

**Meeting of the Central Valley Flood Protection Board
June 27, 2014**

Staff Report

**Mr. Richard Peekema – Reconsideration Request for Permit No. 18793-3
Mr. Jeff Fredericks – Discussion Item
Butte County**

1.0 –REQUESTED ITEM

- Consider Mr. Richard Peekema's petition for reconsideration of the Board's February 28, 2014 decision to approve Flood System Improvement Permit No. 18793-3 to construct Project Area D of the Sutter Butte Flood Control Agency's (SBFCA) Feather River West Levee Project.
- Discuss public comments received at the May 23, 2014 meeting from protestant Mr. Jeff Fredericks.

2.0 – PROJECT PERMITTEE

Sutter Butte Flood Control Agency (SBFCA)

3.0 – RECONSIDERATION LOCATION

SBFCA is constructing the Feather River West Levee (FRWL) Project which includes work approved under Permit No. 18793-3 (Project Area D). This work spans approximately 11.4 miles from Gridley north (upstream) to the Thermalito Afterbay (Reaches 29 through 41) in Butte County (Attachment A1). The properties of Mr. Peekema and Mr. Fredericks lie within and adjacent to the Project Area D footprint (Attachments A2 and A3, respectively).

4.0 – PERMIT 18793-3 HISTORY

- On October 30, 2012 the Central Valley Flood Protection Board (Board) sent a letter to the U.S. Army Corps of Engineers (USACE) requesting Title 33 United States Code, § 408 (Section 408) approval.
- On September 13, 2013 the USACE Washington DC headquarters issued a Section 408 Record of Decision (ROD) for this portion of the FRWL Project.

- In October 2013 SBFCA submitted a permit application along with plans and specifications to the Board staff.
- By February 2014 the Board staff had received three protests , including one from Mr. Richard Peekema on February 3 (Peekema Board Submittals, Attachment B1) and one from Mr. Jeff Fredericks on February 11 (Fredericks Board Submittals, Attachment C1).
- On February 26, 2014 Mr. Peekema submitted supplemental information regarding his protest (Attachment B2).
- On February 28, 2014 the Board approved Flood System Improvement Permit No. 18793-3 for Project Area D.
 - The Board Staff Report (Attachment D, excluding original attachments) included a discussion of the protests.
 - Mr. Peekema was the only protestant in attendance at the hearing.
 - Mr. Peekema submitted a DVD with video recorded in 1997 as evidence documenting aspects of construction of an existing cutoff wall near his property.
- On March 3, 2014 the USACE Sacramento District issued their Letter of Permission (LOP) for this portion of the FRWL Project.
- On March 26, 2014 Board staff issued Permit No. 18793-3 (Attachment E).
- On March 27, 2014 Mr. Peekema submitted a Petition for Reconsideration (Attachment B3).
- On May 23, 2014 Mr. Fredericks submitted supplemental information to support his request asking SBFCA to redesign their project at his property location to minimize impacts to his land (Attachment C2).
- On May 20, 2014 Board staff received a copy of an email from Mr. Peekema to Michael Bessette of SBFCA (Attachment B4) stating that after their meeting on May 19, 2014 Mr. Peekema did not intend to drop the reconsideration petition.

5.0 – RECONSIDERATION REQUEST

California Code of Regulations, Title 23 (Title 23) authority and procedural guidelines for reconsideration requests are outlined in § 30, Reconsideration (Section 30) and are discussed below.

Per Section 30 reconsiderations must be submitted within thirty (30) calendar days of a Board decision or order, and must be submitted by an interested party affected by the decision or order and for one of the following four (4) reasons.

- 1) *Irregularity in the proceeding, or any ruling, or abuse of discretion which prevented a fair hearing;*
- 2) *The decision or order is not supported by substantial evidence;*
- 3) *There is relevant evidence which could not reasonably been produced previously; or*
- 4) *Error in law.*

The petitioner must submit the request in writing and it must contain the following information:

- 1) *Name and address of petitioner;*
- 2) *The specific action of which petitioner requests reconsideration;*
- 3) *The specific reason the action was inappropriate or improper;*
- 4) *The specific action the petitioner requests;*
- 5) *A statement that copies of the petition and accompanying material have been sent to all interested parties.*

The Board may then in its sole discretion:

- 1) *Refuse to consider the decision or order;*
- 2) *Deny the petition upon finding that the decision or order was proper;*
- 3) *Set aside or modify the decision or order; or*
- 4) *Take other appropriate action.*

5.1– Mr. Peekema’s Reconsideration Request

In his written request for reconsideration, Mr. Peekema stated that he is asking for reconsideration of approval of a portion of Permit No. 18793-3 based on reason (2) from Section 30 that the Board’s decision was not supported by substantial evidence. Mr. Peekema’s opinion is that the existing cutoff wall constructed by the USACE in about 1997 is deeper than the design drawings prepared by SBFCA’s design team which was then incorporated into their project geotechnical design, and in any event, is adequate for flood control purposes.

5.2– Staff Analysis and Determinations

Staff has reviewed all documents submitted by Mr. Peekema and has determined that his request was properly submitted as required by Title 23, Section 30. The request was both timely and included all required items.

Board staff considered the items submitted by Mr. Peekema as noted above and has determined that the decision of the Board was supported by substantial evidence provided before and during the February hearing and, thus, Mr. Peekema's rationale for requesting reconsideration ("not supported by substantial evidence") does not provide a basis for the Board to reconsider its February 2014 decision.

Cutoff wall design was based on substantial technical data and field investigations. Data on the existing cutoff wall was based on original USACE design drawings and was used to support SBFCA's geotechnical determinations. SBFCA's Draft Technical Memorandum (Attachment F) states that the design of the existing wall at the waterside levee toe does not address through seepage and the geotechnical documents produced by the SBFCA team, reviewed by staff for the permit hearing, included and accounted for the existing cutoff wall.

The information and DVD provided by Mr. Peekema at the February 28, 2014 meeting has been reviewed and staff has determined that the information does not provide any new or substantial evidence that SBFCA's determinations were inaccurate.

6.0 – MR. FREDERICKS DISCUSSION ITEM

Mr. Fredericks submitted a protest letter in advance of the February 28, 2014 Board meeting but did not attend the hearing on the matter and did not submit a formal request for reconsideration. However, he attended the May 23, 2014 Board meeting and spoke during the public comment portion asking the Board to suggest alternatives to modify the project which he hoped SBFCA would consider. Mr. Fredericks' remarks are also outlined in a letter dated February 13, 2013 (Attachment C2). At the May 23 meeting, Mr. Fredericks requested additional time before the Board during the reconsideration hearing for Mr. Peekema, which Board President Edgar granted.

Board staff recommends the Board allow the additional comments to be submitted on the record as requested, but take no further action on this item because Mr. Fredericks did not file a timely request for reconsideration.

7.0 – STAFF RECOMMENDATION

Board staff recommends that the Board:

- deny Mr. Peekema's Petition for Reconsideration and find that the February 2014 decision approving Permit No.18793-3 was based on substantial evidence in the record and was proper; and
- allow Mr. Fredericks to make additional comments on the record, but take no further action on this item.

8.0 – LIST OF ATTACHMENTS**A. Location Maps**

- A1. SBFCA FRWL Project
- A2. Peekema Property
- A3. Fredericks Property

B. Peekema Submittals to the Board

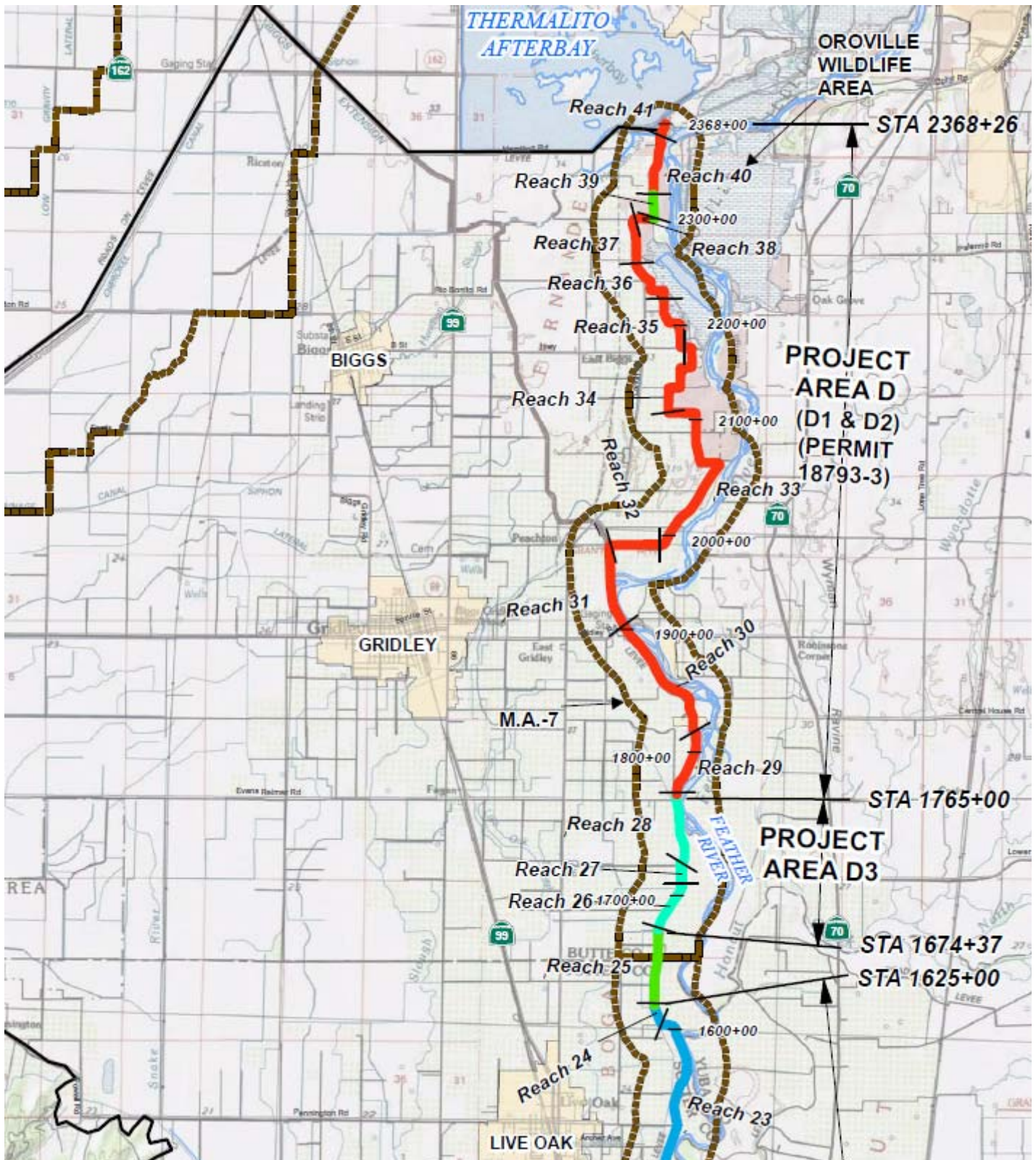
- B1. February 3, 2014 Protest
- B2. February 26, 2014 Protest Supplement
- B3. March 27, 2014 Reconsideration Request
- B4. May 20, 2014 Email Declining to Dismiss the Reconsideration

C. Fredericks Submittals to the Board

- C1. February 11, 2014 Protest
- C2. May 23, 2014 Protest Supplement

D. Application Nos. 18793-2 and 18793-3 Staff Report (without attachments)**E. Board Issued Permit No. 18793-3****F. URS Draft Technical Memo in Response to Reconsideration**

Prepared by:	Nancy C. Moricz, Senior Engineer, Projects and Environmental Branch
Document Review:	Eric Butler, Projects and Environmental Branch Chief
	Len Marino, Chief Engineer
Legal Review	Leslie Gallagher, Chief Counsel / Acting Executive Officer





100 50 0 100
SCALE: 1"=100'

MATCH LINE STA: 1790+00 (SEE DWG G-101)


MATCH LINE STA: 1817+00 (SEE DWG G-103)

100% DESIGN

REV.	DATE	BY	CHK.	APPR.	DESCRIPTION	REV.	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY:
J. NETTLETON
DRAWN BY:
A. JACKSON
IN CHARGE:
D. JABBOUR
PROJECT MANAGER:
C. KRIVANEC
DATE:
12/4/13





HDR Engineering Inc.
2365 Iron Point Rd. Suite 300
Folsom, CA 95630

SUBMITTED

APPROVED

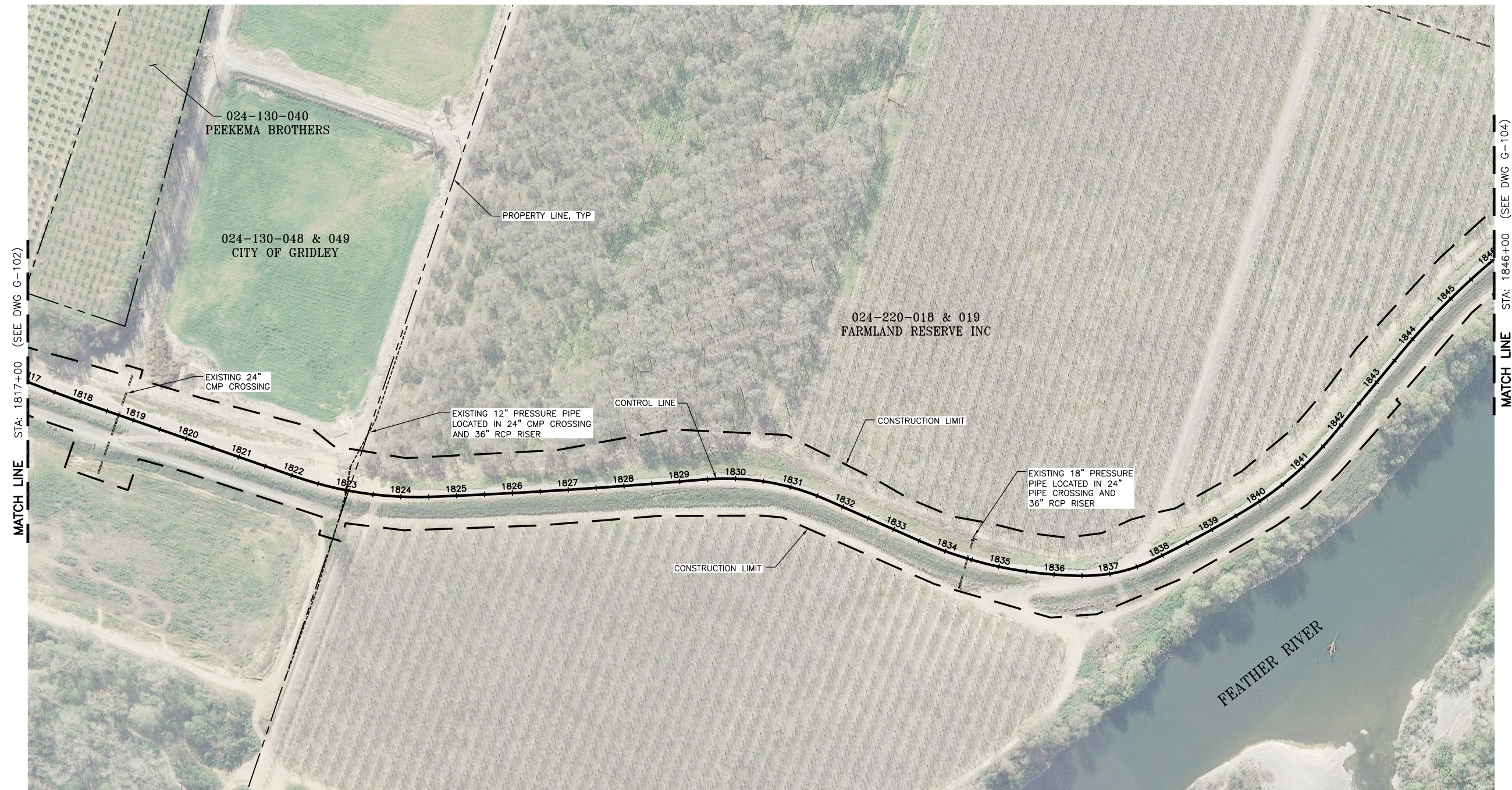
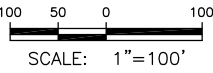
SUTTER BUTTE FLOOD CONTROL AGENCY

PROJECT AREA D - VOLUME 3: FRWL IMPROVEMENTS PLANS




AERIAL PHOTO
STA: 1790+00 TO 1817+00

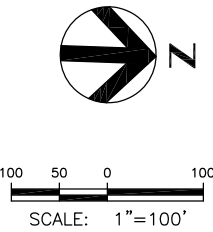
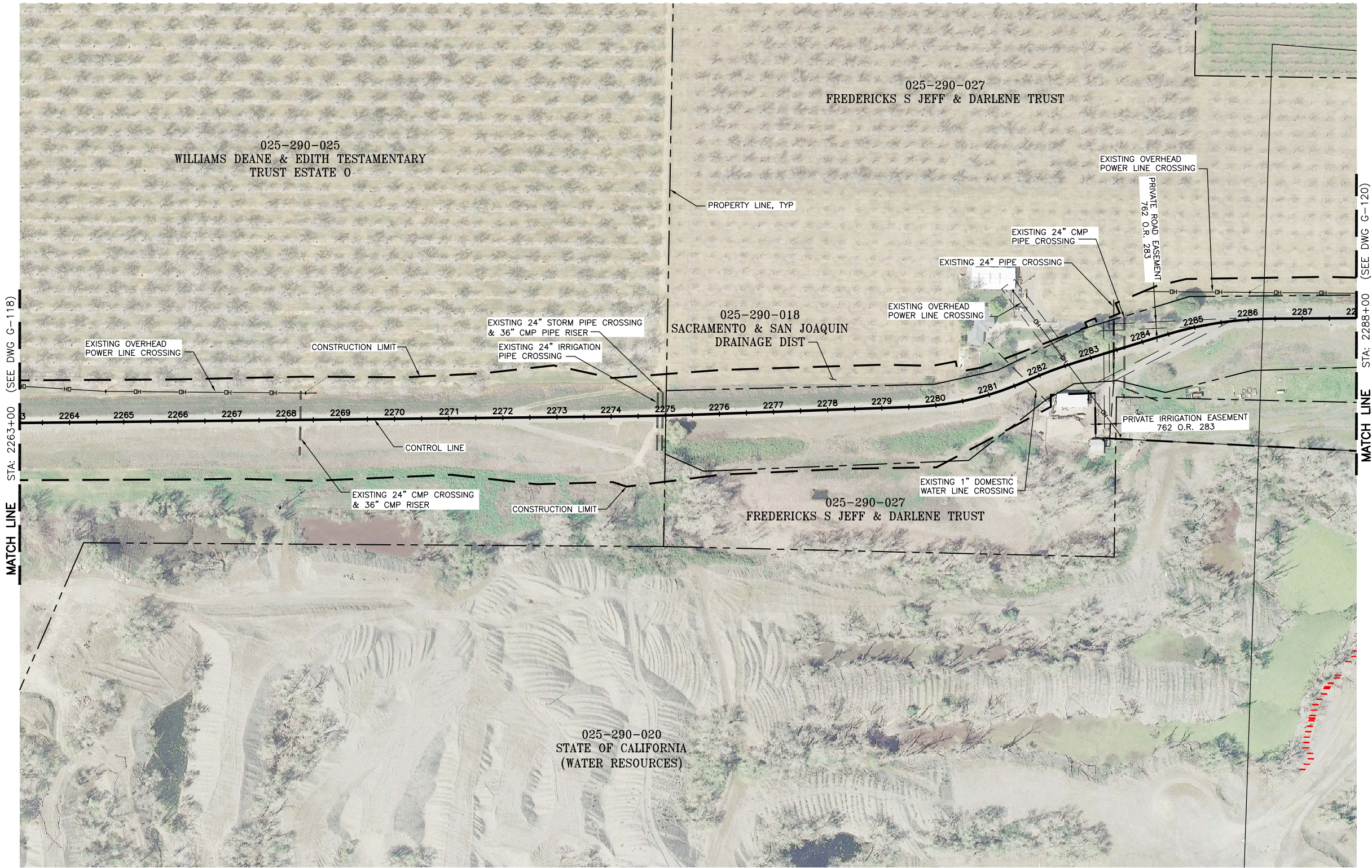
VERIFY SCALES
BAR IS ONE INCH ON
ORIGINAL DRAWING.
ADJUST SCALES FOR
REDUCED PLOTS
0"=1"

DRAWING NO. SHEET
G-102 22



100% DESIGN

										DESIGNED BY: J. NETTLETON						 HDR Engineering Inc. 2365 Iron Point Rd. Suite 300 Folsom, CA 95630					SUTTER BUTTE FLOOD CONTROL AGENCY										VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS 				
										DRAWN BY: A. JACKSON						<div>SUBMITTED</div> <div>APPROVED</div>					PROJECT AREA D - VOLUME 3: FRWL IMPROVEMENTS PLANS										DRAWING NO. G-103		SHEET 23		
										IN CHARGE: D. JABBOUR																									
										PROJECT MANAGER: C. KRIVANEC											AERIAL PHOTO STA: 1817+00 TO 1846+00														
REV. DATE BY CHK. APPR.					DESCRIPTION					REV. DATE BY CHK. APPR.					DESCRIPTION					DATE: 12/4/13															




100% DESIGN

REV.	DATE	BY	CHK.	APPR.	DESCRIPTION	REV.	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY:
J. NETTLETON
DRAWN BY:
A. JACKSON
IN CHARGE:
D. JABBOUR
PROJECT MANAGER:
C. KRIVANEC
DATE:
12/4/13





HDR Engineering Inc.
2365 Iron Point Rd. Suite 300
Folsom, CA 95630

SUBMITTED

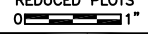
APPROVED

SUTTER BUTTE FLOOD CONTROL AGENCY

PROJECT AREA D - VOLUME 3: FRWL IMPROVEMENTS PLANS

AERIAL PHOTO

STA: 2263+00 TO 2288+00

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS 	
DRAWING NO. G-119	SHEET 39

PEEKEMA RANCH, LLC
905 Alexander Ave.
Gridley, CA 95948
(530) 846 3217

February 2, 2014

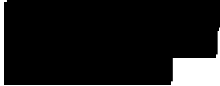
Central Valley Flood Protection Board
3310 El Camino Ave., Rm. 151
Sacramento, CA 95821

Subject: PROTEST to Application No. 18793-3 BD

This letter is to notify you that the above named land owner of Butte County property does herewith PROTEST the Application No. 18793-3 describing work to be performed at a property adjacent to our parcels 024-130-046 & 047.

In compliance with your notice of January 16, 2014 informing us of the work planned by the Sutter Butte Flood Control Agency (SBFCA), we submit the following information:

1. Protestant's name, address, and telephone number

Peekema Ranch, LLC


2. Statement of protestant's objections

We object to the CVFPB granting broad construction permission to the SBFCA to pursue laudable goals without a detailed description of the specific activities to be performed on a particular parcel. We object to the Board allowing an Agency to ignore the impact of its activities on potential river bank erosion in close proximity to the levee they propose to improve. We object to having our property and operations thereon detrimentally affected by allowing permission to construct a cut-off wall where an adequate one already exists.

3. Adverse effects of the proposed project on protestant

The effect of the proposed project depends greatly on the specific nature of the work to be undertaken on, and adjacent to our property. The SBFCA has been explicit about taking, in fee, a strip of our land surrounding the levee and has provided a detailed map of the parcel dimensions to be acquired. The acquisition map contained no details of the planned construction work. The intended work was only described orally to us – there is no written record of those details.

They (SBFCA) said they planned to shave down the levee surface on our parcel for construction access to the levee north of our parcels where they planned to install a cut-off wall in the center of the levee. They appeared unaware that sometime around 1995 a slurry cut-off wall had been installed in the Gridley sewer pond east of the levee. That wall was some 20 feet east of the levee at the pond's bottom some 20 feet below the levee top. That wall was 3 feet wide and 65 feet deep running north to south for the length of the pond. The verbally described SBFCA cut-off wall is unnecessary.

The SBFCA taking a strip of property will bifurcate our parcel 046 making access and control of that part east of the levee more difficult if not impossible. We have been growing and harvesting walnuts for more than 20 years on that part of our riverside property. The river bank along that piece of our property is very steep and has been consistently eroding, and is much closer to the levee than anywhere in the vicinity. Our attempts to mitigate that erosion by installing some rip-rap were thwarted when we were forced to remove that bank protection by another state entity citing environmental and appearance concerns.

The permitting entity should look at the detailed plans as well as the goals of its applicants. We request the Board to require and scrutinize specific details of the application to ascertain that the planned construction is indeed necessary and does not exacerbate bank erosion by the major river channel very near the levee.

Respectfully,

Richard M. Peekema

Richard M. Peekema


PEEKEMA RANCH, LLC
905 Alexander Ave.
Gridley, CA 95948
(530) 846 3217

February 26, 2014

Central Valley Flood Protection Board
3310 El Camino Ave., Rm. 151
Sacramento, CA 95821

Subject: PROTEST to Application No. 18793-3 BD

Dear Board Members:

The above named landowner has formally protested the referenced Application and submits here additional information in support of that protest.

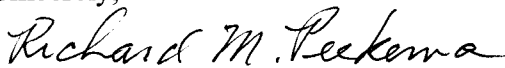
We have received complete descriptions of the property to be taken in support of the Sutter Butte Flood Control Agency, but only verbal descriptions of the planned construction work. Our interaction with that Agency is detailed in the SBFCA Mtg Info Declaration of RMP attached.

From that record, we have had to infer that the SBFCA has not considered the existence of the slurry wall installed circa 1997 in the City of Gridley sewer ponds. The construction of that slurry wall is detailed in the Slurry Wall Declaration of RMP attached.

The planned cut-off wall construction described by SBFCA in Attachment #1 appears to duplicate the previous levee improvement described in Attachment #2. There appears to be no evidence that SBFCA has considered the former slurry wall in their construction plans. Such duplication is inappropriate and costly.

We respectfully request the Board to DENY that portion of SBFCA's construction permit application dealing specifically with the cut-off wall planned in the levee between the Gridley sewer ponds, and DENY the related construction easements planned on protestant's parcel 046.

Sincerely,


Richard M. Peekema
4817 Wellington Park Dr.
San Jose, CA 95136
408 224-8948
peekema@comcast.net

Attachments (2)

#1 SBFCA MTG INFO DECLARATION OF RMP
#2 SLURRY WALL DECLARATION OF RMP

SBFCA MTG INFO DECLARATION OF RMP

RE: Central Valley Flood Protection Board hearing for
the SBFCA Application No. 18793-3 for a construction permit

The undersigned, Richard M. Peekema, declares as follows:

1. I am over the age of 18, and a resident of San Jose, California in the County of Santa Clara. I have been involved in the family farming operation in Gridley, California, which has been doing business as Peekema Bros. since 1963. The following facts of my own personal experience are known to be true. Other stated facts are believed by me to be true.

2. I am a managing member of Peekema Ranch, LLC, which owns the Butte County property parcels 024-130-046 & 024-130-047, that are directly affected by the construction permit being considered for the Sutter Butte Flood Control Agency's Application No. 18793-3

3. On February 13, 2013 we met with members of the Sutter Butte Flood Control Agency in Yuba City, California. Present at that meeting were Michael Bessette and Barry O'Regan of the SBFCA, and Kelli Johnson of SBFCA's agent Bender Rosenthal. Mike Weston and Richard Peekema represented Peekema Ranch, LLC.

4. Prior to the meeting, Bender Rosenthal served a highly detailed map of the property portions to be taken for flood control purposes. The February 13 meeting was focused on discussing the portions of our property to be acquired by the SBFCA and the acquisition process. We were provided no documents regarding the planned construction work, although it was discussed. A letter from me documenting the content of that meeting was sent on February 15, 2013 to the SBFCA and their agent Bender Rosenthal. In relevant paragraphs of that letter, I stated:

"It appeared from Mr. O'Regan's presentation that a slurry wall is planned to start at the northern boundary of our parcel 046 and to proceed north for some distance along the levee. The plans showed some portion of the levee south from the north parcel border being cut down into a ramp to allow slurry wall construction at the reduced levee height."

"I remarked that I had observed the Corp of Engineers put a slurry wall within the eastern sewer pond just north of our parcel 047. That wall was installed parallel to the levee and east of the levee at the sewer pond level. It started at the northern end of the sewer pond, was 65 feet deep, about 3 feet wide, and ran south for several hundred feet. I did not observe the conclusion of the construction, but the wall presumably ran to the southern edge of the sewer pond. That wall would be about 20 or more feet east of the levee where the SBFCA wall is planned, and would be some 10 or more feet below the levee surface. I don't know if that wall was shown on the SBFCA maps."

5. In late summer or early fall of 2013 we met again with the SBFCA in Yuba City to garner more details of the levee work to be done on our parcel 046. At that meeting we were again told that their construction plan was to use the levee at the north end of our parcel for equipment access to install a cut-off wall in the levee just north of our parcel. They would cut the levee down on our side 12 feet at the border and sloping up to the south to the levee top, building a ramp for construction access.

6. At that meeting I again stated that I had seen a slurry wall installed at that levee in the past, probably by the US Army Corps of Engineers. The Agency expert present at that meeting with multiple large folders of maps and drawings consulted his voluminous information on that section and said he saw no indication of such a wall.

7. I have seen no evidence that the SBFCA has recognized the existence of the earlier slurry wall, or shown that it is inadequate and needs to be supplemented.

I declare under the penalty of perjury under the laws of the State of California, that the foregoing is true and correct.

Date Feb. 25, 2014

Richard M. Peekema
Richard M. Peekema

SLURRY WALL DECLARATION OF RMP

RE: Central Valley Flood Protection Board hearing for
the SBFCA Application No. 18793-3 for a construction permit

The undersigned, Richard M. Peekema, declares as follows:

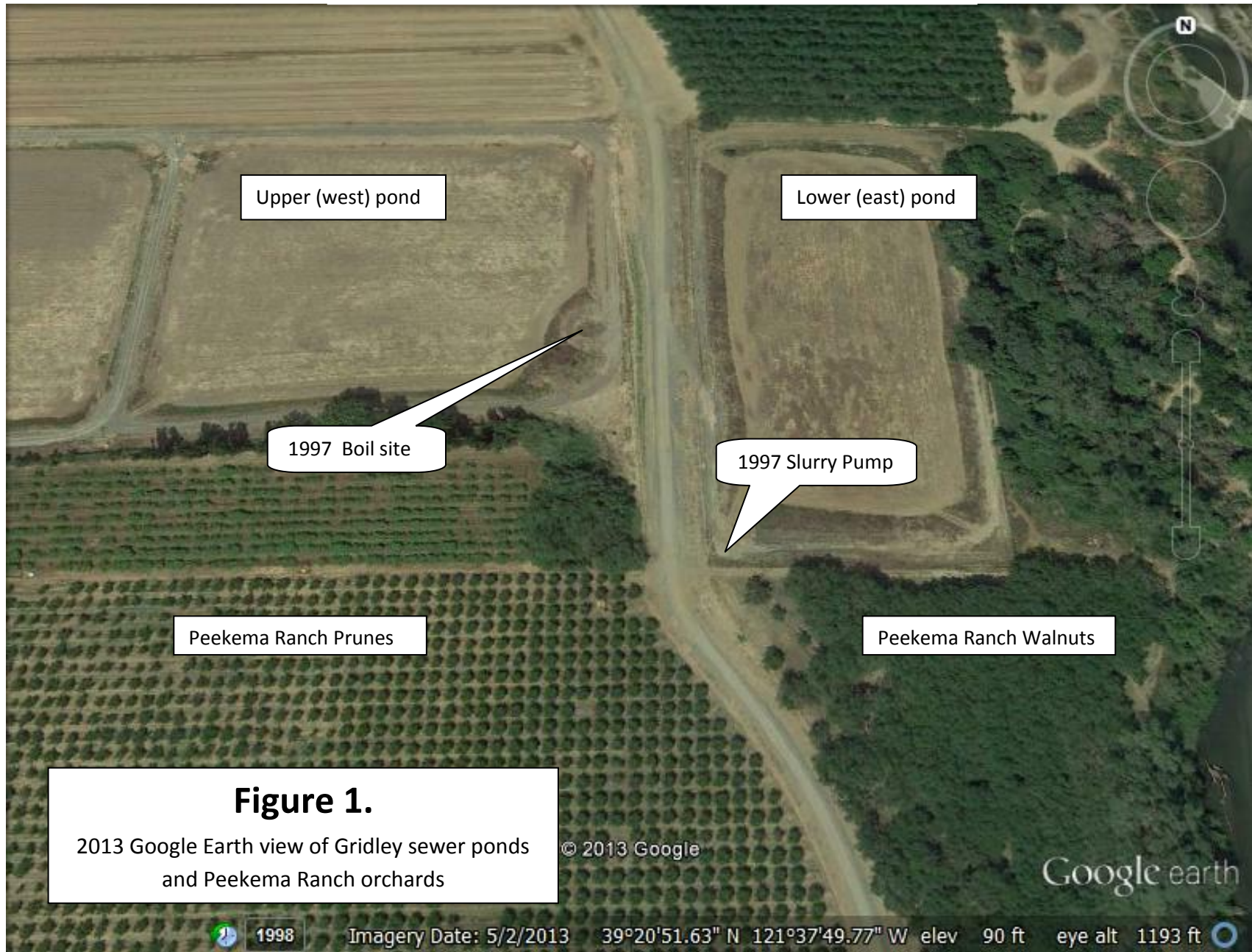
1. I am over the age of 18, and a resident of San Jose, California in the County of Santa Clara. I have been involved in the family farming operation in Gridley, California, which has been doing business as Peekema Bros. since 1963. The following facts of my own personal experience are known to be true. Other stated facts are firmly believed by me to be true.
2. I am a managing member of Peekema Ranch, LLC, which owns the Butte County property parcels 024-130-046 & 024-130-047, that are directly affected by the construction permit being considered for the Sutter Butte Flood Control Agency's Application No. 18793-3
3. On January 1, 1997 I was in Gridley observing the high water on our property adjacent to the Feather River which produced at that time flooding of unprecedented proportions.
4. During that period of high water, a boil was detected in the City of Gridley upper sewer pond on the west side of the levee. A small circular dam was constructed around that boil to an elevation equal to that of the levee, and prevented any further intrusion through the levee.
5. In the summer of 1997 I observed and photographed the installation of a deep and extensive slurry wall in the City of Gridley sewer pond on the river (east) side of the levee. Figure 1, attached hereto, is a 2013 Google Earth photo of the sewer ponds and Peekema Ranch orchards seen in subsequent photos and showing the locations of boil observed in the upper (west) pond and the slurry pump used during the installation.
6. Figures 2 and 3 are snapshots taken from a video camera record made by me on the levee separating the Gridley sewer ponds during that operation. The exact date of those pictures was not recorded, but the pictures were kept in a file dated 1997. At a time before the videos were taken, I observed a crane brought in to lift and attach the extra long bucket to the large augmented backhoe seen in the pictures.
7. Figure 2, attached hereto, was taken on the levee looking south. The levee bank appears trimmed down to allow close access to the levee by the backhoe with its extra length bucket. Between the backhoe and the levee a flexible pipe is run from the slurry mixing pump station seen at the far rear of Figure 2a to the trench opened up by the backhoe. Periodically the dredging operation was stopped, and an individual with a safety line attached to him would stand along side the new trench and with a weighted line would probe the depth of the new portion.
8. Figure 3, attached hereto, was taken on the levee looking north. Figure 3c shows a pallet of slurry wall ingredients being brought in from access on the north by forklift. The slurry mixing and pumping station was located at the south east corner of the river side sewer pond.
9. Access to Peekema Bros. property just south of the river side sewer pond had been requested by and granted to the slurry wall contractor to store stuff and get access to his equipment.

I declare under the penalty of perjury under the laws of the State of California, that the foregoing is true and correct.

Date Feb. 25, 2014

Richard M. Peekema
Richard M. Peekema

Attachment to Slurry Wall Declaration of RMP



Attachment to Slurry Wall Declaration of RMP



Fig. 2a



Fig. 2b



Fig. 2c

FIGURE 2

View of augmented backhoe looking south from surface of levee between Gridley sewer ponds.

2a. Bucket down. Levee shoulder trimmed down to allow closest levee access by backhoe. Snaked slurry line from mixing pump in front of trees at rear.

2b. Bucket ready to dump. Slurry mixing pump with exhaust plume at rear with snaking slurry pipe along levee

2c. Backhoe starting a new run. Scale of equipment apparent from trucks in picture.

(Installing slurry wall 3' wide by 65' deep)

Attachment to Slurry Wall Declaration of RMP



FIGURE 3

**View of augmented backhoe
looking north from the surface of
levee between Gridley sewer ponds.**

3a. Bucket down 65 feet. Required water safety ring on backhoe side wall. Separate crew working to restore pond surface and preparing to top the finished slurry wall.

3b. Bucket being emptied onto pond surface east of the slurry wall.

3c. Pallet load of slurry materials being delivered by fork lift from the access road on the north to the slurry mixing pump in the southwest corner of the river side pond.

(Installing slurry wall 3' wide by 65' deep)

PEEKEMA RANCH, LLC
905 Alexander Ave.
Gridley, CA 95948
(530) 846 3217

RECEIVED
MAR 28 2014

BY: _____

March 27, 2014

Central Valley Flood Protection Board
3310 El Camino Ave., Rm. 151
Sacramento, CA 95821

Subject: Petition for Reconsideration

Dear Sirs:

Enclosed is a Petition for Reconsideration of a Board decision made on February 28, 2014.

Please see that it gets delivered to the appropriate individuals.

Sincerely,

Richard M. Peekema

Richard M. Peekema
4817 Wellington Park Dr.
San Jose, CA 95136
408 224-8948
peekema@comcast.net

Enclosure

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

Petition No. _____

PETITION FOR RECONSIDERATION

1. Pursuant to California Code of Regulations Title 23, Div. 1, Chap. 1, Article 4.1, §30, petitioner Peekema Ranch LLC requests reconsideration of the Board's decision at its hearing on February 28, 2014 to grant a construction permit to Sutter Butte Flood Control Agency (SBFCA) described in application 18793-3 for improvements in the west bank of the Feather River.

2. Peekema Ranch LLC had protested part of the construction permit applied for as being unnecessary and redundant because of a prior slurry cut-off wall installed by the U.S. Army Corps of Engineers (Corps) in 1997. At the February 28, 2014 hearing in Sacramento the Board received written and oral evidence provided by the protestant Peekema Ranch LLC and the oral response of the SBFCA and others regarding the inadequacy of the prior slurry wall installed by the Corps in 1997. The Board then granted the SBFCA's construction permit.

3. The Board's decision was based in large part on the evidence presented in rebuttal by the Board's staff and others after protestant's oral presentation at the hearing. In brief summary but detailed later, that rebuttal said that the prior slurry wall: a) was not deep enough, b) would require 400 feet of wraparound, and c) that detailed documentation is not available. Petitioner's view of the 1997 wall is different, and this petition will show that the SBFCA view is not supported by substantial evidence. Those differences are now considered in detail.

4. PRIOR SLURRY WALL DEPTH.

a. How deep did the 1997 Corps wall go?

According to the applicant, 50 feet. [The source for that number was not given.] The Board's staff report on the 1997 Corps slurry wall was based on information supplied by SBFCA. They said the wall was 50 feet deep, 754 feet long, constructed along the waterside toe, and was

built to address underseepage.¹ They also said the SBFCA geotechnical studies showed that the wall was not deep enough, that end around effects would require a 400 foot overlap in the 754 foot length, and that they could not determine the specifications and standards used for the wall.²

According to protestant-petitioner, the wall went down 65 feet starting from a surface 20 feet below the levee top, or essentially 85 feet below the levee top.³ [Petitioner Peekema Ranch owned property adjacent to the slurry wall site and granted Corps access to the construction work through its property. Petitioner's member, Richard Peekema, as representative of the owner of the adjacent property, was given access to photograph the work from the narrowed levee during construction where heavy equipment traveled both ways, was required to wear a hard hat on the levee, and was told by the contractor that the wall being constructed was 65 feet deep.] The photographic evidence supplied to the Board at the recent hearing is consistent with that number. (Determining dimensions from photographs is a common practice if some object of known size is included in the photograph.) This can be done only approximately from the video record and snapshots taken from it, where the objects of roughly known size are vehicles, people, and the augmented backhoe.

b. How deep is the SBFCA cut-off wall planned to go?

No number was provided at the hearing. No number is easily discernable from the staff attachments made available with the hearing notice.⁴ The cut-off walls planned in the involved reaches were from 17 to 99 feet in depth. Drawing C-301 on page 201 shows a typical cross section with a note thereon near the wall saying "depth varies – see sheets C-401 to C-418". No drawings so numbered appear included in the package provided by the Board.

Is the Corps prior slurry wall deep enough? Not determined at this point.

¹ CVFPB: Transcript of Board hearing for February 28, 2014, p.179, ln.8

² id, p.179, ln.15 & ln. 22

³ Protestant's hearing evidence, p. 3,"Slurry Wall Declaration"

⁴ CVFPB: Item10A_18793_2and3_StaffReportandAttachments

5. WRAPAROUND REQUIREMENTS FOR A SAFE PRIOR WALL

According to the applicant's rebuttal, 400 feet of wraparound would be required for an adequate but non-contiguous adjacent wall.⁵ But that number incorrectly assumes the cut-off wall was intended to go further south thus requiring wraparound at both ends. The construction plans described to petitioner was a cut-off wall starting at the sewer ponds' southern border but did not include any wall going further south. Furthermore, the rebuttal stated that the 1997 wall was constructed at the waterside levee toe, some distance from the levee center but not given.

Protestant's photographic evidence at the hearing clearly showed the construction next to a severely trimmed levee bank, much closer ⁿ that the levee toe. The separation between non-contiguous walls clearly should affect the required wraparound, with less wraparound required for less separation. The wraparound required here could be less than the 200 feet used by applicant.

According to petitioner, only 200 feet or less would be required. The applicant's cut-off wall could start some 550 feet north of the ponds' southern border and proceed only north. This could save the cost of some 500 to 600 feet of expensive cut-off wall construction, by taking the time to determine the adequacy of the prior 1997 Corps slurry wall.

6. DOCUMENTATION AND RECORDS

More time appears needed to determine adequacy of the Corps slurry wall. The Board's staff had only a few days to look into the Corps wall after it came up in petitioner's protest, and relied heavily on the applicant.⁶ Applicant has known about the wall for at least 13 months since petitioner notified SBFCA in February 2013, but the need for quantitative numbers did not arise until the February 2014 hearing was scheduled. While the records of the 1997 time period are scattered, there is confidence that records exist.⁷

⁵ CVFPB: Transcript of Board hearing for February 28, 2014, p.179, ln.25

⁶ id, p.184, ln.4

⁷ id, p.187, ln.8

7. PRIOR WALL'S ADEQUACY

Let's give the Corps' prior wall a presumption of correctness, not the reverse. The Board appears to assume inadequacy to be on the safe side. However, the slurry wall in question was constructed by the U.S. Army Corps of Engineers. That highly respected organization deserves the presumption of having corrected the problem which initiated its construction of the slurry wall. The absence of any subsequent problems requiring additional work further attests to the success of that wall to correct underseepage. The small doughnut-dammed boil site looking like a mini volcano in the land side sewer pond is still visible, and a reminder of the problem that the Corps's slurry wall solved.

8. For all the reasons given above, there appears a lack of substantial evidence to show that the prior wall is inadequate. The Board should reconsider its blanket approval of SBFCA's construction plans, specifically with regard to the cut-off wall planned to start at the south end of the City of Gridley sewer pond parcel.

9. Petitioner respectfully requests the Board to reconsider its earlier decision and to deny that specific portion of the SBFCA permit dealing with a cut-off wall in the City of Gridley sewer pond parcel, or at least to delay that decision until substantial evidence is obtained on the 1997 U.S. Army Corps of Engineers slurry wall.

Respectfully submitted:

Peekema Ranch
petitioner Peekema Ranch, LLC

by *Richard M. Peekema*
Richard M. Peekema

date *Mar. 26, 2014*

CERTIFICATION OF SERVICE TO INTERESTED PARTIES.

I certify under penalty of perjury that I have sent by certified mail copies of this petition to the interested parties listed below.

Signed: Richard M. Peekema

Richard M. Peekema

Date: Mar. 26, 2014

Interested parties:

Sutter Butte Flood Control Agency
1227 Bridge Street, Suite C
Yuba City, CA 95991

City of Gridley
685 Kentucky Street
Gridley, California 95948

Moricz, Nancy@DWR

From: Peekema@comcast.net
Sent: Tuesday, May 20, 2014 1:38 PM
To: m.bessette@sutterbutteflood.org
Cc: Moricz, Nancy@DWR; awestons@comcast.net
Subject: San Jose Meeting feedback

May 20, 2014
Michael Bessette, P.E.
Sutter Butte Flood Control Agency

Dear Mr. Bessette:

Thank you for the significant effort you and Michael Hughes made to meet with me and Michael Weston in San Jose on May 19, 2014. The information you brought clarified for us both the plans and the basis that SBFCA has for cut-off walls on our property and on the City of Gridley property to our north.

The differences between my view of the 1997 COE cut-off wall and the SBFCA information on that wall were a main reason for the reconsideration petition, and have not changed. You asked at the meeting if I could now drop my petition, which is a creature of the CVFPB rules. It would appear from those same rules that to drop that petition now I would also lose any right to further procedures. While it seems that we are more in agreement than not, and that any remaining issues are likely to be resolved without the need for formal hearings or procedures, I am very reluctant to give up the right to this option. Therefore, I decline to drop my petition, but will continue to work toward a mutually agreeable outcome within the rule framework required by the Board.

You indicated that Ms. Nancy Moricz of the Board was hopeful that our meeting might result in the dismissal of the petition. I mentioned that I would inform her of my decision, and do so with a copy of this email.

Respectfully,

Richard Peekema, for
Peekema Ranch, LLC

cc: Ms. Nancy Moricz; Michael Weston

February 3, 2014

Central Valley Flood Protection Board
Nancy Moricz, Senior Engineer
3310 El Camino Ave, Rm 151
Sacramento, CA 95821

FEB 2014
BY: _____

RE: Application # 18793-3 BD PROTEST

Dear Mrs. Moricz

I'm writing this letter to comment and protest the proposed work adjacent to my property location at 902 Vance Ave in Biggs, CA. I'm not in protest of the project as a whole as I see the need for levee improvement and flood protection in the Sacramento Valley, but I don't see the need for the proposed improvements on my property.

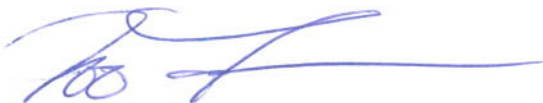
I have at first hand seen the effects of a 100 year flood during the flood of 1997. And the effects of the flood of 1997 adjacent to my property was very insignificant, regardless what the engineers models show. In fact the water level did not get any higher than the toe of the levee. In addition to this fact, I understand the levee is built 4 to 5 feet higher than what is required in my area which provides even more protection that is not needed.

I have buildings on both side of the levee. The proposed slurry cut-off wall in my opinion will create flooding (flooding I did not have in the 1997 storm) on the water side of the levee as it will hinder the natural ground water flow of water traveling away from the river.

I also have underground wells on both sides of the levee and I have not heard one good thing about slurry cut-off walls and water wells. The only thing I have heard with installation of slurry cut-off walls near wells is negative, from contamination to drying up.

I also don't see the need to take as much land from me as proposed or the issue or problem with re-planting my orchard that is being removed. The only thing I have been told is that the orchard can't be replanted as the levee needs to be inspected from time to time (especially during a flood event) and they will need access. My rebuttal to this is, you can see the ground for inspections now with the orchard existing and they have always had access to the levee thru my orchard.

In summary, I see the need for levee improvements and flood protection further south on the levee. But at my location, as the water has never gone higher than the toe of the levee I don't see the need for these drastic and expensive measures. I propose (at my location) to remove the trees and vegetation, clean up the levee, re-compact the existing levee to its current condition if needed and maintain it as it should have been maintained when it was originally built.



Jeff Fredericks
902 Vance Ave
Biggs, CA 95917

530-521-9719

Moricz, Nancy@DWR

From: Jeff Fredericks Hilbers <jeff@hilbersinc.com>
Sent: Friday, May 23, 2014 2:05 PM
To: Moricz, Nancy@DWR
Cc: 'Darlene Fredericks'
Subject: Jeff Fredericks - Feather River West Levee
Attachments: Comments to Feather River West 2-12-13.pdf; CVFPB - PROTEST 2-3-14.pdf; Google Map - Plan Page.pdf

Nancy, thanks for the help on this, please find the attached as you requested. Let me know if you need anything else. Let me know when I need to be at the next meeting, I think you said it was on 6/27.

My cell number is 530-521-9719 if you need to get in touch with me

Have a good weekend,

Jeff Fredericks
Estimator
Hilbers Inc
1210 Stabler Ln
Yuba City, CA 95993
Ph 530-673-2947 ext 130
Fx 530-674-9578



February 12, 2013

Feather River West Levee Project, EIR Comments

USACE, Sacramento District
ATTEN: Mr. Jeff Koschak
1325 J Street
Sacramento, Ca 95814

Mr. Koschak,

My name is Jeff Fredericks, I live at 902 Vance Ave, Biggs, Ca (section/area #37, station 2275 to 2290 of the EIR) and I would like to provide the following comments to the EIR Draft and general comments to the project as a whole.

Attending various meetings and in the EIR, I have seen and heard many times that two of the major goals are; To do the project as cost effective as possible and comply with The Farm Land Protection Act. Because of this I would like to propose the following in this section of the levee:

Option 1

Construct the slurry cut off wall at the levee closest to the river in the existing levee from Vance Ave to at least Palm Ave. There is an existing levee now at this location. This would save money to the project as you would not have to buy farm ground from individuals as the state already owns this ground and it would also save valuable farm ground from extinction. It would also be the least impact to the property owners in this area due to construction activities, relocations of existing utilities, removal of structures, possible irrigation and domestic well relocations, abandonments or deterioration and most notably livelihood.

Option 2

I own property on both side of the levee, so I have to travel back and forth across the levee to access my property. If you relocated the levee to the east (closer to the river) this would allow me to access all of my property. This would also allow for more area between existing structures and the relocated levee. This option might create new farmable ground thereby offsetting some of the prime farm ground you are eliminating.

Option 3

Do not rebuild the levee to its existing elevation. Per your report and from what I have read, the levee is already at least 5 ft higher than what is required for a 200 yr flood. This would save money in construction cost, improving the scenic landscape and be socially acceptable.

Option 4

Fill in the areas on the east side of the levee that was used for the borrow areas to build the levee. I would like to offer my property on the east side of the levee as a spoils area for clean fill (native sandy loam) material. Native clean fill may be brought up to the elevation of the original ground before the levee was installed. This would save construction costs as native clean spoils would not have to be hauled off site. It would also save costs in having to purchase more property as the new toe of the levee would be located up on the levee within the existing right of way. By raising the grade on the east side

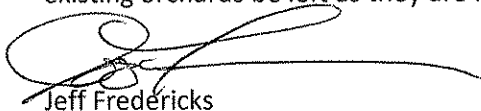
of the levee this would help in preventing underground boils. This option might create new farmable ground thereby offsetting some of the prime farm ground you are eliminating.

In addition to the options above I would like to comment on the following;

- During Construction;
 - How are unforeseen existing utilities and improvements going to be accounted for?
 - How is dust going to be kept to a minimum?
 - How do you plan on keeping rattlesnakes from migrating into buildings and structures?
 - Per your report, "it's not typical for construction equipment to be within 30 ft of a structure". I have one structure that is already within the levee foot print, what happens in this case?
 - How is underground water turbidity going to be handled? I have two wells within 100ft of the levee and believe that silts will be stirred up during construction as the slurry cutoff wall will be 90ft deep at my location.
- After the work is complete;
 - Who is going to have access to the levee?
 - Who is going to inspect and maintain the levee?
 - How is access going to be granted for property owners that have to access both side of the levee?
 - How is the repair of failed / broken underground utilities going to be handled? Will property owners have the right to repairs pipes during the irrigation season to save their crops?
 - What is the plan if an existing well stops producing or produces less than what it did before construction? Per all your models well production is not an issue, but what happens if your models are wrong?
 - There is mention of exclusion fencing or K-rail. Are these items to be used during construction activities only or is there a plan for permanent fencing once the project is complete? If there is a plan for permanent fencing, what is the plan?

In the EIR you comment, that orchards have limited value to wildlife. This statement is very offensive to me and can't see how you can make such a claim. Orchards see an abundance of wildlife and provide homes for such. Orchards are very valuable to wildlife not to mention our environment. In Light of the fact that I'm being forced to sell a portion of my property and the opinion is that orchards are not important, I do not have a warm fuzzy feeling about this whole proposition and project. I just hope that property owners along the levee will be treated fairly. How will fair market value be assessed? Will my property assessment include the loss of future income that will come from the sale of my livelihood?

Finally, other than access for inspections, I don't understand why I would not be able to replant my orchard within the proposed levee right of way? From what I understand, the planting of an orchard does not create unstable ground if anything it creates stability. If you want to inspect the levee today in this area you could with the orchard existing. I propose to the state that replanting be permitted or existing orchards be left as they are now.



Jeff Fredericks
902 Vance Ave
Biggs, Ca 95917

**Meeting of the Central Valley Flood Protection Board
February 28, 2014**

Staff Report

**Sutter Butte Flood Control Agency
Feather River West Levee Project
Project Areas B (Reaches 7 through 12) and D (Reaches 29 through 41)
Sutter and Butte Counties**

1.0 – REQUESTED ITEM

Consider Central Valley Flood Protection Board (Board) adoption of the next phases of construction of the Feather River West Levee Project (FRWLP) (Attachment A) through Resolution 2014-01 (Attachment B) to approve:

- Draft Permit No. 18793-2, Project Area B (Attachment C1)
- Draft Permit No. 18793-3, Project Area D (Attachment C2)

2.0 – APPLICANT

Sutter Butte Flood Control Agency (SBFCA)

SBFCA is a Joint Powers Agency (JPA) formed in 2007 by Butte and Sutter Counties, the cities of Biggs, Gridley, Live Oak and Yuba City, and Levee Districts 1 and 9 of Sutter County (LD 1 and LD 9). The agency has the authority to finance and construct regional levee improvements, and is governed by a 13-member board comprised of elected officials from the cities, counties, and levee districts.

3.0 – PROJECT LOCATION

The entire FRWLP extends from Thermalito Afterbay in Butte County downstream approximately 41 miles to a point approximately 3.5 miles north of the Feather River's confluence with the Sutter Bypass in Sutter County (Attachment A). In this action, SBFCA requests permits for two project areas, Area B and Area D.

3.1– Project Area B

Project Area B includes approximately 6.1 miles of levee improvements south of Yuba City from Shanghai Bend upstream to Star Bend (Reaches 7 through 12 of the

overall FRWLP) in Sutter County (Attachment A1). Levee maintenance is performed by Levee District 1.

3.2– Project Area D

Project Area D includes approximately 11.4 miles of levee improvements from Gridley upstream to the Thermalito Afterbay (Reaches 29 through 41 of the overall FRWLP) in Butte County (Attachment A2). Levee maintenance is performed by the California Department of Water Resources (DWR) State Maintenance Area 7 (MA 7).

4.0 – PROJECT DESCRIPTIONS

4.1– Project Area B

SBFCA proposes to construct approximately 6.1 miles of levee improvements on the west levee of the Feather River (Reaches 7 through 12) from Station 512+00 to 832+40. The proposed work includes: degrading of the levee by approximately one third of its overall height; construction of a cutoff wall ranging from 47 to 78 feet in depth along the centerline of the levee; reconstruction of the levee; installation of 28 new relief wells between Station 543+60 and 568+30; reconstruction of approximately 3,100 linear-feet of an existing concrete relief well drainage ditch; construction of an additional 2,500 linear-feet of new concrete relief well drainage ditch; and correction of various encroachments which do not comply with California Code of Regulations, Title 23.

4.2– Project Area D

SBFCA proposes to construct approximately 11.4 miles of levee improvements on the west levee of the Feather River (reaches 29 through 41) from Station 1765+00 to 2368+26. The proposed work includes: degrading of the levee by approximately one third of its overall height; construction of a cutoff wall ranging from 17 to 99 feet in depth along the centerline of the levee; reconstruction of the levee; construction of seepage berms from 100 to 170 feet in width; and correction of various encroachments which do not comply with California Code of Regulations, Title 23.

5.0 – AUTHORITY OF THE BOARD

California Code of Regulations, Title 23 (Title 23):

- § 6, Need for a Permit
- § 11, Variances

- § 12, Protests
- § 13, Evidentiary Hearings
- § 108, Existing Encroachments
- § 112, Streams Regulated and Nonpermissible Work Periods
- § 116, Borrow and Excavation Activities – Land and Channel
- § 120, Levees
- § 121, Erosion Control
- § 123, Pipelines, Conduits and Utility Lines
- § 124, Abandonment of Pipelines
- § 128, Bridges
- § 130, Patrol Roads and Access Ramps

California Water Code, Division 5, Part 4, Chapters 3 and 4

Rivers and Harbors Act of 1899, Title 33 United States Code, § 408, hereafter referred to as Section 408

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with the projects are as follows and shall be incorporated into each respective draft permit as an Exhibit by reference:

6.1– Project Area B (Draft Permit No. 18793-2, Attachment C1)

- U.S. Army Corps of Engineers (USACE) Washington DC headquarters Section 408 Record of Decision (ROD) dated September 13, 2013 (Exhibit A)
- USACE Sacramento District Letter of Permission (LOP), which is anticipated late February 2014 (Exhibit B)
- LD 1 Board endorsement (Exhibit C)

6.2– Project Area D (Draft Permit No. 18793-3, Attachment C2)

- USACE Washington DC headquarters Section 408 ROD dated September 13, 2013 (Exhibit A)
- USACE Sacramento District LOP, which is anticipated late February 2014 (Exhibit B)
- MA 7 endorsement (Exhibit C).

7.0 – PROJECT ANALYSIS

7.1– Project Background

- The FRWL was originally constructed in the 19th century by local interests
- Several high water and flood events led to repeated performance problems in 1909, 1914, 1955, 1986, and 1997 (including levee breaches in 1909, 1914, and 1955)
- Performance problems during high water events have included such issues as: through- and under-seepage, landside and waterside instability, and erosion
- In multiple locations throughout the FRWL improvements have been made over the years, such as construction of stability berms, drainage ditches, relief wells, and slurry cutoff walls
- Various geotechnical studies have been performed to investigate the performance of the FRWL, including the DWR Urban Levee Evaluation (ULE) Program (2007 – 2010)
- SBFCA was formed as a JPA in 2007 and began comprehensive evaluations of the FRWL
 - SBFCA found that several areas of the FRWL were in need of improvements to reduce issues of through- and under-seepage, landside and waterside instability, and erosion
- The FRWLP was conceived as an Early Implementation Project prior to adoption of the Central Valley Flood Protection Plan (CVFPP) in 2012
- SBFCA is pursuing the FRWLP in parallel but in a coordinated effort with the federal Sutter Basin Feasibility Study
- SBFCA's project goals are to achieve a minimum 200-year level of flood protection for urbanized and urbanizing areas within the Sutter Basin
- On October 30, 2012 the Board sent a letter to the USACE requesting Section 408 approval (Attachment D)
- On May 24, 2013 the CVFPB conditionally approved Permit No. 18793-1 (Project Area C)
- ROD for 18793-1, Project Area C (Reach 13 only) was issued on July 19, 2013
- LOP for 18793-1, Project Area C (Reach 13 only) was issued on July 22, 2013

- Flood System Improvement Permit 18793-1, Project Area C (Reach 13 only) was issued on July 23, 2013 to approve expedited construction of Reach 13
- ROD for the remaining reaches of the FRWLP was issued on September 13, 2013
- LOP for the remaining reaches of Project Area C was issued on September 19, 2013
- A proposal to amend Flood System Improvement Permit No. 18793-1 was approved by the Board on September 27, 2013 to authorize construction of the entire Project Area C (Reaches 13 through 24), and to authorize a Project Design Change to address changes in field conditions during construction
- The amended permit for Project Area C was issued on September 27, 2013
- Formal permit applications for Areas B and D, 90 percent design plans and specifications were received by October 2013 followed by 100 percent design plans and specifications in December 2013

7.2– Proposed Project Schedule

An outline of SBFCA's proposed construction schedule for Project Areas B and D, pending USACE and CVFPB approval, is as follows:

Out to Bid	February 3, 2014
Pre-bid Meeting	February 11, 2014
LOP from USACE	Anticipated by late February 2014
CVFPB Permit Hearing (Areas B and D)	February 28, 2014
Open Bids	March 4, 2014
DWR Funding Commitment Letter	Anticipated Early March
SBFCA to Award Contract	March 12, 2014
SBFCA to Issue a Notice to Proceed	March 24, 2014
SBFCA to Mobilize Equipment	after April 15, 2014
Funding Agreement with DWR	Anticipated June 2014

7.3– Project Benefits

The proposed projects are expected to provide the following benefits:

- Address major geotechnical concerns such as through- and under-seepage, slope stability, and the condition and impact of existing encroachments

- Reduce the risk of flooding for existing urban areas, agricultural commodities, infrastructure, and other properties
- Increase the level of flood protection to a targeted 200-year level, which is consistent with the adopted CVFPP and pursuant to the legislative mandates of the Central Valley Flood Protection Act of 2008 (Water Code §§ 9600 – 9625), for the City of Yuba City (Project Areas B and D) and the cities of Biggs, Gridley, and Live Oak (Project Area D)
- Bring existing encroachments surveyed by SBFCA into compliance with Title 23, while addressing 100 percent of the encroachment issues categorized by the USACE in their 2010 periodic inspections as “Unacceptable – likely to prevent performance in the next flood event”

7.4– Project Design Review

Board staff completed a technical review of the following documents to prepare this Staff Report for the hearing on the permits:

- 90 percent design plans and specifications submittal packages (August 2013 – Project Area B and September 2013 – Project Area D)
- Permit Application Packages (October 2013)
- 100 percent design plans and specification submittal packages (December 2013) including typical cross sections for Project Areas B and D (Attachments E1 and E2, respectively)

Any subsequent plans and specification submittal packages or addendums shall be handled in a manner consistent with Special Conditions FORTY-TWO and FORTY-THREE.

7.5– Hydraulic Summary

Board staff has reviewed SBFCA’s hydraulic analysis. The analysis computed various design water surface profiles and evaluated the incremental hydraulic impacts resulting from levee improvement measures designed to achieve a 200-year level of flood protection for the urban and urbanizing northern portion of the Sutter-Yuba City Basin, and to achieve 100-year protection south of Star Bend downstream of Yuba City. The analysis modeled a 44-mile reach of the Feather River from Thermalito Afterbay downstream to the Sutter Bypass. SBFCA and its consultant, Peterson Brustad, Inc. (PBI) determined that the project will have no adverse incremental impacts to the Feather River West Levee or the Sacramento River Flood Control Project (SRFCP).

PBI modeled the FRWLP using HEC-RAS modeling software with the “Shanghai” storm centering. Calibration was completed using data from two historical flood events (1997 and 2006). Flows of 150,000 cubic feet per second (cfs), 174,000 cfs, and 327,000 cfs were calculated for the 100-, 200-, and 500-year levels of flood protection, respectively. By comparison, the USACE Levee and Channel 1957 profile lists the Feather River design flow rates at 210,000 cfs upstream of the Yuba River confluence, and 300,000 cfs below the confluence.

The water surface profile for the entire FRWLP (Attachment F), and water surface profiles for Project Areas B and D (Attachments F1 and F2, respectively) demonstrate that both the 100-year plus 3 feet of freeboard and 200-year plus 3 feet of freeboard profiles are lower than the existing levee crown profiles throughout Project Areas B and D.

Based on the applicant’s modeling results, Board staff concludes that the proposed projects are expected to result in no adverse hydraulic impacts to the Sacramento River Flood Control Project (SRFCP).

7.6– Geotechnical Summary

The proposed project areas have been evaluated for susceptibility to through- and under-seepage, slope stability, and geometry deficiencies (such as levee side slopes). Sections 7.6.1 and 7.6.2 below outline geotechnical details for each project area. Attachment G contains a reach-by-reach breakdown of levee deficiencies and levee rehabilitation measures.

7.6.1– Project Area B

Project Area B is divided into five reaches extending upstream from Reach 7 (south) through Reach 12 (north). The predominant deficiencies determined by the geotechnical analyses are levee through- and under-seepage. The project will include construction of approximately six miles of cutoff wall along with 28 relief wells. Relief wells are being utilized in the southern portion of Reach 7 because there is no underlying aquaclude into which a slurry wall can be tied.

The recommended depths for the cutoff walls range from approximately 47 to 78 feet. The recommended depths are not constant over the length of a reach, but vary along each reach to correspond to the varying subsurface conditions. In addition to seepage mitigation, the removal, relocation, and modification of a number of levee encroachments are included as a part of the project.

7.6.2– Project Area D

Project Area D is divided into 13 reaches extending upstream from Reach 29 (south) through Reach 41 (north). The predominant deficiencies determined by the geotechnical analyses are levee through- and under-seepage. The project will include construction of approximately nine miles of cutoff wall and approximately 0.93 miles of seepage berm.

The recommended depths for the cutoff walls range from approximately 17 to 99 feet in depth. The recommended depths are not constant over the length of a reach, but vary along each reach to correspond to the varying subsurface conditions. In addition to seepage mitigation, the removal, relocation, and modification of a number of levee encroachments are included as a part of the project. Seepage berms ranging in width from 100 to 170 feet are proposed in Reaches 38, 40 and 41 near Thermalito Afterbay because the underlying foundation of gravels and cobbles are not conducive to cutoff wall construction.

Settlement and rapid drawdown issues are not apparent or anticipated in either project area. Based on subsurface conditions encountered in the field during Project Area C (Reach 13) construction in 2013, and based on the anticipation that similar conditions are likely to be encountered during construction of Project Area B and D, SBFCA has requested several levee construction variances to Title 23 standards. These variances, and Board staff conclusions regarding them, are further outlined in Section 7.7 below.

7.7– Project Variances

SBFCA is requesting variances to four sections of Title 23 standards based on their proposed design. SBFCA submitted a Variance Request Package (Attachment H) describing the requested variances and justifying their needs. In accordance with Title 23, § 11(b), Variances, SBFCA is requesting the variances outlined in Section 7.7.1 through 7.7.3, below and referenced in Special Condition FIFTY-FIVE in Draft Permit Nos. 18793-2 and 18793-3. The request is based on grounds that the Board's standards are infeasible for these specific projects due to various site conditions, funding, and other constraints as detailed in their Variance Request.

7.7.1– Project Variances Common to Both Project Areas B and D (Attachment H, Attachment 1)

§ 120, Levees

- Use of cohesionless soil in outer shells for reconstructed zoned levee

- Compaction requirements for cohesionless soils
- Moisture content requirements for cohesionless soils tested in compliance with test methods for cohesive soils
- Use of Type 3 material in the upper waterside slope of the levee
- Use of impervious material with a liquid limit equal to or less than 65

§ 123, Pipelines, Conduits and Utility Lines (Attachment H, Attachment 1)

Attachment H, Tables A1.1 and A4.1 detail the pipeline related variance requests. SBFCA is requesting variances to the following Title 23 pipeline standards, with references to the number of occurrences within the two Project Areas:

Title 23 Standard	No. of Occurrences (Area B)	No. of Occurrences (Area D)
§ 123(d)(1)	4	0
§ 123(d)(7)	0	1
§ 123(d)(20)	11	26
§ 123(e)(1)	0	10
§ 123(e)(3)	0	10
§ 123(g)(6),(7)	0	13
§ 123(g)(7)(D)	6	9

7.7.2– Project Variances Specific to Project Area B (Attachment H, Attachment 2)

§ 108, Existing Encroachments

- Shared farm access road at the landside levee toe from Station 532+00 to 674+50

7.7.3– Project Variances Specific to Project Area D (Attachment H, Attachment 3)

§ 108, Existing Encroachments

- Existing structure encroaching into the waterside of the levee near Station 2282+00 to remain
- Existing head works structure near Station 2359+50 to remain

§ 120, Levees

- Use of dredge tailing material for seepage berm construction (Station 2290+00 to 2368+00)

§ 112, Streams Regulated and Nonpermissible Work Periods

- Time variance for pipeline replacement near the Sutter Butte Main Canal

Board staff has determined that the proposed projects will result in an improved levee system, ensure continuity with Project Area C (already under construction), and are not expected to pose a threat to levee stability. However, due to the lack of performance data supporting the requested variances to Title 23 staff is requiring additional site inspections to take place prior to the flood season and after high water events in order to determine that the levee is performing in the manner intended by the approved plans and specifications. Please refer to Special Condition NINETY-THREE in Draft Permit Nos. 18793-2 and 18793-3 for specific requirements.

In addition to Special Condition NINETY-THREE, Board staff has added or modified the following Special Conditions to Draft Permit Nos. 18793-2 and 18793-3 in order to incorporate the requested variances to Title 23 into the permits:

- TWENTY-SIX, regarding existing encroachment relocation/modified
- SIXTY, regarding fill material
- SIXTY-ONE, regarding backfill for excavations
- SIXTY-TWO, regarding method specification for Type 3 material
- SIXTY-THREE, regarding utilization of cobbles greater than eight inches
- SIXTY-SEVEN, regarding density testing for Type 3 material
- SEVENTY-TWO, regarding potholing to reveal deviations in soil material
- EIGHTY-TWO, regarding post-construction surveys and settlement

During construction any additional variance requests will be reviewed by Board staff and, if substantive in nature, may require approval by the Board for submittal to the USACE as requested Project Design Changes.

7.8–Protest Letters Received

Board staff has received four protest letters, one for Project Area B and three for Project Area D, from adjacent landowners. All four protest letters question the

need for SBFCA to acquire a portion of their land for the proposed projects.

A protest for Project Area B was received on January 27, 2014 from Ms. McFeely (Attachment I1). Ms. McFeely is protesting the acquisition of a portion of her property. SBFCA is planning to acquire 0.48 acres in fee and 0.19 acres in easement of Ms. McFeely's property. The proposed work in this area consists of cutoff wall construction. Land acquisition is needed to acquire the desired project right-of-way (typically 20 feet in fee plus 10 feet in easement from the landward levee toe, but less in selected areas as described in the approved plans) throughout the FRWLP to establish sufficient access for operations, maintenance, and flood fight access.

The first protest for Project Area D was received on February 3, 2014 from Mr. Peekema (Attachment I2). Mr. Peekema is protesting the acquisition of a portion of his property. SBFCA is planning to acquire 2.0 acres in fee and 0.23 acres in easement (1.62 acres are already in easement) of Mr. Peekema's property. The proposed work in this area consists of cutoff wall construction and pipeline reconstruction work. Land acquisition is needed to acquire the desired project right-of-way.

The second protest for Project Area D was received on February 11, 2014 from Mr. Jeff Fredericks (Attachment I3). Mr. Fredericks is protesting the acquisition of a portion of his property and is concerned about potential impacts to his wells from slurry wall cutoff wall construction. SBFCA is planning to acquire 1.0 acres in fee and an additional 0.27 acres in easement (approximately 0.5 acres is already in easement) of Mr. Fredericks's property. The work to be done in this area consists of cutoff wall construction. Land acquisition is needed to acquire the desired project right-of-way.

The third protest for Project Area D was received on February 11, 2014 from Mr. Brian Manning, attorney with the firm Desmond, Nolan, Livaich & Cunningham, representing Ms. JoAnn Stuke Diethrich (Attachment I4). Mr. Manning is protesting the acquisition of a portion of Ms. Diethrich's property. SBFCA is planning to acquire approximately 2.0 acres in fee and an additional 0.8 acres in easement (approximately 0.43 acres already in easement) of Ms. Diethrich's property. The work to be done in this area consists of cutoff wall construction. Land acquisition is needed to acquire the desired project right-of-way. Mr. Manning is recommending that the acquisition width be reduced to 15 feet.

All of the protests were properly submitted pursuant to Title 23, § 12, Protests. Board staff has considered and reviewed the submitted protests and found that they are not based on flood control concerns, and therefore the protests have not

altered staff's recommendation to the Board. The staff recommends no changes to the permit conditions or to the project footprint because of the protest letters received.

SBFCA is required to obtain all lands, easements, and right-of-way necessary (Special Condition EIGHTEEN of Draft Permit Nos. 18793-2 and 18793-3) to comply with conditions of the Board permits and DWR Funding Agreement. Board staff agrees with the need to acquire the lands proposed (either in fee or easement) for operations, maintenance, and flood fighting to ensure successful project completion as proposed by SBFCA.

7.9– Advance Elderberry Transplant Authorization

On January 16, 2014 the Board's Chief Engineer authorized work to transplant elderberry shrubs from 49 locations throughout Project Areas B, C and D. These transplants were required to be completed prior to construction due to the limited time window for elderberry shrub transplantation. Transplantation must occur during the first two weeks of February, which is the plant's dormant phase.

The authorization has been incorporated into both draft permits through Special Condition SEVENTY-THREE by reference as Exhibit D. This special condition also incorporates the as-built planting details and consultation documents from the completed work by reference into the permits as Exhibit E (within 30 days of transplant completion).

7.10– Utility Relocations

In addition to the work proposed for Project Areas B and D, there will be several utility relocations (Attachment J) that will require separate permits or Board Chief Engineer authorizations. SBFCA will assist the utilities to prepare and submit any required Board encroachment permit applications and will coordinate encroachment relocation work with the levee construction schedule.

8.0 – CEQA ANALYSIS

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

The Board, acting as a responsible agency under CEQA, has independently reviewed the Feather River West Levee Project Draft Environmental Impact Report (DEIR) (SCH No. 2011052062, December 2012) the Final Environmental Impact Report (FEIR) (SCH No. 2011052062, April 2013) and the Mitigation Monitoring

and Reporting Plan (MMRP) submitted by SBFCA. These documents consider the environmental impacts and required mitigation measures for the entire Feather River West Levee Project including Project Areas B and D. SBFCA as lead agency determined the project would have a significant effect on the environment and adopted Resolutions 2013-05 and 2013-06 on April 10, 2013 (including Statement of Facts, Findings, Impacts and Mitigation Measures, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program) and subsequently filed a Notice of Determination with the State Clearinghouse on April 12, 2013. These documents including project design may be viewed or downloaded from the Board website at <http://www.cvpfb.ca.gov/meetings/2014/02-28-2014.cfm> under a link for this agenda item. The documents are also available for review in hard copy at the Board and SBFCA offices.

On May 24, 2013 the Board approved Project Area C of the Feather River West Levee Project and issued Board Flood System Improvement Permit 18793-1. The Board, as a Responsible Agency, also made appropriate Agency CEQA findings for unavoidable environmental impacts for the entire Feather River West Levee Project (approximately 41 miles of project works inclusive of Project Areas A, B, C and D). The Board now finds that the proposed Project Areas B and D are within the scope of the previously adopted FEIR including Statement of Facts, Findings, Impacts and Mitigation Measures, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program.

The Board also now finds that construction of the proposed projects described herein would result in no new adverse environmental impacts, and no new mitigation measures are required pursuant to CEQA Guidelines Section 15162. Therefore no new environmental document is required pursuant to CEQA Guidelines Section 15168. The Board's findings on the significant environmental effects of the project are further described in its previously adopted Resolution 2013-07 (Attachment K).

The documents and other materials which constitute the record of the Central Valley Flood Board's proceedings in this matter are in the custody of Jay Punia, Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Ave., Rm. 151, Sacramento, California 95821.

9.0 – CALIFORNIA WATER CODE § 8610.5 CONSIDERATIONS

This information is located in Resolution 2014-01 (Attachment B) and has been removed from this report to eliminate redundant language.

10.0 – STAFF RECOMMENDATION

Board staff has determined that the proposed projects are consistent with the adopted CVFPP, are not injurious to the SRFPP, and provide an overall betterment to reduce the risk of flooding in the protected areas. Staff therefore recommends that the Board:

Adopt (in substantially the form provided):

- the CEQA findings and Resolution 2014-01 (Attachment B)

Approve:

- the requested construction variances to Title 23, § 108, 120, and 123 (Project Areas B and D) and § 112 (Project Area D only) pursuant to § 11(a) and (b) summarized in Section 7.7, and further detailed in Attachment H, herein;
- Draft Flood System Improvement Permit No. 18793-2, conditioned on receipt of Section 408 Letter of Permission from the USACE Sacramento District (in substantially the form provided); and
- Draft Flood System Improvement Permit No. 18793-3, conditioned on receipt of Section 408 Letter of Permission from the USACE Sacramento District (in substantially the form provided);

Delegate:

- authority to the Executive Officer to make non-substantive changes to the draft permits as needed to incorporate additional design changes submitted by SBFCA prior to receipt of the Letter of Permission, and that if substantive changes to the draft permit(s) are required, the Board staff will bring the permit(s) back to the Board at a future meeting to seek approval for substantive changes

Direct the Executive Officer:

- to take the necessary actions to prepare and execute Permit Nos. 18793-2 and 18793-3 and all related documents;
- to prepare and file a Notice of Determination pursuant to CEQA with the State Clearinghouse;
- to process applications to amend existing or request new encroachment permits to owners of utilities within the project areas that will be reconstructed as part of the projects, as detailed in Staff Report Sections 7.7 and 7.10; and
- that if, during construction, additional non-conforming encroachments or constructability issues are discovered by any party SBFCA will consider

whether or not they can be brought into compliance during construction. Board staff will evaluate subsequent proposals for Board approval to be made either by direct Board action or by delegation to the Executive Officer as appropriate; and

- authorize any additional utility relocations and / or elderberry shrub transplants deemed necessary for the project.

11.0 – LIST OF ATTACHMENTS

A – Construction Phasing Map of Overall FRWLP

A1 – Enlarged Construction Phasing Map of Project Area B

A2 – Enlarged Construction Phasing Map of Project Area D

B – Draft Resolution No. 2014-01

C – Draft Permits

C1 – Draft Permit No. 18793-2

Exhibit A – USACE ROD

Exhibit B – USACE LOP

Exhibit C – LD 1 Endorsement

Exhibit D – Advanced Elderberry Transplant Authorization

Exhibit E – Elderberry As-built Planting Details and Consultation Documents

C2 – Draft Permit No. 18793-3

Exhibit A – USACE ROD

Exhibit B – USACE LOP

Exhibit C –MA-7 Endorsement

Exhibit D – Advanced Elderberry Transplant Authorization

Exhibit E – Elderberry Transplant As-built Planting Details and Consultation Documents

D – Board 408 Request for the FRWLP

E – Typical Cross Sections

E1 – Typical Cross Sections for Project Area B

E2 – Typical Cross Sections for Project Area D

F – Water Surface Profile of Overall FRWLP

F1 – Water Surface Profile of Project Area B

F2 – Water Surface Profile of Project Area D

G – Levee Deficiency and Rehabilitation Measures by Reach

H – SBFCA Variance Request Package

I – Project Protests Received

I1 – Project Area B Protest, Ms. McFeely (received January 27, 2014)

I2 – Project Area D Protest, Mr. Peekema (received February 3, 2014)

I3 – Project Area D Protest, Mr. Fredericks (dated February 3, 2014)

I4 – Project Area D Protest, Mr. Manning (dated February 5, 2014)

J – Utility Encroachment Table (to be handled with separate permits)

K – Board Resolution 2013-07, Project Area C

Prepared by:	Nancy C. Moricz, Senior Engineer, Projects and Environmental Branch
Hydraulics Review:	Sungho Lee, Engineer, Water Resources, Projects Section
Geotechnical Review:	Debabrata Biswas, Engineer, Water Resources, Projects Section
Document Review:	Eric Butler, Projects and Environmental Branch Chief
	Len Marino, Chief Engineer
Legal Review	Leslie Gallagher, Chief Counsel

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

PERMIT NO. 18793-3 BD

This Permit is issued to:

Sutter Butte Flood Control Agency
1227 Bridge Street, Suite C
Yuba City, California 95991

This flood system improvement permit is granted to the Sutter Butte Flood Control Agency (SBFCA) to construct approximately 11.4 miles of levee improvements on the west levee of the Feather River (reaches 29 through 41) from Station 1765+00 to 2368+26. The proposed work includes: degrading of the levee by approximately one third of its overall height; construction of a cutoff wall ranging from 17 to 99 feet in depth along the centerline of the levee; reconstruction of the levee; construction of seepage berms from 100 to 170 feet in width; and correction of various encroachments which do not comply with California Code of Regulations, Title 23 (CCR 23). In addition to the project construction removal, relocation, and modification of several existing levee encroachments to bring them into compliance with federal and State standards through revised or new Board encroachment permits will also be necessary. Other existing encroachments will be relocated or removed in their entirety. These additional encroachment permits will be issued to the individual encroachment owners as required through the Project Area D construction schedule.

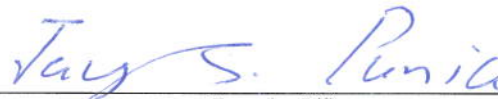
The project extends from East Evans Reimer Road to Thermalito Afterbay in Gridley, CA. (Sta 1765+00 to 2368+26) Reaches 29 through 41 (Section 2, T14N, R3E, MDB&M, Maintenance Area 7, Feather River, Butte County).

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

(SEAL)

MAR 26 2013

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. 18793-3 BD**LIABILITIES / INDEMNIFICATION**

THIRTEEN: 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 Central Valley Flood Protection Board, the Department of Water Resources, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, arising out of failure on the permittee's part to perform the obligations under this permit, the permittee shall defend and shall hold each of them harmless from each claim. This condition shall supersede condition TEN.

FOURTEEN: 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.

FIFTEEN: The permittee is responsible for all liability 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 such claims and damages arising from construction of 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.

SIXTEEN: The Central Valley Flood Protection Board and Department of Water Resources shall not be held liable for damages to the permitted alterations resulting from releases of water from reservoirs, flood fight or emergency operations, maintenance, inspection, or repair.

EASEMENT, LICENSE, TEMPORARY ENTRY PERMIT, AND LAND ACQUISITION

SEVENTEEN: If the construction project extends onto land owned in fee and / or easement by the Sacramento and San Joaquin Drainage District acting by and through the Central Valley Flood Protection Board (hereafter Board), the permittee should secure an easement, license, or temporary entry permit from the Board prior to commencement of work. Contact Angelica Aguilar at (916) 653-5782.

EIGHTEEN: Prior to construction, the permittee shall have obtained legal possession of all property where work to be performed under this permit is located.

BOARD CONTACTS

NINETEEN: The permittee shall contact the Board by telephone at (916) 574-0609, and the Board's Construction Supervisor at (916) 651-1299 to schedule a preconstruction conference. Failure to do so at least 20 working days prior to start of work may result in delay of the project.

PERMITTING AND AGENCY CONDITIONS

TWENTY: Project Area D of the Sutter Butte Flood Control Agency's Feather River West Levee Project (FRWLP) is permitted pursuant to 33 U.S.C. Section 408 authority of the U.S. Army Corps of Engineers. The Feather River west levee is a facility of the Sacramento River Flood Control Project and State Plan of Flood Control regulated by the Board. By acceptance of this permit, the permittee acknowledges the authority of the Board to regulate all future flood system improvement projects and encroachments along the project levee reach.

TWENTY-ONE: The permittee shall comply with all conditions set forth in the U.S. Army Corps of Engineers (USACE) Record of Decision dated September 13, 2013, which is attached to this permit as Exhibit A and is incorporated by reference.

TWENTY-TWO: The permittee shall comply with all general and special conditions set forth in the

USACE Letter of Permission dated March 3, 2014, which is attached to the permit as Exhibit B and is incorporated by reference.

TWENTY-THREE: The permittee shall comply with all conditions set forth in the Department of Water Resources Maintenance Area 7 endorsement letter dated February 6, 2014, which is attached to the permit as Exhibit C and is incorporated by reference.

TWENTY-FOUR: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

TWENTY-FIVE: The permittee agrees to incur all costs for compliance with local, State, and federal permitting and resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations they administer and enforce.

TWENTY-SIX: The permittee shall cooperate with the Board such that any encroachment that must be relocated, modified or otherwise altered to accommodate construction of flood system improvements permitted herein is relocated, modified or otherwise altered in compliance with current applicable State and federal standards. If the affected encroachment has an existing Board permit or is subject to other Board authorization, the permittee shall cooperate with the Board such that the permit or other authorization is appropriately amended to reflect the changed condition as shown on as-built drawings for the encroachment and FRWLP. If the encroachment does not have a Board permit or other Board authorization the permittee shall cooperate with the Board to determine whether a Board permit is required. If required the permittee shall cooperate with the Board to ensure that the permit application is made and, if granted, the permit reflects the changed condition(s) as shown on as-built drawings for the encroachment and the FRWLP project.

TWENTY-SEVEN: If the permittee does not comply with the conditions of this permit and enforcement by the Board is required, the permittee shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees.

TWENTY-EIGHT: Upon completion of this flood system improvement project, the permittee will cooperate with the Board to update the supplement to the standard Operations and Maintenance Manual covering the project area, and to cooperate with the Board to obtain federal acceptance of the project works into the Sacramento River Flood Control Project by the U.S. Army Corps of Engineers, followed by federal turnover to the State for Operations and Maintenance through existing assurance agreements.

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

THIRTY: The permittee shall develop a Stormwater Water Pollution and Prevention Plan and shall make a copy readily available for review at the project site during construction.

PRE-CONSTRUCTION

THIRTY-ONE: The permittee shall provide construction supervision and inspection services acceptable to the Board.

THIRTY-TWO: The permittee shall contact the U. S. Army Corps of Engineers regarding inspection of the project during construction as the proposed work is an alteration to an existing federal flood control project that will be incorporated into the Sacramento River Flood Control Project, a facility of the State Plan of Flood Control.

THIRTY-THREE: Prior to commencement of excavation, the permittee shall create a photo record, including associated descriptions, of the levee conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Board within 30 days of beginning the project.

THIRTY-FOUR: No construction work of any kind shall be done during the flood season from November 1 to April 15 without prior written approval of the Board. This condition excludes the work authorized as described in Special Condition SEVENTY-THREE.

THIRTY-FIVE: Thirty (30) calendar days prior to the start of any demolition and / or construction activities within the floodway or within the existing levee prism, the permittee shall submit to the Board's Chief Engineer two sets of detailed plans and specifications and supporting geotechnical and / or hydraulic impact analyses, for any and all temporary, in channel, or levee prism work that may have an impact during the flood season from November 1 through April 15. The Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or the local maintaining agency when necessary. The Board will provide written notification to the permittee if the review period is likely to exceed thirty (30) working days.

THIRTY-SIX: A profile of the existing levee crown roadway and access ramps that will be utilized for access to and from the borrow area shall be submitted to the Board prior to commencement of excavation.

THIRTY-SEVEN: Keys shall be provided to local levee maintenance agencies and the Department of Water Resources for all locks on gates providing access to the floodway, levee ramp, levee toe, and along the levee crown.

CONSTRUCTION

THIRTY-EIGHT: All work approved by this permit shall be in accordance with the approved plans and specifications, except as modified by special permit conditions herein. Any subsequent plans, specifications, and / or addenda shall be submitted immediately to the Board's Chief Engineer as outlined in Special Condition FORTY-THREE. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Board.

THIRTY-NINE: All addenda and contract change orders made to the approved plans and / or specifications by the permittee after Board approval of this permit shall be submitted to the Board's Chief Engineer for review and approval prior to incorporation into the permitted project. The submittal shall include all supplemental plans, specifications, and necessary supporting geotechnical,

hydrology and hydraulics, or other technical analyses. The Board shall acknowledge receipt of the addendum or change submittal in writing within ten (10) working days of receipt, and shall work with the permittee to review and respond to the request as quickly as possible. Time is of the essence. The Board may request additional information as needed and will seek comment from the U.S. Army Corps of Engineers and / or local maintaining agencies when necessary. The Board will provide written notification to the permittee if the review period is likely to exceed forty five (45) calendar days. Upon approval of submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes.

FORTY: Any additional project features proposed by the permittee in the floodway, on or in the levee section, and within the project right of way as shown on the approved plans (typically 20 feet in fee plus 10 feet in easement from the landward levee toe, but less in selected areas as described in the approved plans) will require either incorporation by amendment to this permit, or will require issuance of a separate encroachment permit to the encroachment owner from the Board.

FORTY-ONE: Existing or proposed utility poles and guy anchors shall be relocated or installed a minimum distance of 10 feet landward of the landward levee toe.

FORTY-TWO: All debris generated by this project shall be disposed of outside the floodway, levee prism and proposed right-of-way.

FORTY-THREE: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15 without prior approval from the Central Valley Flood Protection Board.

FORTY-FOUR: During construction of the project, any and all anticipated or unanticipated conditions encountered which may impact levee integrity or flood control shall be brought to the attention of the Board inspector immediately and prior to continuation of construction. Any encountered abandoned encroachments shall be completely removed or properly abandoned under the direction of the Board inspector.

FORTY-FIVE: The stability of the levee shall be maintained at all times during construction.

FORTY-SIX: Excavations below the design flood plain and within the project right of way owned in fee (as described in Special Condition FORTY-FOUR) shall have side slopes no steeper than 1 horizontal to 1 vertical. Flatter slopes may be required to ensure stability of the excavation. Authorized activities such as farming may occur in the portion of the project right of way obtained in easement (as described in Special Condition FORTY-FOUR).

FORTY-SEVEN: Any damage to the levee crown roadway or access ramps that will be utilized for access for this project shall be promptly repaired to the condition that existed prior to this project.

FORTY-EIGHT: Equipment used in the construction of the cutoff wall shall not exceed the live-load surcharge to a level that causes or contributes to the instability of the levee during construction operations.

FORTY-NINE: The permittee shall be responsible for all damages due to settlement, consolidation, or heave from any construction-induced activities.

FIFTY: All existing fencing, gates and signs removed during construction of this project, which are shown on the approved plans to be replaced, shall be replaced in kind and at the locations indicated on the approved plans. If it is necessary to relocate any fence, gate or sign that is not shown on the approved plans or to a location different than shown on the approved plans, the permittee is required to obtain written authorization from the Board's Chief Engineer prior to installation at a new location. All fencing, gates, and sign locations shall be accurately shown on any submitted as-built plans.

FIFTY-ONE: Any construction work by the permittee within the project right of way (as described in Special Condition FORTY-FOUR) shall meet California Code of Regulations, Title 23 (hereafter referred to as Title 23) standards or shall have an approved Board variance per Title 23, Sections 11(a) and (b). The permittee has requested specific construction variances to Title 23, Sections 108, 112, 120, and 123 that are described in Board Staff Report Section 7.7 and Attachment H.

FIFTY-TWO: Any pipeline or conduit which is to be abandoned by filling with concrete, must have a minimum cover of three (3) feet below the waterward levee slope and one (1) foot below the landward levee slope.

FIFTY-THREE: Fill on the levee slopes shall be keyed into the existing levee section with each lift or as specified in the approved contract plans and specifications.

FIFTY-FOUR: The fill surface areas shall be graded to direct drainage away from the toe of the levee.

FIFTY-FIVE: Some existing levee slopes are less than 2 horizontal to 1 vertical on the land side, or less than 3 horizontal to 1 vertical on the water side, and will remain so after the work permitted herein. This permit approves these steeper slopes by a variance to Board standards.

CONSTRUCTION MATERIALS

FIFTY-SIX: All fill material shall be as stated in the Project Area D contract specifications and free of lumps or stones exceeding 8 inches in greatest dimension, vegetative matter, or other unsatisfactory material, with the exception of materials and locations approved under Board variance per Title 23, Sections 11(a) and (b), and materials used to construct berms in Reaches 38, 40, and 41.

FIFTY-SEVEN: Backfill material for excavations within the existing levee sections and within the project right of way (as described in Special Condition FORTY-FOUR) shall be placed in 12-inch layers, moisture conditioned ranging from 3 above to 1 below optimum moisture content, and compacted to a minimum of 95 percent relative compaction as measured by ASTM Method D698, or as provided for in the contract specifications, and utilizing a method specification (refer to Special Condition SIXTY-TWO) for newly defined Type 3 soils within the levee prism and imported top soil.

FIFTY-EIGHT: This permit allows for a method specification to be utilized for placement of Type 3 soils in the upper waterside surficial zone and the imported topsoil. To achieve desired relative density of levee backfill under the method specification the permittee shall make three passes with selected compaction equipment at specified speed and moisture content, excluding four (4) to six (6) inches of topsoil.

FIFTY-NINE: All cobbles greater than eight (8) inches in size shall be utilized in approved waterside

slope protection areas, landside berms, or hauled off site.

SIXTY: Placement of reconstructed levee fill shall be limited to the existing levee footprint and adjacent landside toe area and shall be done so as to not result in unstable outer levee slopes.

SIXTY-ONE: Earthen material meeting the requirements designated in this permit and included Project Area D specifications shall be used when constructing or reconstructing the waterside levee slope and levee crown fill areas, and no cuts shall remain in the levee section upon completion.

SIXTY-TWO: Fill material shall be placed only within the area indicated in the approved plans and specifications. Placement of additional fill in excess of 1,500 cubic yards beyond what is specified in these plans shall require written authorization from the Board's Chief Engineer.

SIXTY-THREE: Density tests by a certified materials laboratory will be required to verify compaction of backfill within the project right of way (as described in Special Condition FORTY-FOUR, above). A method specification will be utilized in Type 3 zone fills for the upper waterside surficial zone. Density testing will not be required for seepage berm material, seepage berm platform fill, random fill - dredge tailing material, and for levee embankment fill (Soil Type 3).

SIXTY-FOUR: The reconstructed levee crown roadway and access ramps shall be surfaced with a minimum of 3 inches of compacted, Class 2, aggregate base (Caltrans Specification 26-1.02A or equivalent) over three (3) inches of salvaged aggregate base.

SIXTY-FIVE: Fluid pressures in the cutoff wall construction zone shall be monitored and controlled to minimize the potential for hydrofracturing.

SIXTY-SIX: Excess bentonite or other cutoff wall fluids shall be properly disposed of outside of the floodway. The bentonite or other cutoff wall fluids can be used as Type 1 or Type 2 backfill material for levee reconstruction if properly mixed within borrow or stockpile sites, and per the requirements within the contract specification for gradation, moisture and compaction.

SIXTY-SEVEN: Aggregate base material shall be compacted to a relative compaction of not less than 95 percent per ASTM Method D1557 (2012) or equivalent, with a moisture content sufficient to obtain the required compaction, or per the Project Area D contract specifications for Exterior Improvements, Aggregate base course.

SIXTY-EIGHT: Potholing may be required to determine whether the proposed levee degrade material meets current specifications. If potholing is required, potholes shall be performed perpendicular to the levee centerline at a minimal spacing of 2,500 linear-feet. If the investigation results reveal deviations in soil materials from the current specifications, the permittee shall notify the Board in writing, shall describe the nature and extent of the deviations, and shall propose a detailed plan for Board consideration.

VEGETATION / ENVIRONMENTAL MITIGATION

SIXTY-NINE: On January 16, 2014 the Board's Chief Engineer authorized advanced elderberry transplant work for Project Areas B, C, and D. The work is described in the Advanced Elderberry Transplant Authorization package and the Planting Details and Consultation Documents, which are

attached to this permit as Exhibits D and E, respectively, and incorporated by reference.

SEVENTY: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

SEVENTY-ONE: The permittee shall replant or re-seed the levee slopes to restore sod, grass, or other non-woody ground covers if damaged during project work.

SEVENTY-TWO: The mitigation measures approved by the permittee and found in its Mitigation and Monitoring Reporting Program (MMRP) are made a condition of this permit. The permittee shall implement all such mitigation measures. The measures in the MMRP may be modified without triggering the need for subsequent or supplemental analysis under CEQA Guidelines section 15162(c). The permittee shall notify the Board's Environmental Section staff in advance of any proposed changes and shall submit supporting documentation for staff review and comment.

SEVENTY-THREE: In the event existing revetment on the channel bank or levee slope is disturbed or displaced, it shall be restored to its original condition upon completion of the proposed installation.

SEVENTY-FOUR: In the event that levee or bank erosion injurious to facilities of the State Plan of Flood Control occurs at or adjacent to and as a result of the permitted flood system improvement project or related encroachment work, the permittee shall repair the eroded area and propose measures, to be approved by the Board, to prevent further erosion.

CONSTRUCTION COMPLETION

SEVENTY-FIVE: All temporary fencing, gates and signs shall be removed upon completion of project.

SEVENTY-SIX: The project site including the levee section and access ramps shall be restored to at least the condition that existed prior to commencement of work.

SEVENTY-SEVEN: Upon completion of the project, the permittee shall perform a levee crown profile survey and create a photo record, including associated descriptions, of "as-built" levee conditions. The levee crown profile survey and photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Board within 120 days of project completion.

SEVENTY-EIGHT: The permittee acknowledges that the levee improvements are designed to be constructed to match the existing levee crown profile and any settlement over time shall be addressed through future operations and maintenance or subsequent Board authorization. Per DWR's October 2013 Urban Level of Protection Criteria (ULOP), all findings determining an urban level of flood protection require a review every five (5) years including a written report and determination by a California licensed Professional Engineer. The report must either confirm that the urban level of flood protection for the specified project meets the guidelines pursuant to the ULOP or identify remediation measures to be completed over the subsequent five (5) years. The permittee or Maintenance Area 7, shall submit a comparison of the as-built survey to any subsequent surveys that may be required to confirm the urban level of flood protection and a copy of the written report to the Board's Chief Engineer within 30 days of its completion.

SEVENTY-NINE: When DWR releases the completed Central Valley Floodplain Evaluation and Delineation Program data the permittee will recalculate levee freeboard using only that data for both cross section and top of levee elevations. If inconsistencies or deficiencies are found the permittee will develop and present a plan for Board approval to correct any freeboard deficiencies under this or a future phase of construction.

EIGHTY: The potential for earthquake-induced levee damage and displacement along the Feather River West Levee Project will be incorporated into an Emergency Action Plan (EAP) in accordance with DWR Urban Levee Design Criteria (ULDC) requirements. The permittee shall submit the EAP to the Board staff for review and comment 180 days after completion of Project Area D construction.

EIGHTY-ONE: Upon completion of the construction contract for Project Area D the permittee will conduct a Final Construction Walk-through for Board, Department of Water Resources, and U.S. Army Corps of Engineers staff. The walk-through is a condition for Board project acceptance, State funding, and as predecessor to U.S. Army Corps of Engineers system wide acceptance and eligibility for Public Law 84-99 rehabilitation and inspection program. This walk-through is critical to successful permit and project close-out.

POST-CONSTRUCTION

EIGHTY-TWO: Within 120 days of completion of the project, the permittee shall submit to the Board a certification report, stamped and signed by a professional civil engineer registered in the State of California, certifying the work was performed and inspected in accordance with Board permit conditions and the permittee's submitted drawings and specifications, addenda and contract change orders.

EIGHTY-THREE: Within three years from completion of the construction of the work authorized under this permit, the permittee shall provide the Sacramento and San Joaquin Drainage District, acting by and through the Board, a permanent easement or joint use agreement granting all flood control rights upon, over and across the property to be occupied by the existing or to-be-reconstructed levee. The easement must include the project right of way (as described in Special Condition FORTY-FOUR) if the area is not presently encumbered by a Board easement. For information regarding Board easements please contact Angelica Aguilar at (916) 653-5782.

EIGHTY-FOUR: If the project, or any portion thereof, is to be abandoned in the future, the permittee or Maintenance Area 7 shall abandon the project under direction of the Board and Department of Water Resources, at the permittee's cost and expense.

OPERATIONS AND MAINTENANCE

EIGHTY-FIVE: The permittee shall operate and maintain the permitted project works in the manner required by the current "Supplement to Standard Operation and Maintenance Manual," while under contract to do so. At the time maintenance responsibilities are transferred to Maintenance Area 7, they shall operate and maintain the project works (excluding encroachments described in Special Condition TWENTY-SIX) pursuant to the "Supplement to Standard Operation and Maintenance Manual" as revised to reflect project completion or any revisions thereto.

EIGHTY-SIX: Haul ramps and utilized levee crown roadway shall be maintained during construction

in a manner prescribed by authorized representatives of the Board, Department of Water Resources, or any other agency responsible for maintenance.

EIGHTY-SEVEN: Within 180 days of completion of the project, the permittee shall submit to the Board proposed revisions to the U. S. Army Corps of Engineers, Supplement to Standard Operation and Maintenance Manual, Sacramento River Flood Control Project, and the associated "as-built" drawings for system alterations to be incorporated into the federal Sacramento River Flood Control Project.

EIGHTY-EIGHT: The improvements permitted herein are designed to manage flows from a storm with a probability of occurrence of .005 in any year (200-year protection). Permittee's design assumed that non-urban existing upstream levees will not be raised above the design for the Sacramento River Flood Control Project as shown on the 1957 profile. Permittee's design flow and calculations assumed no upstream levee overtopping where permittee's design storm water surface elevation exceeds the 1957 profile top of levee elevation. Permittee acknowledges that the adopted 2012 Central Valley Flood Protection Plan will be regularly updated by the State and that the plan and future updates could include improvements that would change the flow and water surface elevation associated with permittee's design storm, possibly reducing the level of protection provided by the permitted improvements. Permittee agrees to participate in future modifications to these levees as may be required by the Central Valley Flood Protection Plan and its subsequent updates. Permittee's level of participation shall be equivalent to the level required of other local jurisdictions by the Plan. Permittee further agrees that should the Plan include measures that reduce the level of protection provided by the permitted improvements, permittee shall have no basis for a claim of hydraulic impacts.

EIGHTY-NINE: Due to the limited performance data associated with the requested variances to Title 23 approved for this project, following three (3) high water events (as defined in the Supplement to Standard Operation and Maintenance Manual) after completion of construction the permittee or Maintenance Area 7 shall provide the Board's Chief Engineer with the information described in Special Condition EIGHTY-TWO and a written evaluation of levee performance and stability. The written evaluation must be stamped and signed by a California licensed Professional Engineer stating whether the levee is performing in the manner intended by the approved plans and specifications.

NINETY: An irrigation canal owned and operated by Butte Water District, Sutter Extension Water District, and the Joint Water District (Irrigation Districts) is in close proximity to the federal levee and in some cases the east bank of the canal and the landside of the Feather River west levee are one and the same. The Sutter Butte Flood Control Agency has agreed to help coordinate and develop an agreement between the Department of Water Resources, levee districts(s), and the Irrigation Districts regarding the distinction and separation of maintenance responsibilities between the LMAs and the Irrigation Districts prior to the Board's acceptance of the Feather River West Levee Project Area D. The Board shall have up to 30 days after receipt of the agreement for comment. The Board and / or the Department of Water Resources may extend this review period up to 45 days by written notification.

END OF CONDITIONS



DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Executive Office

MAR 03 2014

Mr. Jay Punia, Executive Officer
 Central Valley Flood Protection Board
 3310 El Camino Avenue, Room 151
 Sacramento, California 95821

Dear Mr. Punia,

Pursuant to U.S.C. Title 33, Chapter 9, Subchapter 1, Section 408, the Director of Civil Works for the U.S. Army Corps of Engineers has approved your request to alter the Federal flood risk reduction project, Sacramento River Flood Control Project (SRFCP), by constructing Areas B and D of the *Feather River West Levee Project*, included in encroachment permit number 18793. A letter of permission, dated July 22, 2013 and September 19, 2013, specific for Reach 13 and Contract C of the *Feather River West Levee Project* has previously been issued. Permission has been granted for you to alter Areas B and D of the *Feather River West Levee Project*, within the bid document design drawings and specifications, *Area B, Feather River West Levee Improvement Plans Station 512+00 to 832+40* and *Area D, Feather River West Levee Improvement Plans Station 1765+00 to 2368+26*, dated February 3, 2014. It has been determined that such alteration will not be injurious to the public interest and will not impair the usefulness of the project works. The approval letter from the Director of Civil Works and the Record of Decision are available in the attached enclosures.

The *Feather River West Levee Project* Areas B & D consist of constructing cutoff walls along the centerline of the levee; installing relief wells; and building seepage berms. The majority of the levees will be degraded by approximately 50% of its overall height in order to install the cutoff walls. Various encroachments will be relocated or removed.

As a condition of this letter of permission, the Central Valley Flood Protection Board (CVFPB) is required to comply with the special conditions provided in the attached enclosures. Additionally, the CVFPB must adhere to the U.S. Fish and Wildlife Service Biological Opinion, the National Marine Fisheries Service letter of concurrence, and the Programmatic Agreement, which are available in the attached enclosures.

My point of contact for this action is Ms. Meegan Nagy, Chief, Flood Protection and Navigation Section. She may be reached at 916-557-7257 or by emailing Meegan.G.Nagy@usace.army.mil.

A copy of this letter is being furnished to Mr. Michael Inamine, Executive Director, Sutter Butte Flood Control Agency, 1227 Bridge Street, Suite C, Yuba City, California 95991.

Sincerely,

Michael J. Farrell
 Colonel, U.S. Army
 District Commander

Enclosures



**DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 J Street
Sacramento, California 95814-2922**

**33 U.S.C §408 Letter of Permission
Special Conditions
Feather River West Levee Project (FRWLP)
Area B & D**

The term "you" and its derivatives, as used in this approval letter, means the Central Valley Flood Protection Board (CVFPB) or any future transferee. The term "this office" refers to the Sacramento District of the U.S. Army Corps of Engineers. Alteration of this project must be in accordance with the following conditions:

Special Conditions:

a. This letter of permission does not authorize you to take any threatened or endangered species or designated critical habitat. In order to legally take a listed species, you must have a separate authorization under an Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply. The U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BO) Number 08ESMF00-2013-F-0342-1, dated May 2, 2013, contains mandatory terms and conditions, as well as mandatory conservation measures, to implement the reasonable and prudent measures associated with incidental take for the proposed action. The April 10, 2013, concurrence letter from the National Marine Fisheries Service (NMFS) concurred with the USACE finding that the FRWLP is not likely to adversely affect Central Valley steelhead, Central Valley spring-run Chinook salmon, Sacramento River winter-run Chinook salmon, or North American green sturgeon, their critical habitat, or Essential Fish Habitat of Pacific salmon. This NMFS finding was dependent on the compliance of 12 recommended measures in their letter. Your approval is conditional on compliance with all of the mandatory terms and conditions, as well as conservation measures, in the USFWS BO and the measures in the NMFS Letter of Concurrence (incorporated herein by reference). Failure to comply with these terms and conditions and conservation measures associated with the incidental take statement in the BO and the measures in the NMFS concurrence letter, where the take of a listed species occurs, would constitute an unauthorized take and constitute non-compliance with your USACE permission. The USFWS and NMFS are the appropriate authority to determine compliance with the terms and conditions, as well as conservation measures, of their Biological Opinion and Letter of Concurrence and with the Endangered Species Act. The CVFPB must comply with all terms and conditions, as well as conservation measures, in the USFWS BO and measures in the NMFS letter, including those ascribed to the USACE.

b. You are required to submit a revision to the Operation and Maintenance (O&M) Manual for this office's review within 180 days of the overall project completion. As-Built drawings and permanent maintenance easement boundaries shall be submitted in conjunction with the draft O&M manual. Upon receipt of the draft O&M manual, this office will schedule a transfer inspection with you to verify all construction has been completed in accordance with this permission. Any features found to be deficient during that inspection will require your correction prior to the USACE acknowledging that the work was completed in accordance with this letter of permission. Construction data is required to be provided to this office for review by our Engineering Division during construction. Within 180 days of the overall project completion, you must furnish a certification report that the work has been completed in accordance with the conditions of this permission.

c. There must be no disposal, including temporary disposal, of any material into any wetlands or other waters of the United States, except as authorized and in compliance with a Department of the Army permit under Section 404 of the Clean Water Act. Best management practices, such as silt fences and mulching, must be employed to ensure exposed soils do not erode and wash into any waters of the United States.

d. If any cultural artifact or an unusual amount of bone, shell, or nonnative stone is uncovered during construction, work should be halted in that area so that a professionally qualified archaeologist approved by the USACE can determine the significance of the find. If human bone is uncovered, the coroner and the California Native American Heritage Commission (NAHC) should be contacted immediately. If human remains are discovered in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until (a) the county coroner has been informed and has determined that no investigation of the cause of death is required; and if the remains are of Native American origin, (b) the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work regarding the means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code, Section 5097.98, or (c) the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission. According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052).

e. To ensure that the project complies with Section 106 of the NHPA, CVFPB must ensure that Sutter Butte Flood Control Agency (SBFCA) complies with all terms of the PA between USACE, SBFCA, and SHPO signed on July 1, 2013.

f. You will follow and abide by your Safety Assurance Review plan approved by the USACE, South Pacific Division on March 28, 2013, prior to and during construction.

g. To ensure that there is mitigation for residual flood risk, the CVFPB is required to develop a Floodplain Management Plan that includes proactive elements for flood information dissemination, public awareness, notification and training, flood warning and evacuation plans, emergency flood operations plan with annual exercise, dedicated evacuation resources, and post-flood recovery plans. In accordance with items of local cooperation, this plan must be submitted within 1 year of the issuance of the 33 U.S.C. §408 letter of permission for Reach 13 of Contract C, dated July 22, 2013. The CVFPB and SBFCA are required to participate in and comply with applicable Federal flood plain management and flood insurance programs.

h. The work in this permit is to install a seepage cutoff wall within the existing levee, install relief wells, build seepage berms, and reconstruct the levee in accordance with the 100% plans submittal; where side-slopes do not meet current standards or previous as-built drawings, this Section 408 permissions does not approve deficient levee side-slopes. Future action may be necessary to meet levee standards and authorized design and construction.

General Conditions:

- i. You must accept the operation and maintenance responsibility of the completed work.
- j. You are responsible for continued operations and maintenance for this project during construction.

k. Construction should be coordinated with this office. Additionally, the proposed work shall not be performed or remain during the flood season of November 1 to April 15, unless otherwise approved in writing.

l. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this approval.

m. You are required to submit to this office on a weekly basis construction records documenting field conditions.

n. You are required to submit to this office cross-sections and a survey of the levee centerline with your as-builts. Surveys shall extend from 100 feet waterward or to the water level of the levee toe to 100 feet landward of the levee toe. All data shall be in Geographic Information System (GIS) format (ESRI Version 10.0 or latest version) in correct projection for seamless geographic location, referenced in North American Vertical Datum of 1988 (NAVD 88) using Geoid03 and North American Datum of 1983 (NAD 83), using the relevant California State Plane Zone. Data shall also be provided in GIS ready georeferenced computer-aided design and drafting (CADD) data format as well as pdf format.

Further Information:

a. Limits of this permission.

1. This permission does not obviate the need to obtain other Federal, state or local authorizations, approvals or permissions required by law.
2. This permission does not grant any property rights or exclusive privileges.
3. This permission does not authorize any injury to the property or rights of others.

b. The determination of this office to approve this action as not injurious to the public interest, nor will it impair the usefulness of the project works, was made in reliance on the information you provided.

c. The USACE may reevaluate its decision on this approval at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to the following:

1. You fail to comply with the terms and conditions of this approval.
2. The information provided by you in support of your application proves to have been false, incomplete, or inaccurate. Should field conditions or future investigations require a deviation from the Final Plans, this deviation must be approved by this office through a request from the CVFPB.
3. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

d. This approval should not be construed as an endorsement of certification for the FEMA base flood event.

e. The USACE acknowledges your commitment to accept the altered project for operation and maintenance and hold and save the United States free from damage due to the construction works.

DEPARTMENT OF WATER RESOURCES

DIVISION OF FLOOD MANAGEMENT
P.O. BOX 219000
SACRAMENTO, CA 95821-9000



February 6, 2014

Mr. Michael W. Bessette, P.E.
Director of Engineering
Sutter Butte Flood Control Agency
1227 Bridge Street, Suite C
Yuba City, CA 95991

State Maintenance Area 7 Endorsement for Feather River West Levee Project Area D

Dear Mr. Bessette:

The Department of Water Resources (DWR) Flood Maintenance Office (FMO) is responsible for maintaining Maintenance Area 7 (MA7) in Sutter County. The Sutter Butte Flood Control Agency (SBFCA) is anticipating beginning construction of a flood risk reduction project consisting primarily of a seepage cutoff wall in July 2014. MA7 boundaries within the Project Area D limits extend from approximately Station 1765+00 to Station 2294+00.

MA 7 has concerns regarding the extent to which the Project Area D will address known deficiencies. These concerns have been expressed in several plan reviews and in meetings with SBFCA and Central Valley Flood Control Board (CVFPB) staff. MA 7 acknowledges that SBFCA responded to the following concerns as part of Project Area D:

- Post-project maintenance on oversteepened levee slopes (greater than 2:1 (H:V) landside and 3:1 waterside) will continue to be difficult. It is understood that the levee slopes will be rebuilt to the pre-project geometry. The U.S. Army Corps of Engineers (USACE) Periodic Inspections along with PL84-99 eligibility require levee slopes to match as-constructed conditions. MA7 has been assured that the re-built slopes will not be any steeper than the original as-built drawings show.
- The Sutter Butte Main Canal routes parallel along the levee toe for a portion of the project. Because of the presence of the canal at the levee toe, the slope is more susceptible to slips and erosion. Maintenance of the levee slope and the canal needs to be clarified before the project is turned back over for operations and maintenance.

Mr. Michael W. Bessette
January 6, 2014
Page 2

Provided these concerns are addressed by SBFCA, I hereby endorse the Feather River West Levee Project Area D.

If you have any questions or need additional information, please contact me at (530) 755-0071 or email at karen.hull@water.ca.gov.

Sincerely,

A handwritten signature in cursive script that reads "Karen Hull".

Karen Hull, Superintendent
Sutter Maintenance Yard

cc: Jennifer Fasani (DWR)
David Williams (CVFPB)
David Pesavento (DWR)



2870 Gateway Oaks Drive, Suite 150
 Sacramento, CA 95833
 Tel: 916.679.2000 Fax: 916.679.2900

Technical Memorandum

Prepared For Mike Inamine, PE, Sutter Butte Flood Control Agency
 Michael Bessette, PE, Sutter Butte Flood Control Agency
 Christopher Krivanec, PE, GE, HDR Engineering, Inc.
 Daniel Jabbour, PE, HDR Engineering, Inc.

Project Feather River West Levee

Date April 14, 2014

Subject Response to Protest from Peekema Ranch

Prepared By Robert Green, PE, GE
 Michael Hughes, PE

Reviewed By Khaled Chowdhury, PE, GE

1.0 INTRODUCTION

The HDR team is providing design services to the Sutter Butte Flood Control Agency (SBFCA) for the Feather River West Levee (FRWL) Project. URS Corporation (URS), as a member of the HDR team, has been providing geotechnical engineering services for the FRWL Project.

The FRWL project design includes a new cutoff wall to be installed near the City of Gridley sewer ponds at approximately Station 1820+00. This area is near the Peekema Ranch property. Mr. Richard M. Peekema, a managing member of Peekema Ranch, LLC, filed a protest letter, dated February 26, 2014, with the Central Valley Flood Protection Board (Board). The protest letter objects to the taking of property associated with levee improvements that affect the protestant's parcel 046.

In accordance with the letter, the reason for the protest is that SBFCA has not considered the existence of an existing slurry cutoff wall that was installed in the area of the City of Gridley sewer ponds circa 1997, and that the planned cut-off wall appears to duplicate the previous improvements. Consequently, it was requested the Board deny the construction permit for the section of cutoff wall planned in the levee between the Gridley sewer ponds and the related construction easements on the protestant's property.

This memorandum summarizes the geotechnical considerations in designing the new wall proposed as part of the FRWL Project and responds to the concerns of Peekema Ranch regarding the need for a new wall parallel to the existing wall installed following the 1997 high water event.

Attachment A includes the Protest letter from Peekema Ranch, LLC, dated February 26, 2014. Attachment B includes two sheets of the design drawings for existing slurry wall dated July 9, 1997 and June 20, 1997. Attachment C includes the plan and profile for the southern

DRAFT



2870 Gateway Oaks Drive, Suite 150
 Sacramento, CA 95833
 Tel: 916.679.2000 Fax: 916.679.2900

Technical Memorandum

end of Reach 30 from the Geotechnical Design Recommendations Report (GD RR) dated February 2012.

2.0 DISCUSSION

The surficial geomorphology map for the FRWL Project indicates the presence of Recent Overbank Deposits (Rob), Recent Overflow Channel Deposits (Rofc) and Recent Alluvium (Ra) in this area. Exploration data along the centerline of the levee in the area of the ponds shows that levee embankment to comprise silt, poorly graded sand and silty sand. Based on the geotechnical analyses completed as a part of SB FCA's FRWL Project, a cutoff wall is needed starting at Station 1813+33 and proceeding northwards to address both underseepage and through seepage. As-built drawings for the existing wall were not available for review, but design drawings prepared by the United States Army Corps of Engineer, Sacramento District, show a 754-foot long existing cutoff wall starting at approximately Station 1816+60 (approximately 327 feet north of the proposed start of the new cutoff wall) and ending at approximately Station 1824+14. Based on the drawings, the existing wall is 3 feet wide and 50 feet deep below the waterside levee toe.

The new cutoff wall could connect to the existing cutoff wall or overlap it sufficiently such that water is constrained from flowing around the end of the existing cutoff wall (end around effects). However, when considering the method of construction for the new cutoff wall¹ and the length of overlap required relative to the existing length of wall, it is more efficient to install the new cutoff wall independent of the existing cutoff wall. Therefore, it is proposed that the new cutoff wall be installed along the centerline of the existing levee.

3.0 CONCLUSIONS

Based on review of available information relating to the existing wall and the following points, a continuous cutoff wall system installed along the centerline of the levee embankment is recommended.

- No as-built drawings for the existing wall, therefore we cannot confirm the actual toe depth of the wall and that it provides an adequate cutoff,
- The existing cutoff wall does not address through levee seepage issues due to the presence of coarse-grained soils in the embankment,
- The existing wall does not extend as far south as the cutoff wall proposed as a part of this Project, and

¹ The proposed method of construction for the new cutoff wall only works along relatively level ground, so construction of a connection would require fill placement on the waterside to the elevation of the levee grade. Furthermore, sharp changes in alignment of the cutoff wall are not conducive and so the fill would need to extend over a large area.



2870 Gateway Oaks Drive, Suite 150
 Sacramento, CA 95833
 Tel: 916.679.2000 Fax: 916.679.2900

Technical Memorandum

- The new wall would need to be either connected to the existing wall or overlap it by several few hundred feet on each end to maintain continuity of the cutoff wall system and prevent end around effects.

Overlapping or connecting into the existing wall is possible, but would not be as efficient in terms of cost and schedule and would not be as robust of a solution.

4.0 LIMITATIONS

This technical memorandum was prepared in accordance with the standard of care commonly used as the state-of-practice in the engineering profession. Standard of care defined as the ordinary diligence exercised by fellow practitioners in this area performing the same services under similar circumstances during the same period.

The limitations section of the draft GDRR for Segments 1 through 6, dated February 2012 also applies in full to this memorandum.

5.0 ATTACHMENTS

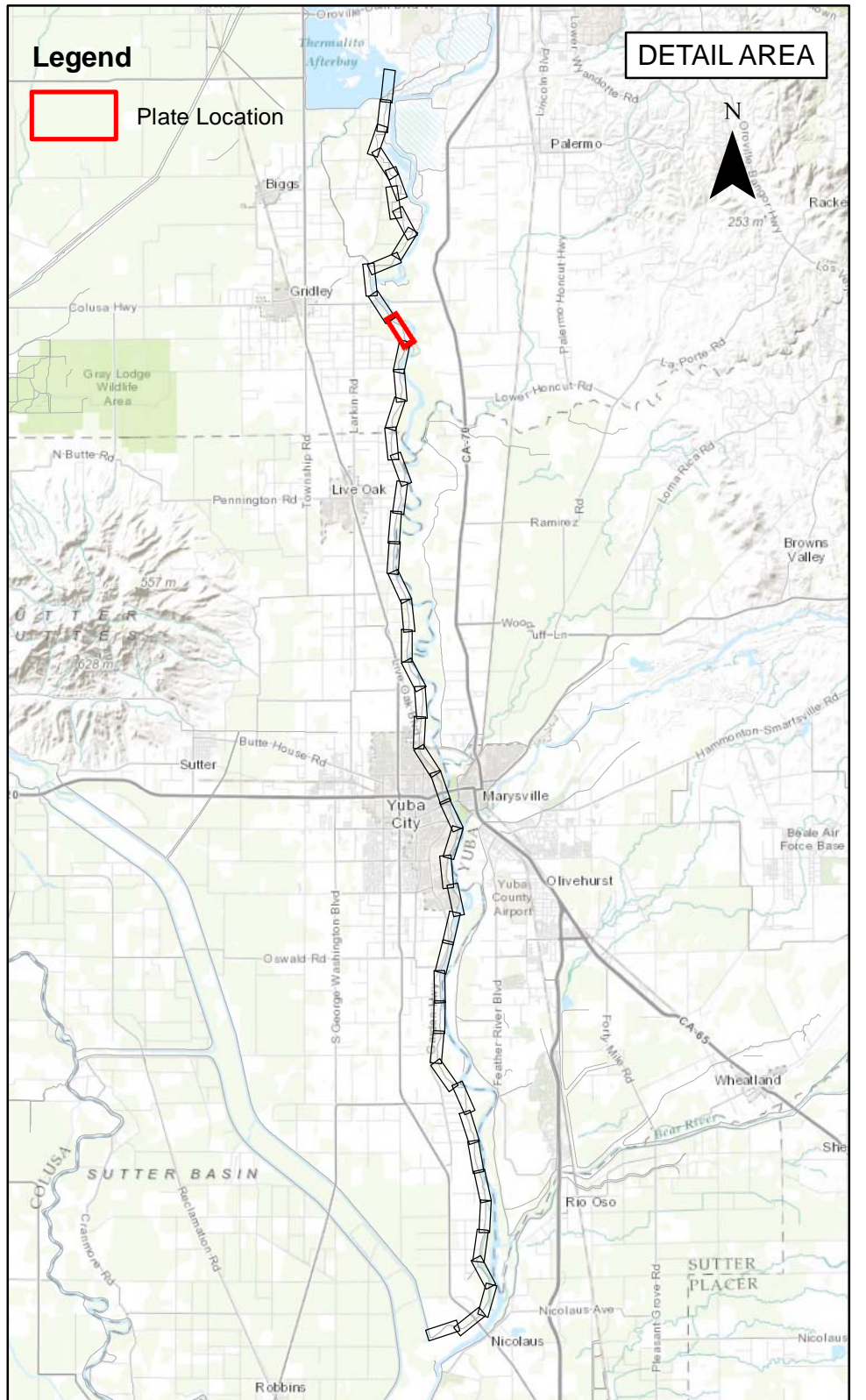
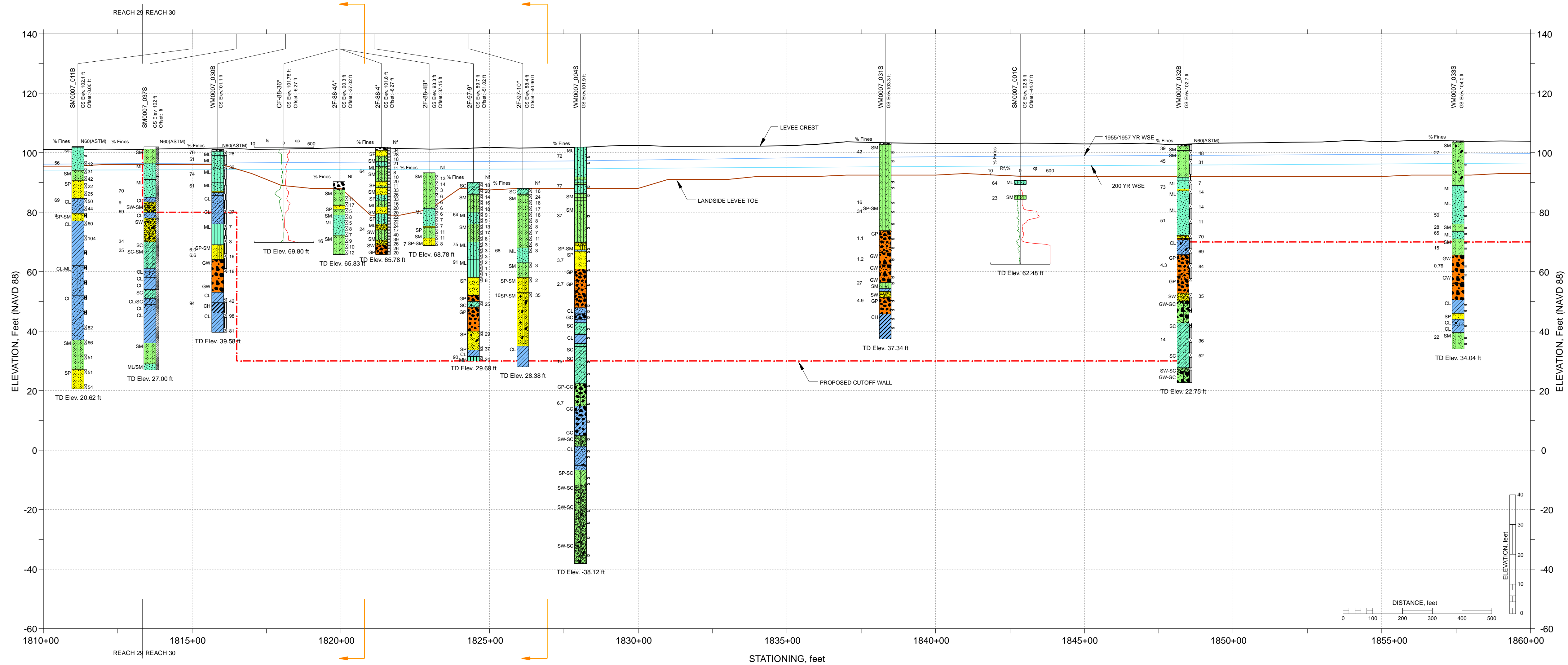
Attachments

- | | |
|--------------|---|
| Attachment A | Protest letter from Peekema Ranch, LLC, dated February 26, 2014. |
| Attachment B | Design drawings for existing slurry wall dated July 9, 1997 and June 20, 1997 |
| Attachment C | Plan and profile for the southern end of Reach 30 from the Geotechnical Design Recommendations Report |

DRAFT



- NOTES:
- Elevations of levee crown and landside toe are approximate. These elevations were obtained from DWR CVFED or ULE LIDAR data and used for geotechnical analyses and report purpose only. For detail crown elevation and landside toe information, please refer to the FRWL Project civil drawings.
 - The water surface elevations are based on information provided by Peterson Brustad, Inc. in their July 26, 2012 report entitled "Design Water Surface Profiles for the Feather River West Levee Rehabilitation Project Addendum #1".
 - Locations of explorations are approximate. Stick logs represent general soil conditions encountered at the time of exploration. For more detailed information on the materials encountered, refer to boring and CPT logs in the Geotechnical Data Report for the FRWL Project. No warranty is provided regarding the continuity of soil conditions between individual explorations.
 - When reported, N_{60} (ASTM), refers to N_{60} (ASTM) = N_{60} * Hammer Efficiency (%). See Geotechnical Data Report for the FRWL Project for hammer efficiency data for individual borings.
 - These drawings do not include all historical explorations on the profile view. Historical explorations from the DWR ULE project are shown; "other" historical explorations are identified by an asterisk (*) in the exploration ID. For these "other" historical borings, blow counts are field blow counts (NF) and USCS classifications are visual classifications.
 - USCS classification labels are not presented on the stick logs for soil lenses (thickness less than 1.5 feet).
 - This is a color figure. Black and white reproduction should not be relied upon as data will be lost.
 - To prevent scale distortion, this map should be printed on a "D" size sheet (22x34 inches).
 - Surficial geology was mapped at 1:20,000 scale. (Source: SGDR for DWR ULE Project, URS,2010).
 - The information provided in these plans and stick-log plates has been compiled from a variety of sources. URS does not attest to the accuracy, completeness, or reliability of geotechnical exploration and other subsurface data by others that are included or referenced in these plates.
 - These plans and stick-log plates are for the use and benefit of HDR, SBFCA, and their consultants in connection with the execution of the FRWL Project. Use by any other party is at their own discretion and risk. These figures should not to be used as the sole basis for design, construction, remedial action, or major capital spending decisions.
 - The canal/ditch elevations are approximate. These elevations were estimated from the topography.



FRWL Project Plan Views and Stick Log Figures
FRWL Project: Station 1810+00 to Station 1860+00



Geotechnical Design
Recommendations Report



Sutter Butte Flood Control Agency
FEATHER RIVER WEST LEVEE PROJECT

Appendix
A39