(FINAL)
FEASIBILITY STUDY REPORT
FOR
ENGINEERED EARTHEN-BOTTOM FLOOD CONTROL CHANNELS
LOCATED WITHIN THE
SAN GABRIEL RIVER WATERSHED

MAINTAINED AND OPERATED BY THE
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

IN COMPLIANCE WITH THE

WASTE DISCHARGE REQUIREMENTS
FILE NUMBER 99-011-2010WDR

PREPARED FOR:

Section 401 Certification Unit
California Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

PREPARED BY:

Los Angeles County Flood Control District
County of Los Angeles Department of Public Works
900 S. Fremont Avenue, Alhambra, CA 91803

JANUARY 2016

FEASIBILITY STUDY

TECHNICAL ASSESSMENT REPORT
FOR ENGINEERED EARTH-BOTTOM FLOOD CONTROL CHANNELS LOCATED WITHIN THE SAN GABRIEL RIVER WATERSHED

TABLE OF CONTENTS

FINAL RECOMMENDATIONS SUMMARY
TECHNICAL ASSESSMENT REPORT AND RECOMMENDATIONS FOR ENGINEERED EARTH-BOTTOM FLOOD CONTROL CHANNELS LOCATED WITHIN THE SAN GABRIEL RIVER WATERSHED

INTRODUCTION

On February 4, 2010, the Los Angeles Regional Water Quality Control Board (Regional Board) issued 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. The Regional Board issued the current WDR in lieu of a Section 401 Certification.

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, however, 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 were 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 San Gabriel River Watershed, which consists of this Final Recommendations Summary (Recommendations) as well as Appendix A, the Biological Technical Assessment report prepared by BonTerra Psomas, dated February 2015, plus appendices and exhibits (Biological Report); Appendix B, the Hydraulic Analysis Technical Assessment report prepared by LACFCD dated January 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) and has been released for stakeholder comment.

The WDR covers maintenance of 7 earth-bottom channels in the San Gabriel River

Watershed (Reaches 39, 40, 41, 42, 43, 44, and 98). Reaches 40 and 43 are each divided into two reaches (40a and 40b and 43a and 43b) because of different maintenance plans developed for dissimilar channel reach areas. As a result, the Biological Report for this FS consists of 9 earth-bottom channel reaches.

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 contractor, and are discussed in the Biological Report. At the same time in the Hydraulic Report, LACFCD hydrologists analyzed the hydraulic capacity within each reach under various vegetation scenarios. During the 2015 working group meetings for issuance of a new WDR, the USACE informed the LACFCD and the stakeholders that they require a Risk and Uncertainty analysis in order to evaluate the reaches built by the Corps. Any modifications to the channels including changes to maintenance practices would require a Risk and Uncertainty analysis to be submitted for their review and approval. This report doesn't include any Risk and Uncertainty analysis. 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 development of specific vegetation management recommendations.

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

Following those reviews, a list of final Recommendations (discussed in the following section) was developed. In summary, 4 reaches (41, 43a, 43b, and 44) were recommended for additional native vegetation or the replacement of non-native vegetation with native vegetation. No change in current maintenance clearance practices was recommended for the other reaches due to insufficient hydraulic capacity for additional vegetation.

RECOMMENDATIONS

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

Segments of Reaches 41, 43, and 44 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 segments of Reach 43 include both 43a and 43b. Therefore, the Biological Report includes recommendations for the following 4 reaches: 41, 43a, 43b, and 44. Because Reach 44 is nearly six miles long, it was divided into three sections (upper, middle, and lower) for these recommendations. 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 as Exhibits 1a thru 1f of the Biological Technical Report.

Reach 41, Walnut Creek. Allow 15 willow saplings to mature on left edge of low-flow channel, within the 1.6-acre additional vegetation area. This additional vegetation area is located from UTM coordinates (NAD 83) 11N 408563 mE, 3769493 mN (upstream limit) to 11N 408183 mE, 3769424 mN (downstream limit). All additional vegetation recommended for this channel reach will be subject to maintenance practices allowed under existing permits (e.g. the “lollipopping” of individual trees, and the removal of invasive species) (See Exhibit 1a).

Reach 43a, San Gabriel River (Upper). Allow willow riparian forest vegetation to mature within the low-lying, 0.45-acre additional vegetation area. This additional vegetation area is located from UTM coordinates (NAD 83) 11N 402561 mE, 3764805 mN (upstream limit) to 11N 402530 mN, 3764770 mE (downstream limit). All additional vegetation recommended for this channel reach will be subject to maintenance practices allowed under existing permits (e.g. the “lollipopping” of individual trees, and the removal of invasive species) (See Exhibit 1b).

Reach 43b, San Gabriel River (Lower). Allow 20 willow saplings to mature on left edge of low flow channel, within the 1-acre additional vegetation area. This is intended to facilitate connectivity between adjacent willow riparian forest habitats. This additional vegetation area is located from UTM coordinates (NAD 83) 11N 401657 mE, 3763894 mN (upstream limit) to 11N 401406 mN, 3763543 mN (downstream limit). All additional vegetation recommended for this channel reach will be subject to maintenance practices allowed under existing permits (e.g. the “lollipopping” of individual trees, and the removal of invasive species) (See Exhibit 1c).

Reach 44, San Gabriel River – Rubber Dams (Upper). Allow 50 willow saplings to mature on left edge of low-flow channel between Rubber Dam 3 and Rubber Dam 4, within the 0.8-acre additional vegetation area, but not within 15ft of the toe of the levee. This additional vegetation area is located from UTM coordinates (NAD 83) 11N 399930 mE, 3759912 mN (upstream limit) to 11N 399571 mE, 3759425 mN (downstream limit). All additional vegetation recommended for this channel reach will be subject to maintenance practices allowed under existing permits (e.g. the “lollipopping” of

individual trees, and the removal of invasive species) (See Exhibit 1d).

Reach 44, San Gabriel River – Rubber Dams (Middle). Allow 35 willow saplings to mature on left edge of low-flow channel between Rubber Dam 5 and Telegraph Road, within the 1.9-acre additional vegetation area, but not within 15ft of the toe of the levee. This additional vegetation area is located from UTM coordinates (NAD 83) 11N 399229 mE, 3757589 mN (upstream limit) to 11N 398942 mE, 3757213 mN (downstream limit). All additional vegetation recommended for this channel reach will be subject to maintenance practices allowed under existing permits (e.g. the "lollipopping" of individual trees, and the removal of invasive species) (See Exhibit 1e).

Reach 44, San Gabriel River – Rubber Dams (Lower). Allow 100 willow saplings to mature on left edge of low-flow channel between I-5 Freeway and Florence Avenue, within the two additional vegetation areas (1.8-acres total), but not within 15ft of the toe of the levee. The northernmost additional vegetation area is located from UTM coordinates (NAD 83) 11N 398464 mE, 3756469 mN (upstream limit) to 11N 398460 mE, 3756385 mN (downstream limit). The southernmost additional vegetation area is located from UTM coordinates (NAD 83) 11N 398450 mE, 3756323 mN (upstream limit) to 11N 398328 mE, 3755953 mN (downstream limit). All additional vegetation recommended for this channel reach will be subject to maintenance practices allowed under existing permits (e.g. the "lollipopping" of individual trees, and the removal of invasive species) (See Exhibit 1f).

EARTH-BOTTOM CHANNELS LACKING CAPACITY FOR ADDITIONAL NATIVE VEGETATION

The following 4 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 areas of vegetation to remain: 39, 40 (including both 40a and 40b), 42, and 98.

WATER QUALITY MONITORING

As required by Condition 49 of the WDR, water quality monitoring was conducted during annual maintenance clearing of certain earth-bottom channel reaches in 2014-2015 and 2015-2016. Included as Appendix C is a tabular representation of the water quality 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 within the Los Angeles River Watershed. As discussed above, allowing additional native vegetation and/or replacement of non-native with native vegetation is recommended for the following 4 earth-bottom reaches: 41 43a, 43b, and 44. This additional vegetation will allow the LACFCD to offset mitigation required in other reaches.