

**Meeting of the Central Valley Flood Protection Board
April 27, 2012**

Staff Report – Encroachment Permit

**Sacramento Area Flood Control Agency
Dry Creek Fencing Project, Sacramento County**

1.0 – ITEM

Consider approval of Permit No. 18536 (Attachment B)

2.0 – APPLICANT

Sacramento Area Flood Control Agency (SAFCA)

3.0 – LOCATION

The project is located in Rio Linda, northeast and southwest of Rio Linda Boulevard. (Dry Creek Designated Floodway, Sacramento County, see Attachment A)

4.0 – DESCRIPTION

The proposed project is for the installation of 3,200 linear feet of new barbed wire fence; replace approximately 13,600 linear feet of barbed wire fence; and authorize 7,700 linear feet of existing barbed wire fence within the Dry Creek Designated Floodway.

5.0 – PROJECT ANALYSIS

The project involves the replacement of existing pasture fence and the installation of new barbed wire pasture fencing in the Dry Creek Designated Floodway. Approximately 13,600-feet of fence will be replaced and approximately 3,200-feet of new fence will be installed. The fence will be five-strand barbed wire with 7-foot steel posts. Spacing of the fence posts will be a maximum of 10-feet for new fence and 12-feet for replaced fence. Livestock gates will be installed where needed to provide access between pastures. This project is a component of SAFCA's North Area Flood Control Improvements.

Title 23, Section 107 allows for fence(s) to be in a designated floodway provided that the fence(s) will not unduly impede the free flow of water or jeopardize public safety. In addition the fence(s) must not create an obstruction or debris catching obstacle. Dry Creek drains a relatively small mostly urban area (101 square miles) in Placer and Sacramento Counties making debris issues unlikely during high water events. A hydraulic analysis was done that assess the hydraulic impacts that may be caused by the fence(s). The results of the analysis show that the proposed fence(s) will have negligible impacts to flows at the 10-year, 50-year, 100-year, and the 200-year events in the Dry Creek Designated Floodway.

5.1 – Hydraulic Analysis

MBK Engineers (MBK) performed the hydraulic analysis using a 2-dimensional FESWMS hydraulic model of Dry Creek that was used for a hydraulic impact analysis of the Dry Creek Parkway Trails Phase I project in July 2010. Velocities and depths computed from that model were used to assess the potential hydraulic impacts of the fencing improvements. The 10-year, 50-year, 100-year, and 200-year events were evaluated. It was assumed that the velocity head ($V^2/2g$) together with the elevation head defines the maximum potential impact on the with-project water surface elevation.

The barbed wire fence(s) themselves would not significantly change the cross-sectional flow area of the Dry Creek floodplain. The fence(s) would only have the potential to impact water surface elevations if significant debris blockage occurs. It is not known with any certainty how much debris blockage will occur. However, as stated above Dry Creek drains a relatively small mostly urban area and the potential for large amounts of debris to be present during high water events is minimal.

To be conservative fencing perpendicular to flow was assumed to be completely blocked with debris. Fencing that is parallel to the flow path was ignored as the fence would be unlikely to trap debris. Water surface elevations were evaluated for the with-project and without-project conditions. Model results showed that the hydraulic impacts from the fencing ranged from no rise in water surface elevation (south end) to a maximum rise of 0.12-feet for the 200-year event (north end). The rise in water surface elevation is localized and considered insignificant.

It should be noted that the hydraulic analysis did not include the existing fencing being considered for authorization because no work is being done to these sections. However, the perpendicular fence lines that were included in the hydraulic analysis are upstream and in close proximity to the existing fence lines. In addition, the conservative assumptions that were used in the analysis are considered sufficient for concluding that the existing fence would not significantly change the results of the hydraulic analysis.

5.2 – Geotechnical Analysis

The scope of the project does not require a geotechnical analysis.

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with this project from all pertinent agencies are shown below:

- American River Flood Control District endorsed the project with no conditions.
- The U.S. Army Corps of Engineers 208.10 comment letter has not been received for this application. Staff anticipates receipt of a letter indicating that the USACE District Engineer has no objection to the project, subject to conditions. Upon receipt of the letter, staff will review to ensure conformity with the permit language and incorporate it into the permit as Exhibit A.

7.0 – CEQA ANALYSIS

Board staff has prepared the following California Environmental Quality Act (CEQA) determination:

The Board has determined that the project is categorically exempt from CEQA under a Class 2 Categorical Exemption (CEQA Guidelines Section 15302) covering replacement or reconstruction of small structures and a Class 4 Categorical Exemption (CEQA Guidelines Section 15304) covering minor alterations to land.

8.0 – SECTION 8610.5 CONSIDERATIONS

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. Effects of the decision on the entire State Plan of Flood Control:

Impacts from the proposed project are localized therefore there will be no effects on the entire State Plan of Flood Control.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

There will be no effects to the project from reasonable projected future events.

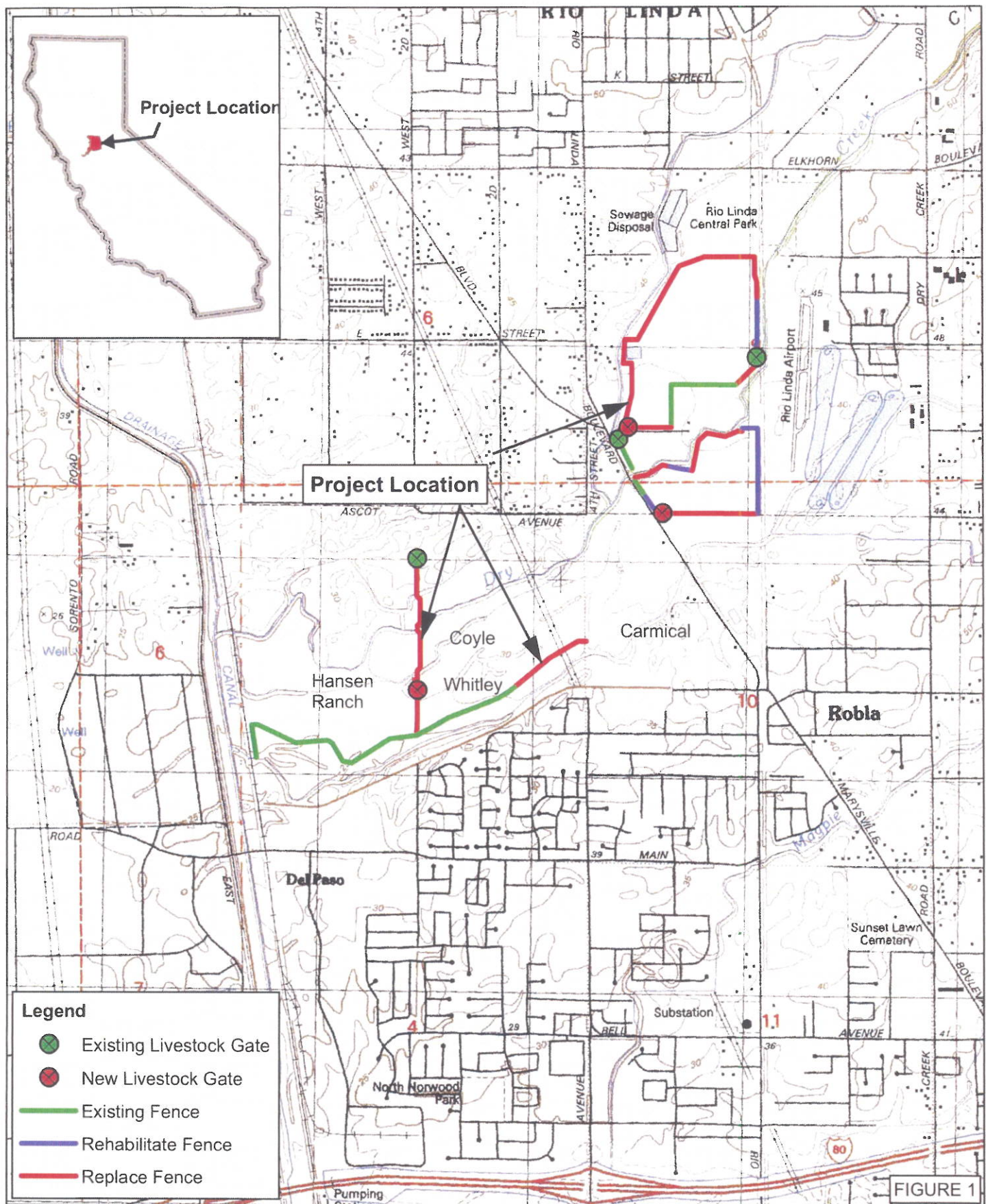
9.0 – STAFF RECOMMENDATION

Staff recommends that the Board find the project exempt from CEQA, approve the permit, conditioned upon receipt of a U.S. Army Corps of Engineers comment letter indicating that the District Engineer has no objection to the project, subject to conditions, and direct staff to file a Notice of Exemption with the State Clearinghouse.

10.0 – LIST OF ATTACHMENTS

- A. Location Maps and Photos
- B. Draft Permit No. 18536
- C. Drawings

Design Review:	Gary W. Lemon P.E.
Environmental Review:	Andrea Mauro, James Herota
Document Review:	Mitra Emami P.E., Len Marino P.E.



Map Source: USGS quadrangle

Mead & Hunt



1,000 500 0 1,000 2,000 Feet

VICINITY MAP
Dry Creek Fencing Project
 SACRAMENTO AREA FLOOD CONTROL AGENCY

July 20, 2010

X:\19415-00\06001\Tech\GIS\Dry Creek fencing vicinity map.mxd

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DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18536 BD

This Permit is issued to:

Sacramento Area Flood Control Agency
1007 7th Street, 7th Floor
Sacramento, California 95814

To install 3,200 linear feet of new barbed wire fence; replace approximately 13,600 linear feet of barbed wire fence; and authorize 7,700 linear feet of existing barbed wire fence within the Dry Creek Designated Floodway. The project is located in Rio Linda, northeast and southwest of Rio Linda Boulevard (Section 5, T9N, R5E, MDB&M, American River Flood Control District, Dry Creek, Sacramento County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18536 BD

THIRTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

FOURTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FIFTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

SIXTEEN: The Central Valley Flood Protection Board, Department of Water Resources, and American River Flood Control District shall not be held liable for any damages to the permitted encroachment(s) resulting from flood fight, operation, maintenance, inspection, or emergency repair.

SEVENTEEN: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Central Valley Flood Protection Board.

EIGHTEEN: Upon receipt of a signed copy of the issued permit the permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

NINETEEN: All fencing shall be located a minimum of 15-feet from the levee toe and off all project works.

TWENTY: No plantings, fence slats, or other materials that will restrict flow through the fences shall be placed on or adjacent to the fences.

TWENTY-ONE: Barbed wire shall be attached to the downstream side of the posts for all fences that are perpendicular to flows.

TWENTY-TWO: All debris generated by this project shall be disposed of outside the Dry Creek Designated Floodway.

TWENTY-THREE: Debris that may accumulate on the permitted fences shall be cleared off and disposed of outside of the Dry Creek Designated Floodway after each period of high water.

TWENTY-FOUR: All pasture gates that are perpendicular to flood flows shall be opened during high water events.

TWENTY-FIVE: If any permitted fence results in an adverse hydraulic impact, the permittee shall provide appropriate mitigation measures, to be approved by the Central Valley Flood Protection Board, prior to implementation of mitigation measures.

TWENTY-SIX: The permittee shall maintain the permitted encroachments and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance.

TWENTY-SEVEN: The permitted encroachments shall not interfere with operation and maintenance of the flood control project. If the permitted encroachments are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachments under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachments at the permittee's expense.

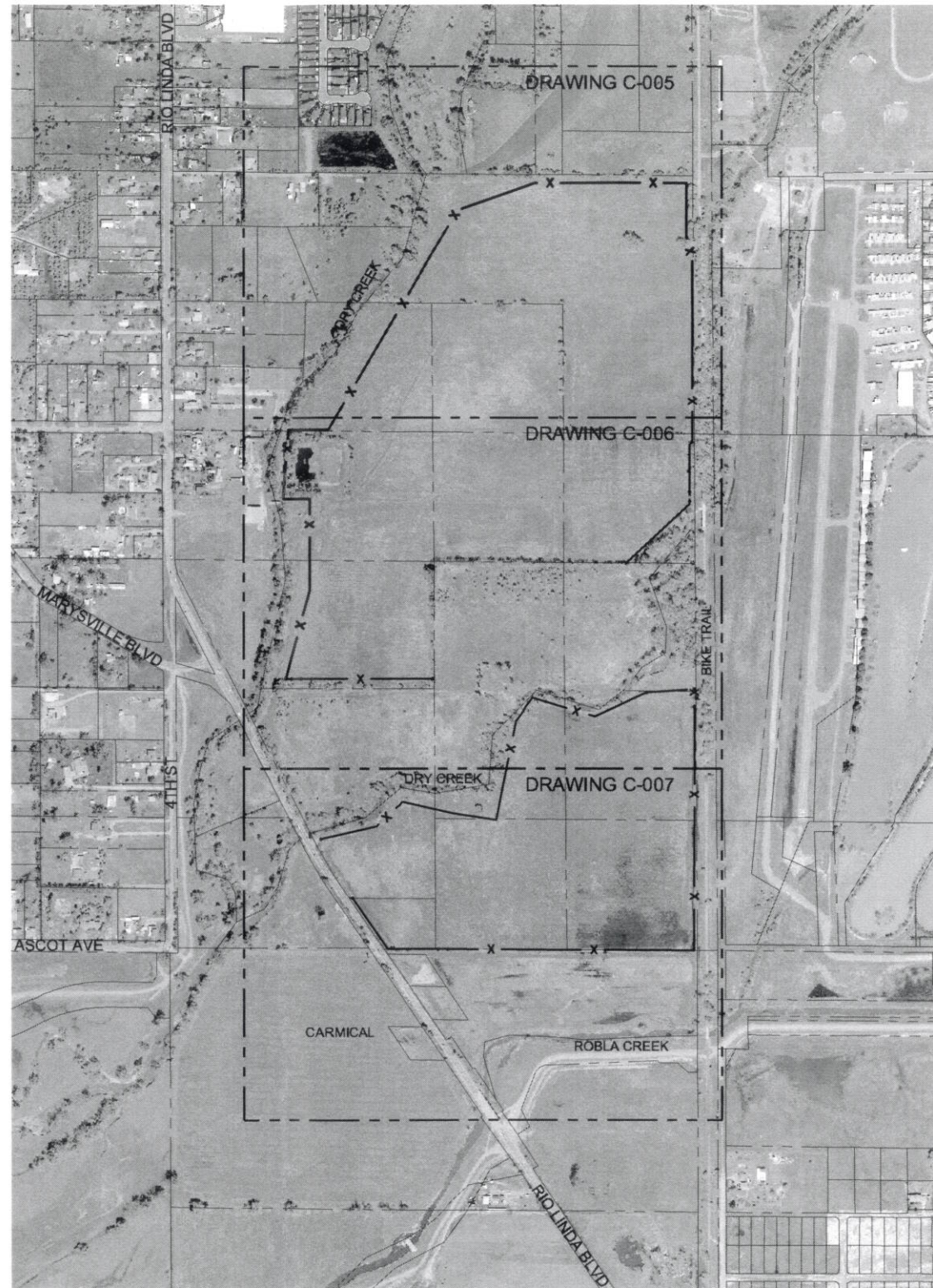
TWENTY-EIGHT: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachments if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachments at the permittee's expense.

TWENTY-NINE: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board

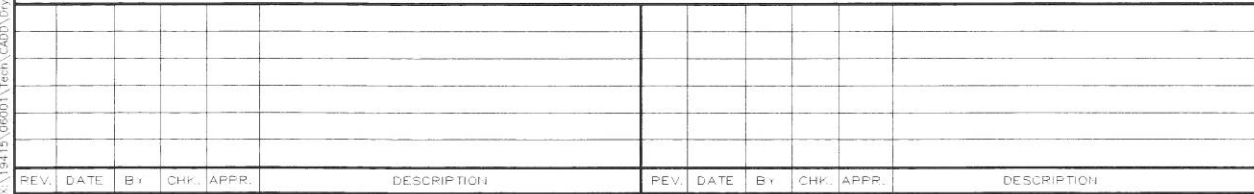
and Department of Water Resources, at the permittee's or successor's cost and expense.

THIRTY: The permittee shall comply with all conditions set forth in the letter from the Department of the Army dated April XX, 2012, which is attached to this permit as Exhibit A and is incorporated by reference.

THIRTY-ONE: Upon completion of the project, the permittee shall submit as-constructed drawings to: Department of Water Resources, Flood Project Inspection Section, 3310 El Camino Avenue, Suite 256, Sacramento, California 95821.



1. WHERE FENCE LINES INTERSECT WITH NEW OR EXISTING FENCE LINES, CONNECT TWO FENCE LINES AT A POST.
2. INSTALL NEW POSTS AS REQUIRED, AT FENCE INTERSECTIONS.
3. SALVAGE EXISTING FENCE MATERIAL WHEN POSSIBLE.
4. INSTALL FENCE OUTSIDE OF TREE DRIPLINES, UNLESS OTHERWISE APPROVED BY AGENCY.




DESIGNED BY:	KLM
DRAWN BY:	JTH
CHECKED BY:	XXX
IN CHARGE:	SRS
DATE:	2/5/09

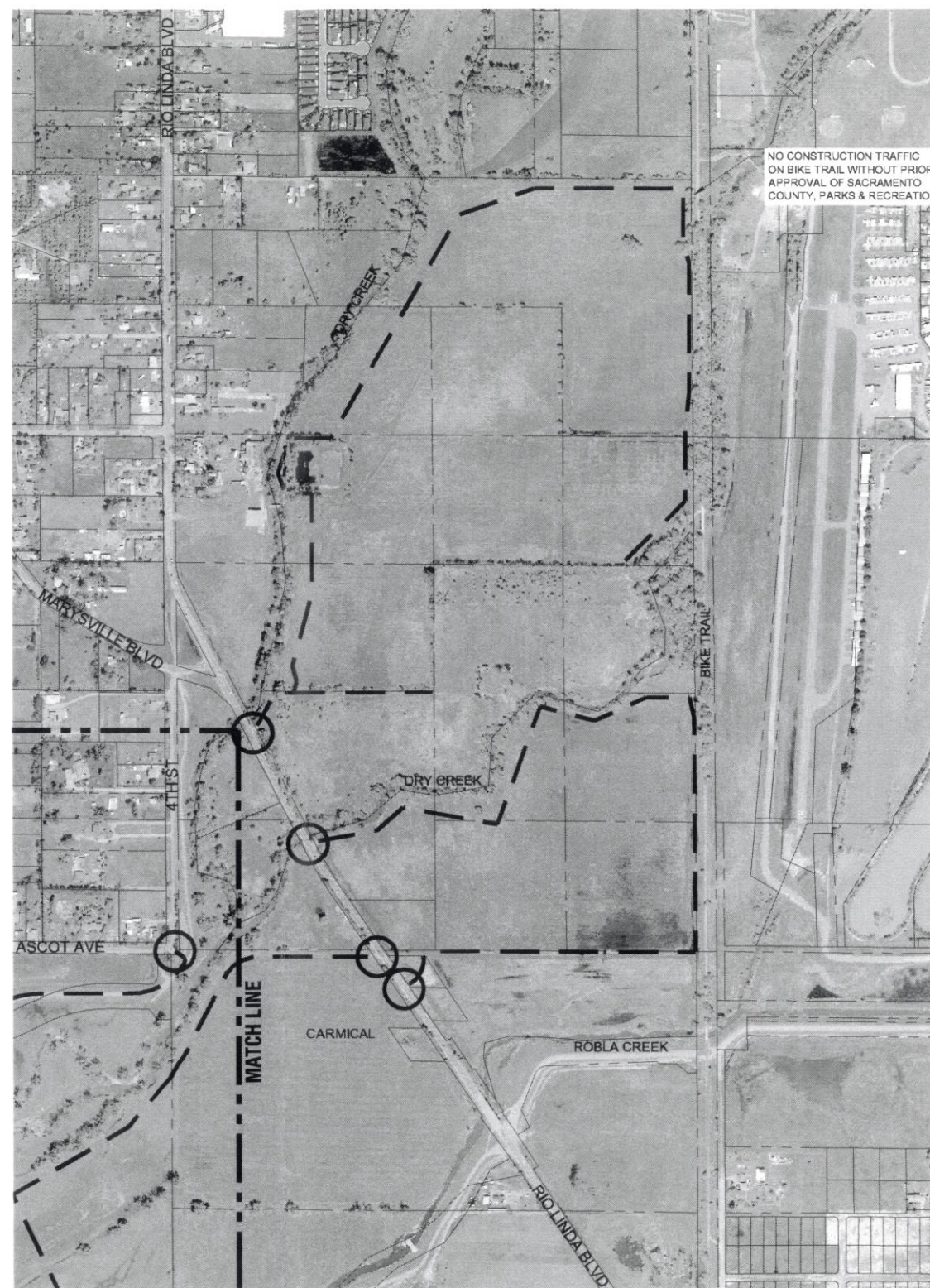


 <h1>MEAD HUNT</h1> <p>www.meadhunt.com</p>	<p>Mead & Hunt, Inc. 180 Promenade Circle, Suite 240 Sacramento, CA 95834 916.971.3961 fax: 916.971.0578</p>
	<p>SUBMITTED _____</p> <p>APPROVED _____</p>

SAFCA

LOWER DRY CREEK RESTORATION PROJECT
FENCING IMPROVEMENTS
KEY MAP

VERIFICATION SCALES BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS 	
DRAWING NO.	SHEET
C-001	3



- ## NOTES

1. WHERE FENCE LINES INTERSECT WITH NEW OR EXISTING FENCE LINES, CONNECT TWO FENCE LINES AT A POST.
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LEGEND

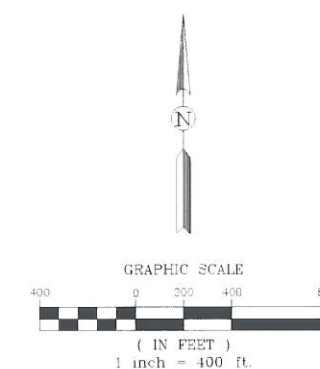
NO CONSTRUCTION TRAFFIC



SITE ACCESS POINTS



CONSTRUCTION ACCESS

[illegible]

DESIGNED BY:	KLM
DRAWN BY:	JTH
CHECKED BY:	XXX
IN CHARGE:	SRS
DATE:	2/5/09



**MEAD
HUNT**
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SUBMITTED

APPROVED



SAFCA

LOWER DRY CREEK RESTORATION PROJECT
FENCING IMPROVEMENTS
ACCESS SITE

VERIFICATION SCALES
BAR IS ONE INCH ON
ORIGINAL DRAWING.
ADJUST SCALES FOR
REDUCED PLOTS

DRAWING NO.	SHEET
C-002	4