

Los Angeles Regional Water Quality Control Board

Mr. Sree Kumar
Los Angeles County Flood Control District
900 S. Fremont Avenue
Annex Building 2nd Floor
Alhambra, CA 91803

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED
No. 7008 1140 0002 8671 9486

TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION FOR PROPOSED CONCRETE LINED CHANNELS MAINTENANCE ACTIVITIES PROJECT (CORPS' PROJECT NO. 2012-00422-BLR), LOS ANGELES COUNTY (File No. 13-029)


Dear Mr. Kumar:

Board staff has reviewed your request on behalf of the 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 September 10, 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 Carrillo Zara, P.G., Lead, Section 401 Program, at (213) 576-6759.



Samuel Unger, P.E.
Executive Officer

Oct. 2, 2015
Date

DISTRIBUTION LIST

Jemellee Cruz (via electronic copy)
900 S. Fremont Avenue
Annex Building 2nd Floor
Alhambra, CA, 91803

Bill Orme (via electronic copy)
State Water Resources Control Board
Division of Water Quality
P.O. Box 944213
Sacramento, CA 94244-2130

Erinn Wilson (via electronic copy)
Habitat Conservation Planning- North
CA Dept. of Fish and Wildlife
South Coast Region
P.O. Box 279
Newbury Park, CA 91319

Bonnie Rogers (via electronic copy)
U.S. Army Corps of Engineers
Regulatory Branch, Los Angeles District
P.O. Box 532711
Los Angeles, CA 90053-2325

Elizabeth Goldmann (via electronic copy)
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street, WRT-2-4
San Francisco, CA 94105

Melissa Scianni (via electronic copy)
600 Wilshire Blvd, Suite 1460
Los Angeles, CA 90017
213-244-1817

Jim Bartel
U.S. Fish and Wildlife Service
6010 Hidden Valley Road
Carlsbad, CA 92011

ATTACHMENT A

Project Information

File No. 13-029

1. Applicant: Los Angeles County Flood Control District
900 S. Fremont Avenue
Annex Building 2nd Floor
Alhambra, CA, 91803

Phone: (626) 458-4145 Fax: (626) 458-4150

2. Applicant's Agent: Jemellee Cruz

Phone: (626) 458-4170 Fax: (626) 458-4150

3. Project Name: Concrete Lined Channels Maintenance Activities

4. Project Location: Locations throughout Los Angeles County

5. Project Purpose: The project purpose is to maintain concrete-lined channels in Los Angeles County.

6. Project Description: There are a total of 281 concrete-lined reaches maintained by the Los Angeles County Flood Control District (LACFCD), located in the following watersheds: Los Angeles River; San Gabriel River; Ballona Creek; Santa Monica Bay; Dominguez Channel; Malibu Creek; and Santa Clara River.

The concrete-lined channels are engineered, reinforced concrete flood control structures consisting of either rectangular sections with vertical walls and concrete bottoms or trapezoidal sections with sloped walls and concrete bottoms. The channels run between and adjacent to commercial and residential neighborhoods in highly urbanized areas located throughout Los Angeles County. These channels are designed to be maintained free of sediment and debris.

The listing of all reaches within this Certification is located in Attachment C. The project primarily includes continuing activities and protocols related to channel maintenance, which includes removing material from the channels several times a year to maintain the design capacity, reduce offensive odors, prevent unwanted growth, and eliminate breeding grounds for mosquitos.

LACFCD is also responsible for maintaining and protecting the structural integrity of the concrete-lined channels. This is

ATTACHMENT A

Project Information

File No. 13-029

structural integrity of the concrete-lined channels. This is accomplished through routine inspections of the existing channel structure and its appurtenances, and performing routine maintenance repairs, restoration, and/or replacement (in-kind) on structural features of the facility. Continued inspection and maintenance at these facilities is necessary for the protection of the public and prevention of property damage and loss of life due to flooding.

LACFCD will perform the following routine maintenance activities within the concrete-lined channel facilities.

A. Routine Maintenance including Vector, Trash, Sediment and Odor Nuisance Control:

LACFCD will remove material from the channels to maintain the design capacity, reduce offensive odors, prevent unwanted vegetation growth, and eliminate breeding grounds for mosquitoes. Typically, these areas are maintained as clear and free of sediment and vegetation, such that habitat is not established.

LACFCD uses backhoes, loaders, dump trucks, and other mechanical equipment to remove sediment, debris, trash, algae, and vegetation from the channels and the LACFCD rights-of-way.

B. Routine Maintenance Inspections, including Repairs, Replacement, and Restoration

LACFCD is also responsible for maintaining and protecting the structural integrity of flood control infrastructures, such as the concrete-lined channels, in order to protect life and property. For concrete-lined channels built by the Army Corps of Engineers (ACOE) and transferred over to the LACFCD for maintenance, the ACOE retains the authority to conduct annual inspections of these facilities. The LACFCD is required to comply and resolve any deficiencies that the ACOE finds during inspection. Resolving deficiencies may require performing the activities listed below.

To comply with other regulatory agency requirements such as the Regional Water Quality Control Boards' Municipal Separate Storm Sewer Systems (MS4), LACFCD also conducts routine inspections for illicit connections or illicit discharges from outside entities that

ATTACHMENT A

Project Information File No. 13-029

may potentially affect the water quality entering the flood control channels.

LACFCD responsibility includes conducting routine inspections of the existing channel structure and its appurtenances, and performing routine and storm-damaged maintenance repairs, restoration, and/or replacement (in-kind) on structural features of the facility. Structural inspection may involve taking small diameter concrete-coring samples or geotechnical boring.

Therefore, Routine Maintenance Inspections, including Repairs, Replacement, and Restoration will include conducting repairs and restorations to damaged invert access ramps and access roads, damaged low flow diverters, curbs, and channel inverts, spalling concrete, cracks and joints; clearing of debris and sediment from inverts, sub drains, outlets, and lines; repairing or replacing vault lids and flap gates; repairing, restoring, and/or replacing channel wall fences, access roads, grouted riprap, invert access ramps, gates, and ladder rungs; repairing/replacing damaged channel wall slabs, inlet and outlet pipes and related structures, clearing weep holes, and repair of other onsite structures.

C. Minor Construction and Alterations

Minor construction and alterations to concrete lined channels will consist of, but not be limited to, minor alterations to the channel walls, access road, invert, invert ramps, and low flows, including appurtenance structures, to improve safety, prevent debris accumulation, direct and improve the flow of low flow water, improve access, adding conduits, adding and maintaining flow measuring devices/systems, water quality monitoring/sampling equipment and conduits to comply with MS4 permits, and other minor physical modifications.

These activities may consist of saw cutting concrete, coring and drilling holes in the concrete and metal, demolishing concrete, welding and fastening metal, grinding and scraping concrete, cleaning and scraping existing metal, painting metal, formwork for concrete placement, and other similar minor construction and installation work.

This does not authorize any expansion of the project footprint or

ATTACHMENT A

Project Information File No. 13-029

change in channel type or channel geometry.

D. Sediment and Debris Removal from Major Storm Events

In response to major storm events, especially within burned watersheds, sediment and debris removal will be conducted as necessary. Sediment and debris removal shall be completed with heavy equipment, such as a backhoe(s) front end loader(s), Skidsteer(s) or excavator(s), transferring the sediment into a dump truck(s). Generally, 10 cubic yard trucks will be utilized for the transport of the sediment and debris to a designated placement site.

7. Federal Agency/Permit: U.S. Army Corps of Engineers
Individual Permit (Permit No. 2012-00422-BLR)
8. Other Required Regulatory Approvals: California Department of Fish and Wildlife
Streambed Alteration Agreement
No. 1600-2012-0433-R5
9. California Environmental Quality Act Compliance: The proposed project is Categorical Exempt from CEQA pursuant to the CEQA Guidelines, Section 15302 (Replacement or Reconstruction).
10. Receiving Water: The listing of Hydrologic Unit Codes is included in Attachment C (Concrete-Lined Channel Spreadsheet).
11. Designated Beneficial Uses: MUN*, IND, PROC, AGR, GWR, FRSH, NAV, POW, REC-1, REC-2, COMM, WARM, COLD, EST, MAR, WILD, BIOL, RARE, MIGR, SPWN, SHELL, WET

*Conditional beneficial use
12. Impacted Waters of the United States: Non-wetland waters (unvegetated streambed): 2,049 temporary acres and 2,550,240 linear feet
13. Dredge Volume: None
14. Related Projects Implemented/to be Implemented by the: The proposed maintenance activities will be ongoing as long as the concrete-lined channels are maintained by the LACFCD.

ATTACHMENT A

Project Information File No. 13-029

Applicant:

15. Avoidance/
Minimization
Activities:

The Applicant has proposed to implement several Best Management Practices (BMPs), including, but not limited to the Best Management Practices provided in Attachment D.

16. Proposed
Compensatory
Mitigation:

The Applicant has not proposed any compensatory mitigation.

17. Required
Compensatory
Mitigation:

The Regional Board will not require any additional compensatory mitigation. Most of these concrete-lined channels were built prior to 1974, or compensatory mitigation was already provided for when the channels were constructed.

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. 13-029

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 D are incorporated as additional conditions herein.
5. The Applicant and all contractors employed by the Applicant shall have copies of this Certification, 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. 13-029

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.
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 target species and habitat. All pesticides directed toward aquatic species must be approved

ATTACHMENT B

Conditions of Certification

File No. 13-029

by the Regional Board. Pesticide utilization shall be in accordance with State Water Resources Control Board Water Quality (WQ) Order Nos. 2011-0002-DWQ, 2012-0003-DWQ (Amending WQ Order no. 2011-0002-DWQ), and 2014-0038-EXEC (Amending Monitoring and Reporting Program for 2011-0002-DWQ).

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, 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.
18. All project /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 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:

ATTACHMENT B

Conditions of Certification File No. 13-029

- 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 reviewed by LACFCD, as soon as they are available for any exceedances. The results shall then be submitted to this Regional Board in the Annual Report. If any exceedances are identified, LACFCD will take any necessary corrective actions and notify the Regional Board. 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 submit to this Regional Board **Annual Monitoring Reports** (Annual Reports) by **June 30st** of each year, following this issuance of 401 Certification. The Annual Reports shall describe in detail all of the project/construction activities performed during the previous year. At a minimum the Annual Reports shall include the following documentation:
 - (a) Color photo documentation of the pre- and post-project site conditions for any major storm event sediment removals;
 - (b) Geographical Positioning System (GPS) coordinates in decimal-degrees format outlining the boundary of the project;
 - (c) The overall status of project including a detailed schedule of whether or not work has begun on the Project;
 - (d) Copies of all permits revised as required in Additional Condition 1;
 - (e) Water quality monitoring results for each reach (as required) compiled in a spreadsheet format;

ATTACHMENT B

Conditions of Certification

File No. 13-029

- (f) A certified Statement of "no net loss" of wetlands associated with this project;
- (g) Discussion of any monitoring activities and exotic plant control efforts; and
- (h) A certified Statement from the permittee or his/her representative that all conditions of this Certification have been met.

21. 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.
- (d) For a municipal, State, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

22. 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)"

23. All communications regarding this project and submitted to this Regional Board shall identify the Project File Number 13-029. Submittals shall be sent to the attention of the 401 Certification Unit.

24. 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.

ATTACHMENT B

Conditions of Certification File No. 13-029

25. 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.
26. 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.
27. 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.
28. *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.

ATTACHMENT B

Conditions of Certification File No. 13-029

- (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.
29. 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.

TABLE B-1. Concrete-Lined Channels List

REACH No.	DESCRIPTION	UPSTREAM LIMIT (U/P)	DOWNSTREAM LIMIT (D/S)	HYDRO UNIT CODE	CITY	TG	LF	CHANNEL TYPE	NOTES
WEST AREA - HANSEN YARD									
1	ALISO (UPPER)	ALISO DEBRIS BASIN	WILBUR DEBRIS BASIN	180701050203	GRANADA HILLS - NORTHRIDGE	501-A2 to 500-G7	17380	RECTANGULAR	
2	ALISO (LOWER)	WILBUR DEBRIS BASIN	LOS ANGELES RIVER	180701050203	NORTHRIDGE - RESEDA	530-G1 to 530-H6	15939	RECTANGULAR	
3	BELL CREEK	BELL DEBRIS RET INLET	LOS ANGELES RIVER	180701050201	WEST HILLS - CANOGA PARK	529-D6 to 529-H6	13912	RECT / TRAP	
4	BELL CREEK - SOUTH BRANCH	HAYNES STREET	BELL CREEK	180701050201	WOODLAND HILLS	529-G6 to 529-G5	3312	TRAPEZOIDAL	
5	BELL CREEK - SOUTH FORK	CALVERT STREET	BELL CREEK	180701050201	WOODLAND HILLS	529-D7 to 529-F6	7910	TRAPEZOIDAL	
6	BROWNS CREEK	583 FT U/S OF RINALDI	LOS ANGELES RIVER	180701050202	CHATSWORTH-WINNETKA	500-B2 to 530-D6	30054	RECTANGULAR	TG ... to 530-C6
7	BULL CREEK	RINALDI STREET	VICTORY BLVD	180701050204	GRANADA HILLS-LAKE BALBOA	481-E1 to 531-D7	37109	RECT / TRAP	TG 481-E5
8	BULL CREEK - RESERVOIR BRANCH	SAN FERN. RESERVOIR	BULL CREEK	180701050204	GRANADA HILLS	481-E6 to 501-E1	6616	RECT / TRAP	
9	BULL CREEK TRIBUTARY- (GRANADA CHANNEL & PROJECT 5216)	355 FT U/S OF LASSEN STREET	BULL CREEK	180701060102	NORTH HILLS	501-D5 to 501-E5	1089	RECTANGULAR	
10	BURBANK EASTERN - BRAND CHANNEL	BRAND DEBRIS BASIN	220 FT D/S OF BRAND D.B.	180701050208	GLENDALE	534-B7	220	RECTANGULAR	
11	BURBANK WESTERN SYSTEM	LA TUNA CANYON CHANNEL	VICTORY BOULEVARD	180701050208	SUN VALLEY-BURBANK	533-B1 to 563-H2	27253	RECTANGULAR	
12	CABALLERO CREEK	228 FT U/S OF RESEDA BOULEVARD	LOS ANGELES RIVER	180701050208	TARZANA	560-J4 to 531-A7	13903	RECTANGULAR	
13	CALABASAS CREEK	VALLEY CIRCLE BOULEVARD	LOS ANGELES RIVER	180701050201	WOODLAND HILLS-CANOGA PARK	559-F3 to 530-A6	16270	RECTANGULAR	
14	CHANDLER CANYON CHANNEL	CHANDLER DEBRIS BASIN	GLENCREST AVENUE	180701050208	SUN VALLEY	533-C1 to 533-B2	3295	RECTANGULAR	
15	CHATSWORTH CREEK	D/S FACE OF ROSCOE BOULEVARD	DAYTON CREEK	180701050201	WEST HILLS	529-G2 to 529-G3	1027	RECTANGULAR	
16	CHESEBORO CANYON CHANNEL	DRIVER AVENUE	CORNELL ROAD	180701040102	AGOURA HILLS	558-C6 to 558-A6	6368	RECTANGULAR	
17	DAYTON CREEK	VALLEY CIRCLE BLVD	BELL CREEK	180701050201	WEST HILLS - CANOGA PARK	499-E2 to 499-H5	10718	RECT / TRAP	
18	DRY CANYON (CALABASAS)	1812 FT U/S OF SAN LUIS AVENUE	CALABASAS CREEK	180701050201	WOODLAND HILLS	559-G4 to 559-F3	3223	RECTANGULAR	
19	EAST CANYON CHANNEL	CONFLUENCE OF SYLMAR & STETSON CHANNEL	PACOIMA WASH	180701050206	SYLMAR-PACOIMA	481-G4 to 502-A3	13566	RECTANGULAR	
20	HANSEN HEIGHTS CHANNEL	STONEHURST AVENUE	BURBANK WESTERN SYSTEM	180701050208	SUN VALLEY	503-A5 to 533-B1	8511	RECTANGULAR	
21	LAS VIRGENES CREEK (PD's 492, 1463, 1522, & 1684)	VENTURA COUNTY LINE	190 FT D/S OF PARKMOR	180701040103	CALABASAS	558-H3 to 558-H5	6205	RECTANGULAR	
22	LAS VIRGENES CREEK (PD 2055) - UNIT A	300' U/S OF LOST HILLS RD	600' D/S OF LOST HILLS RD	180701040103	CALABASAS	588-G1	1100	RECTANGULAR	Formerly SBC Reach 31
23	LAS VIRGENES CREEK (PD 2055) - UNIT B	475' UPSTREAM OF MEADOW CREEK LN	222' U/S OF MEDOW CREEK LN	180701040103	CALABASAS	588-G1	253	TRAPEZOIDAL	Formerly SBC Reach 31
24	LIBERTY CANYON CHANNEL (PD's 571 & 572)	757 FT U/S OF COUNTRY GLEN ROAD	1611 FT D/S OF COUNTRY GLEN ROAD	180701040103	AGOURA HILLS	588-E1 to 558-E7	2368	TRAPEZOIDAL	
25	LIMEKILN CREEK	LIMEKILN DEBRIS BASIN	WILBUR DEBRIS BASIN	180701050203	NORTHRIDGE	500-F4 to 500-G7	15798	RECTANGULAR	
26	LINDERO CANYON CHANNEL	LAKE LINDERO ROAD	221 FT D/S OF LAKE LINDERO ROAD	180701040102	AGOURA HILLS	557-G5	221	RECTANGULAR	
27	LOPEZ CANYON CHANNEL	916 FT U/S OF FILMORE STREET	1585 FT D/S OF FOOTHILL BOULEVARD	180701050105	LAKE VIEW TERRACE	482-F6 to 502-G2	8136	RECTANGULAR	
28	LOS ANGELES RIVER (LOWER)	3,369 FT D/S OF SEPULVEDA BASIN	1700 FT D/S LANKERSHIM	180701050208	SHERMAN OAKS-TOLUCA LAKE	561-G2 to 563-B5	37749	RECTANGULAR	
29	LOS ANGELES RIVER (UPPER)	CONFLUENCE OF BELL & CALABASAS CREEKS	100 FT U/S OF MTA TRACKS	180701050208	CANOGA PARK-RESEDA	531-A6 to 531-C7	28986	TRAPEZOIDAL	
30	MANSFIELD CANYON CHANNEL	SCHOOLHOUSE CANYON DEBRIS BASIN	APARAT STREET	180701050206	SYLMAR	481-H2 to 482-J2	1300	RECTANGULAR	must be ARARAT ST.
31	MAY CANYON CHANNEL	MAY DEBRIS BASIN	125 FT D/S OF EGBERT STREET	180701050206	OLIVE VIEW	482-C1	1750	RECTANGULAR	
32	MEDEA CREEK-UPPER (PD'S 1005 & 1231)	THOUSAND OAKS BLVD	535 FT D/S OF KANAN RD	180701040102	AGOURA HILLS	558-A4 to 558-A5	1894	RECT / TRAP	
33	MEDEA CREEK (LOWER)	ROADSIDE DRIVE	613 FT D/S OF AGOURA ROAD	180701040102	AGOURA HILLS	558-A6	1345	RECTANGULAR	
34	TUJUNGA WASH CENTRAL BRANCH (MTD'S 30 & 117 & PD 462)	VANOWEN STREET	LOS ANGELES RIVER	180701050208	NORTH HOLLYWOOD-STUDIO CITY	532-F5 to 563-A5	15252	RECTANGULAR	
35	MTD 646	150 FT U/S OF ROMERO DRIVE	150 FT D/S OF ROMERO DRIVE	180701050208	TARZANA	560-G5	308	RECTANGULAR	
36	MTD 963	1530 FT U/S OF VALLEY CIRCLE BOULEVARD	VALLEY CIRCLE BOULEVARD	180701050201	WEST HILLS	529-D5	1530	RECTANGULAR	

TABLE B-1. Concrete-Lined Channels List

REACH No.	DESCRIPTION	UPSTREAM LIMIT (U/P)	DOWNSTREAM LIMIT (D/S)	HYDRO UNIT CODE	CITY	TG	LF	CHANNEL TYPE	NOTES
WEST AREA - HANSEN YARD									
37	MTD 1008 (F1789)	ACCESS ROAD TO INLET	ACCESS ROAD TO HAVENWAY DEBRIS BASIN	180701050208	BURBANK	533-G3	440	TRAPEZOIDAL	
38	PACOIMA DIVERSION CHANNEL	PACOIMA SPREADING GROUNDS	TUJUNGA WASH	180701050208	PACOIMA-ARLETA	502-A3 to 532-D1	15874	TRAPEZOIDAL	
39	PACOIMA WASH (UPPER)	LOPEZ DEBRIS BASIN	PACOIMA SPREADING GROUNDS	180701050206	SAN FERNANDO-PACOIMA	482-E4 to 502-A4	18681	TRAPEZOIDAL	
40	PACOIMA WASH (LOWER)	PLUMMER STREET	VAN NUYS BOULEVARD	180701050206	PACOIMA-VAN NUYS	502-A4 to 532-A6	16384	TRAP / RECT	
41	PARTHENIA STREET DRAIN	RAYMER STREET	WHITE OAK AVENUE	180701050208	NORTHBRIDGE	531-B1 to 531-B2	1233	ASPHALT	
42	PRIVATE DRAIN 1410	181 FT D/S OF RED BLUFF DRIVE	888 FT U/S OF RED BLUFF DRIVE	180701040103	CALABASAS	558-J4	1068	TRAPEZOIDAL	
43	PRIVATE DRAINS 728 & 936 (RUSSELL AND TRIUNFO CREEKS)	914 FT U/S OF LA TIENDA ROAD	62 FT U/S OF FOXFIELD DRIVE	180701040104	WESTLAKE VILLAGE	557-D5 to 557-C7	6127	TRAPEZOIDAL	
44	PROJECT 107	SAN FERNANDO ROAD	PACOIMA DIVERSION CHANNEL	180701050208	ARLETA-SUN VALLEY	502-F5 to 502-D7	7840	TRAPEZOIDAL	
45	PROJECT 112 (KELVIN CHANNEL)	487 FT U/S OF VENTURA FRWY	LOS ANGELES RIVER	180701050208	WARNER CENTER	560-C2 to 530-C6	3974	RECT / TRAP	
46	PROJECT 461	714 FT D/S OF PIERCE STREET	SAN FERNANDO ROAD	180701050208	PACOIMA	502-D3 to 502-F5	5764	RECTANGULAR	
47	PROJECT 472 & 5226	BALBOA BOULEVARD	LOUISE AVENUE	180701050208	NORTHBRIDGE	531-C2	1947	RECTANGULAR	
48	PROJECT 85	PACOIMA WASH	TUJUNGA WASH	180701050206	NORTH HILLS-VAN NUYS	531-J3 to 532-C4	6135	RECT / TRAP	
49	PROJECT 88	BURNETT AVENUE	PACOIMA WASH	180701050206	NORTH HILLS	531-H1	1595	RECTANGULAR	
50	SANTA SUSANA CREEK	1998 FT U/S OF TULSA STREET	BROWNS CREEK	180701050202	CHATSWORTH	499-J2 to 530-B1	19918	RECTANGULAR	
51	STETSON CANYON CHANNEL	FOOTHILL BOULEVARD	EAST CANYON CHANNEL	180701050204	SYLMAR	481-G2 to 481-G4	4019	RECTANGULAR	
52	TUJUNGA WASH	HANSEN DAM	LOS ANGELES RIVER	180701050208	SUN VALLEY-STUDIO CITY	502-H4 to 562-H5	49938	RECTANGULAR	
54	WILBUR CREEK	CHATSWORTH STREET	ALISO CREEK	180701050203	NORTHBRIDGE	500-H3 to 500-H6	7569	RECTANGULAR	
55	WILSON CANYON CHANNEL	WILSON DEBRIS BASIN	ASTORIA STREET	180701050206	OLIVE VIEW	482-A1 to 482-A3	7320	RECTANGULAR	
56	WILSON CANYON CHANNEL - MAY CANYON LATERAL	FOOTHILL BOULEVARD	WILSON CANYON CHANNEL	180701050206	SYLMAR	482-C4	537	RECTANGULAR	
294	PROJECT 470 HAYVENHURST DRAIN	HAYVENHURST AVE	316' U/S OF HAYVENHURST AVE	180701050208	ENCINO	561-E3	316	TRAPEZOIDAL	
WEST AREA - PICKENS YARD									
57	BLANCHARD CANYON CHANNEL	BLANCHARD DEBRIS BASIN	VERDUGO WASH	180701050207	TUJUNGA	504-C4 to 504-C7	5,283	RECTANGULAR	
58	BLUE GUM CANYON CHANNEL	BLUE GUM DEBRIS BASIN	90 FT D/S OF BLUE GUM DEBRIS BASIN	180701050105	TUJUNGA	504-B4	90	RECTANGULAR	
59	CLOUD CREEK CHANNEL	CLOUD CREEK DEBRIS BASIN	950 FT D/S OF CLOUD CREEK DEBRIS BASIN	180701050207	LA CRESCENTA	504-F5	978	RECTANGULAR	
60	COOKS CANYON CHANNEL	COOKS DEBRIS BASIN	VERDUGO WASH	180701050207	GLENDALE-TUJUNGA	504-D5 to 504-C7	5,743	RECTANGULAR	
61	DUNSMUIR CANYON CHANNEL	DUNSMUIR DEBRIS BASIN	VERDUGO WASH	180701050207	GLENDALE	504-E5 to 534-E1	8,303	RECTANGULAR	
62	EAGLE CANYON CHANNEL-UPPER (PD'S 503, 607, 670, & 3081)	STARFALL DEBRIS BASIN	EAGLE CANYON DEBRIS BASIN	180701050207	LA CRESCENTA	504-G5 to 504-G6	4,397	RECTANGULAR	
63	EAGLE CANYON CHANNEL-LOWER (ACOE PROJECT)	EAGLE CANYON DEBRIS BASIN	VERDUGO WASH	180701050207	LA CRESCENTA-GLENDALE	504-G6 to 534-E2	6,962	RECTANGULAR	
64	FLINT CANYON CHANNEL	WOODLEIGH AVENUE	800 FT D/S OF PARADISE CANYON CHANNEL CONFLUENCE	180701050209	LA CANADA FLINTRIDGE	535-C5 to 535-D5	2,026	RECTANGULAR	
65	FLINT CYN CHNL - WOODLEIGH DRAIN	BERKSHIRE AVENUE	FLINT CANYON CHANNEL	180701050209	LA CANADA FLINTRIDGE	535-C5 to 535-D5	323	RECTANGULAR	
66	GOULD CANYON CHANNEL	GOULD CANYON DEBRIS BASIN	PARADISE CANYON CHANNEL	180701050209	LA CANADA FLINTRIDGE	535-C2 to 535-D3	4,297	RECTANGULAR	
67	HAINES CANYON CHANNEL	40 FT U/S OF PLAINVIEW AVENUE	833 FT D/S OF WENTWORTH STREET	180701050208	TUJUNGA-SUNLAND	503-J4 to 503-F2	9,481	RECTANGULAR	
68	HALLS CANYON CHANNEL	HALLS CANYON DEBRIS BASIN	OAKMONT DEBRIS BASIN	180701050207	LA CANADA FLINTRIDGE-GLENDALE	534-J1 to 534-G4	8,076	RECTANGULAR	
69	HAY CANYON CHANNEL	HAY CANYON DEBRIS BASIN	FLINT CANYON CHANNEL	180701050209	LA CANADA FLINTRIDGE	535-A1 to 535-B4	9,674	RECTANGULAR	
70	OAK CREEK	138 FT D/S OF OAK CREEK DEBRIS BASIN	QUAIL CREEK	180701050207	LA CRESCENTA	504-F5	1,726	RECTANGULAR	
71	PARADISE CANYON CHANNEL	FOOTHILL BOULEVARD	FLINT CANYON CHANNEL	180701050209	LA CANADA FLINTRIDGE	535-D4 to 535-D5	2,043	RECTANGULAR	

TABLE B-1. Concrete-Lined Channels List

REACH No.	DESCRIPTION	UPSTREAM LIMIT (U/P)	DOWNSTREAM LIMIT (D/S)	HYDRO UNIT CODE	CITY	TG	LF	CHANNEL TYPE	NOTES
WEST AREA - PICKENS YARD									
72	PICKENS CANYON CHANNEL	PICKENS DEBRIS BASIN	VERDUGO WASH	180701050207	LA CRESCENTA-GLENDALE	534-H1 to 534-G3	6,247	RECTANGULAR	
73	QUAIL CREEK CHANNEL	CONFLUENCE OF OAK CREEK AND CLOUD CREEK	EL CAMINITO	180701050207	LA CRESCENTA	504-F6	2,336	RECTANGULAR	
74	ROWLEY CANYON CHANNEL	ROWLEY DEBRIS BASIN	TUJUNGA CANYON BOULEVARD	180701050105	TUJUNGA	504-A2 to 504-J2	533	RECTANGULAR	TG ... 503-J2
75	SHIELDS CANYON CHANNEL	SHIELDS DEBRIS BASIN	EAGLE CANYON SPS	180701050207	LA CRESCENTA	504-F6 to 504-G6	1,488	RECTANGULAR	
76	SNOVER CANYON CHANNEL	SNOVER CANYON DEBRIS BASIN	HALLS CANYON DEBRIS BASIN	180701050207	LA CANADA FLINTRIDGE	504-J7 to 534-J1	2,236	RECTANGULAR	
77	SYCAMORE CANYON CHANNEL	DOLORES STREET	FLETCHER DRIVE	180701050210	ATWATER VILLAGE	594-F1	388	RECTANGULAR	FIVE SMALL OPEN SECTIONS OF CHANNEL PLACED FOR EQUIPMENT ACCESS INTO MUCH LARGER UNDERGROUND FACILITY
78	VERDUGO WASH (LOWER)	OAKMONT VIEW DEBRIS BASIN	LOS ANGELES RIVER	180701050207	GLENDALE	534-G4 to 564-B4	24,328	RECT / TRAP	
79	VERDUGO WASH (UPPER)	CONFLUENCE OF BLANCHARD AND COOKS	OAKMONT DEBRIS BASIN	180701050207	TUJUNGA-GLENDALE	504-C7 to 534-G4	16,823	RECTANGULAR	
80	WEBBER CANYON CHANNEL	912 FT U/S OF SNOVER CANYON CHANNEL	SNOVER CANYON CHANNEL	180701050207	LA CANADA-FLINTRIDGE	504-J7 to 534-J1	912	RECTANGULAR	
81	WINERY CANYON CHANNEL	WINERY CANYON DEBRIS BASIN	FLINT CANYON CHANNEL	180701050209	LA CANADA-FLINTRIDGE	535-A1 to 535-A4	8,215	RECTANGULAR	INCLUDES BOTH ARMY CORP AND LACFCD PORTIONS
82	ZACHAU CANYON CHANNEL	ZACHAU DEBRIS BASIN	423 FT D/S OF ZACHAU DEBRIS BASIN	180701050105	SUNLAND	503-J1	1,323	RECTANGULAR	TG ... J2
WEST AREA - SANTA CLARA YARD									
83	BOUQUET CANYON CHANNEL (PD 2225)	BOUQUET CANYON ROAD	173 FT D/S OF NEWHALL RANCH ROAD	180701020202	SANTA CLARITA	4550-H2	2,078	RECTANGULAR	
84	CDR 523.071-C & 523.071-D	550 FT SOUTH OF WISHBONE LANE	1050 FT NORTH OF GOLDEN OAK ROAD	180701020107	SANTA CLARITA	4551-C3 to 4551-B3	1,327	TRAPEZOIDAL	
85	CDR 523.071-E	EAST OF GLADDING WAY	EAST OF SQUIB STREET	180701020107	SANTA CLARITA	4551-B3 to 4551-A3	1,815	TRAPEZOIDAL	
86	CDR 523.081	OAK AVENUE	COTTONWOOD AVENUE	180701020107	SANTA CLARITA	4551-C2	2,418	TRAPEZOIDAL	
87	CDR 525.014	CASTAIC ROAD	LAKE HUGHES ON RAMP TO THE GOLDEN STATE FREEWAY	180701020301	CASTAIC	4369-G6	115	TRAPEZOIDAL	
88	DRY CANYON-SAUGUS (PD'S 928, 1106, 1256, 1954, 1971, & 2225)	920 FT U/S OF BOXWOOD LANE	BOUQUET CANYON CHANNEL	180701020202	SANTA CLARITA	4460-J2 to 4550-H1	16,941	RECT / TRAP	
89	HASKELL CANYON CHANNEL	COPPER HILL DRIVE	BOUQUET CANYON CHANNEL	180701020202	SAUGUS-SANTA CLARITA	4461-B4 to 4461-B6	5,404	RECT / TRAP	
90	LYON CHANNEL	576 FT U/S OF SANTA CLARA RIVER-SOUTH FORK	SANTA CLARA RIVER-SOUTH FORK	180701020401	SANTA CLARITA	4640-F2	576	RECT / TRAP	
91	NEWHALL CREEK	SAN FERNANDO ROAD	1069 FT D/S OF 15TH STREET	180701020401	SANTA CLARITA	4550-J7 to 4550-H7	3,188	RECTANGULAR	
92	PLUM CANYON CHANNEL (PD'S 625-B & 1540)	1339 FT U/S OF RODGERS DRIVE	BOUQUET CANYON CHANNEL	180701020202	SANTA CLARITA	4461-E6 to 4461-C5	3,975	TRAPEZOIDAL	PD 1540 (Sta. 41+75.37 - Sta. 11+58.54) PD 625-B (Sta. 11+58.54 - Sta. 2+00.19)
93	PORRETTA CHANNEL (PD'S 246, 266, & 313)	WICCI STREET	SANTA CLARA RIVER	180701020107	SANTA CLARITA	4551-G2 to 4551-E2	5,908	TRAPEZOIDAL	PD 246 (Sta. 31+77.42 - Sta. 2+36.21) PD 266 (Sta. 14+24.21 - Sta. 1+96) PD 313 (Sta. 17+33.15 - 0+00)
94	PRIVATE DRAIN 1089 - CROCKER CHANNEL	CROCKER DEBRIS BASIN	1138 FT D/S OF CROCKER DEBRIS BASIN	180701020202	SANTA CLARITA	4460-B7	1,384	TRAPEZOIDAL	Sta. 14+84 to Sta. 14+00
95	PRIVATE DRAIN 1621	133 FT U/S OF RUE ENTRÉE	OAK SPRING CANYON ROAD	180701020107	SANTA CLARITA	4552-D1	1,323	RECTANGULAR	Sta. / 22+36.88 to Sta. 9+13.83
96	PRIVATE DRAIN 1821	HASLEY CANYON ROAD	SALEM COURT	180701020306	CASTAIC	4459-H5	533	TRAPEZOIDAL	PD 1821 (Sta. 18+13 to Sta. 11+90) PD 2484 (Sta. 12+79.69 - Sta. 11+90) reconstructed as RCB
97	PRIVATE DRAIN 1869	SHEFFIELD LANE	SAN FERNANDO ROAD	180701020403	SANTA CLARITA	4550-H5 to 4550-J6	2,480	TRAPEZOIDAL	Line A (Sta. 21+28.59 - Sta. 8+87), Line B (Sta. 12+38.04 to Sta. 0+00)
98	PRIVATE DRAIN 1894 - MINT CANYON CHANNEL	270 FT U/S OF SOLEDAD CANYON ROAD	SANTA CLARA RIVER	180701020106	SANTA CLARITA	4551-J3	1,377	RECTANGULAR	108 FEET OF GROUDED ROCK AT UPSTREAM END Sta. 20+51.88 - Sta. 6+75
WEST AREA - SANTA CLARA YARD									
99	PRIVATE DRAIN 1991 - MINT CANYON CHANNEL	SOLAMINT ROAD	483 FT D/S OF SOLAMINT ROAD	180701020106	SANTA CLARITA	4551-J2 to 4551-J3	203	RECTANGULAR	Sta. 26+82.80 to Sta. 24+80
100	PRIVATE DRAIN 2012 - OUTLET	200' NW of Intersection of Technology Dr. & Stanford Ave.		180701020202	SANTA CLARITA	4460-A7	85	SWALE	BIOLOGICAL SURVEY OF LOCATION INCLUDED IN APPLICATION
101	PRIVATE DRAIN 771 & 911	1840 FT U/S OF GRANDIFLORAS ROAD	620 FT D/S OF BEGONIAS LANE	180701020107	SANTA CLARITA	4462-G5 to 4462-G6	5,176	TRAPEZOIDAL	PD 771 (Sta. 37+43 - Sta. 4+37.15) PD 911 (Sta. 55+57.89 Sta. 36+88.23)
102	PRIVATE DRAIN 832	SIERRA HIGHWAY	SANTA CLARA RIVER	180701020106	SANTA CLARITA	4551-H4	827	TRAPEZOIDAL	Sta. 4+86 to Sta. 13+13.41

TABLE B-1. Concrete-Lined Channels List

REACH No.	DESCRIPTION	UPSTREAM LIMIT (U/P)	DOWNSTREAM LIMIT (D/S)	HYDRO UNIT CODE	CITY	TG	LF	CHANNEL TYPE	NOTES
103	PROJECT 1224	727 FT D/S OF PEARLBLOSSOM HIGHWAY	AVENUE T	180701020201	LITTLE ROCK	4377-H1 to 4287-H5	7,329	RECTANGULAR	Sta. 93+70 to Sta. 20+41.06
104	RYE CANYON CHANNEL	RYE CANYON ROAD	CALTRANS RECTANGULAR CHANNEL	180701020202	SANTA CLARITA	4460-D7 to 4460-B7	5,590	RECT / TRAP	
105	SANTA CLARA RIVER SOUTH FORK - GAVIN CHANNEL	1305 FT U/S OF CONFLUENCE WITH LYON CHANNEL	374 FT D/S OF LYONS AVENUE	180701020401	SANTA CLARITA	4640-F2 to 4640-F1	4,800	RECTANGULAR	
106	VIOLIN CANYON CHANNEL-LOWER (LACFCO & PD 2275)	967 FT U/S OF LAKE HUGHES ROAD	1463 FT D/S OF RIDGE ROUTE ROAD	180701020306	CASTAIC	4369-G6 to 4369-H7	4,534	RECT / TRAP	380 FEET OF GROUTED ROCK AT DOWNSTREAM END
107	VIOLIN CANYON CHANNEL-UPPER (PD 2275)	138 FT U/S OF SIEERA OAK TRAIL	THE OLD ROAD	180701020306	CASTAIC	4369-F5	983	TRAPEZOIDAL	
108	WHITES CANYON CHANNEL (PD 453, 704, & 758)	870 FT U/S OF FOXLANE DRIVE	GLASSER AVENUE	180701020107	SANTA CLARITA	4551-G1 to 4551-F1	4,874	RECT / TRAP	
EAST AREA - LONGDEN YARD									
109	ALVARDO CHANNEL	Honore St	80 Fwy	180701060502	ROWLAND HTS	679 B4-B5	2,689	RECTANGULAR/ TRAPEZOIDAL	
110	BADILLO CREEK	Grand Ave	Charter Oak Wash	180701060402	COVINA	599 D5	1,215	RECTANGULAR	
111	BAKER WASH	Azusa Ave	Merced Ave	180701060502	WEST COVINA	639 A3	1,250	TRAPEZOIDAL	
112	BASSETT CHANNEL (BI 528)	3rd Avenue	San Gabriel River	180701060601	INDUSTRY	637 J4	6,881	RECTANGULAR	
113	BATSON CHANNEL (PD 275)	Batson Ave	Mescal St	180701060502	ROWLAND HTS	679 A6	695	TRAPEZOIDAL	
114	BEATTY CHANNEL	Beatty Ave.	San Gabriel River	180701060601	AZUSA	568 F4	324	TRAPEZOIDAL	
115	BIG DALTON WASH	Big Dalton DB	Walnut Creek	180701060402	GLENDORA	569 H2	56,880	RECTANGULAR	
116	BRADBURY CHANNEL	Bradbury DB	Santa Fe SG	180701050302	BRADBURY	568 B3	4,601	RECTANGULAR	
117	BREA CANYON CHANNEL	Pathfinder Rd	Castle Rock Rd	180701060502	DIAMOND BAR	679 J5-H7	9,650	TRAPEZOIDAL	
118	BUENA VISTA CHANNEL	Santa Fe Channel	Sawpit Wash	180701050302	IRWINDALE	598 A1	6,100	TRAPEZOIDAL	
119	CHARTER OAK CHANNEL	Covina Blvd	Bonnie Cove Ave	180701060402	COVINA	599 G3, F4	2,080	RECTANGULAR/ TRAPEZOIDAL	
120	CHARTER OAK WASH	San Bernardino Rd	Walnut Creek	180701060402	COVINA	599 D4-B7	5,816	RECTANGULAR	
121	CHIMES CHANNEL	Huntington Drive	Highland Avenue	180701050302	DUARTE	568 B5	1,050	RECTANGULAR	
122	CHINO CREEK	Garey Ave	Riverside Drive	180701060501	POMONA	643 A6-7	4,404	RECTANGULAR	
123	CLARK CHANNEL (PD 58)	Clark Ave	Folkstone Ave	180701060603	INDUSTRY	637 J7	901	TRAPEZOIDAL	
124	DIAMOND BAR CHANNEL	Prospectors Rd	Sunset Crossing Rd	180701060501	DIAMOND BAR	640 B6	3,826	TRAPEZOIDAL	
125	DOUBLEGROVE CHANNEL	Mill Creek	Indian Summer Ave	180701060502	WEST COVINA	638 J3-G3	4,788	TRAPEZOIDAL	
126	DOVE CREEK	Renault St	Hurley St	180701060502	INDUSTRY	678 J1-J2	3,651	TRAPEZOIDAL	
127	DUARTE CHANNEL (BI 30)	Duarte Road	Buena Vista	180701050302	DUARTE	568 A5	3,254	TRAPEZOIDAL	
128	EMERALD WASH	Emerald DB	Live Oak Wash	180701060402	LA VERNE	600 F2	10,886	RECTANGULAR	
129	ENGLEWILD CHANNEL	Englewild DB	Sierra Madre Ave	180701060402	GLENDORA	569 F2-4	4,055	RECTANGULAR	
130	PIREY AVENUE CHANNEL	Arrow Hwy	Puddingstone Channel	180701060402	LAVERNE	600 D3	804	RECTANGULAR	
131	FRANKTON CHANNEL	Folkstone Ave	Seventh Ave	180701060502	HACIENDA HTS	677 H1	1,704	TRAPEZOIDAL	
132	FULLERTON CHANNEL	Galatina St	Sunrise Dr	180701060604	ROWLAND HTS	678 J6	6,675	TRAPEZOIDAL	
133	GIANO CHANNEL	Gendel Dr	La Seda Rd	180701060502	WEST COVINA	679 A1-B1	7,955	TRAPEZOIDAL	
134	HACIENDA CHANNEL	Newton St	San Jose	180701060502	INDUSTRY	678 B1	14,055	RECTANGULAR/ TRAPEZOIDAL	
135	HOOK CANYON CHANNEL (BI 1120)	Hook Canyon DB	Little Dalton Wash	180701060402	GLENDORA	569 C3	2,920	RECTANGULAR	
136	LAWRENCE CHANNEL (PD 51)	Halliburton Rd	Stimson Ave	180701060502	INDUSTRY	678 C3	1,200	TRAPEZOIDAL	
137	LENORE CHANNEL	Wildflower Rd	Rio Hondo Channel	180701050303	ARCADIA	597 E4	1,050	TRAPEZOIDAL	

TABLE B-1. Concrete-Lined Channels List

REACH NO	DESCRIPTION	UPSTREAM LIMIT (U/P)	DOWNSTREAM LIMIT (D/S)	HYDRO UNIT CODE	CITY	TG	LF	CHANNEL TYPE	NOTES
EAST AREA - LONGDEN YARD									
138	LITTLE DALTON DIVERSION	Little Dalton Diversion DB	Big Dalton Wash	180701060402	GLENDORA	569 H3	2,014	RECTANGULAR	
139	LITTLE DALTON WASH	Loraine Ave	Big Dalton Wash	180701060402	GLENDORA	598 H2	32,700	RECTANGULAR	
140	LIVE OAK WASH	Live Oak DB	Puddingstone Dam	180701060402	LA VERNE	571A6-600E4	18,444	RECTANGULAR	
141	LYCOMING CHANNEL	Brea Canyon Rd	Dryander Dr	180701060502	DIAMOND BAR	679 G2	3,529	TRAPEZOIDAL	
142	MARSHALL CANYON CHANNEL	East and West Fork Inlets	Live Oak Wash	180701060402	LA VERNE	600 F2	13,265	RECTANGULAR	
143	MORGAN CREEK	Morgan DB	Palopinto Rd	180701060402	GLENDORA	569 J6	3,989	RECTANGULAR	
144	MTD 184	Campus Dr	57 Frwy	180701060501	POMONA	558 B6	1,570	RECTANGULAR	
145	NOGALES CHANNEL (BI 4350)	Nogales St	San Jose Creek	180701060502	INDUSTRY	679 C3	1,551	RECTANGULAR	
146	PD 215	Peck Road	60 Frwy	180701060606	EL MONTE	637 C5	666	RECTANGULAR	
147	PECK ROAD CHANNEL (BI 25)	Duarte Road	Peck Road	180701050302	MONROVIA	567 G6	2,133	RECTANGULAR	
148	PEPPERBROOK CHANNEL	Colima Rd	Rail Road Track	180701060502	ROWLAND HTS	678 F3	8,176	TRAPEZOIDAL	
149	PIERRE CHANNEL (PD 564)	Pierre Rd	Divonne Dr	180701060502	WALNUT	639 F7	908	TRAPEZOIDAL	
150	PUDDINGSTONE CHANNEL	Puddingstone Diversion Dam	Live Oak Wash	180701060402	LAVERNE	600 D2	14,170	RECTANGULAR	
151	PUENTE CREEK	Azusa Ave	San Jose Creek	180701060502	INDUSTRY	638 G6-A7	25,698	RECTANGULAR	
152	PUENTE CREEK - SOUTH FORK (PD 37 & 211)	Temple Ave	Puente Creek	180701060502	VALINDA	638 G6	2,130	TRAPEZOIDAL	
153	SAN DIMAS WASH	Foothill Blvd	Big Dalton Wash	180701060402	COVINA-ETC	599 A3	35,863	RECTANGULAR	
154	SAN JOSE CREEK - SOUTH FORK	Mission Blvd	San Jose Creek	180701060501	POMONA	639 H7	13,901	RECTANGULAR/ TRAPEZOIDAL	
155	SAN JOSE CREEK	Ganessa	San Gabriel River	180701060502	INDUSTRY	679 D3	92,511	RECTANGULAR	Permit excludes soft-bottom portion
156	SANDALWOOD CHANNEL (PD 64)	Sandalwood Ave	Salas St	180701060502	LA PUENTE	678 H1	1,054	TRAPEZOIDAL	
157	SANTA ANITA WASH	Santa Anita SB	Peck Road SB	180701050302	ARCADIA	567 E1	25,700	RECTANGULAR	
158	SANTA FE DIVERSION CHANNEL	San Gabriel River	Buena Vista Channel	180701050302	IRVINDALE	598 A1	4,105	TRAPEZOIDAL	
159	SAWPIT WASH	Sawpit DB	Peck Road SB	180701050302	MONROVIA	567 H1	26,132	TRAPEZOIDAL	
160	STIMSON CHANNEL	Fieldgate Ave	Stimson Ave	180701060502	HACIENDA HEIGHTS	678 D3	7,097	TRAPEZOIDAL	
161	THOMPSON CREEK	Thomson Creek Dam	White Ave	180701060501	CLAREMONT	571 D4-600 H6	30,800	RECTANGULAR	
162	VALLECITO CHANNEL (PD 164)	Gale Ave	Shadybend Dr	180701060502	HACIENDA HEIGHTS	678 B2	1,329	TRAPEZOIDAL	
163	VALLEY CHANNEL	Valley Blvd	Fenmead St	180701060502	WEST COVINA	679 A2 - B2	4,132	TRAPEZOIDAL	
164	VERNON CHANNEL	Batson Ave	Sierra Leone Ave	180701060502	ROWLAND HEIGHTS	679 A4-5	3,602	TRAPEZOIDAL	
165	WALNUT CREEK	Covina Hills Rd	San Gabriel River	180701060403	COVINA	638 A1	41,160	RECTANGULAR	Permit excludes soft-bottom portion
166	WARRINGWOOD CHANNEL	Waringwood Rd	Valley Blvd	180701060502	LA PUENTE	678 E1	1,644	TRAPEZOIDAL	
EAST AREA - EATON YARD									
167	ALHAMBRA WASH	Valley Blvd	Rio Hondo Wash	180701050303	SAN GABRIEL&ROSE	596 D6	15,160	RECTANGULAR	
168	ARCADIA WASH - EAST BRANCH	Orange Grove	Huntington Dr	180701050302	ARCADIA	567 B5	7,192	RECTANGULAR	
169	ARCADIA WASH - LIMA STREET	Carter Ave	Foothill Blvd	180701050302	ARCADIA-SIERRA M	566 J2	11,861	RECTANGULAR	
170	ARCADIA WASH - MAIN BRANCH	Campus Dr	Rio Hondo Channel	180701050302	ARCADIA	567 B5	14,736	RECTANGULAR	
171	ARROYO SECO CHANNEL	Devils Gate Dam	LA River	180701050209	PASADENA	535 E6	47,780	RECTANGULAR/ TRAPEZOIDAL	
172	DORCHESTER AVENUE CHANNEL (BI 65)	Gravois Ave	Valley Blvd	180701050303	EL SERENO	635 G1	1,375	RECTANGULAR	
173	EATON WASH	Eaton Dam	Rio Hondo Wash	180701050301	PAS.,T.C.,EL MON	566 EF1	42,366	RECTANGULAR	
174	GOOSEBERRY CREEK	Gooseberry Inlet	Gooseberry DB	180701050301	ALTADENA	536 C5	1,519	RECTANGULAR	
175	HASTINGS CHANNEL	Hastings Channel Inlet	Sierra Madre Villa DB	180701050301	PASADENA	536 H7	646	RECTANGULAR	
176	KINNELOA CHANNEL (PD 84)	Kinneloa DB	Kinclair Dr	180701050301	PASADENA	536 FG-7	3,376	RECTANGULAR/ TRAPEZOIDAL	
177	KINNELOA CHANNEL WEST BRANCH	Kinneloa DB West Branch	Kinneloa Channel	180701050301	PASADENA	536 F6	422	RECTANGULAR	
178	LAS FLORES DIVERSION	Las Flores DB	Rubio	180701050301	ALTADENA	536 B4	85	RECTANGULAR	

TABLE B-1. Concrete-Lined Channels List

(revised July 2014)

REACH No.	DESCRIPTION	UPSTREAM LIMIT (U/P)	DOWNSTREAM LIMIT (D/S)	HYDRO UNIT CODE	CITY	TG	LF	CHANNEL TYPE	NOTES
179	MILL CREEK	South of Sherwood Rd	Mill Creek	180701050303	SAN GABRIEL	596 C2	2,510	RECTANGULAR	
180	RIO HONDO CHANNEL	Peck Road SB	Rosemead Blvd	180701050303	EL MONTE	597 F3-B7	19,150	TRAPEZOIDAL	
181	RUBIO DIVERSION	Rubio Wash	Altadena Drive	180701050303	ALTADENA	536 B4	1,92B	TRAPEZOIDAL	
182	RUBIO WASH	Rubio DB	Rio Hondo Channel	180701050303	ALTADENA/ROSEMEAD	536B4-636I2	22,155	RECTANGULAR	
EAST AREA - EATON YARD									
183	SIERRA MADRE VILLA CHANNEL	Sierra Madre Villa Channel SB	Eaton Wash	180701050301	PASADENA	566 G2	3,465	RECTANGULAR	
184	SIERRA MADRE WASH	South Madre Dam	Santa Anita Wash	180701050302	SIERRA MADRE	537 C7 - 567 D3	9,979	RECTANGULAR	
SOUTH AREA - IMPERIAL YARD									
185	BALLONA CREEK	btwn La Salle Ave & Overland	Centinela Ave	180701060606	LOS ANGELES	672 D7	22,175	RECTANGULAR	
186	CENTINELA CREEK	Jefferson	Ballona	180701040300	LOS ANGELES	672 D7	9,600	RECTANGULAR	
187	COYOTE CREEK	North Fork Coyote Creek	San Gabriel River	180701060606	LONG BEACH	738 A1	34,510	TRAPEZOIDAL	
188	COYOTE CREEK NORTH FORK	Candlewood Country Club	Coyote Creek	180701060602	CERRITOS	707 G5	21,346	TRAPEZOIDAL	
189	DOMINGUEZ CHANNEL [120th St. to Henry Ford]	120th St.	Vermont Ave	180701060102	GARDENA	763 J1	67,992	TRAPEZOIDAL	
190	EAST LA COLLEGE DRAIN	Dorner	First St	180701050303	LOS ANGELES CO	635 H6	617	RECTANGULAR	
191	PD 21 [Holly Park Drain]	Crenshaw	El Segundo	180701060102	GARDENA	733 H2	7,619	TRAPEZOIDAL	
192	LEFFINGWELL CREEK	Santa Fe St	Hawes St	180701060602	LOS ANGELES CO	707 G5	3,445	RECTANGULAR	
193	LOS ANGELES RIVER	Southern Ave.	Willow Street	180701050402	LONG BEACH	735	67,261	TRAPEZOIDAL	
194	LOS CERRITOS CHANNEL	Candlewood St	PCH	180701060606	LONG BEACH	766 D7	18,182	RECTANGULAR	
195	SAN GABRIEL RIVER	Firestone Blvd	Coyote Creek Confluence	180701060606	LONG BEACH	637 F4	110,458	TRAPEZOIDAL	
196	SANTA MONICA CYN CHANNEL [Pacific Ocean to Sunset Blvd]	Adolfo Dr.	PCH	180701040402	LOS ANGELES	631 D5	16,432	RECTANGULAR	
197	SEPULVEDA CHANNEL	Sunset [Orange County]	Ballona Creek [Venice]	180701040300	LOS ANGELES	672 D1- F5	10,639	RECTANGULAR	
198	COMPTON CREEK EAST BRANCH No. 2	Santa FE	Compton Creek/Artesia	180701050402	COMPTON	735 B7	3,452	TRAPEZOIDAL	
199	EAST COMPTON CREEK No. 1	Main St	120th st	180701050402	COMPTON	735 B7	2,102	TRAPEZOIDAL	
200	CENTINELA CREEK LOWER	La Tijera	Jefferson	180701040300	LOS ANGELES	672 D7	5,530	RECTANGULAR	
202	DDI 9	Scott Ave	Coyote NF	180701060602	LOS ANGELES CO	707 G5	5,610	RECTANGULAR	
203	Milan Creek	Valley View	PD 212 / Collamer Dr	180701060602	LA MIRADA	737 D3	10,066	TRAPEZOIDAL	
204	McKinley ave Drain	Avalon Blvd	Walnut St	180701060102	CARSON	678D4	1,120	TRAPEZOIDAL	
205	PD 1 [La Mirada Creek]	La Mirada Blvd	Rosecrans	180701060602	LA MIRADA	737 G3	1,017	TRAPEZOIDAL	
206	PD 20 [La Mirada Creek]	Elmbrook Dr.	San Feliciano Dr./PD 31	180701060602	LA MIRADA	737 F4	3,669	TRAPEZOIDAL	
207	PD 31 [La Mirada Creek]	Excelsior	Stage Rd	180701060602	LA MIRADA	737 F4	963	TRAPEZOIDAL	
209	PD 40 [DDI 9]	LA RR	Starbuck St.	180701060602	WHITTIER	707 J4	1,906	TRAPEZOIDAL	
210	PD 52 [Tacobi Creek]	Cole Rd	Bluefield Ave	180701060602	WHITTIER	707 G5	874	TRAPEZOIDAL	
211	Tacobi Creek	Bluefield Ave	Leffingwell Creek	180701060602	WHITTIER	707 G5	873	TRAPEZOIDAL	
213	PD 132 [Los Cerritos Drn System]	Allington St	PD 154	180701060602	LAKEWOOD	766 D2	1,310	TRAPEZOIDAL	
214	PD 138 [Prej No 1201]	232nd	Galavan st	180701060701	CARSON	794B1	336	TRAPEZOIDAL	
215	PD 142 [La Mirada Creek]	Stage Rd	Coyote Creek	180701060602	LA MIRADA	737 D4	3,792	TRAPEZOIDAL	
216	PD 154 [Los Cerritos Drain System]	PD 132/Mayfair HS	Esther Lindstrom Elem School	180701060602	LAKEWOOD	766 D2	289	TRAPEZOIDAL	
217	PD 162 [La Canada Verde]	Enramada ave.	Mar Vista St.	180701060602	WHITTIER	707 G1	1,108	TRAPEZOIDAL	
218	PD 168 [208Th St Drain]	Normandie	New Hampshire	180701060102	LOS ANGELES CO	764 A6	1,985	TRAPEZOIDAL	
219	PD 181 [208Th St Drain]	New Hampshire	Torrance/Vermont	180701060102	LOS ANGELES CO	764 B5	2,547	TRAPEZOIDAL	
220	PD 187 [La Mirada Creek]	First Ave	Ocean Ave	180701060602	LAC	708 A7	649	TRAPEZOIDAL	

TABLE B-1. Concrete-Lined Channels List

REACH No.	DESCRIPTION	UPSTREAM LIMIT (U/P)	DOWNSTREAM LIMIT (D/S)	HYDRO UNIT CODE	CITY	TG	LF	CHANNEL TYPE	NOTES
221	PD 190 [Gridley Drain]	Chadwell Rd	San Gabriel River	180701060606	LAKEWOOD	766 G4	3,922	TRAPEZOIDAL	
222	PD 192 [La Mirada Creek]	Ocean/PD 187	Breezewood Ave	180701060602	LAC	707 J7	1,137	TRAPEZOIDAL	
223	PD 204 [La Mirada Creek]	PD 132	Santa Gertrude	180701060602	LOS ANGELES CO	707 J7	1,105	TRAPEZOIDAL	
224	PD 212 [Mc Kinley ave Drain]	E. 192st	Victoria St	180701060102	CARSON	764 D2	3,189	TRAPEZOIDAL	
225	PD 214 [La Mirada Creek]	Victoria St	E. 192nd St	180701060602	LOS ANGELES CO	708 A7	1,050	TRAPEZOIDAL	
226	PD 220 [La Mirada Creek]	Union Pac RR	Lambert	180701060602	LOS ANGELES CO	708 A6	691	TRAPEZOIDAL	
227	PD 221 [La Mirada Creek]	Maybrook Ave	Union Pac RR	180701060602	LA MIRADA	708 A6	563	TRAPEZOIDAL	
228	PD 243 [Rue La Havre Drn]	888' U/S of Palos Verdes	Palos Verdes Dr. W	180701060701	RANCHO PALOS VERDES	822 F3	888	TRAPEZOIDAL	
SOUTH AREA - IMPERIAL YARD									
229	PD 306 [Trancas Creek]	Paseo Cyn Dr	Paseo Cyn Dr	180701040203	MALIBU	627 A7	1,988	TRAPEZOIDAL	
230	PD 536 [Gridley Drain]	Tangent	Chadwell St./PD 190	180701060606	LAKEWOOD	766 F4	609	TRAPEZOIDAL	
231	PD 654 [Del Amo Channel]	Del Amo	Avalon PP	180701060102	CARSON	764-E4	904	TRAPEZOIDAL	
232	PD 658 [Trancas Creek]	Del Mar Azul	Paseo Cyn Dr	180701040203	MALIBU	627 A7	977	TRAPEZOIDAL	
233	PD 669 [Del Amo Channel]	Central	Del Amo	180701060102	CARSON	764G4	5,780	TRAPEZOIDAL	
234	PD 674 [Del Amo Channel]	Tillman	PD 654	180701060102	CARSON	764 G4	2,195	TRAPEZOIDAL	
235	PD 882 [Compton Creek]	Las Hermanas	Reyes Ave	180701050402	RANCHO DOMINGUEZ	765 B2	643	TRAPEZOIDAL	
236	PD 947 [U-B Rolling Hills Estates]	500 D/S N. Palos Verde Dr.	Crenshaw	180701060701	LOS ANGELES CO	793 C7	1,100	TRAPEZOIDAL	
237	PD 1130 [Agua Amarga Cyn]	Crest Verde Rd	Crest Verde Rd	180701040500	ROLLING HILLS	822 H2	857	TRAPEZOIDAL	
238	PD 1686 [Pacific Ocean]	S/L Seacove Dr. /30 RLP	Pacific Ocean	180701060701	RANCHO PALOS VERDES	822 H5	35	TRAPEZOIDAL	
239	RIO HONDO CHANNEL	Whittier Narrow Dam	LA River	180701050303	SOUTH GATE	676 E3	43,004	RECTANGULAR	
240	PROJ 9 [Los Cerritos U-1 Line F] - Bouton Creek	Clark Ave	Los Cerritos Channel/ Anaheim St	180701060606	LONG BEACH	796 B2	27,209	RECTANGULAR	
241	PROJ 15 [A-2 Sorenson Ave]	Slauson	Telegraph	180701060603	LOS ANGELES CO	707 C5	16,063	RECTANGULAR	
242	PROJ 16 [U-A Cerritos-MAP]	Trabuco St	San Gabriel River	180701060606	BELLFLOWER	736 D6	3,649	RECTANGULAR	
243	PROJ 17 [Calmada Ave to Oak St]	Mulberry Dr.	Calmada/ Sorenson Av. Dam	180701060603	LOS ANGELES CO	706 H5	1,426	RECTANGULAR	
244	PROJ 17 [U-2 Michigan Ave]	Mulberry Dr.	Oak St	180701060603	LOS ANGELES CO	707 C4	4,263	RECTANGULAR	
245	PROJ 21 [Artesia Norwalk Unit 2 Line A]	Garyland Ave.	Del Amo/ Coyote Creek	180701060602	CERRITOS	767 A4	5,097	RECTANGULAR	
246	PROJ 21 [Artesia Norwalk Line C]	Centralia	Coyote Creek	180701060603	LONG BEACH	795 J1	12,773	TRAPEZOIDAL	
247	PROJ 21 [Artesia Norwalk Line D]	Norwalk	Line C/213th St	180701060603	HAWAIIAN GARDENS	707 H5	944	TRAPEZOIDAL	
249	PROJ 74 [Redondo Beach]	168th St	200 U/S Vermont	180701060102	LOS ANGELES	734 B7	2,028	RECTANGULAR	
250	PROJ 76 [U-2 212th Street]	Western	Normandie	180701060102	LOS ANGELES	763 J6	3,992	RECTANGULAR	
251	PROJ 79 [A-2 Gaffey Street]	Gatun St	Harbor FWY	180701060701	LOS ANGELES	824 B3	741	RECTANGULAR	NO open channel(s) in vicinity of limits
252	PROJ 79 [A-2 Gaffey Street]	Westmont Dr	Gatun St	180701060701	LOS ANGELES	824 B3	2,672	RECTANGULAR	
253	PROJ 130 [Pump Dist 7 - Unit 2]	RR/Rose Ave	LA River	180701050402	LONG BEACH	765 C,D	11,077	RECTANGULAR	
254	PROJ 133 [Bouton Creek Line A Unit 2]	405 FWY	Project 9 - Atheron	180701060606	LONG BEACH	795 A2	5,902	RECTANGULAR	
255	PROJ 133 [B-2 Bouton Creek]	PCH	Park Ave	180701060606	LONG BEACH	795 A5	987	RECTANGULAR	
256	PROJ 446 [Lakewood - Line B]	3 blocks n/o South	Candlewood St	180701060602	LAKEWOOD	766 D3	2,562	RECTANGULAR	
257	PROJ 447 [W Lakewood] Line A	St. Pancratius Pl	Proj 9 Yearling	180701060606	LAKEWOOD	765 J3	3,393	RECTANGULAR	
258	PROJ 532 [Whittwood St] Unit 1 Line C	RR/ Lambert	Scott Ave.	180701060602	LOS ANGELES CO	707 H5	818	RECTANGULAR	
259	PROJ 1153 [Rectangular Channel]	Torrance/Vermont	Main St	180701060102	CARSON, LOS ANGELES COUNTY	764 B5	2,949	RECTANGULAR	
260	PROJ 1232 [Line A]	Main St	Dominguez Channel	180701060102	CARSON	764 D5	6,620	TRAPEZOIDAL	
261	PROJ 4601 [Lakewood]	Hayter	Project 447	180701060606	LAKEWOOD	766 C3	1,215	TRAPEZOIDAL	
262	PROJ 6001 [Palos Verdes Unit 3 Line F]	Palos Verde Dr N	Palos Verde Dr. W	180701040500	PALOS VERDES ESTATES	792 J4	48	TRAPEZOIDAL	

TABLE B-1. Concrete-Lined Channels List

REACH No	DESCRIPTION	UPSTREAM LIMIT (U/P)	DOWNSTREAM LIMIT (D/S)	HYDRO UNIT CODE	CITY	ITG	LF	CHANNEL TYPE	NOTES
264	PD 553 [Torrance]	Normandie	Harbor Fwy	180701060701	LOS ANGELES CO	794 A2	3,408	TRAPEZOIDAL	
265	RDD 206 - SITE 7 [Pacific Ocean]	300' U/S Malibu Rd	Malibu Rd	180701040204	MALIBU	628 G2	300	RECTANGULAR	
266	BEVERLY PICO DRAIN [LINE A - Channel south of Beverly Blvd.]	S/O UPRR	S/O UPRR	180701060606	PICO RIVERA	676 H2	102	RECTANGULAR	
268	SANTA MONICA CHANNEL (Donl Rd - Riviera Country Club)	Nimrod Ave.	100 D/S PCH	180701040402	LOS ANGELES	631 B7	2,699	RECTANGULAR	
269	PROJ 76	Torrance Blvd.	Normandie Ave.	180701060102	LOS ANGELES	764 A6	2,631	RECTANGULAR	
270	PD 668	Del Amo	Dominguez Channel	180701060102	CARSON	736 A4	925	RECTANGULAR	
271	PROJ 509	228th	Harbor Fwy	180701060701	LOS ANGELES	794 A1	1,244	TRAPEZOIDAL	
272	PROJ 455	Airport	Pro. 9	180701060606	Long Beach	796 A1	275	RECTANGULAR	
274	DDI 9 - LA CANADA VERDE	Lambert Road	Broadway	180701060602	LOS ANGELES CNTY	707 E5	2,640	RECTANGULAR	
SOUTH AREA - IMPERIAL YARD									
275	DDI 9 - 1200' U/S Victoria - 800' D/S Hawes	Mulberry Dr.	Mystic St.	180701060602	LOS ANGELES CNTY	707 E5	2,835	RECTANGULAR	
278	PD 867	Harcourt	SPRR	180701050402	RANCHO DOMINGUEZ	765 B1	264	RECTANGULAR	
279	PD 996	SP RR	Victoria	180701050402	RANCHO DOMINGUEZ	765 C1	444	RECTANGULAR	
280	Sawtelle Channel	Palms	Sepulveda Channel	180701040300	LOS ANGELES	672 B1	463	RECTANGULAR	
281	Wilmington Drain (East Channel)	Sepulveda	Lomita	180701060701	CARSON	794 B2	3576	RECTANGULAR	
282	Wilmington Drain (West Channel)	Sepulveda	Lomita	180701060701	CARSON	794 B2	3007	RECTANGULAR	
293	Rustic Channel	10' North of Rustic Ave. Bridge	Santa Monica Channel Confluence South of W Channel Rd	180701040402	Los Angeles	631 B6-B7	2390	RECTANGULAR	
ADDITIONAL CONCRETE-LINED CHANNELS									
283	Denivelle drain	Denivelle rd	Ellenbogen st	180701050103	SUNLAND	503 H1	213	RECTANGULAR	
284	La tuna canyon channel	La tuna db	Burbank channel	180701050208	SUN VALLEY	503 B6 TO 533 B1	12067	RECTANGULAR	
285	Las barras channel	La tuna canyon rd	Verdugo wash	180701050208	TUJUNGA	504 C7	424	RECTANGULAR	
286	Mtd 0806	Oakmont view dr db	Country club dr	180701050208	GLENDALE	534 G4	1258	TRAPEZOIDAL	
287	Pd 0769	Upper shields db	Markridge rd	180701050207	LA CRESCENTA	504 G5	656	RECTANGULAR	
288	Pd 0361	Cedartown st	150' n/o cedartown st	180701050208	SANA CLARITA	4640 H2	135	RECTANGULAR	
289	Pico canyon channel	200' w/o pico canyon road	Pd 2495 double rc box	180701020401	STEVENSON RANCH	4640 B1	1007	RECTANGULAR	
290	Stanford channel	100' n/o ave stanford	Rye canyon channel	180701020402	SANTA CLARITA	4550 C1 , 4460 C7	1280	RECTANGULAR	
ROAD MAINTENANCE DIVISION									
292	Castaic Drain	E/side of Castaic Rd	E/side of Castaic Rd	180701060602	LOS ANGELES COUNTY	4459 H1	250	RECTANGULAR	

ATTACHMENT D

Best Management Practices File No. 13-029

BEST MANAGEMENT PRACTICES AND PROCEDURES

The use of BMPs during maintenance and repair activities is intended to reduce potential impacts to surface water quality from projects in LACFCD maintained channels. BMPs provided here are generic versions developed for construction-type activities similar to those conducted during the various maintenance and repair projects. The objectives for BMP application for maintenance and repair projects include:

- Limit the amount of sediment disturbed during project execution.
- Limit the opportunity for any disturbed sediment to be carried off-site by surface water or other means.
- Capture as much disturbed sediment (caused by project activities and carried by surface water or other means) before it moves off-site.
- Manage all field operations to provide a clean work site, limit spills and leaks of hazardous materials, and provide for regular waste collection and disposal.

There are several categories of BMP referenced in this document. This is not an exhaustive selection of BMPs, but a reasonable collection of those most likely to be used during LACFCD projects. The categories are described in the following subsections with brief summaries about the applicability of each BMP.

1.1 EROSION CONTROL

Erosion control BMPs focus on providing source control for alluvial materials in channels, or soils outside of the channel, that prevents or limits particle detachment and mobilization. These controls can be accomplished in various ways, as summarized in Table 1-1.

Table 1-1
Erosion Control BMPs

BMP#	BMP Name	Applicability
EC-1	Scheduling	Select project timing to eliminate or limit the likelihood of surface water flow in the channel or rainfall events during the project schedule.
EC-2	Preservation of Existing Vegetation	Within the allowances provided by existing permits, leave as much existing vegetation within the work area as possible while accomplishing project objectives (which likely include vegetation removal).

ATTACHMENT D

Best Management Practices File No. 13-029

EC-9	Earth Dikes and Drainage Swales	If earthen berms are used for flow control, especially as a barrier to surface water flow within a channel, care is needed to properly size the berm and the volume of the blocked channel, to accommodate the current flow rate.
EC-10	Velocity Dissipation Devices	Where bypass flows are discharged into the existing channel downstream of the work area, velocity dissipation should be provided.

1.2 SEDIMENT CONTROL

Sediment control BMPs address the management of disturbed sediment (see Table 1-2). The general purpose of sediment control is to limit the capacity of surface water (overland or channelized flows) to carry sediment. The concept is to interrupt or to slow down flowing water to reduce its capacity.

Table 1-2

Sediment Control BMPs

BMP#	BMP Name	Applicability
SE-1	Silt Fence	Use of woven geotextile fabric to contain soils and/or sediment within work areas. For maintenance or repair work, silt fences would provide perimeter containment.
SE-4	Check Dam	Structure placed transverse to flow direction in channelized flow. Can be made with various materials, including large rocks, sandbags, and gravel bags. Can be used to provide velocity dissipation at bypass flow outlets.
SE-6	Gravel Bag Berm	Intended for sheet-flow interception and sediment control, gravel bag berms can also be used to create a flow barrier in a water diversion application.
SE-8	Sandbag Barrier	Similar to gravel bag berms, sandbag barriers are generally used for sheet-flow interception and sediment control. However, they can be modified for use as a flow barrier.

1.3 WIND EROSION CONTROL

Erosion and transport of fine particles by wind can be a significant consideration for projects in southern California. Disturbance of ground surfaces or channel beds during maintenance or repair activities creates an opportunity for particle detachment and transport by winds with strong to moderate velocities. Although not directly related to water diversion projects, wind erosion control is a necessary BMP on most project sites (see Table 1-3).

ATTACHMENT D

Best Management Practices
File No. 13-029

Table 1-3

Wind Erosion BMP

BMP#	BMP Name	Applicability
WE-1	Wind Erosion Control	Use of water or other soil/ sediment binder applied to ground surface to protect soil/sediment particles from detachment.

1.4 NON-STORMWATER MANAGEMENT CONTROL

A number of BMPs address activities that are critical to water diversion projects, including the removal of standing water in work areas, water diversion considerations, and disturbance actions (particularly through demolition) that occurs adjacent to surface water (see Table 1-4).

Table 1-4

Non-Stormwater Management BMPs

BMP#	BMP Name	Applicability
NS-2	Dewatering Operations	Removal of standing water from a project work area to provide access for maintenance and/or repair activities. This also concerns removal or reduction of constituents during water removal.
NS-5	Clearwater Diversion	Diverting water within or from channels to create a dry work area.
NS-15	Demolition Adjacent to Water	Accomplishing demolition and removal of structures, or just earthwork, next to water in channels requires careful planning and execution of the project.

1.5 WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL

Any field operation using large equipment with on-site re-fueling and vehicle maintenance, or herbicide use with on-site storage requirements, or the need for any other hazardous materials storage on site should take precautions to prevent spills or have a plan for rapid cleanup in the event of a spill. Similarly, solid wastes, hazardous wastes, and contaminated soils/sediment need to be addressed in project work plans with a contingency plan, at a minimum, prepared in advance with handling procedures. These BMPs provide guidelines for this type of planning in order to put proper procedures in place (see Table 1-5).

ATTACHMENT D

**Best Management Practices
File No. 13-029**

Table 1-5

Waste Management Control BMP

BMP#	BMP Name	Applicability
WM-4	Spill Prevention and Control	Provides procedures for storage and handling as well as for cleanup of spills of various sizes.
WM-5	Solid Waste Management	Provides recommendations for collection and handling procedures for on-site wastes (non-liquid and non-hazardous) generated during project activities.
WM-6	Hazardous Waste Management	Provides recommended procedures for managing on-site hazardous wastes to limit potential for release.
WM-7	Contaminated Soil Management	Provides recommendations for safe handling of soils containing contaminants; including evaluation, on-site treatment, and removal for off-site disposal.

1.6 GENERAL SITE MANAGEMENT

General site management plays a role in the potential for off-site sediment migration, and along with it, the possibility of associated hazardous or contaminated materials. The BMP provided for general management addresses good site management practices (see Table 1-6).

Table 1-6

General Stormwater Management BMP

BMP#	BMP Name	Applicability
SC-60	Housekeeping Practices	Provides recommendations on safe and efficient practices for storage, use, and cleanup of materials, particularly harmful or hazardous products. General site management principals are described and product tracking is encouraged.