766' u/s of Highlander Rd	Bell Creek	
2 - Dry Canyon Creek (Calabasas) PD T1845	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD	1.24	1549	34.14711	-118.63044	676' u/s Park Ora	34.15177	-118.63181	870' d/s Park Ora	Dry Canyon	
3 - Santa Susana Creek tributary to Browns Canyon Creek M.C.I.	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD	0.06	99	34.27091	-118.60975	5560' N of Devonshire St	34.27096	-118.60990	5635' N of Devonshire St	Santa Susana Creek	
4 - Browns Canyon Creek	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD.	3	1303	34.271614	-118.590776	1895' u/s of Rinaldi St	34.27502	-118.59174	556' u/s of Rinaldi St	Browns Creek	
5 - Caballero Creek M.C.I. (West Fork)	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD	1.3	654	34.14974	-118.536845	890' u/s of Reseda Blvd	34.15061	-118.53665	238' u/s of Reseda Blvd	Caballero Creek	
6 - Caballero Creek M.C.I. (East Fork)	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD	0.35	164	34.14991	-118.536416	588' u/s of Reseda Blvd	34.15027	-118.53674	428' u/s of Reseda Blvd	Caballero Creek	
7 - Bull Creek M.C.O.	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD	5.61	2704	34.17875	-118.4978	165' d/s of c/l of Victory Blvd	34.18617	-118.49778	Confluence w/ Los Angeles River	Bull Creek	
8 - Hayvenhurst Drain, tributary to the Sepulveda Flood Control Basin Project - Proj	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD, WET	0.3	218	34.16421	-118.491525	Hayvenhurst	34.16472	-118.49105	Ventura Fwy	Tributary of LA River	
9 - Tributary to the Sepulveda Flood Control Basin, Project 106 Outlet	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD, WET	0.12	120	34.18557	-118.47502	400' d/s of Victory Blvd	34.18524	-118.47502	520' d/s of Victory Blvd	Sepulveda Basin	
10 - Tributary to the Sepulveda Flood Control Basin, Project No 469	180701050208	MUN, GWR, REC-1, REC-2, WARM, WILD, WET.	7.12	4084	34.18843	-118.47365	751' d/s of Victory Blvd	34.18477	-118.48406	LA River (4945' d/s of Victory Blvd)	Tributary of LA River	
12 - Haines Canyon Creek M.C.O.	180701050105	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	0.4	400	34.2684	-118.32128	791' d/s of Wentworth St	34.26843	-118.32194	1228' d/s of Wentworth St	Haines Canyon	
13 - Tributary to Hansen Lake, Project No 5215 unit 1	180701050205	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	0.55	591	34.27146	-118.3591	1030' d/s of Foothill Blvd	34.26999	-118.35995	1535' d/s of Foothill Blvd	Tributary of Tujunga Wash	
14 - May Channel (M.C.O. into Pacoima Cyn)	180701050206	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	0.63	588	34.31194	-118.41056	3038' d/s of Hubbard St	34.31058	-118.40975	3728' d/s of Hubbard St/Conf. W/ Pacoima Cyn	May Channel	
15 - Pacoima Wash	180701050204	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	5.25	4656	34.22734	-118.45947	159' d/s of Parthenia	34.21471	-118.45828	1187' d/s of Lanark St	Pacoima Wash	
16 - Verdugo Wash-Las Barras Cyn (chnl inlet)	180701050207	MUN, GWR, REC-1, REC-2, WARM, WILD.	0.07	131	34.23318	-118.27123	157' u/s of conf. w/Las Barras Cyn Chnl	34.23310	-118.27142	27' u/s of conf. w/Las Barras Cyn Channel	Verdugo Wash	
18 - Engleheard Channel, tributary to Verdugo Wash	180701050207	MUN, GWR, REC-1, REC-2, WARM, WILD	1.1	744	34.20773	-118.24328	800' u/s of conf. w/ Verdugo Wash	34.20707	-118.24096	Conf. w/ Verdugo Wash	Verdugo Wash	
19 - Pickens Canyon, tributary to Verdugo Wash	180701050207	MUN, GWR, REC-1, REC-2, WARM, WILD	3.42	2461	34.22852	-118.22765	Crib dam No.7	34.22224	-118.22892	Pickens Debris Basin	Pickens Canyon	
20 - Webber Channel, tributary to Halls Canyon Channel (strm @ private bridge)	180701050207	MUN, IND, PROC, GWR, REC-1, REC-2, WARM, WILD	0.13	123	34.22804	-118.21786	861' u/s of Los Amigos St	34.22792	-118.21801	746' u/s of Los Amigos St	Webber Channel	
21 - Webber Channel, tributary to Halls Canyon Channel (main chnl inlet d/s bridge)	180701050207	MUN, IND, PROC, GWR, REC-1, REC-2, WARM, WILD	0.03	25	34.22753	-118.21875	496' u/s of Los Amigos St	34.22750	-118.21879	471' u/s of Los Amigos St	Webber Channel	
22 - Halls Canyon Channel	180701050207	MUN, IND, PROC, GWR, REC-1, REC-2, WARM, WILD	2.63	2465	34.22228	-118.22217	1370' u/s of Jessen Dr	34.22315	-118.22090	Halls Cyn Debris Basin	Halls Canyon	
24 - Compton Creek	180701060606	MUN, GWR, REC-1, REC-2, WARM, WILD, WET	30.3	13495	33.87585	-118.21981	COE Station 199+31.00	33.84239	-118.20489	Los Angeles River	Los Angeles River	
25a - Los Angeles River - Willow to PCH (East/Left bank)	180701060606	MUN, IND, PROC, GWR, NAV, REC-1, REC-2, COMM, WARM, EST, MAR, WILD, RARE, MIGR, SPWN, SHELL, WET	56.2	5127	33.80427	-118.20471	Willow St	33.79722	-118.20466	Pacific Coast Hwy	Los Angeles River	
25b - Los Angeles River - Willow to PCH (West/Right bank)			5127	33.79166	-118.21419	Willow St	33.79019	-118.20622	Pacific Coast Hwy	Los Angeles River		
26 - Tributary to Dominguez Channel, Project 740	180701060606	MUN, NAV, REC-1, REC-2, COMM, WARM, EST, MAR, WILD, RARE, MIGR, SPWN.	0.35	947	33.87151	-118.29046	500' u/s of Artesia Blvd	33.87407	-118.29061	400' d/s Artesia Blvd	Unnamed Tributary of Dominguez Channel	
27 - Wilmington Drain	180701060606	MUN, REC-1, REC-2, WARM, WILD, RARE, WET..	7.87	3045	33.79928	-118.28843	110 Fwy	33.79114	-118.28580	Pacific Coast Hwy	Wilmington Drain	
28 - Triunfo Ck (PD T2200)	180701050402	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	23	431	34.11493	-118.77973	384' u/s of Mulholland Hwy	34.11439	-118.77941	D/s edge of Mulholland Hwy	Triunfo Creek	
29 - Las Virgenes Creek (PD T1684) M.C.I.	180701050205	MUN, REC-1, REC-2, WARM, COLD, WILD, RARE, MIGR, SPWN, WET	1.16	357	34.16862	-118.70269	Los Angeles/Ventura County Boundary	34.16796	-118.70183	3006' u/s of Thousand Oaks Blvd	Las Virgenes Creek	
32 - Stokes Cyn Channel (PD T043)	180701050205	MUN, REC-1, REC-2, WARM, COLD, WILD, RARE, MIGR, SPWN, WET	1.4	2178	34.10891	-118.696319	Int. of Quad Sheet blue line w/east bdy Sec 6	34.11058	-118.69363	1600' u/s Mulholland Hwy & Stokes Cyn Rd	Stokes Canyon	
33 - Medea Creek (PD T1378 u.2)	180701060606	MUN, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE, WET.	0.69	818	34.15525	-118.75899	731' u/s of Thousand Oaks Blvd.	34.15420	-118.75953	215' d/s of Thousand Oaks Blvd	Medea Creek	
34 - Medea Creek (PD T1005) Main Channel Outlet (Chumasa Park)	180701060606	MUN, ND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD; WILD, RARE	0.19	413	34.14589	-118.75564	535' d/s of Kanan	34.14863	-118.75040	940' d/s of Kanan	Medea Creek	
35 - Medea Creek M.C.I.-under Route 101	180701060606	MUN, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE, WET	0.14	99	34.14384	-118.76184	98' u/s of u/s side of Roadside Dr	34.14530	-118.75767	13' u/s of u/s side of Roadside Dr	Medea Creek	
36 - Cheseboro Main Channel Inlet	180701060606	MUN, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE, WET	0.08	61	34.14262	-118.74363	100' u/s of Driver Ave	34.14579	-118.73993	44' u/s of Driver Ave	Cheseboro Main Channel Inlet	
37 - Medea Ck/Cheseboro Ck Outlet	180701060606	MUN, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE, WET	0.47	228	34.14199	-118.75937	614' d/s of Agoura Road	34.14202	-118.75899	784' d/s Agoura Road	Medea Creek	
38 - Lindero Creek M.C.O.	180701060606	MUN, REC-1, REC-2, WARM, WILD	0.19	205	34.14301	-118.76405	83' d/s of Agoura Rd	34.14271	-118.76403	270' d/s of Agoura Road	Lindero Main Channel Outlet	
39 - San Gabriel River, Beatty Channel Outlet @ SGR 25+99.00	180701060601	MUN, IND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE	0.26	406	34.14388	-117.93313	2323' d/s of Todd Ave	34.14404	-117.93377	2415' d/s of Todd Ave	Beatty Channel Outlet	
40a - San Gabriel River - Santa Fe Dam to I-10 Freeway	180701060601	MUN, IND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD, WILD, RARE	0.32	20996	34.06229	-117.97878	Santa Fe Dam	34.06452	-118.00442	I-10 Freeway	San Gabriel River	
40b - San Gabriel River - I-10 Freeway to Thienes Ave	180701060601	MUN, GWR, REC-1, REC-2, WARM, WILD, RARE	254.22	12374	34.05158	-118.0157	El Monte	34.03859	-118.02697	Thienes Ave	San Gabriel River	
41 - Walnut Creek	180701060601	MUN, GWR, REC-1, REC-2, WARM, WILD, WET	40.9	6090	34.06058	-117.99677	N Baldwin Park Blvd	34.05866	-118.00638	San Gabriel River	San Gabriel River	
42 - San Jose Creek d/s 1000' from end of concrete channel	180701060601	MUN, GWR, REC1, REC2, WILD, WET	2.75	801	34.03257	-118.00566	COE Station 87+25.00	34.03237	-118.00829	COE Station 79+25.00	San Jose Creek	
43a - San Gabriel River - Upper	180701060601	MUN, ND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD; WILD, RARE	74.61	3586	34.017319	-118.05875	Whittier Narrows Dam	34.01355	-118.06256	San Gabriel River Parkway	San Gabriel River	
43b - San Gabriel River- Lower	180701060601	MUN, ND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD; WILD, RARE		3068	34.00759	-118.06985	San Gabriel River Parkway	34.00678	-118.06849	Beverly Blvd	San Gabriel River	
44 - San Gabriel River- Rubber Dams	180701060601	MUN, ND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD; WILD, RARE	175.76	30895	33.96892	-118.08779	Beverly Blvd	33.93116	-118.10702	Firestone Blvd	San Gabriel River	
45 - Sand Canyon (PD T1307) Main Channel Inlet	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.05	102	34.43108	-118.4207	2018' u/s of Soledad Cyn Rd	34.43096	-118.42079	1916' u/s of Soledad Cyn Rd	Sand Canyon	
46 - Sand Canyon (PD T1307) Main Channel Outlet	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.03	84	34.42971	-118.42267	1100' u/s of Soledad Cyn Rd	34.42959	-118.42270	1020' u/s of Soledad Cyn Rd	Sand Canyon	



47 - Santa Clara River Main Chnl. (PD 1733 unit 1)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.76	1658	34.41467	-118.44702	D/s edge of State Route 14	34.41431	-118.44973	1875' d/s of State Route 14	Santa Clara River
48 - Mint Cyn Channel b/w Sierra Hwy & Adon Ave	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	3.1	2501	34.43035	-118.4432	Sierra Hwy	34.42489	-118.44797	1800' d/s of Sierra Hwy	Mint Cyn Channel
49 - Mint Cyn Channel b/w Adon Ave & Scherzinger	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	0.68	385	34.4244	-118.44846	Under Adon Ave	34.42398	-118.44884	382' d/s of Adon Ave	Mint Cyn Channel
50 - Mint Cyn Channel b/w Solomint & Soledad	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.54	735	34.41442	-118.44903	768' u/s of Soledad Cyn Rd	34.41683	-118.45382	99' u/s of Soledad Cyn Rd	Mint Cyn Channel
51 - Mint Cyn M.C.O. (PD 1894)/Santa Clara River - Main Channel	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	6.4	931	34.41358	-118.45596	1044' d/s of Soledad Cyn Rd	34.41323	-118.45743	SCR on d/s side of Sierra Hwy	Mint Cyn Channel
52 - Sierra Hwy Rd Drainage (CDR 523.203)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	0.4	772	34.41792	-118.45414	253' s/w of Dolan & east edge of Sierra Hwy	34.41688	-118.45393	Confluence w/ Mint Cyn Channel	Sierra Hwy Rd Drainage
53 - Santa Clara River Non-main Chnl. (PD 832) M.C.I.	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.03	35	34.40727	-118.46415	25' d/s of Sierra Hwy	34.40936	-118.46013	70' d/s of Sierra Hwy	Santa Clara River
54 - Santa Clara River Non-main Chnl. (PD 832) M.C.I.	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.31	316	34.41148	-118.4592	821' d/s of Sierra Hwy	34.41186	-118.45946	1098' d/s of Sierra Hwy	Santa Clara River
55 - Santa Clara River Main Chnl. Right Bank Reach (PD's 910, 832, 1758, 1562 unit 2)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.63	3518	34.41111	-118.46885	Sierra Hwy	34.41323	-118.45743	3049' d/s Sierra Hwy	Santa Clara River
56 - Santa Clara River Main Chnl - Left Bank Reach (PD 832)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.47	2346	34.42946	-118.4642	3049' d/s Sierra Hwy	34.42413	-118.46525	3501' d/s of Sierra Hwy (Hidaway Ave, produced)	Santa Clara River
57 - Whites Cyn (PD T704 M.C.I.)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	2.64	695	34.40849	-118.46774	1449' u/s of Foxlane	34.41080	-118.46724	753' u/s of Foxlane	Whites Cyn
58 - Santa Clara River Main Channel - Right Bank (PD 374)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.21	2644	34.41431	-118.47283	2114' u/s of old Soledad Cyn Rd bridge	34.41587	-118.47667	U/s of old Soledad Cyn Rd bridge	Santa Clara River
60 - Santa Clara River Main Channel - Right Bank Reach (PD's 1339 & 374)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.5	3166	34.41587	-118.47667	D/s side of new Soledad Cyn Rd bridge	34.42340	-118.48182	Conf. w/PD 313 (d/s Newhouse St, produced)	Santa Clara River
61 - Santa Clara River Main Channel (PD 659 & 754)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	4.3	4715	34.4205	-118.48385	D/s side of new Soledad Cyn Rd bridge	34.42665	-118.49406	1634' d/s of new Soledad Cyn Rd bridge	Santa Clara River
63 - Oak Ave Rd Drainage (CDR 523.081)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	2.8	914	34.42502	-118.502918	1400' N of Soledad Cyn Rd @ SCE lines	34.42379	-118.50258	2300' N of Soledad Cyn Rd @ SCE lines	Oak Ave Rd Drainage
64 - Soledad Cyn Rd Drain (CDR 523.071 D outlet)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.85	574	34.42052	-118.51215	(E side of) LA Aqueduct N of Soledad Cyn Rd	34.42129	-118.50404	1250' NW/o Soledad Cyn Rd & LA Aqueduct	Soledad Cyn Rd Drain
66 - Santa Clara River Main Channel (PD 1538)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.04	710	34.423209	-118.538688	1417' u/s of Bouquet Cyn Rd	34.42278	-118.53647	706' u/s of Bouquet Cyn Rd	Santa Clara River
67 - Bouquet Cyn Upper (PD's 1201, 802, 700B, & 625)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, COLD, WILD, SPWN, WET	16.3	6344	34.45979	-118.4929	63' d/s of Hob Ave, produced	34.44897	-118.50654	153' u/s of Urbandale Ave	Bouquet Cyn Upper
69 - Bouquet Cyn Middle (PD's 722, 773, 1365, 1065, & 451)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, COLD, WILD, SPWN, WET	12.51	7326	34.44828	-118.50748	122' d/s of Urbandale Ave	34.43441	-118.52395	54' d/s of middle crossing, Bouquet Cyn Rd	Bouquet Cyn Mid
70 - Bouquet Cyn Lower (PD's 544 & 345)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, COLD, WILD, SPWN, WET	8.54	3503	34.43429	-118.52399	2866' u/s lower crossing, Bouquet Cyn Rd	34.43081	-118.53445	D/s side of lower crossing, Bouquet Cyn Rd	Bouquet Cyn Lower
71 - Santa Clara River Main Channel (PD 1946)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.01	242	34.424	-118.56181	276' u/s of McBean Pkwy (conf w/ SF-SCR)	34.42401	-118.56221	D/s edge of McBean Parkway	Santa Clara River
72 - South Fork- SCR (Smizer Ranch M.C.I.)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.14	101	34.36955	-118.55678	1150' u/s of Wiley Canyon Road	34.36937	-118.55653	1050' u/s Wiley Canyon Road	Santa Clara River
73 - Wildwood Cyn Chnl (PD T361) M.C.I.	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	0.05	83	34.3715	-118.53922	109' u/s of Cedartown St	34.37128	-118.53921	U/s side of Cedartown St	Wildwood Canyon
74 - Wildwood Cyn Chnl (PD T361)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	0.02	365	34.37166	-118.53925	161' d/s of Cedartown St	34.37242	-118.53968	277' d/s of Cedartown St	Wildwood Canyon
75 - South Fork-SCR (PD's 725, 916, 1041, & 1300)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	18.92	14075	34.37972	-118.5522	255' d/s of Lyons Ave	34.41453	-118.54418	D/s edge of Magic Mtn Parkway	Santa Clara River
76 - Pico Cyn (PD 813)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	4.26	4116	34.38939	-118.552514	Vista Valencia Golf Course	34.38833	-118.54656	South Fork Santa Clara River	Pico Canyon
77 - Newhall Ck Outlet	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	6.29	2092	34.39038	-118.54311	1040' d/s of 15th St	34.39505	-118.54038	Confluence w/SCR-South Fork	Newhall Creek Outlet
78 - Placerita Creek	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	1.16	376	34.39077	-118.54067	D/s edge of San Fernando Rd	34.39169	-118.53634	Confluence w/ Newhall Creek	Placerita Creek
79 - South Fork- SCR (Valencia Blvd Bridge Stabilizer)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	1.17	168	34.41909	-118.54878	D/s edge of Valencia Blvd	34.41916	-118.54933	167' d/s of Valencia Blvd	Santa Clara River
80 - South Fork-SCR (PD's 1947 & 1946)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	8.18	2686	34.42035	-118.55385	3080' u/s of McBean Parkway	34.42399	-118.56141	276' u/s of McBean Pkwy (conf.w/SCR)	Santa Clara River
82 - Santa Clara River Main Chnl (PD 2278)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	4.8	849	34.42547	-118.57382	740' s/e of Ave. Hopkins & Ave. Rockefeller	34.42836	-118.57059	S/o Avenue Hopkins & Avenue Rockefeller	Santa Clara River
86 - Violin cyn M.C.O.	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	1.3	1006	34.49086	-118.61224	1021' d/s Ridge Route Rd	34.49005	-118.61100	Conf w/ Castaic Creek	Violin Canyon
87 - Castaic- Old Road Drainage (CDR 525.021D) Outlet	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.19	225	34.45146	-118.61599	610' d/s of Hasley Cyn rd, w/o The Old Rd	34.45122	-118.61621	Conf w/ Castaic Creek	Castaic Creek
88 - Hasley Cyn Upper (PD T1496)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET	0.42	1051	34.47089	-118.66325	755' u/s of Sharp Rd	34.46816	-118.66237	330' d/s of Sharp Rd	Hasley Canyon Upper

89 - Hasley Cyn South Fork (PD T1496)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.28	341	34.46612	-118.66224	331' u/s of Romero Cyn Rd along South Fork	34.46543	-118.66150	160' u/s of Romero Cyn Rd	Hasley Canyon South Fork
90 - Hasley Cyn Lower (North Fork PD T1496)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.68	1051	34.46408	-118.66563	1089' u/s of Romero Cyn Rd along Main Line	34.46496	-118.66093	100' d/s of Romero Cyn Rd	Hasley Canyon Lower
91 - San Martinez Chiquito Cyn u/s Keningston Rd	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.31	599	34.44857	-118.67272	530' u/s of San Martinez Rd (w/o Borton St)	34.44764	-118.67108	Keningston Rd	San Martinez Chiquito Canyon
92 - San Martinez Chiquito Cyn (N. Fork) unnamed	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.29	768	34.45066	-118.67356	920' u/s of c/l of San Martinez Rd	34.44872	-118.67297	Conf. w/ San Martinez Chiquito Cyn Chnl	San Martinez Chiquito Canyon
93 - S.M.C.C. b/w Keningston/Val Verde Park	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.56	1072	34.44767	-118.67097	400' d/s of Keningston Rd	34.44693	-118.66757	1054' d/s of Keningston Rd	San Martinez Chiquito Canyon
94 - S.M.C.C. b/w Val Verde Park/ d/s of Madison St	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	1.57	2446	34.44093	-118.66301	1092' u/s of Chiquito Cyn Rd	34.44193	-118.65604	268' d/s of Madison St	San Martinez Chiquito Canyon
95 - Project No 1224	180701020201	MUN, AGR, GWR, REC1, REC2, WARM, WILD.	7.95	1823	34.54303	-117.98298	Ave T	34.54691	-117.98446	Confluence of Little rock Creek	Unnamed Tributary of Little Rock Wash
96 - PD 1591, Calabassas	180701020201	MUN, AGR, GWR, REC1, REC2, WARM, WILD.	0.92	532	34.14607	-118.63025	85' u/s of culvert under Vicasa Drive	34.14675	-118.63043	360' d/s of culvert under Vicasa Drive	Dry Canyon
97 - PD 1982, Castaic Creek	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	2.3	2002	34.45126	-118.61622	300' d/s of The Old Road	34.44625	-118.61822	2300' d/s of The Old Road	Castaic Creek
98 - Walnut Creek - Channel Inlet	180701020201	MUN, IND, PROC, AGR, GWR, REC-1, REC-2, WARM, COLD; WILD, RARE	0.14	51	34.07981	-117.86027	30' u/s of perpendicular ext. of Chapararro Rd	34.07983	-117.86020	Perpendicular extension of Chapararro Road	Walnut Creek
99 - Kagel Canyon - Tujung Wash	180701020201	MUN, GWR, REC-1, REC-2, WARM, WILD	1.67	4844	34.29612	-118.3778	Blue Sage Drive	34.28418	-118.37417	City of Los Angeles Boundary	Kagel Canyon
100 - Dry Canyon Calabassas Creek Inlet	180701020201	MUN, GWR, REC-1, REC-2, WARM, WILD	0.05	114	34.1556	-118.6328	1835' u/s of Ave San Luis	34.15534	-118.63259	1775' u/s of Ave San Luis	Dry Canyon
101 - Violin Cyn (PD 2312)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE	5.04	1818	34.50334	-118.62599	2637' u/s of Lake Hughes Road	34.49918	-118.62264	820' u/s of Lake Hughes Road	Violin Canyon
102 - Violin Cyn (PD 2275)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE	1.76	975	34.50809	-118.63997	1072' u/s of d/s face of Sierra Oak Trail RCB	34.50814	-118.63678	94' u/s of d/s face of Sierra Oak Trail RCB	Violin Canyon
103 - Bouquet Cyn Channel (PD 2225)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, COLD, WILD, SPWN, WET	7.31	1348	34.42678	-118.54201	173' d/s of centerline of Newhall Ranch Road (Beginning of Grouted Stone Toe)	34.42554	-118.54366	MWD Fee R/W on the Right Bank. Embankment turn at the Santa Clara River on Left Bank	Bouquet Canyon Channel
104 - Castaic Creek (PD 2441 Unit 2)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	38.12	2223	34.44217	-118.61282	669' u/s of Muirfield Lane Centerline	34.44582	-118.61466	478' d/s of Turnberry Lane Centerline	Castaic Creek
105 - San Francisquito Cyn Channel (PD 2456)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	13.8	833	34.44554	-118.55743	417' u/s of Decoro Drive Centerline	34.44328	-118.55789	416' d/s of Decoro Drive Centerline	San Francisquito Canyon Channel
106 - Castic Drain Outlet	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	1.46	751	34.48337	-118.61439	Toe of Grouted Riprap Apron	34.48531	-118.61523	147' D/S of Grouted Rip Rap Apron	Castic Drain Outlet
107 - The Old Road Channel	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET.	0.51	1028	34.35549	-118.55286	230' US Driveway into 24136 the Old Road	34.35775	-118.55456	U/S of Concrete Lined Channel	Unnamed Tributary Upstream of South Fork of Santa Clara River
108 - Pico Canyon ( PD 2528)	180701020201	MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD	1.38	3100	34.38166	-118.58176	Stevenson Ranch DB	34.38624	-118.5731	The Old Road	Pico Canyon
109 - Santa Clara River - S. Bank W. of Mcbean Pkwy (MTD1510)	180701020201	MUN, AGR, GWR, FRSH, REC1, REC2, WARM, WILD, WET	5.34	372	34.42412	-118.5643	371' U/S Mcbean Pkwy centerline	34.424008	-118.56308	PD 1946	Santa Clara River
110 - Hasley Canyon Channel(PD2262)	180701020201	MUN, AGR, GWR, FRSH, REC1, REC2, WARM, WILD, WET	7.79	3737	34.45157	-118.63377	PD 2508	34.4455	-118.62423	Castic Creek	Hasley Canyon Channel



## Los Angeles Regional Water Quality Control Board

Mr. Sree Kumar  
County of Los Angeles Flood Control District  
900 S. Fremont Ave, Annex 2<sup>nd</sup> Floor  
Alhambra, CA 91802-1460

VIA CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
No. 7015 3010 0001 9147 7451

**AMENDMENT OF CONDITIONAL WATER QUALITY CERTIFICATION FOR PROPOSED SOFT BOTTOM CHANNEL REACHES 112 & 117 ANNUAL MAINTENANCE PROJECT (Corps' Project No. SPL-2015-00239-BLR), BALLONA CREEK & CENTINELA CREEK, MARINA DEL REY, LOS ANGELES COUNTY (File No. 14-125)**

Dear Mr. Kumar:

The Los Angeles Regional Water Quality Control Board (Regional Board) is in receipt of your notification on March 29, 2016, requesting modification of your Conditional Clean Water Act Section 401 Water Quality Certification for the subject project issued on April 27, 2015 (Certification).

As we understand, County of Los Angeles Flood Control District (Applicant) is requesting to extend the expiration date of the Conditional Water Quality Certification in order to be consistent with the expiration of the Army Corps of Engineers (ACOE) 404 permit which expires on March 18, 2017. Certification 14-125 is hereby extended so that the applicant may continue the proposed project through the duration of the valid 401 US ACOE permit.

In response to your request, under Attachment B, Item 30, Conditions of Certification, will read:

30. This Certification shall expire upon expiration of the underlying federal permit, Army Corp of Engineers' Clean Water Act Section 404 permit No. SPL-2015-00239-BLR. The Applicant shall submit a complete application prior to termination of this Certification if renewal is requested.

In addition, to allow for the incorporation of improved clearing methods, the last two paragraphs of Item 6, Project Description, will have additional text as follows (additional text in underline):

The upper channel section of SBC Reach 112 includes the segment between Centinela Avenue and the Marina Freeway (Fwy 90), which also coincides with the California Coastal Commission's upstream Coastal Zone boundary limit. Vegetation in the upper channel section will be removed annually, as necessary, by

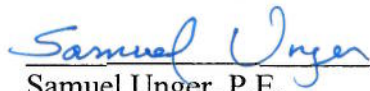
hand and heavy equipment. Mowing vegetation instead of scraping sediment to remove vegetation will be used when appropriate. Vegetation in the lower channel section will be removed annually, as necessary, using hand and hand-held mechanical tools.

Within the Soft Bottom Channel Reach 117 (Centinela Creek) LACFCD will inspect and mechanically remove debris, invasive (non-native) vegetation, and root systems in this 422 linear-foot channel reach to ensure proper functioning of the flood control infrastructure. Mowing vegetation instead of scraping sediment to remove vegetation will be used when appropriate. Minor repair of riprap and concrete levees and maintenance of outlet structures will also be conducted throughout the channel reach, as necessary.

I have determined that the above-proposed modification does not constitute a significant change in the nature or scope of the activities described for the project in your original application. Therefore, all of the proposed modifications are hereby incorporated into 401 Certification No. 14-125 and no additional action by this agency pursuant to Section 401 of the Clean Water Act is necessary. This determination is limited to the proposed modifications contained in your notification to this Regional Board dated April 27, 2015 and described herein, and does not eliminate the Applicant's responsibility to comply with any other applicable laws, requirements and/or permits.

Should you have questions concerning this certification action, please contact Valerie Carrillo Zara, P.G., Lead, Section 401 Program, at (213) 576-6759.

Sincerely,

  
Samuel Unger, P.E.  
Executive Officer

Sept. 2, 2016  
Date



## DISTRIBUTION LIST

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