(FINAL)
FEASIBILITY STUDY REPORT
FOR
ENGINEERED EARTHEN-BOTTOM FLOOD CONTROL CHANNELS
LOCATED WITHIN THE
MALIBU CREEK AND DOMINGUEZ CHANNEL WATERSHEDS

MAINTAINED AND OPERATED BY THE
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

IN COMPLIANCE WITH THE

WASTE DISCHARGE REQUIREMENTS
FILE NUMBER 99-011-2010WDR

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FEASIBILITY STUDY

TECHNICAL ASSESSMENT REPORT
FOR ENGINEERED EARTH-BOTTOM FLOOD CONTROL CHANNELS LOCATED WITHIN THE MALIBU CREEK AND DOMINGUEZ CHANNEL WATERSHEDS

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INTRODUCTION

On February 4, 2010, the Los Angeles Regional Water Quality Control Board (Regional Board) issued a Waste Discharge Requirements (WDR) Order No. R4-2010-0021 to the Los Angeles County Flood Control District (LACFCD), authorizing the maintenance of earth-bottom flood control channels located within the County of Los Angeles. Prior to this WDR, the Regional Board had issued a Section 401 Certification to the LACFCD to maintain 100 earth-bottom channel reaches located throughout the County. This WDR expired on February 3, 2015. On February 12, 2015, in lieu of a standard 5-year term WDR, the Regional Board issued a one-year WDR (Order No. R4-2015-0032), which expired on February 11, 2016. A new WDR (Order No. R4-2015-0032-A1) was issued on February 12, 2016, with a June 20, 2017 expiration date.

The earth-bottom channels are an important component of the LACFCD's statutory mission, which in addition to flood control, is to infiltrate water for future beneficial use. Such channels must be regularly maintained to ensure that their flood control capacity is not impaired.

The WDR requires that a Feasibility Study (FS) be conducted by watershed on each of the earth-bottom (sometimes referred to as "soft-bottom") channel reaches that are included in the WDR. The goal of the FS is to determine whether "a potential may exist for native vegetation to remain within the soft-bottom portion of the channel or if additional hydraulic capacity is needed" (WDR, Condition 45). This condition recognizes both the opportunity for additional native vegetation to remain, or to replace non-native vegetation and the need to ensure that flood control requirements are met.

To meet the WDR's requirement for a technical assessment report and recommendations, a Technical Assessment Report and Recommendations (TAR&R) Report has been prepared for the Malibu Creek and Dominguez Channel Watersheds, which consists of this Final Recommendations Summary (Recommendations) as well as Appendix A, the Biological Technical Assessment report prepared by BonTerra Psomas, dated June 2015, plus appendices and exhibits (Biological Report); Appendix B, the Hydraulic Analysis Technical Assessment report prepared by WEST Consultants, an LACFCD consultant, dated March 2016, plus appendices (Hydraulic Report); and Appendix C, the Water Quality Monitoring Report (Monitoring Report). The TAR&R was performed subject to the approved Study Workplan (SW) which includes stakeholders' comments.

The WDR covers maintenance of eleven earth-bottom channels in the Malibu Creek and Dominguez Channel Watersheds (Reaches 26, 27, 28, 29, 32, 33, 34, 35, 36, 37, and 38).

The hydraulic analysis for Wilmington Drain (Reach 27) was conducted as part of the stream restoration project by City of Los Angeles. The City of Los Angeles obtained all the necessary regulatory permits from the Regional Board, the CDFW, and the US Army Corps of Engineers to construct the project. Reach 27 was not separately analyzed by LACFCD as part of this FS. The mitigation plan and long-term maintenance plan prepared by the City of Los Angeles has not been approved by CDFW. LACFCD and City of Los Angeles are currently working together with CDFW to update these plans for this reach. The hydraulic characteristics of Reach 27 are influenced by these two plans. Upon approval of these plans LACFCD will provide the hydraulic analysis.

TECHNICAL ASSESSMENTS

Pursuant to the SW, the TAR&R employed an analytical approach that involved first ranking the earth-bottom channel reaches from high to low according to their biological value. These rankings were determined by biological surveys conducted by BonTerra Psomas, an LACFCD consultant, and are discussed in the Biological Report. In the Hydraulic Report, WEST Consultants, an LACFCD consultant, analyzed the hydraulic capacity within each reach under various vegetation scenarios.

A list of those reaches which had capacity for additional vegetation or the replacement of non-native with native vegetation was then reviewed by BonTerra Psomas for the development of specific vegetation management recommendations.

BonTerra Psomas subsequently provided those detailed biological recommendations for further hydraulic analysis by WEST Consultants. The biological recommendations were also evaluated by LACFCD maintenance personnel for potential impacts on maintenance activities.

RECOMMENDATIONS

EARTH-BOTTOM CHANNELS WITH CAPACITY FOR ADDITIONAL/REPLACEMENT NATIVE VEGETATION

Segments of Reaches 29, 32, 33 and 35 in the Malibu Creek watershed, were identified by the Hydraulic Report as having the capacity to contain additional native vegetation or the replacement of non-native with native vegetation.

These reaches are presented below in sequential order along with the recommendations for additional native vegetation and/or replacement of non-native vegetation. Aerial maps showing these reaches and the areas of additional/replacement native vegetation are included in Appendix A.

Malibu Creek Watershed:

Reach 29, Las Virgenes Creek - Within the herbaceous vegetation on the left bank, plant two (2) valley oaks (Quercus lobata) and five (5) blue elderberry (Sambucus nigra) at edge of right-of-way (about 100 to 125 feet away from concrete levee).

Reach 32, Stokes Canyon Channel – The structure of the channel precludes permanent vegetation on the invert or banks immediately next to the ageing wire and pipe revetment structure. The right bank (or north bank) is cleared and used for maintenance activities. The left bank (or south bank) has some vegetation (e.g., young oaks) growing in a couple of locations. These areas could support more vegetation. Plant at least 20 young coast live oaks (Quercus agrifolia) on the south bank between the bridge and the most upstream end of the Reach.

Reach 33, Medea Creek (PD T1378) – This Reach only has capacity downstream of Thousand Oaks Blvd. No additional vegetation is recommended in the upstream portion of this Reach above Thousand Oaks Blvd. It is recommended that the cattails downstream of Thousand Oaks Blvd be allowed to naturally expand throughout this downstream area. If overgrowth occurs over time, the vegetation at this location may need to be trimmed back every so often.

Reach 35, Medea Creek (under Route 101) – This Reach is directly beneath U.S. Highway 101, which is not a suitable location to allow additional native vegetation and/or replacement of non-native with native vegetation. In addition, preliminary research has shown that the status of LACFCD's right of way is not clear. LACFCD will conduct additional research and evaluate this matter further prior to identifying suitable options for this reach.

EARTH-BOTTOM CHANNELS LACKING CAPACITY FOR ADDITIONAL NATIVE VEGETATION

The following six earth-bottom channel reaches were identified in the Hydraulic Report as either having insufficient capacity to allow for additional native vegetation or insufficient capacity to allow current vegetated areas to remain:

Malibu Creek Watershed: 28, 34, 36, 37, and 38

Dominguez Channel Watershed: 26

No change in the current maintenance clearance practices is recommended for these reaches. Aerial maps of reaches are included in Appendix A.

WATER QUALITY MONITORING

As required by Condition 49 of the WDR, water quality (WQ) monitoring was conducted during annual maintenance clearing of certain earth-bottom channel reaches in 2014-15

and 2015-16. Included as Appendix C is a tabular representation of the WQ monitoring results along with a discussion of those results and recommendations for future maintenance activities.

MITIGATION MEASURES

Condition 51 of the WDR requires that the recommendations concerning earth-bottom channel clearance "shall also include suggested schedules of vegetation removal frequency in order to ensure the maximum habitat preservation, consistent with necessary flood control, is achieved." These schedules are already in place, and are dictated primarily by the need to protect nesting birds and other species. The LACFCD has employed BonTerra Psomas to monitor the channel clearance activities so as to avoid impacts to such species. BonTerra Psomas also has advised on ways to leave, maintain, and protect trees and other vegetation within a number of the channel reaches to the extent practicable when flood control and vector issues permit. In addition, invasive, exotic, and non-native vegetation is also removed during annual maintenance to ensure that native vegetation is preserved. These mitigation measures are ongoing, and are reflected in the biological and annual mitigation reports available on the LACFCD website. In addition, the LACFCD has mitigated impacts from its annual earth-bottom channel maintenance activities since the late 1990s, when it established 62.7 acres of habitat in the Big Tujunga Wash Mitigation Bank as mitigation for the clearance of vegetation in channels.

CONCLUSION

The LACFCD has completed the required FS analyses for the earth-bottom channel reaches that it maintains located within the Malibu Creek and Dominguez Channel Watersheds. As discussed above, allowing additional native vegetation and/or replacement of non-native with native vegetation is recommended for the following three earth-bottom reaches in the Malibu Creek watershed: 29, 32, and portions of 33. Reach 35, although identified by the Hydraulic Report as having capacity for additional vegetation, is located under a bridge which is not a suitable location to allow additional native vegetation and/or replacement of non-native with native vegetation. Additionally, LACFCD's right of way for this reach is not clear. LACFCD will conduct additional research and evaluate this matter further prior to identifying suitable options for this reach.