



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**NOTICE OF REGULAR MEETING OF BOARD OF DIRECTORS**

**DATE:** Wednesday, August 19, 2015

**TIME:** 7:00 p.m.

**LOCATION:** Zone 7 Administration Building  
100 North Canyons Parkway, Livermore, California

*Any member of the public desiring to address the Board on an item under discussion may do so upon receiving recognition from the President. After receiving recognition, please step to the podium and state your name and address.*

*In compliance with the Americans with Disabilities Act, the meeting room is wheelchair accessible and disabled parking is available at the Zone 7 Administrative Building lot. If you are a person with a disability and you need disability-related modifications or accommodations to participate in this meeting, please contact the Zone 7 Acting Board Secretary, Linda Van Buskirk, at (925) 454-5007 or fax (925) 454-5724. Notification 48 hours prior to the meeting will enable Zone 7 to make reasonable arrangements to ensure accessibility to this meeting. {28 CFR 35.102-35, 104 ADA Title II}*

**A G E N D A**

1. Call Meeting to Order
2. Pledge of Allegiance
3. Citizens Forum

*This is an opportunity for members of the public to speak on an item not listed on the agenda. The Board cannot deliberate or take action on a non-agenda item unless it is an emergency as defined under Government Code Section 54954.2.*

4. Minutes of the Regular Meeting of July 15, 2015
5. Consent Calendar
  - a. ACWA Region 5 Board Election
  - b. Endorsing Task Order for Polling Under Tri-Valley Intergovernmental Reciprocal Services Master Agreement
  - c. Memorandum of Understanding to Delegate Authority Provided by the Sustainable Groundwater Management Act
6. Staffing Update
  - a. New Employee Introductions
  - b. June Employee of the Month Recognition

7. CEQA Compliance for Stream Maintenance – Priority Projects 2015

Recommended Action: Adopt Resolution.

8. Contract Amendment for HydroMetrics Water Resources, Inc.

Recommended Action: Adopt Resolution.

9. Arroyo Mocho Floodplain and Riparian Forest Restoration Project [Madeiros Parkway]

Recommended Action: Adopt Resolution.

10. Consider Response to the 2014/15 Alameda County Grand Jury Final Report

Recommended Action: Adopt Resolution.

11. Committees - Water Policy Roundtable Meeting – July 22, 2015 – notes  
Administrative Committee Meeting – August 11, 2015 – notes

12. Reports - Directors

- a. Verbal comments by President
- b. Written report by Director Quigley
- c. Verbal reports

13. Items for Future Agenda - Directors

14. Staff Reports (Information items. No action will be taken.)

- a. General Manager's Report
- b. Legislative Update
- c. Outreach Activities
- d. Drought Update
- e. Ground Movement Study Presentation Meeting Summary
- f. Verbal Reports

15. CLOSED SESSION

- (a) Conference with Legal Counsel - Significant exposure to litigation pursuant to Gov't Code Section 54956.9(d) (2): 3 cases
- (b) Conference with Legal Counsel - Potential litigation pursuant to Gov't Code section 54956.9(d) (3): 2 cases
- (c) Conference with Legal Counsel - Existing litigation pursuant to Gov't Code Section 54956.9(d) (1): Alameda County Flood Control and Water Conservation District, Zone 7 v. Pleasanton Gravel Co., Alameda County Case No. HG14724177
- (d) Conference with Labor Negotiators:  
Agency Negotiator: G.F. Duerig  
Employee Organizations: Alameda County Management Employees Association; Alameda County Building and Construction Trades Council, Local 342, AFL-CIO; International Federation of Professional and Technical Engineers, Local 21, AFL-CIO; Local 1021 of the Service Employees International Union, CTW; Unrepresented Management.

16. Open Session and Report Out of Closed Session

17. Adjournment

18. Upcoming Board Schedule: (All meeting locations are in the Boardroom at 100 North Canyons Parkway, Livermore, California, unless otherwise noted)

- a) Special Board Meeting: August 26, 2015, 4:00 p.m.
- b) Regular Board Meeting: September 16, 2015, 7:00 p.m.
- c) Special Board Meeting (if needed): September 30, 2015

MINUTES OF THE BOARD OF DIRECTORS  
ZONE 7  
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

REGULAR MEETING  
July 15, 2015

The following were present:

DIRECTORS: SANDS FIGUERS  
JOHN GRECI  
JIM McGRAIL  
SARAH PALMER  
RICHARD QUIGLEY  
ANGELA RAMIREZ HOLMES  
BILL STEVENS

DIRECTORS ABSENT: NONE

ZONE 7 STAFF: JILL DUERIG, GENERAL MANAGER  
KURT ARENDS, ASSISTANT GENERAL MANAGER, ENGINEERING  
LINDA VAN BUSKIRK, ACTING BOARD SECRETARY

COUNSEL: DAVID ALADJEM, DOWNEY BRAND

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The Board went into closed session at 5:00 p.m.

**Item 1 - Closed Session**

- (a) Government Code Section 549547; Public Employee Performance Evaluation  
Title: General Manager
- (b) Conference with Legal Counsel - Significant exposure to litigation pursuant to Gov't Code Section 54956.9(d) (2):  
3 cases
- (c) Conference with Legal Counsel - Potential litigation pursuant to Gov't Code section 54956.9(d) (3): 2 cases
- (d) Conference with Legal Counsel - Existing litigation pursuant to Gov't Code Section 54956.9(d) (1):  
Alameda County Flood Control and Water Conservation District, Zone 7 v. Pleasanton Gravel Co., Alameda County Case No. HG14724177
- (e) Conference with Labor Negotiators:  
Agency Negotiator: G.F. Duerig  
Employee Organizations: Alameda County Management Employees Association; Alameda County Building and Construction Trades Council, Local 342, AFL-CIO; International Federation of Professional and Technical Engineers, Local 21, AFL-CIO; Local 1021 of the Service Employees International Union, CTW; Unrepresented Management.

## **Item 2 - Open Session and Report Out of Closed Session**

The Board came out of Closed Session at 7:00 p.m. President Greci reported that the Board has evaluated the performance of the General Manager during the 2014-15 year, and has determined that her performance --especially due to the demands of the drought -- was excellent.

## **Item 3 - Call Meeting to Order**

President Greci called the regular meeting to order at 7:02 p.m.

## **Item 4 - Pledge of Allegiance**

President Greci led a salute to the flag.

## **Item 5 – Reorganization of the Board**

President Greci stated that at every July meeting we reassign the President and the Vice President of the Board, and that it has been a general policy that the Vice President usually takes the seat as President. President Greci moved that Director Palmer be appointed the new President and Director Ramirez Holmes seconded the motion. Director Palmer accepted the nomination. The motion passed unanimously and President Greci welcomed her as the Board's new President.

President Palmer then took nominations for Vice President. Director Greci nominated Director Dick Quigley. Director Figuers nominated Director Angela Ramirez Holmes. President Palmer said it would be good to hear statements from each of them, and gave them both 60 seconds to do so. Director Ramirez Holmes said she appreciates the nomination, and if it pleases the Board, she would be happy to serve. Director Quigley then stated he has done it before, would love to do it again, it is an honor to serve in working with the Board team, and he would relish the opportunity to do it again. Counsel David Aladjem advised President Palmer that she had two names put into nomination, with neither of them receiving a second yet. Director Stevens seconded the motion nominating Director Quigley for Vice President which was approved by a roll call vote of 5-1-0-1 with Director Figuers voting no and Director Ramirez Holmes abstaining.

President Palmer said at some point she would love to see Director Ramirez Holmes serving as President because she brings a lot to the Board and that not having the vice presidential nomination at this point is in no way a reflection in terms of her qualifications.

Director Stevens asked President Palmer if she wanted to say anything about the committees. President Palmer said she will create a Google poll to have the board members give her their first and second most important choices, including a choice of "don't put me on anything right now because I am busier than a paper hanger in a stiff breeze." This will go out in the next couple of days, hopefully by the end of this week. She wants to hear from the directors because she doesn't want anyone serving on a committee unless they really and truly want to do so.

## **Item 6 – Citizens Forum – None.**

## **Item 7 - Minutes of the Regular Meeting of June 17, 2015**

No changes were made to the minutes. Director Quigley moved that the minutes be accepted and approved. Direct Greci seconded the motion. The minutes were approved by a voice vote of 7-0.

## **Item 8 - Consent Calendar**

Director Greci moved for approval of Consent Items 8 (a), 8 (b), 8 (c) and 8 (d) and Director Stevens seconded the motion which was approved by a voice vote of 7-0.

|                      |                                                                                                  |
|----------------------|--------------------------------------------------------------------------------------------------|
| Resolution No. 15-73 | Resolution of Support for Director Quigley's Candidacy for ACWA's Region 5 Board. (Item 8a)      |
| Resolution No. 15-74 | Authorized Director Quigley's attendance at CSDA's Annual Conference. (Item 8b)                  |
| Resolution No. 15-75 | Authorized License Agreement with Dublin Nissan. (Item 8c)                                       |
| Resolution No. 15-76 | Authorized a Professional Services Agreement with Raftelis Financial Consultants, Inc. (Item 8d) |

## **Item 9 - Staffing Update**

Ms. Duerig announced that the May Employee of the Month is Kevin Correia, a long-time Water Treatment/Distribution Operator, who works in our Water Facilities group which manages our wells and our distribution system, working for Bill Sadler. The Board applauded Mr. Correia in absentia.

## **Item 10 - Committees**

Water Policy Roundtable #4 – May 13, 2015 - notes  
Administrative Committee Meeting – July 8, 2015 – notes

## **Item 11 – Reports - Directors**

- a. Verbal comments by President – none.
- b. Written report by Director Quigley
- c. Verbal reports

Director Quigley reported on the LAFCO meeting he attended along with Jarnail Chahal, Engineering Manager, on July 9, 2015 at DSRSD's office. The Regional Water Quality Control folks did a nice presentation and spoke highly of Zone 7 for its septic tank work. He said it was very interesting and he encourages other directors to go to future meetings.

Director Greci had a request for the General Manager. He has been working with a group of five people on Arroyo Road in Livermore who are working with Marc Roberts from the city, coordinating hooking up to the city sewer and eliminating four to five septic tanks. Is it possible to ask for some kind of letter from the Zone 7 General Manager stating that we support that kind of action and send it to Marc Roberts? Ms. Duerig said that is very consistent with our wastewater approach and she would be happy to do so as long as Director Greci would provide her with more info to do that. Director Greci said he will call Ms. Duerig.

Verbal reports: No other verbal reports.

## **Item 12 – Items for Future Agenda - Directors**

Director McGrail asked where we stand on obtaining grant money since the Board passed the Nutrient Management Plan? Ms. Duerig responded this is typically part of the local groundwater assistance program that would allow us to do this kind of NMP work, and that we haven't yet been able to identify any grants that are currently soliciting applications, but when that arises we will be pursuing it. We have hired a couple of interns to work in our groundwater group this summer. At least one of them is dedicated to the nutrient management plan data acquisition and identification of data gaps. They began a few weeks ago. They have already started trying to see what wells are in the first priority area, and then looking at the well logs from those wells to try to identify which could provide valuable information and which may be less valuable, so Zone 7 is already working on it even without the grant money, thanks to the budget that the Board passed in June.

Director Quigley said that he learned at last week's CSDA meeting that Alameda County had a new 2014 new flyover GIS map made and one of his contacts led him to believe that Zone 7 may have that because we are in that consortium that pays for GIS. He says he has used it in concert with Google Maps and would like some feedback. Does the Zone 7 staff have access or are they using it as a tool? Kurt Arends, Assistant General Manager, Engineering responded that Zone 7 does participate in a consortium that participates in getting updated aeriels in GIS. We have the latest one from 2014. Director Figuers mentioned that Alameda County has a LIDAR survey, and asked if staff has the LIDAR. Jarnail Chahal, Engineering Manager, replied that this is not the LIDAR data. Although we do have LIDAR data which is a few years older, this is just pictometry which is a high resolution aerial photo that we participated in. Director Figuers asked if it covers the entire county, in other words does it cover South Livermore Valley or is it only where people live? Mr. Chahal responded that it covers our service area and also Dougherty Valley north of us, but he will have to check if it covers all of Alameda County.

President Palmer commended the Administrative Committee, Directors Ramirez Holmes, Figuers and Quigley, saying they did a really fine job at the last meeting by coming up with suggestions for staff in terms of increased transparency of the Board. Staff is now working on feasibility. This should be another step in the right direction.

## **Item 13 – Staff Reports** (Information items.)

- a. General Manager's Report
- b. Monthly Budget Report
- c. Legislative Update
- d. Outreach Activities
- e. Drought Update
- f. Verbal Reports

General Manager Jill Duerig reported on one of the discussions had at the Administrative Committee on the possibility of seeking a CSDA Certificate of Transparency. As of today, Zone 7 has met all of the requirements for that certificate, so the application will be submitted as soon as all the documents have been gathered. It is unknown how long it will take CSDA to turn around the application.

Ms. Duerig reminded the Board that we are still trying to arrange a summer retreat and that Ms. Van Buskirk has sent out a Doodle poll for dates, or Board members are also welcome to contact Ms. Van Buskirk directly.

Ms. Duerig said that the Board has just approved a water rates study and staff anticipates needing a couple extra meetings with the full board to discuss status. She asked that the Board hold the following three dates open for special board meeting dates in August and September: August 26<sup>th</sup>, September 2<sup>nd</sup> and September 30<sup>th</sup>. Please keep these dates open at the standard board time. Ms. Duerig will send out an email reminder to all Directors.

**Item 14 – Adjournment**

The meeting was adjourned at 7:24 p.m.



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: ADMINISTRATION**  
**CONTACT: JILL DUERIG**

**AGENDA DATE:** August 19, 2015

**ITEM NO. 5a**

**SUBJECT:** ACWA REGION 5 BOARD ELECTION

**SUMMARY:**

The Association of California Water Agencies (ACWA) is selecting board members for each of its regions. Nominating committees were formed and reviewed applications for each board position and developed the attached slate of recommendations. A single electronic ballot is to be submitted by each agency no later than September 30, 2015.

Director Dick Quigley is just finishing two years as the Region 5 Board Chair and, before that, two years as the Region 5 Board Vice Chair. Now, Director Quigley is on the Nominating Committee's Recommended Slate as a Region 5 Board Member (see attached ballot). Terms are for two years.

Staff recommends authorizing the General Manager to cast the Agency's vote for the slate recommended by the Nominating Committee.

**FINANCIAL:**

There are no costs associated with this item.

**RECOMMENDED ACTION:**

Adopt attached Resolution.

**ATTACHMENTS:**

- Resolution
- Ballot

ZONE 7  
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
BOARD OF DIRECTORS

RESOLUTION NO

INTRODUCED BY  
SECONDED BY

*Authorizing General Manager to Cast Zone 7's Vote*

WHEREAS, the Association of California Water Agencies (ACWA) has requested that each member agency cast an electronic vote for Region 5 board members; and

WHEREAS, Director Dick Quigley has been recommended by the Region 5 Nominating Committee for a position on the Region 5 Board.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District hereby authorizes the General Manager to cast Zone 7's vote for the slate recommended by the ACWA Region 5 Nominating Committee.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on August 19, 2015.

By: \_\_\_\_\_  
President, Board of Directors

OFFICIAL

# REGION 5 Board Ballot

2016-2017  
TERM

Clear Form



**Association  
of California  
Water Agencies**  
Since 1910  
Leadership • Advocacy  
Information • Service

Please return completed ballot  
by September 30, 2015

E-mail: anat@acwa.com  
Mail: ACWA  
910 K Street, Suite 100  
Sacramento, CA 95814

## General Voting Instructions:

- 1 You may either vote for the slate recommended by the Region 5 Nominating Committee or vote for individual region board members. Please mark the appropriate box to indicate your decision.
- 2 Please complete your agency information. The authorized representative is determined by your agency in accordance with your agency's policies and procedures.

Submit

## 1 Nominating Committee's Recommended Slate

- ☐ I concur with the Region 5 Nominating Committee's recommended slate below.

### Chair:

- **David T. Hodgins**, Director, Scotts Valley Water District

### Vice Chair:

- **Bill Rosen**, Director, Goleta Water District

### Board Members:

- **Polly Holcombe**, Vice President, Carpinteria Valley Water District
- **Lesa R. McIntosh**, Director, East Bay Municipal Utility District
- **Anson B. Moran**, Commissioner, San Francisco Public Utilities Commission
- **Dick Quigley**, Director, Zone 7 Water Agency
- **John H. Weed**, Director, Alameda County Water District

## Individual Board Candidate Nominations

- ☐ I do not concur with the Region 5 Nominating Committee's recommended slate. I will vote for individual candidates below as indicated.

### Candidates for Chair: (Choose one)

- ☐ **David T. Hodgins**, Director, Scotts Valley Water District  
☐ **Dick Quigley**, Director, Zone 7 Water Agency  
☐ **John H. Weed**, Director, Alameda County Water District

### Candidates for Vice Chair: (Choose one)

- ☐ **David T. Hodgins**, Director, Scotts Valley Water District  
☐ **Dick Quigley**, Director, Zone 7 Water Agency  
☐ **Bill Rosen**, Director, Goleta Water District  
☐ **John H. Weed**, Director, Alameda County Water District

### Candidates for Board Members: (Max of 5 choices)

- ☐ **David T. Hodgins**, Director, Scotts Valley Water District  
☐ **Polly Holcombe**, Vice President, Carpinteria Valley Water District  
☐ **Rob Marani**, Board Member, Central Water District  
☐ **Lesa R. McIntosh**, Director, East Bay Municipal Utility District  
☐ **Anson B. Moran**, Commissioner, San Francisco Public Utilities Commission  
☐ **Bill Rosen**, Director, Goleta Water District  
☐ **Dick Quigley**, Director, Zone 7 Water Agency  
☐ **John H. Weed**, Director, Alameda County Water District

AGENCY NAME

AUTHORIZED REPRESENTATIVE

DATE



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: Administration**  
**CONTACT: Jill Duerig**

**AGENDA DATE: August 19, 2015**

**ITEM NO. 5b**

**SUBJECT:** Endorsing Task Order for Polling Under Tri-Valley Intergovernmental Reciprocal Services Master Agreement

**SUMMARY:**

- On March 19, 2014, the Zone 7 Board adopted a resolution accepting Management Partners' October 2013 "Tri-Valley Utilities – Results of Coordination/Integration Study, Phase 1" report and directing staff to implement the Joint Recommendations as outlined in the Joint Staff Report dated March 5, 2014 and as described to the Joint Liaison Committee at the meeting held the same day.
- As a result of this effort, the Tri-Valley Intergovernmental Reciprocal Services Master Agreement was developed and Zone 7's General Manager was authorized to execute the agreement on September 17, 2014.
- Since that time, other agencies, including the retail water agencies, the City of Dublin and the Livermore Area Recreation and Parks District, have also signed the agreement.
- With the drought, there were a series of Liaison Committee Water Policy Roundtables to talk about water issues in the Tri-Valley.
- At the July 22, 2015, meeting of this series (see notes presented under "Committees," later in agenda package), there was general consensus that advanced recycling might be a critical part of future local water supply portfolios and that, given the history of public concerns previously expressed in the Valley and the technical advances that have occurred, a public education campaign could help inform future decision making.
- Such a campaign should begin with a polling effort to provide a baseline for future comparisons in measuring the effectiveness of any such public education efforts and to identify any major current objections to the expansion of advanced recycling.
- Staff are proposing that the polling proceed under a Tri-Valley Intergovernmental Reciprocal Services Master Agreement Task Order, with costs shared by all the Valley's water suppliers, with Zone 7's share estimated at well below the General Manager's Authority level of \$25,000.
- Although the General Manager has the authority to proceed with this work, she is requesting that the Board endorse the effort.

**FUNDING:**

Funding is available in Fund 100 (Water Enterprise).

**RECOMMENDED ACTION:**

Adopt attached resolution endorsing this effort.

**ATTACHMENT:** Resolution

ZONE 7  
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
BOARD OF DIRECTORS

RESOLUTION NO

INTRODUCED BY  
SECONDED BY

***Endorsing Task Order To Conduct Polling for Advanced Water Recycling***

WHEREAS, on March 19, 2014, the Zone 7 Board adopted a resolution directing staff to implement the Joint Recommendations as outlined in the March 5<sup>th</sup> Joint Staff Report presented to the Joint Liaison Committee at the meeting held that day; and

WHEREAS, on September 14, 2014 the Board authorized execution of the Tri-Valley Intergovernmental Reciprocal Services Master Agreement (TVIRSMA); and

WHEREAS, on July 22, 2015 at a Water Policy Roundtable discussion, those elected representatives who were present suggested that staff initiate a joint public education campaign for advanced water recycling; and

WHEREAS, the first proposed step in such a campaign would be to conduct polling under a TVIRSMA Task Order;

NOW THEREFORE BE IT RESOLVED by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District, that participation in such polling is fully endorsed.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on August 19, 2015.

By \_\_\_\_\_  
President, Board of Directors



## ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION:** ENGINEERING

**CONTACT:** KURT ARENDS

**AGENDA DATE:** August 19, 2015

**ITEM NO.** 5c

**SUBJECT:** Memorandum of Understanding to Delegate Authority Provided by the Sustainable Groundwater Management Act

### **SUMMARY:**

- The Sustainable Groundwater Management Act of 2014 (SGMA) requires the formation of Local Groundwater Sustainability Agencies (GSAs) and the adoption of Groundwater Sustainability Plans for high- and medium-priority basins within five to seven years.
- Portions of the San Joaquin Valley Tracy basin (Tracy Basin) (Groundwater Basin 5-22.15), a medium priority basin, lie within the boundaries of Alameda County, San Joaquin County and Contra Costa County.
- The Sustainable Groundwater Management Act identified Zone 7 as the exclusive local agency to be the GSA for that portion of Alameda County within its service area which includes the small portion of the Tracy Basin within Alameda County
- The San Luis & Delta Mendota Water Authority (SLDMWA) intends to be the GSA for that portion of the Tracy Basin within San Joaquin County which represents the majority of the Tracy Basin.
- It is mutually beneficial to create this Memorandum of Understanding (MOU) to establish the delegation of authority to allow the SLDMWA to be the GSA for the portion of the Tracy Basin within Alameda County to assure sustainable groundwater management without changing any basin boundaries.
- A MOU has been developed for Zone 7 to delegate to SLDMWA the authority provided by the Sustainable Groundwater Management Act to act as the GSA for the portion of the Tracy Basin contained within Alameda County and to allow Zone 7 to continue issuing well permits, monitoring groundwater levels and submitting data to CASGEM.

### **FUNDING:**

Approval of this MOU is not expected to have any direct costs and fees or assessments collected on behalf of the SLDMWA will be conveyed to SLDMWA.

### **RECOMMENDED ACTION:**

Adopt resolution authorizing the General Manager to negotiate and execute the MOU with the SLDMWA to delegate the authority provided by the Sustainable Groundwater Management Act.

### **ATTACHMENTS:**

- Interoffice Memorandum
- Resolution
- Draft MOU

## INTEROFFICE MEMORANDUM

DATE: August 19, 2015  
TO: Jill Duerig, General Manager  
FROM: Kurt Arends, Assistance General Manager, Engineering  
SUBJECT: Memorandum of Understanding to Delegate Authority Provided by the Sustainable Groundwater Management Act

On September 16, 2014 California Governor Brown signed a three-bill package known as the Sustainable Groundwater Management Act (SGMA). The legislation allows local agencies to customize groundwater sustainability plans to their regional economic and environmental needs. SGMA creates a framework for sustainable local groundwater management.

SGMA provides for sustainable management of groundwater basins by enhancing local management of groundwater consistent with rights to use or store groundwater. The Act establishes minimum standards for effective, continuous management of groundwater basins and provides local groundwater agencies with the authority, as well as the technical and financial assistance needed to maintain groundwater supplies and avoid or minimize the impacts of land subsidence.

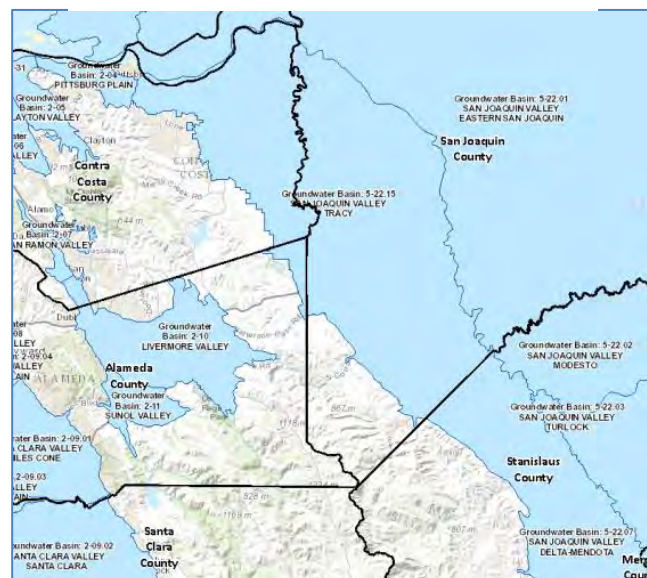
SGMA empowers local agencies to manage groundwater basins, while minimizing state intervention, and allows local agencies to establish a new governance structure, known as a Groundwater Sustainability Agency (GSA), as needed prior to developing groundwater sustainability plans for groundwater basins or sub-basins that are designated as medium or high priority. The text of the Act identifies fifteen specific groundwater management agencies within the state, including Zone 7, as the exclusive local agencies within their respective statutory boundaries with powers to comply with the Act.

### DISCUSSION:

The boundaries of Zone 7's service area include either all or a portion of three groundwater basins: the Main Livermore Basin, a medium priority basin which Zone 7 has been managing since the 1960's; the Sunol Valley Basin, a low priority basin which does not currently require a groundwater sustainability plan; and the San Joaquin Valley, Tracy Basin, a medium priority basin which underlies portions of Alameda, Contra Costa, and San Joaquin Counties. See Figure 1.

With such a small portion of the Tracy Basin in Alameda County, it would be very difficult for Zone 7 to effectively manage the basin. The largest portion of the Tracy

Figure 1- Groundwater Basin and County Boundaries



Basin falls within San Joaquin County. The San Luis & Delta Mendota Water Authority (SLDMWA) plans to become the GSA for the portion of the Tracy Basin within San Joaquin County and as such will be responsible for managing the majority of the basin. To facilitate the effective management of the entire basin, Zone 7 and SLDMWA agree that the portion of the Tracy basin within Alameda County should be managed with the rest of the basin.

While the SLDMWA would be the GSA for this portion of the Tracy Basin, Zone 7 will continue to be the well permitting agency for all lands within its service area including that portion overlying the Tracy Basin. In addition, Zone 7 will continue to monitor groundwater levels within that portion of the Tracy Basin and enter data into the State's CASGEM system. All data collected by Zone 7 for the Tracy Basin will be shared with SLDMWA and Zone 7 will participate in the development of the groundwater sustainability plan for the Tracy Basin.

**RECOMMENDED ACTION:**

Staff recommends that the Board adopt the attached resolution authorizing the General Manager to negotiate and execute a Memorandum of Understanding to delegate to the SLDMWA the authority provided by the Sustainable Groundwater Management Act to act as the GSA for the portion of the Tracy Basin contained within Alameda County.

ZONE 7  
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY

SECONDED BY

***Memorandum of Understanding to Delegate Authority  
Provided by the Sustainable Groundwater Management Act***

WHEREAS, the Sustainable Groundwater Management Act of 2014 (SGMA) requires the formation of Local Groundwater Sustainability Agencies (GSAs) and the adoption of Groundwater Sustainability Plans for high- and medium-priority basins within five to seven years; and

WHEREAS, portions of the San Joaquin Valley Tracy basin (Tracy Basin) (Groundwater Basin 5-22.15), a medium priority basin, lie within the boundaries of Alameda County, San Joaquin County and Contra Costa County; and

WHEREAS, the Sustainable Groundwater Management Act identified Zone 7 as the exclusive local agency to be the GSA for that portion of Alameda County within its service area which includes the small portion of the Tracy Basin within Alameda County; and

WHEREAS, the San Luis & Delta Mendota Water Authority (SLDMWA) intends to be the GSA for that portion of the Tracy Basin within San Joaquin County which represents the majority area of the Tracy Basin; and

WHEREAS, it is mutually beneficial to create this Memorandum of Understanding (MOU) to establish the delegation of authority to allow the SLDMWA to be the GSA for the portion of the Tracy Basin within Alameda County to assure sustainable groundwater management without changing any basin boundaries.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District directs the General Manager to negotiate and execute the MOU with SLDMWA to Delegate Authority Provided by the Sustainable Groundwater Management Act.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on August 19, 2015.

By: \_\_\_\_\_  
President, Board of Directors

MEMORANDUM OF UNDERSTANDING  
BETWEEN  
ZONE 7 OF THE ALAMEDA COUNTY FLOOD CONTROL AND WATER  
CONSERVATION DISTRICT  
AND  
THE SAN LUIS & DELTA-MENDOTA WATER AUTHORITY

This memorandum of understanding (MOU) is made and entered between Zone 7 of the Alameda County Flood Control and Water Conservation District (Zone 7), and the San Luis & Delta-Mendota Water Authority (SLDMWA) in consideration of the factual recitals and agreements contained herein.

WHEREAS, the Sustainable Groundwater Management Act of 2014 (SGMA) requires the formation of Local Groundwater Sustainability Agencies (GSAs) and the adoption of Groundwater Sustainability Plans for high- and medium-priority basins within five to seven years; and

WHEREAS, portions of the San Joaquin Valley Hydrologic Region, Tracy basin (Tracy Basin) (Groundwater Basin 5-22.15), a medium priority basin, lie within the boundaries of Alameda County, San Joaquin County and Contra Costa County; and

WHEREAS, the Sustainable Groundwater Management Act identified Zone 7 as the exclusive local agency to be the GSA for that portion of Alameda County within its service area, including the small portion of the Tracy Basin within Alameda County; and

WHEREAS, SLDMWA intends to be the GSA for that portion of the Tracy Basin within San Joaquin County which represents the majority area of the Tracy Basin; and

WHEREAS, it is mutually beneficial to create this agreement to establish the delegation of authority to allow SLDMWA to be the GSA for the portion of the Tracy Basin within Alameda County to assure sustainable groundwater management without changing any basin boundaries.

NOW, THEREFORE, the parties to this MOU do hereby agree as follows:

1. Purpose of MOU. The purpose of this MOU is for Zone 7 to delegate to SLDMWA the authority provided by the Sustainable Groundwater Management Act to act as the GSA for the portion of the Tracy Basin contained within Alameda County.
2. Authority and Responsibility. Upon execution of this MOU, and upon recognition of SLDMWA as the GSA within the Tracy Basin, Zone 7 agrees to delegate to SLDMWA the administrative function, powers and duties assigned by the SGMA to the GSA for the area covered by this MOU as designated under Paragraph 3, below (Area), referred to herein as the “Delegated Authority”. Zone 7 shall continue to be the well permitting agency for all areas within its jurisdiction. Zone 7 agrees to enforce all provisions and requirements contained in the Groundwater Sustainability Plan adopted for the Area which are more stringent than those already being enforced by Zone 7, including the collection of assessments and fines under that Plan; provided, that with regard to collection of assessments and fines, Zone 7 agrees to remit to SLDMWA assessments and fines imposed by SLDMWA on lands or landowners and collected by Zone 7 in the Area

pursuant to SGMA, any other applicable provision of California law, and any policies, rules or regulations duly adopted by SLDMWA as GSA for the Tracy Basin. Zone 7 shall continue to monitor groundwater elevations within the Area and enter data into CASGEM as required in order to maintain grant eligibility.

3. Areas Covered by MOU. This MOU shall have effect in that portion of the Tracy Basin, as defined in DWR Bulletin 118, which lies within the jurisdictional boundaries of Zone 7.
4. Records. SLDMWA shall provide to Zone 7 copies of all documents, reports, studies and other records created pursuant to said authority which will affect or relate to the management of the Area. SLDMWA shall include Zone 7 in the development of all such plans, studies and reports. Zone 7 shall provide SLDMWA with copies of all well permits issued (including well completion reports) and any water level measurements taken within the Area. Zone 7 shall cooperate and coordinate with SLDMWA in responding to requests made under the California Public Records Act regarding records related to groundwater management within the Area.
5. Term. This MOU becomes valid and effective immediately upon execution by both parties hereto and shall remain in effect unless terminated pursuant to Paragraph 8 below.
6. Indemnity.
  - A. To the fullest extent permitted by law, SLDMWA shall hold harmless, defend and indemnify Zone 7, its Board of Directors, employees and agents from and against any and all claims, losses, damages, liabilities and expenses, including but not limited to attorneys' fees, arising out of or resulting from the sole negligence or willful misconduct of SLDMWA in its exercise of the Delegated Authority. Zone 7 may participate in the defense of any such claim without relieving SLDMWA of any obligation hereunder.
  - B. To the fullest extent permitted by law, Zone 7 shall hold harmless, defend and indemnify SLDMWA, its Board of Directors, employees and agents from and against any and all claims, losses, damages, liabilities and expenses, including but not limited to attorneys' fees, arising out of or resulting from the sole negligence or willful misconduct of Zone 7 in its exercise of all authority it has under Sustainable Groundwater Management Act that is not Delegated Authority. SLDMWA may participate in the defense of any such claim without relieving the Zone 7 of any obligation hereunder.
7. Entire Agreement. This MOU shall constitute the entire agreement between SLDMWA and Zone 7 relating to the delegation of authority provided by the Sustainable Groundwater Management Act. This MOU supersedes and merges all previous understandings, and all other agreements, written or oral, between the parties and sets forth the entire understanding of the parties regarding the subject matter thereof.
8. Counterparts and Copies. This MOU may be executed in any number of counterparts, each of which may be deemed an original and all of which collectively shall constitute a single instrument. Photocopies, facsimile copies, and PDF copies of this MOU shall have the same force and effect as a wet ink original signature on this MOU.
9. Amendment. This MOU may be amended at any time by written agreement of both parties.

10. Termination. This MOU may be terminated by either party at any time. Termination shall not become effective until after the party not indicating the termination has been duly notified in writing and has been given a one year period to either transition into or out of the GSA function for the area covered by this MOU.

SAN LUIS & DELTA-MENDOTA  
WATER AUTHORITY

ZONE 7 OF THE ALAMEDA  
COUNTY FLOOD CONTROL &  
WATER CONSERVATION DISTRICT

By: \_\_\_\_\_  
Dan Nelson                      Dated: \_\_\_\_\_

By: \_\_\_\_\_  
G.F. Duerig                      Dated: \_\_\_\_\_



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: ADMINISTRATIVE SERVICES**  
**CONTACT: TOM PICO/ELENA SCHARNHORST**

**AGENDA DATE:** August 19, 2015

**ITEM NO:** 6a

**SUBJECT:** New Employees Introduction

**SUMMARY:**

We are introducing two new employees to the Board of Directors who joined the Zone 7 team since our last Board meeting.

*Osborn Solitei, Assistant General Manager, Finance*

Osborn Solitei came on board Monday, August 10, 2015 as the newly-appointed Assistant General Manager, Finance. Osborn brings to Zone 7 over 17 years of municipal government experience in a wide range of areas including: finance, budget, accounting, purchasing, auditing, capital projects and administration. For the last 10 years he has been at the City of Oakland, most recently as Director of Finance/Controller. His knowledge of government accounting and budgeting procedures and solutions, financial operations and policy analysis will be an asset to the Zone 7 Executive Team. He holds a B.S. in Business Administration and Finance from California State University, East Bay and is in the process of becoming a Certified Public Accountant.

*Andy Chamberlain, Junior Engineer*

Andy Chamberlain joined the Zone 7 team on Monday, August 3, 2015 as a Junior Engineer in the Flood Control Section, reporting to Joe Seto. Andrew's recent work experience includes Graduate Student Instructor/Assistant at U.C. Berkeley, Research Technician at University of Alaska, Fairbanks and Team Leader/Heavy Equipment Operator with the U.S. Army Reserves. He holds a B.S. in Civil Engineering with a Water Resources emphasis from University of Alaska, Fairbanks and a M.S. in Environmental Engineering with a Hydrology/Fluid Mechanics emphasis from U.C. Berkeley.

Please join us in welcoming Osborn and Andy to the Zone 7 team!

**RECOMMENDED ACTION:**

Information only.



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: ADMINISTRATIVE SERVICES**  
**CONTACT: GINGER STATON/TOM PICO**

**AGENDA DATE:** August 19, 2015

**ITEM NO:** 6b

**SUBJECT:** June Employee of the Month Recognition

**SUMMARY:**

The Employee Recognition Program Nomination Committee met in July and selected the Employee of the Month for June 2015 according to the established Program Guidelines. The individual chosen out of the submitted nominations is then recommended to Management for approval and there is a subsequent announcement of the selection to all Agency employees.

Alfonso Yasonia, Water Plant Operator, has been chosen from those nominated as the June 2015 Employee of the Month. Alfonso works at the Del Valle Water Treatment Plant reporting to Rich Gould, Water Facilities Supervisor.

Alfonso was nominated for being a valuable resource to Zone 7 Operations. Alfonso has worked for the agency for over 12 years and has built a reputation as a reliable operator. He is known to be both punctual and very flexible, working a variety of shifts including day, swing and graveyard. Alfonso has often stepped up to take over shifts for other operators due to illness and emergencies. Alfonso also has a reputation for keeping the plant clean and tidy which is appreciated by his coworkers. The nomination noted that other operators do not mind following Alfonso's shift as he keeps things in good working order.

Finally, Alfonso possesses both Treatment Operator Grade 5 (T5) and Distribution System Operator Grade 5 (D5) certificates which are the highest certifications available. He has held his T5 certification since 2011 and continues to maintain both certifications through continuing education courses. Overall, Alfonso is recognized for his flexibility, knowledge and help to his coworkers and the Agency.

The committee seconded the recommendation and recognized Alfonso as a valuable employee and asset to Zone 7, with management approving the selection.

**RECOMMENDED ACTION:**

It is recommended that the Zone 7 Board of Directors recognize and congratulate Alfonso Yasonia as June 2015 Employee of the Month.



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: INTEGRATED PLANNING**  
**CONTACT: ELKE RANK / CAROL MAHONEY**

**AGENDA DATE:** August 19, 2015

**ITEM NO. 7**

**SUBJECT:**CEQA Compliance for Stream Maintenance - Priority Projects 2015

**SUMMARY:**

- In order to provide integrated water resources management within the Livermore-Amador Valley, Zone 7 must conduct routine stream maintenance activities annually. Many of these activities require compliance with the California Environmental Quality Act (CEQA) as well as regulatory approvals.
- Five priority maintenance projects have been identified that are essential to ensure that the Agency meets its flood protection, water supply, and water quality mission. All of these repairs are the result of the persistent rains that occurred in December 2014 – and, due to site locations (soils conditions, proximity to property, etc.), all five require a structural solution (i.e., buried rip-rap).
- These projects were grouped and assessed in a single CEQA document, which was circulated for public review according to CEQA standards. Two comment letters were received; minor edits will be made to the discussion sections of the Initial Study / Mitigated Negative Declaration (IS/MND) but the results will stand as is.

**RECOMMENDED ACTION:**

Upon receipt of any public comment at the August Board meeting, adopt the attached resolution which will adopt and certify the Final Initial Study / Mitigated Negative Declaration and associated Mitigation Monitoring and Reporting Program.

**ATTACHMENTS:**

1. Staff memo providing additional background and discussion on agenda item
2. Final IS/MND
3. Resolution

## **Interoffice Memo**

**Date:** August 4, 2015  
**To:** Jill Duerig, General Manager  
**From:** Elke Rank, Integrated Planning  
**Subject:** CEQA Compliance for Stream Maintenance - Priority Projects 2015

### **SUMMARY:**

In order to provide integrated water resources management (including flood protection, water supply, and protecting water quality) within the Livermore-Amador Valley, Zone 7 must conduct routine stream maintenance activities annually. Many of these activities require both compliance with the California Environmental Quality Act (CEQA) and regulatory approvals, such as from CDFW, the Regional Water Quality Control Board (RWQCB), and the U.S. Army Corps of Engineers (USACE).

The 2015 maintenance activities include five bank repair projects on engineered flood control channels within Zone 7's service area (see Figure 1). These activities require compliance with CEQA and the three regulatory approvals noted above.

Pursuant to CEQA, an Initial Study/draft Mitigated Negative Declaration (IS/MND) was prepared and distributed for public comment. The CEQA document was mailed to interested parties on June 29, 2015, and was made available at the Pleasanton Library. CEQA requires a public review period, which was June 29, 2015 to July 30, 2015. Zone 7 also placed a notice of availability in the Valley Times and posted the document on our website. Two comment letters were received from other agencies; no comment letters were received from the general public. A final IS/MND has been prepared.

### **BACKGROUND:**

**Project Need / Summary.** Of the 120 miles of drainage ways within the Valley, Zone 7 owns and maintains approximately 37 miles of both improved and unimproved channels. To ensure adequate flood-protection for the Valley, Zone 7 conducts routine maintenance activities necessary to maintain the conveyance capacity and structural/functional integrity of existing flood control facilities. Routine maintenance activities conducted annually include: inspections, vegetation management, debris and sediment removal, and facility maintenance and repair. Projects are planned and designed to avoid and minimize environmental impacts. Specific best management practices are used for the different maintenance activities to further avoid and reduce potential environmental effects.

The 2015 maintenance activities include five bank repair projects on engineered flood control channels within Zone 7's service area (see Figure 1, below). All of these repairs are the result of the persistent rains that occurred in December 2014 – and due to site locations (soils conditions, proximity to structures, etc.) all five require a structural solution (buried rip-rap).

The five proposed projects are targeted for completion in 2015. However, if some tasks are not completed during the 2015 summer construction season, some work may need to be completed during the summer 2016 construction season.

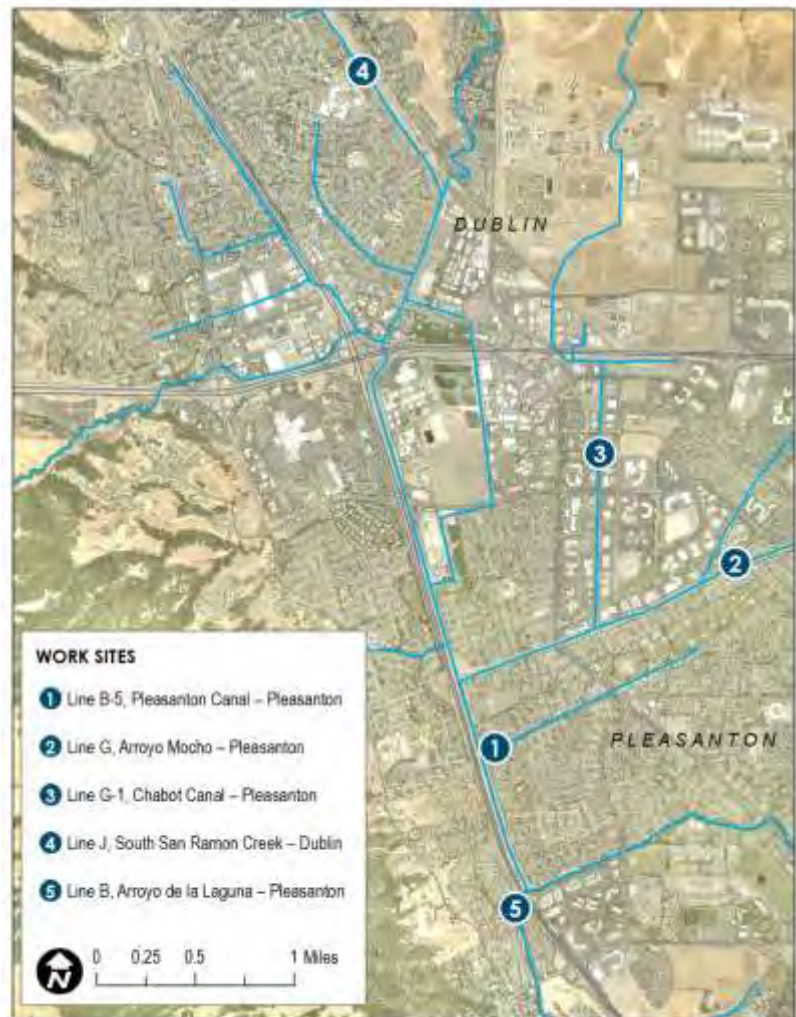
In order to minimize impacts to the local residents, construction will generally occur only during normal working hours, or 8 a.m. to 5 p.m., Monday through Friday, or as allowed by City ordinance.

**CEQA/Project Approval.** Zone 7 acts as the lead agency for its projects subject to CEQA. Pursuant to CEQA, the purpose of an Initial Study is to:

- determine whether the project may have a significant effect on the environment. (i.e. whether an EIR or Negative Declaration should be prepared);
- identify measures that mitigate project impacts to a less than significant level (mitigated negative declaration);
- define the scope of the EIR, if one is required;
- justify lead agency's decision to adopt a Negative Declaration, if one is prepared; and
- determine whether to rely on a previously prepared EIR.

A public agency shall prepare a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

- the initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or
- the initial study identifies potentially significant effects, but:
  - revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and



- there is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

Further, CEQA requires that, as the Lead Agency, Zone 7 establish a program to monitor and report on measures adopted as part of the environmental review process to reduce, eliminate or avoid potentially significant effects on the environment. The Mitigation Monitoring and Reporting Program (MMRP) for Stream Maintenance - Priority Projects 2015 is designed to ensure that the mitigation measures identified in the IS/MND for the project are implemented and monitored appropriately.

## DISCUSSION:

**Environmental Impacts.** Per the requirements of CEQA, an Initial Study and draft Mitigated Negative Declaration (IS/MND) has been prepared for this project. The analysis identified potentially significant impacts in the following resource areas: Air Quality, Biology, and Noise. All of these potential impacts would be temporary and mitigation measures would reduce all of these potential impacts to levels that are considered less than significant.

**Public Comments.** No comment letters were received from the general public. One letter was received from California Department of Transportation (Caltrans), and one from California Department of Toxic Substances Control (DTSC). Following is a summary of their comments and Zone 7's responses.

| Comment (summarized)                                                                                                                               | Zone 7 Response (summarized)                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Caltrans:</b>                                                                                                                                   |                                                                                                                            |
| <b>1. Must state mitigation responsibility on Caltrans ROW.</b>                                                                                    | Project is not in State ROW and therefore there are no shared responsibilities, costs, etc. with Caltrans.                 |
| <b>2. Request additional information and analysis on the paleontological resources.</b>                                                            | The report was provided, as will the monitoring plan. Minor additions to the IS/MND will be made to supplement discussion. |
| <b>3. An encroachment permit is required for work on the State right-of-way</b>                                                                    | The work will not be within the State ROW and therefore no encroachment permit will be needed from Caltrans.               |
| <b>Department of Toxic Substances Control:</b>                                                                                                     |                                                                                                                            |
| <b>1. Hazardous materials section in IS/MND needs to address need for testing of any soils that may be reused or hauled off-site for disposal.</b> | Minor additions to the IS/MND will be made to supplement discussion.                                                       |

**Final IS/MND.** Following the public comment period, Zone 7 staff finalized the IS/MND. Minor changes were made to the MND to address some of the issues raised by Caltrans and DTSC. No changes to findings.

**Next steps.** Following approval, a Notice of Determination must be prepared within five days. There is a required 30-day public protest period following the filing of the Notice of Determination (NOD), during which time a person or agency may challenge the approval of the project. However, construction may commence following the filing of the NOD.

ZONE 7  
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY  
SECONDED BY

***Resolution Approving a Mitigated Negative Declaration for “Stream Maintenance - Priority Projects 2015;” Adopting a Mitigation Monitoring and Reporting Program; and Approving the Project***

**WHEREAS**, Stream Maintenance - Priority Projects 2015 (the “Project”) aims to address five bank repair projects in support of the Agency meeting its flood protection, water supply, and water quality mission; and

**WHEREAS**, the Project will be completed over about 6 weeks in 2015 and/or 2016; and

**WHEREAS**, Zone 7 staff determined that the Project is considered a “project” pursuant to the requirements of the California Environmental Quality Act (CEQA) and prepared an Initial Study (IS) to determine possible environmental impacts; and

**WHEREAS**, on the basis of the IS, which indicated that all potential environmental impacts from the Project were less than significant or could be mitigated to a level of insignificance, Zone 7 staff determined that a Mitigated Negative Declaration (MND) should be prepared as well as a Mitigation Monitoring and Reporting Program; and

**WHEREAS**, the IS/MND has been prepared in accordance with CEQA and circulated for public review from June 29, 2015 to July 30, 2015; and

**WHEREAS**, Zone 7 received no comments from the general public and two written letters from state agencies (California Department of Transportation and California Department of Toxic Substances Control) as of the date of this meeting; and

**WHEREAS**, Zone 7 staff have determined that the Project would not have a significant adverse impact on the environment after implementation of mitigation measures.

**NOW, THEREFORE, THE ZONE 7 BOARD OF DIRECTORS DO HEREBY RESOLVE AND CERTIFY AS FOLLOWS:**

1. Compliance with the California Environmental Quality Act. As the decision-making body for the Project, Zone 7 has reviewed and considered the information contained in the IS/MND and administrative record for the Project including all oral and written comments received during the comment period and public hearing. The Board of Directors finds that the IS/MND contains a complete and accurate reporting of the

environmental impacts associated with the Project. The Board of Directors further finds that the IS/MND and the administrative record have been completed in compliance with CEQA and the State CEQA Guidelines; and

2. Findings on Environmental Impacts. Based on the IS/MND and the administrative record including all written and oral evidence presented to the Board of Directors, the Board of Directors finds that all environmental impacts of the Project are either insignificant or can be mitigated to a level of insignificance pursuant to the mitigation measures outlined in the IS/MND and the Mitigation and Monitoring and Reporting Program. The Board of Directors further finds that there is no substantial evidence in the administrative record supporting a fair argument that the Project may result in significant environmental impacts. The Board of Directors finds that the IS/MND contains a complete, objective and accurate reporting of the environmental impacts associated with the Project and reflects the independent judgment and analysis of Zone 7.
3. Adoption of Mitigated Negative Declaration. The Board of Directors hereby approves and adopts the MND.
4. Adoption of Mitigation Monitoring and Reporting Program. The Board of Directors hereby approves and adopts the Mitigation Monitoring and Reporting Program prepared for the Project.
5. Approval of Project. The Board of Directors hereby approves the Project as described in the IS/MND and authorizes staff to complete the permitting and construction of the Project.
6. Notice of Determination. The Board of Directors directs staff to file a Notice of Determination with the Alameda County Clerk within five (5) working days of approval of the Project.
7. Custodian of Records. There are documents and materials that constitute the record of proceedings on which these findings have been based. These are located at Zone 7 of Alameda County Flood Control and Water Conservation District, 100 North Canyons Parkway, Livermore, California 94551. The custodian for these records is the General Manager of Zone 7.

8. Execution of the Resolution. The President of the Board of Directors shall sign this resolution and the Secretary of the Board of Directors shall attest and certify to the passage and adoption thereof.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a resolution  
Adopted by the Board of Directors of Zone 7 of Alameda  
County Flood Control and Water Conservation District on

August 19, 2015

By \_\_\_\_\_  
President, Board of Directors

Attest \_\_\_\_\_  
Secretary, Board of Directors



# **STREAM MAINTENANCE - PRIORITY PROJECTS 2015**

LIVERMORE, CALIFORNIA

---

**Final**

**Environmental Initial Study/  
Mitigated Negative Declaration**

By

**Alameda County Flood Control and Water Conservation  
District, Zone 7**

**August 2015**

*State Clearinghouse # 2015062088*





## **Zone 7, Alameda County Flood Control and Water Conservation District**

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100 NORTH CANYONS PARKWAY LIVERMORE, CA 94551 PHONE (925) 454-5000 FAX (925) 454-5727

***June 29, 2015***

### **NOTICE OF AVAILABILITY/NOTICE OF PUBLIC HEARING/ NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION**

### **STREAM MAINTENANCE - PRIORITY PROJECTS 2015**

**To:**

Alameda County Recorder  
1106 Madison Street  
Oakland, CA 94607

**From:**

Zone 7 Water Agency  
100 North Canyons Parkway  
Livermore, CA 94551

**Project:**

*Title:* Stream Maintenance - Priority Projects 2015

*Location:* Pleasanton & Dublin, CA

*Description:* The goal of this project is to repair eroded banks and access roads at these five flood control channel sites along Arroyo Mocho, Pleasanton Canal, South San Ramon Creek, Chabot Canal, and Arroyo de la Laguna - and effectively restore these sites to Zone 7 standards for flood control protection and maintenance access.

**Applicant:** Zone 7 Water Agency

**Contact:** Elke Rank, 925-454-5005

**Public Agency Approving Project:** Zone 7 Water Agency

**Public Review:** Zone 7 will accept comments between June 29, 2015 and July 30, 2015. The draft IS/MND is available for download on the Zone 7 website, and at the City of Pleasanton public library. Paper copies are available from Zone 7 on request. Online: [www.zone7water.com/publications-reports/environmental-review-documents](http://www.zone7water.com/publications-reports/environmental-review-documents)

**Public Hearing:** The Zone 7 Board of Directors will review the final IS/MND, which will reflect comments received on the draft document, at their regular meeting on August 19, 2015 at 7p.m.



## **Table of Contents**

|                                                               |           |
|---------------------------------------------------------------|-----------|
| <b>1. INTRODUCTION .....</b>                                  | <b>2</b>  |
| <b>1.1 Background .....</b>                                   | <b>2</b>  |
| <b>1.2 Project Goals .....</b>                                | <b>3</b>  |
| <b>1.3 Design Philosophy .....</b>                            | <b>4</b>  |
| <b>2 PROJECT DESCRIPTION &amp; CONSTRUCTION .....</b>         | <b>5</b>  |
| <b>2.1 Project Location and Setting .....</b>                 | <b>5</b>  |
| <b>2.2 Proposed Project Construction .....</b>                | <b>6</b>  |
| 2.2.1 Project Schedule and Prioritization.....                | 6         |
| 2.2.2 Typical Activities and Sequencing .....                 | 7         |
| 2.2.3 Construction Equipment and Workers .....                | 8         |
| <b>2.3 Description of Work Sites .....</b>                    | <b>8</b>  |
| 2.3.1 Site #1: Line B-5 (Pleasanton Canal) – Pleasanton.....  | 8         |
| 2.3.2 Site #2: Line G (Arroyo Mocho) – Pleasanton .....       | 11        |
| 2.3.3 Site #3: Line G-1 (Chabot Canal) – Pleasanton.....      | 14        |
| 2.3.4 Site #4 Line J (South San Ramon Creek) – Dublin .....   | 16        |
| 2.3.5 Site #5: Line B (Arroyo de la Laguna) – Pleasanton..... | 19        |
| <b>3 ENVIRONMENTAL SETTING.....</b>                           | <b>22</b> |
| <b>4 ENVIRONMENTAL IMPACTS AND DISCUSSION.....</b>            | <b>24</b> |
| <b>4.1 Basic Project Information .....</b>                    | <b>24</b> |
| <b>4.2 Environmental Factors Potentially Affected .....</b>   | <b>25</b> |
| <b>5 EVALUATION OF ENVIRONMENTAL IMPACTS .....</b>            | <b>27</b> |
| I. AESTHETICS .....                                           | 27        |
| II. AGRICULTURE AND FORESTRY RESOURCES:.....                  | 27        |
| III. AIR QUALITY .....                                        | 28        |
| IV. BIOLOGICAL RESOURCES .....                                | 35        |
| V. CULTURAL RESOURCES .....                                   | 47        |
| VI. GEOLOGY AND SOILS .....                                   | 50        |
| VII. GREENHOUSE GAS EMISSIONS .....                           | 51        |
| VIII. HAZARDS AND HAZARDOUS MATERIALS.....                    | 53        |
| IX. HYDROLOGY AND WATER QUALITY .....                         | 55        |
| X. LAND USE AND PLANNING.....                                 | 58        |
| XI. MINERAL RESOURCES .....                                   | 58        |
| XII. NOISE .....                                              | 59        |

|                                                                    |           |
|--------------------------------------------------------------------|-----------|
| XIII. POPULATION AND HOUSING .....                                 | 60        |
| XIV. PUBLIC SERVICES.....                                          | 60        |
| XV. RECREATION .....                                               | 61        |
| XVI. TRANSPORTATION/TRAFFIC .....                                  | 62        |
| XVI. UTILITIES AND SERVICE SYSTEMS .....                           | 63        |
| XVII. MANDATORY FINDINGS OF SIGNIFICANCE.....                      | 64        |
| <b>6 PUBLIC COMMENTS.....</b>                                      | <b>66</b> |
| <b>7 MITIGATION MONITORING AND REPORTING PLAN .....</b>            | <b>70</b> |
| <b>8 REFERENCES .....</b>                                          | <b>71</b> |
| <b>APPENDIX A: AIR QUALITY AND GREENHOUSE GAS EVALUATION .....</b> | <b>73</b> |
| <b>APPENDIX B: SPECIAL-STATUS SPECIES .....</b>                    | <b>75</b> |
| <b>APPENDIX C: MITIGATION MONITORING AND REPORTING PLAN .....</b>  | <b>77</b> |

### **List of Tables and Figures**

|                                                                                   |       |
|-----------------------------------------------------------------------------------|-------|
| Table 1-1. Key Site Conditions and Constraints that Drive the Design .....        | 4     |
| Table 2-1. 2015 Project Summary.....                                              | 5     |
| Table 2-2. Project Specifications .....                                           | 6     |
| Table 2-3. Project Schedule.....                                                  | 7     |
| Table 2-4. Site #1 (Line B-5) Construction Summary .....                          | 10    |
| Table 2-5. Site #2 (Line G) Construction Summary .....                            | 13    |
| Table 2-6. Site #3 (G-1) Construction Summary.....                                | 15    |
| Table 2-7. Site #4 (Line J) Construction Summary .....                            | 18    |
| Table 2-8. Site #5 (Line B) Construction Summary.....                             | 20    |
| Table 5-1 Criteria Pollutant Maximum Ambient Concentrations in Project Area ..... | 30    |
| Table 5-2 Construction Criteria Pollutant Exhaust Emissions.....                  | 32    |
| Table 5-3 Sensitive Receptors In The Vicinity Of The Project Sites.....           | 34    |
| Table 5-4 General Description of Project Sites .....                              | 38    |
| Table 5-5 Potentially Jurisdictional Wetlands and Other Waters Of The U.S.....    | 40    |
| Table 5-6 Construction GHG Emissions Estimate .....                               | 52    |
| <br>Figure 1: Project Site Map.....                                               | <br>3 |
| <br>Photo Set 1: Site #1 (Line B-5).....                                          | <br>8 |
| Photo Set 2: Site #2 (Line G).....                                                | 11    |
| Photo Set 3: Site #3 (Line G-1) .....                                             | 14    |
| Photo Set 4: Site #4 (Line J).....                                                | 16    |
| Photo Set 5: Site #5 (Line B).....                                                | 19    |

# 1. INTRODUCTION

## 1.1 BACKGROUND

The Alameda County Flood Control and Water Conservation District, Zone 7 (“Zone 7”), also known as Zone 7 Water Agency, was established in 1957 by the voters of the Livermore-Amador Valley in order to place water management, including flood control, under local control through a locally-elected Board of Directors.

Zone 7 supplies drinking water to retailers serving about 240,000 people in Livermore, Pleasanton, and Dublin, as well as to the Dougherty Valley area in San Ramon. Untreated irrigation water is supplied to some local vineyards, farms, and golf courses. Zone 7 also provides flood protection to eastern Alameda County, and is the groundwater basin manager of the Livermore-Amador Valley groundwater basin.

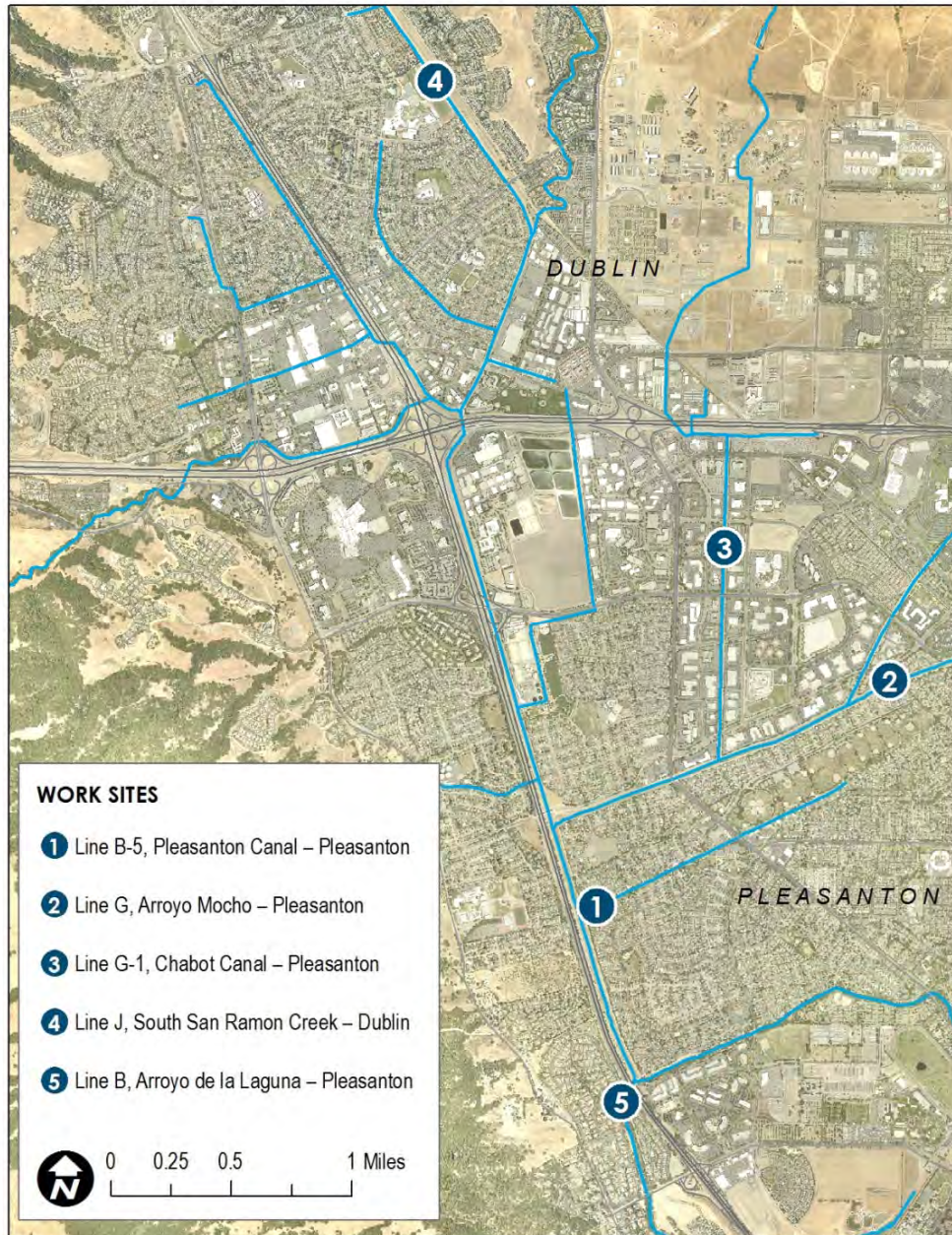
Zone 7 receives nearly 90% of its water supply from the Delta via the South Bay Aqueduct; the remaining supply comes from local rain runoff, or from water stored at Lake Del Valle. Water is sent directly to one of two water treatment facilities, or can be released to the major arroyos for recharge of the groundwater basin. Generally, imported water (when available) is used during the summer to recharge groundwater through releases to the arroyos.



**Zone 7 Service Area**

Of the 120 miles of drainage ways within the Valley, Zone 7 owns and maintains approximately 37 miles of both improved and unimproved channels. To ensure adequate flood-protection for the Valley, Zone 7 conducts routine maintenance activities necessary to maintain the conveyance capacity and structural/functional integrity of existing flood control facilities. Routine maintenance activities conducted annually include: inspections, vegetation management, debris and sediment removal, and facility maintenance and repair. Projects are planned and designed to avoid and minimize environmental effects. Specific best management practices are used for the different maintenance activities to further avoid and reduce potential environmental effects. Since 2006, Zone 7 has conducted these activities in accordance with a Routine Maintenance Agreement authorized by the California Department of Fish and Wildlife (CDFW).

Zone 7 is the Lead Agency for projects subject to the California Environmental Quality Act (CEQA). The Zone 7 Board of Directors will consider the information in the IS/MND at a public meeting, and will decide to adopt or reject the findings.



**Figure 1: Project Site Map**

## 1.2 PROJECT GOALS

In order to provide integrated water resources management (including flood protection, water supply, and protecting water quality) within the Livermore-Amador Valley, Zone 7 must conduct routine stream maintenance activities annually. Many of these activities require regulatory approvals, such as from CDFW, the Regional Water Quality Control Board (RWQCB), and the U.S. Army Corps of Engineers (USACE).

For 2015, Zone 7 seeks to secure authorization for 5 high priority maintenance projects. These projects are described in detail below.

While this document focuses on Zone 7's immediate 2015 maintenance needs, our agency has begun a longer-term planning process to develop a more programmatic approach for routine maintenance activities. Working together with regulatory agencies, we envision developing longer-term permits to authorize these routine activities. We are planning to develop a manual that describes the maintenance activities, program area resources, impact avoidance and minimization measures, and other topics necessary for permitting needs.

The 2015 priority maintenance projects are essential to ensure that the Agency meets its flood protection, water supply, and water quality mission – and, the three identified as highest priority were identified as such because, without intervention, these sites may incur impacts to life or property. The 2015 projects are representative of routine maintenance activities that are required annually and are a good example of the types of activities that will be covered in the longer-term program.

While the longer-term maintenance program is under development, Zone 7 will continue to apply annually for permits for annual routine maintenance projects and activities. Over this interim period, we envision that regulatory agencies will have the opportunity to familiarize themselves with Zone 7's routine maintenance needs and activities, and to build confidence in our approach to maintenance assessment, prioritization, design, and monitoring.

### **1.3 DESIGN PHILOSOPHY**

Zone 7's channel maintenance design philosophy includes: (1) proactively monitoring and maintaining flood control channels, (2) seeking low-impact options first and early, (3) letting site conditions drive the design in order to achieve the maximum benefit, and (4) restoring (and improving, when possible) the work area both for aesthetic and ecological benefit.

#### **Design Philosophy: Proactive Monitoring & Maintenance**

Zone 7 proactively monitors and maintains the agency-owned flood control channels. This includes regular on-the-ground monitoring of channels, documenting issues that are specific to certain reaches, and promptly addressing issues – especially catching minor issues before they become larger future problems that require more intensive treatments.

For example, in channels which historically have had a number of bank failures, Zone 7 continually monitors the areas for early evidence of bank movement (like tension cracks) or signs of potential future issues (like gopher or fox holes). When these early indicators are discovered, often relatively simple solutions are implemented, such as:

- a) eliminating squirrel and fox holes;
- b) sealing cracks on the slope and on road to prevent saturation of the slope and road;
- c) re-grading the access road drainage to eliminate ponding water and preventing drainage into the slope; and
- d) planting trees and/or deep rooted grasses on channel banks to improve bank stability.

The photographs below demonstrate our proactive approach to address maintenance needs early to prevent needing to do larger and more intensive projects later.

**Figure 2. Examples of proactive solutions that can help avoid or reduce the need for bigger repairs.**

Some channels in Pleasanton have unstable soils that are prone to bank sliding and slumping. In collaboration with the RCD, Zone 7 is testing some long-rooted sod and plants to see if these can help stabilize banks in this area.

*New plantings on Pleasanton Canal on left; New native sod on Line G-1-1 on right.*



Filling cracks at the top of the bank and re-grading trails/roads at top of bank to reduce or avoid excessive penetration of water into the bank, which causes saturation of the bank soils resulting in bank movement.



### **Design Philosophy: Seek Low-Impact Options**

Commonly there is a range of solutions for maintenance work – from small interim repairs to complete overhauls. Zone 7 seeks to minimize environmental impacts by using biotechnical or other non-invasive solutions wherever feasible; hardscape, such as riprap or concrete is applied only if other solutions will not work and the physical bank conditions or hydraulic flow conditions require that level of bank shear strength. For example, if a bank failure is identified, the initial plan of action calls for immediately covering the slide area in order to minimize additional saturation from rainfall. Then an engineer will identify and document the root cause of the failure, and determine if a low-impact fix is suitable. Finally, the site is seeded before the rainy season to promote stability. These tactics often allows (if needed) one to two winters to plan, design, and fund an appropriate project. The next step is to evaluate suitable biotechnical solutions – like brush walls, willow planting or brush layering. Depending on the mechanism and the severity of the bank failure, among other factors, these options offer either a temporary or a permanent fix. These techniques are low impact in that there is minimal or no soil or vegetation disturbance and they do not require heavy equipment in the channel.

**Figure 3. Examples of low-impact techniques**

**1) Willow plantings / Brush walls** help to stabilize areas of active toe erosion. This low-impact method can minimize further erosion in some locations.



**2) "Geoweb"** (woven fabric cells) backfilled with native soils to repair eroded slope surfaces. In this example, after a brush wall was built the eroded areas were rebuilt with cellular confinement, then seeded and covered with erosion fabric, and seeded again. This low-impact method can be successful in some locations.



### **Design Philosophy: Site Conditions Drive the Engineering Design**

If the biotechnical approaches described above are deemed unsuitable or have not worked well previously at the site, Zone 7 then consider more structural/hardened solutions. In some cases, biotechnical solutions are not the most suitable option for repairing a bank failure, and an engineered rock-based design is required if softer approaches would continue to fail. Zone 7 will consider a rock-based design in order to achieve a satisfactory result – one that alleviates the need for repeated repairs and thereby repeated potential environmental impacts, and increases the flood protection in the adjacent communities. Table 2 identifies the key site conditions that could trigger the need for a more extensive bank repair.

Zone 7 has found that rock-based repairs installed 15+ years ago with shallow keyways, small rock size, and minimal riprap have since failed. Therefore, the keyway size, size of riprap, and thickness of riprap need to be adjusted with respect to the specific physical and site characteristics of each channel. The riprap thickness is directly related to the riprap size required. Larger riprap size is required for deeper channels and channel subject to high velocities / shear stress.

**Table 1-1. Key Site Conditions and Constraints that Drive the Design**

| SITE CONDITION                 | NOTES                                                                                                                                                                                                                                                                                        |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotational bank failure        | If the bank failure is a deeper rotational failure, the most appropriate solution may be to excavate the bank deeper, re-compact bank soils, and use riprap to anchor the toe of the bank, or in particularly vulnerable locations the whole bank.                                           |
| Quality of native soils        | Expansive soils or highly mixed soils often result in unstable banks. Less stable, poorer quality soils exist in the area of Arroyo De La Laguna, Alamo Canal, Arroyo Mocho, Alamo Canal, Line G-1-1, and Pleasanton Canal. Such soils may limit the use of certain biotechnical approaches. |
| Stream velocity / shear stress | Some streams are subject to higher water velocity / shear stress. In particular, Arroyo de la Laguna, Chabot Canal and South San Ramon Creek are subject to relatively high velocities. High velocities can also limit the selection of certain treatments.                                  |
| Bank slope                     | Steep slopes often prove difficult to repair without rock support.                                                                                                                                                                                                                           |
| Groundwater table              | High groundwater table can result in saturated channel banks that are difficult to repair without rock support.                                                                                                                                                                              |

**Design Philosophy: Restore the Site to Natural-like Conditions**

All channel repair designs include post-construction restoration such that the repair is nearly indistinguishable from surrounding areas. This can include applying a layer of soil over the repair, then seeding with native, deep-rooted grasses. In some cases, new shrubs or trees can be installed, but this is highly dependent on the channel flood capacity.

**Figure 4 Examples of restoration to natural conditions**

## 2 PROJECT DESCRIPTION & CONSTRUCTION

### 2.1 PROJECT LOCATION AND SETTING

The 2015 maintenance activities include five bank repair projects on engineered flood control channels within Zone 7's service area. These five projects are summarized in Table 1, and their locations are shown in the map of Figure 1, below.

All of these repairs are the result of the persistent rains that occurred in December 2014 – and due to site locations (soils conditions, proximity to property, etc.) all five require a structural solution (buried rip-rap).

**Table 2-1. 2015 Project Summary**

| SITE | DRAINAGE NAME, CITY                                                                                | SCOPE OF WORK                                                                                                                                                                                                                     |
|------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1   | <b>Line B-5 Pleasanton Canal</b><br>(tributary to Arroyo de la Laguna),<br>Pleasanton              | <ul style="list-style-type: none"> <li>• 51-foot bank repair with buried/planted rip-rap</li> <li>• Dewatering is not required at this site</li> <li>• 5 days construction</li> <li>• Access point: Haleakala Road</li> </ul>     |
| #2   | <b>Line G, Arroyo Mocho</b><br>(tributary to Arroyo de la Laguna),<br>Pleasanton                   | <ul style="list-style-type: none"> <li>• 120-foot bank repair with buried/planted rip-rap</li> <li>• Dewatering of site likely needed</li> <li>• 8 days construction</li> <li>• Access point: Stoneridge Drive</li> </ul>         |
| #3   | <b>Line G-1, Chabot Canal</b><br>(tributary to Arroyo Mocho), Pleasanton                           | <ul style="list-style-type: none"> <li>• 30-foot bank repair with buried/planted rip-rap</li> <li>• Dewatering of site likely needed</li> <li>• 4 days construction</li> <li>• Access point: Gibraltar Drive</li> </ul>           |
| #4   | <b>Line J, South San Ramon Creek</b><br>(tributary to Alamo Canal /Arroyo de la<br>Laguna), Dublin | <ul style="list-style-type: none"> <li>• 35-foot bank repair with buried/planted rip-rap</li> <li>• Dewatering is not required at this site</li> <li>• 4 days construction</li> <li>• Access point: Amador Valley Blvd</li> </ul> |
| #5   | <b>Line B, Arroyo de la Laguna</b><br>(tributary to Alameda Creek),<br>Pleasanton                  | <ul style="list-style-type: none"> <li>• 70-foot bank repair with buried/planted rip-rap</li> <li>• Dewatering is not required at this site</li> <li>• 5 days construction</li> <li>• Access point: Bernal Ave.</li> </ul>        |

The bank repairs all require work to be performed both above and below the Ordinary High Water Mark (OHWM), and specified in Table 2.

**Table 2-2. Project Specifications**

| Line                     | Cut<br>(cubic yards) |               | Fill - Riprap<br>(cubic yards) |               | Fill – soil cover<br>(cubic yards) |               | Net Change (cubic yards)<br>(Negative number indicates<br>more material being removed<br>than added) |               |              |
|--------------------------|----------------------|---------------|--------------------------------|---------------|------------------------------------|---------------|------------------------------------------------------------------------------------------------------|---------------|--------------|
|                          | Above<br>OHWM        | Below<br>OHWM | Above<br>OHWM                  | Below<br>OHWM | Above<br>OHWM                      | Below<br>OHWM | Above<br>OHWM                                                                                        | Below<br>OHWM | Total        |
| B-5                      | 92.21                | 57.72         | 68.31                          | 44.44         | 49.19                              | 3.78          | 25.29                                                                                                | -9.50         | 15.79        |
| G                        | 140.94               | 99.49         | 231.94                         | 121.58        | 100.23                             | 4.33          | 191.23                                                                                               | 26.42         | 217.65       |
| G-1                      | 33.53                | 58.32         | 31.62                          | 59.22         | 13.85                              | 6.52          | 11.94                                                                                                | 7.42          | 19.36        |
| J                        | 100.29               | 66.41         | 114.56                         | 58.21         | 31.81                              | 5.00          | 46.08                                                                                                | -3.20         | 42.88        |
| B                        | 553.77               | 453.08        | 267.00                         | 405.00        | 91.48                              | 39.20         | -195.29                                                                                              | -8.88         | -204.17      |
| <b>Total<br/>Project</b> | <b>920.74</b>        | <b>735.02</b> | <b>713.43</b>                  | <b>688.45</b> | <b>286.56</b>                      | <b>58.83</b>  | <b>79.25</b>                                                                                         | <b>12.26</b>  | <b>91.51</b> |

## 2.2 PROPOSED PROJECT CONSTRUCTION

### 2.2.1 Project Schedule and Prioritization

The five proposed projects are targeted for completion in 2015. However, if some tasks are not completed during the 2015 summer construction season, some work may need to be completed during the summer 2016 construction season. All work will be performed between May 1 and October 15.

If any project is not completed by the end of the 2015 construction season the project site will be “buttoned up” and prepared for the winter off-season. This may include use of ground cover, mulch or other anti-erosion BMPs. Zone 7 will not initiate a project if there is any risk that an incomplete project may remain unstable or cause additional erosion during the off-season. If that is the case, then the project will not be initiated.

In order to minimize impacts to the local residents, construction will generally occur only during normal working hours, or 8 a.m. to 5 p.m., Monday through Friday, or as allowed by City ordinance.

Project priority (1 = high, 2= medium) was assessed based on the severity of the condition, if it’s worsening, as well as proximity to areas where life and property may be at risk. The higher priority projects will be started first during the 2015 summer work season.

**Table 2-3. Project Schedule**

| Site                             | Priority<br>(1 or 2) | Estimated Days<br>To Complete Work | Preferred Timing |
|----------------------------------|----------------------|------------------------------------|------------------|
| 1 Line B-5 / Pleasanton Canal    | 1                    | 5 days                             | August 2015      |
| 2 Line G / Arroyo Mocho          | 1                    | 8 days                             | August 2015      |
| 3 Line G-1 / Chabot Canal        | 1                    | 4 days                             | August 2015      |
| 4 Line J / South San Ramon Creek | 2                    | 4 days                             | September 2015   |
| 5 Line B / Arroyo de la Laguna   | 2                    | 5 days                             | September 2015   |

### 2.2.2 Typical Activities and Sequencing

For sites requiring the use of heavier machinery or engineered solutions, the following photographs illustrate typical activities and sequencing.

**Figure 5. Examples of typical activities and sequencing.**

|                                                                                                                                                                   |                                                                                                                                           |                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                 |                                                         |                                                   |
| <p><b>1)</b> Zone has a small storage yard off of Bernal Ave. in Pleasanton. The stockpiled rock riprap is hauled to project sites in 10 wheeled dump trucks.</p> | <p><b>2)</b> Dump trucks offload onto steel plates placed on the access road at the project site.</p>                                     | <p><b>3)</b> Removal of the unstable bank failure material requires an excavator; all work is performed from the top of the bank.</p> |
|                                                                                |                                                        |                                                  |
| <p><b>4)</b> Geotextile fabric is placed in the keyway before backfilling with ¼ or ½ ton riprap. 6 to 12 inches of native soil is overlain on the repair.</p>    | <p><b>5)</b> The finished slope is hydroseeded; within a year or two the repaired site is nearly indistinguishable from native slope.</p> | <p><b>6)</b> Excess rock is hauled by dump trucks back to Zone 7's Bernal Ave. storage yard.</p>                                      |

Figure 5. Examples of typical activities and sequencing.



**7)** From Zone 7's storage yard, reload all non-reusable project material into semi-end dumps to haul to Republic Services on Vasco Road in Livermore for proper disposal.



**8)** The trail and/or access road is restored.

### 2.2.3 Construction Equipment and Workers

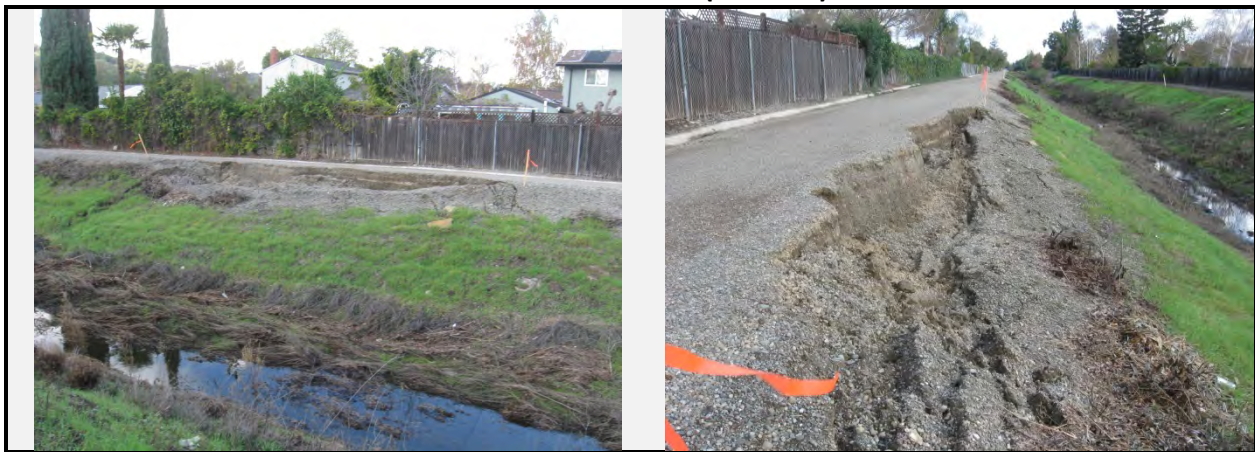
Zone 7's on-call contractor is highly competent in bank repair in the region. This is a small firm, however, and it is unlikely that work will take place at more than one project locations simultaneously. The work will proceed from one site to another. There will be common equipment used at each site, as described below. Each location will likely have one to four pieces of equipment working at any given time, and two to four crew members plus a supervisor.

## 2.3 DESCRIPTION OF WORK SITES

### 2.3.1 Site #1: Line B-5 (Pleasanton Canal) – Pleasanton

#### Site Condition

Photo Set 1: Site #1 (Line B-5)



Pleasanton Canal is an engineered trapezoidal flood control channel that was constructed in 1965. It is bounded on either side by private residences, and the maintenance access road along the channel is

accessible to the public as a recreational trail. It typically runs dry in the summer months. While there is evidence of riprap in the area, this particular site has not been repaired before and the design team does not expect to encounter old riprap or concrete.

This approximately 51-foot bank failure occurred in December 2014. The failure toe has since moved several feet into the channel beyond the original bank toe. The upper limit, at the head scarp, has undermined the existing trail. A temporary rise of the groundwater table due to heavy storms may have exacerbated the conditions which led to the failure.

The design process evaluated the need for riprap at this site versus completely biotechnical treatments and determined that conditions at this site required additional shear strength provided by subsurface riprap. Three site conditions indicate the need for a planted rock riprap design (see Table 2 in Section 2.1.1): (1) rotational failure, (2) poor quality native soils, and (3) steep bank slope.

### **Proposed Work**

Following is a summary of the work activities, listed generally in sequence as they will occur.

- *BMPs:* A silt fence will be installed at the toe of the slope to prevent loosened materials from being deposited into the waterway. A water truck will be onsite for dust control and to water the backfill material for compaction. Signage will be placed around the site to alert trail users to maintenance road closure due to construction.
- *Construction Mobilization:* Equipment such as a skiploader tractor, roller and excavator will be mobilized prior to the start of construction. Materials will be brought onsite using one to three dump trucks. Steel plates shall be placed on the road in order to reduce the impact of vibration to the adjacent neighbors from dumping riprap. The dump trucks will be dumping their load onto the steel plates placed on the maintenance road at the project site. Work areas will be confined to the channel maintenance road / trail.
- *De-Watering:* Dewatering is not required at this site because the creek is typically dry in the summer. With the existing drought conditions, a completely dry channel is expected.
- *Preparation:* The site will be cleared and grubbed – removing only the minimum amount of existing vegetation matter and debris in order to access the failure material.
- *Repair:* All work will be performed from the top of the bank. No equipment will be operated in the channel. Removal of the bank failure material will require an excavator. The slide shall be excavated to undisturbed bank material as determined onsite by the project engineer. The excavation shall continue below the channel bottom to develop a shear key at the toe of the rebuilt bank. The face of the reconstructed bank shall be over-excavated to allow the placement of a 3-foot layer of riprap into the slope to the top of bank. Geotextile fabric shall be placed within the keyway up the slope before backfilling with ¼ -ton rock riprap.
- *Restoration:* After the riprap is placed, 6"-12" of on-site material shall be placed and compacted to 80% so that it is suitable for the establishment of native grasses. The finished slope shall be hydroseeded with local, native grasses prior to the rainy season. Unlike the other

4 projects, erosion fabric is not necessary for this project because this site does not have the high surface water velocity present at the other sites.

- *Construction De-mobilization and Clean-Up:* Excess material will be hauled away by dump trucks to be stockpiled at Zone 7's Bernal storage yard. At this location, the combined disposal materials from all 5 projects will be loaded into semi-end dump trucks and hauled to Republic Services on Vasco Road in Livermore. Finally, the access road will be re-graded and aggregate baserock placed to restore the road.

It is expected this site work will be complete in approximately 5 working days.

**Table 2-4. Site #1 (Line B-5) Construction Summary**

| <b>TRUCK TRIPS AND VOLUME</b>                                                  |                                                                                    |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Import Rip-Rap<br><i>From Zone 7's Bernal storage yard</i>                     | 19 truck trips (114 cy)                                                            |
| Import Aggregate for Road Repair<br><i>From: Zone 7's Bernal storage yard</i>  | 3 truck trips (18 cy)                                                              |
| Haul-off grubbed & cleared material<br><i>To: Zone 7's Bernal storage yard</i> | 24 truck trips (143 cy)                                                            |
| <b>PROJECT AREA</b>                                                            |                                                                                    |
| Clearing & Grubbing                                                            | Channel Length: 51 ft Width: 18 ft                                                 |
| Rock Repair / Excavation                                                       | Channel Length: 51 ft Width: 18 ft                                                 |
| Coffer Dam                                                                     | N/A                                                                                |
| <b>IMPACTS TO JURISDICTIONAL WETLANDS &amp; WATERS</b>                         |                                                                                    |
| USACE                                                                          | WETLANDS Temporary: 0 ac Permanent: 0 ac<br>WATERS Temporary: 0 ac Permanent: 0 ac |
| State                                                                          | Temporary: 0.026 ac Permanent: 0 ac                                                |
| <b>MATERIALS (also see Table 2)</b>                                            |                                                                                    |
| Cut / Dredged                                                                  | 57.72 cubic yards (below OHWM)                                                     |
| Fill                                                                           | 48.22 cubic yards (below OHWM)                                                     |

### **Haul Route**

Trucks will haul in new materials for construction and haul away unused or excess materials, as noted in the table above. The site is easily accessible by Haleakala Road, just off of Valley Trails Drive in Pleasanton. All work and storage areas will be within the Zone 7-owned maintenance road.

- Rock will be imported from the Zone 7 storage yard at the west end of Bernal Avenue in Pleasanton (distance to work site is approximately 2 miles on city streets). Excess rock will be returned here.
- Aggregate to repair the road will be imported from Zone's Bernal storage yard (distance to work site is approximately 2 miles on city streets).
- Grubbed and cleared material will be hauled off-site to Zone's Bernal storage yard (distance to work site is approximately 2 miles on city streets).

### **Equipment**

The following equipment will be used at this repair site, and the total estimated time in use is noted:

- Excavator 40 Hrs
- Skiploader 8 Hrs
- Cat 980 loader 40 Hrs
- Three 10-wheel trucks 120 Hrs
- Water truck 40 Hrs

### **2.3.2 Site #2: Line G (Arroyo Mocho) – Pleasanton**

#### **Site Condition**

**Photo Set 2: Site #2 (Line G)**



This section of Arroyo Mocho in Pleasanton is an engineered trapezoidal flood control channel constructed in 1970. It is bound on each side of the channel by residential land use, and maintenance roads are open to the public as a recreational trail. Even in dry / drought conditions, this reach typically has surface water year-around do to various upstream sources. At this site, the public trail will be closed during construction for public safety.

This 120-foot bank failure occurred during the persistent rains in December 2014 and is causing bank instability. The natural deposition of sediment on the opposite side of the channel upstream of the project site resulted in directing flows into the bank at the project site. The redirected flows then eroded the toe of the bank which resulted in the upper bank cracking and moving downward as a slide. Approximately 3 to 7 feet of the original bank toe has eroded away. Erosion control fabric was previously placed atop the eroded toe. This project site has not been previously repaired.

The design process evaluated the need for riprap at this site versus completely biotechnical treatments and determined that soils at this site required additional shear strength provided by subsurface riprap. Four site conditions trigger the need for a buried rock riprap design (see Section 2.1.1): (1) rotational failure, (2) poor native soils, (3) relatively high velocity and surface stress, and (4) steep bank slopes.

Note that the project consists of 80-feet of riprap repair and an additional 40-feet of only of light grading, erosion fabric, and restoration.

### **Proposed Work**

Following is a summary of the work activities, listed generally in sequence as they will occur.

- *BMPs:* A silt fence will be installed at the toe of the slope to prevent loosened materials from being deposited into the waterway. A water truck will be onsite for dust control and to water the backfill for compaction.
- *Construction Mobilization:* Equipment such as a skip loader tractor, roller and excavator shall be mobilized prior to the start of construction. Materials will be brought onsite using one to three dump trucks. Steel plates shall be placed on the road in order to reduce the impact of vibration to the adjacent neighbors from dumping riprap. Work areas will be confined to the Zone 7 maintenance road. The dump trucks will be dumping their load onto the steel plates placed on the access road at the project site.
- *De-Watering:* Dewatering is required at this site. Two cofferdams will be built, one upstream and one downstream of the bank repair area. Three or more 24" corrugated metal pipes shall be placed for the channel flow to bypass the repair area. The number of pipes will be determined on the channel flows at the time of construction. The cofferdams are built of sandbags filled with clean granular material over plastic sheeting.
- *Preparation:* The site will be cleared and grubbed – removing only the minimum amount of existing vegetation matter and debris in order to access the failure material.
- *Repair:* All work will be performed from the top of the bank. No equipment will be in the channel bed. (1) For the 80-foot riprap repair – Removal of the bank failure material will require an excavator. The slide shall be excavated to undisturbed material as determined by the project engineer. The excavation shall continue to below the canal bottom to develop a shear key at the toe of the rebuilt bank. The face of the reconstructed bank shall be over-excavated to allow the placement of a 3 1/2-foot layer of subsurface riprap into the slope to the top of bank. Geotextile fabric shall be placed within the keyway up the slope before backfilling with ½ ton rock riprap. (2) For the 40-foot grading repair – Removal of the overburden material will require an excavator. The area shall be re-graded to the as-build grade. Erosional control fabric will be secured on the finished slope and hydroseeded with a native grass mix.
- *Restoration:* After the riprap is placed, 6"-12" of on-site native material shall be placed and compacted to 80% so that it is suitable for the establishment of native grasses. The finished slope shall be hydroseeded prior to the rainy season. Erosion fabric will be placed on the lower half of the slope to prevent the soil from eroding away prior to the establishment of the native grasses.
- *Construction De-mobilization and Clean-Up:* Excess material will be hauled away by dump trucks to be stockpiled at the Zone 7's storage yard on Arroyo de la Laguna off of Bernal Ave. At this

location, the combined disposal materials from all 5 projects will be loaded into semi-end dump trucks and hauled to Republic Services on Vasco Road in Livermore. Finally, the access road will be re-graded and aggregate baserock placed to restore the road.

It is expected this site work will be complete in approximately 8 working days.

**Table 2-5. Site #2 (Line G) Construction Summary**

| <b>TRUCK TRIPS AND VOLUME</b>                                                  |                                                                                                   |
|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Import Rip-Rap<br><i>From Zone 7's Bernal storage yard</i>                     | 76 truck trips (455 cy)                                                                           |
| Import Aggregate for Road Repair<br><i>From: Zone 7's Bernal storage yard</i>  | 4 truck trips (24 cy)                                                                             |
| Haul-off grubbed & cleared material<br><i>To: Zone 7's Bernal storage yard</i> | 108 truck trips (650 cy)                                                                          |
| <b>PROJECT AREA</b>                                                            |                                                                                                   |
| Clearing & Grubbing                                                            | Channel Length: 120 ft   Width: 27 ft                                                             |
| Rock Repair / Excavation                                                       | Channel Length: 80 ft   Width: 27 ft                                                              |
| Coffer Dam                                                                     | Channel Length: 3 ft   Width: 30 ft                                                               |
| <b>IMPACTS TO JURISDICTIONAL WETLANDS &amp; WATERS</b>                         |                                                                                                   |
| USACE                                                                          | WETLANDS Temporary: 0.0001 ac   Permanent: 0 ac<br>WATERS Temporary: 0.00295 ac   Permanent: 0 ac |
| State                                                                          | Temporary: 0.04375 ac   Permanent: 0 ac                                                           |
| <b>MATERIALS (also see Table 2)</b>                                            |                                                                                                   |
| Cut / Dredged                                                                  | 99.49 cubic yards (below OHWM)                                                                    |
| Fill                                                                           | 125.91 cubic yards (below OHWM)                                                                   |

### **Haul Route**

Trucks will haul in new materials for construction and haul away unused or excess materials, as noted in the table above. The site is easily accessible by Stoneridge Drive in Pleasanton. All work and storage areas will be within Zone 7's maintenance road.

- Rock will be imported from Zone 7's Bernal storage yard in Pleasanton (distance to work site is approximately 3 miles on city streets). Excess rock will be returned here.
- Aggregate to repair the road will be imported from Zone's Bernal storage yard (distance to work site is approximately 3 miles on city streets).
- Grubbed and cleared material will be hauled off-site to Zone 7's Bernal storage yard (distance to work site is approximately 3 miles on city streets).

### **Equipment**

The following equipment will be used at this repair site, and the total estimated time in use is noted:

- Excavator, Long Reach   64 Hrs
- Skiploader   16 Hrs
- Cat 980 loader   64 Hrs
- Three 10 w trucks   192 Hrs
- Water truck   64 Hrs

### 2.3.3 Site #3: Line G-1 (Chabot Canal) – Pleasanton

#### Site Condition

Photo Set 3: Site #3 (Line G-1)



Flood Control Line G-1 in Pleasanton is an engineered trapezoidal flood control channel that was constructed in 1981. This reach of channel is not accessible to the public. This reach typically has surface water year-around due to various upstream releases and urban runoff. This 30-foot bank failure occurred during the persistent rains in December 2014. This project site has not been previously repaired.

The design process evaluated the need for riprap at this site versus completely biotechnical treatments and determined that soils at this site required additional shear strength provided by subsurface riprap. Two site conditions indicate the need for a buried rock riprap design (see Table 2 in Section 2.1.1): (1) rotational failure, and (2) poor quality native soils.

#### Proposed Work

Following is a summary of the work activities, listed generally in sequence as they will occur.

- *BMPs:* A silt fence will be installed at the toe of the slope to prevent loosened materials from being deposited into the waterway. A water truck will be onsite for dust control and to water the backfill material for compaction.
- *Construction Mobilization:* Equipment such as a skiploader tractor, roller and excavator will be mobilized prior to the start of construction. Materials will be brought onsite using one to three dump trucks. Steel plates will be placed on the road in order to reduce the impact of vibration to the adjacent neighbors from dumping riprap. The dump trucks will be dumping their load onto the steel plates placed on the access road at the project site. Work areas will be confined to the Zone 7 maintenance road.
- *De-Watering:* Dewatering is required at this site. Two cofferdams will be built, one upstream and one downstream of the bank repair area. Two 24" corrugated metal pipes shall be placed

for the channel flow to bypass the repair area. The number of pipes will be determined on the channel flows at the time of construction. The cofferdams are built of sandbags filled with clean granular material over plastic sheeting.

- *Preparation:* The site will be cleared and grubbed – removing only the minimum amount of existing vegetation matter and debris in order to access the failure material.
- *Repair:* Removal of the bank failure material will require an excavator. All work will be performed from the top of the bank. No equipment will be in the channel bed. The slide shall be excavated to undisturbed material as determined by the project engineer. The excavation shall continue to below the canal bottom to develop a shear key at the toe of the rebuilt bank. The face of the reconstructed bank shall be over-excavated to allow the placement of a 3-foot layer of subsurface riprap into the slope to the top of bank. Geotextile fabric will be placed within the keyway up the slope before backfilling with ¼ ton rock riprap.
- *Restoration:* After the riprap is placed, 6"-12" of on-site native material shall be placed and compacted to 80% so that it is suitable for the establishment of native grasses. The finished slope shall be hydroseeded prior to the rainy season. Erosion fabric will be placed on the lower half of the slope to prevent the soil from eroding away prior to the establishment of the native grasses.
- *Construction De-mobilization and Clean-Up:* Excess material will be hauled away by dump trucks to be stockpiled at the Zone 7's Bernal storage yard. At this location, the combined disposal materials from all 5 projects will be loaded into semi-end dump trucks and hauled to Republic Services on Vasco Road in Livermore. Finally, the access road will be re-graded and aggregate baserock placed to restore the road.

It is expected this site work will be complete in approximately 4 working days.

**Table 2-6. Site #3 (G-1) Construction Summary**

| <b>TRUCK TRIPS AND VOLUME</b>                                                  |                                                                                                    |
|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Import Rip-Rap<br><i>From Zone 7's Bernal storage yard</i>                     | 15 truck trips (91 cy)                                                                             |
| Import Aggregate for Road Repair<br><i>From: Zone 7's Bernal storage yard</i>  | 3 truck trips (18 cy)                                                                              |
| Haul-off grubbed & cleared material<br><i>To: Zone 7's Bernal storage yard</i> | 14 truck trips (82 cy)                                                                             |
| <b>PROJECT AREA</b>                                                            |                                                                                                    |
| Clearing & Grubbing                                                            | Channel Length: 30 ft   Width: 22 ft                                                               |
| Rock Repair / Excavation                                                       | Channel Length: 30 ft   Width: 22 ft                                                               |
| Coffer Dam                                                                     | Channel Length: 3 ft   Width: 11 ft                                                                |
| <b>IMPACTS TO JURISDICTIONAL WETLANDS &amp; WATERS</b>                         |                                                                                                    |
| USACE                                                                          | WETLANDS Temporary: 0.00005 ac   Permanent: 0 ac<br>WATERS Temporary: 0.00123 ac   Permanent: 0 ac |
| State                                                                          | Temporary: 0.01312 ac   Permanent: 0 ac                                                            |
| <b>MATERIALS (also see Table 2)</b>                                            |                                                                                                    |
| Cut / Dredged                                                                  | 58.32 cubic yards (below OHWM)                                                                     |
| Fill                                                                           | 65.74 cubic yards (below OHWM)                                                                     |

### **Haul Route**

Trucks will haul in new materials for construction and haul away unused or excess materials, as noted in the table above. The site is easily accessible by Gibraltar Drive in Pleasanton. All work and storage areas will be within Zone 7's maintenance road.

- Rock will be imported from our current storage area at the west end of Bernal Avenue in Pleasanton (distance to work site is approximately 3 miles on city streets). Excess rock will be returned here also.
- Aggregate to repair the road will be imported from Zone's Bernal storage yard (distance to work site is approximately 3 miles on city streets).
- Grubbed and cleared material will be hauled off-site to Zone 7's Bernal storage yard (distance to work site is approximately 3 miles on city streets).

### **Equipment**

The following equipment will be used at this repair site, and the total estimated time in use is noted:

- Excavator, Long Reach 32 Hrs
- Skiploader 8 Hrs
- Cat 980 loader 32 Hrs
- Three 10w trucks 96 Hrs
- Water truck 32 Hrs

## **2.3.4 Site #4 Line J (South San Ramon Creek) – Dublin**

### **Site Condition**

**Photo Set 4: Site #4 (Line J)**



Flood Control Line J in Dublin is an engineered trapezoidal flood control channel that was constructed in 1965. This site is adjacent to Dublin High School and the maintenance road doubles as a connector trail to the Iron Horse Trail system. The trail will not need to be closed during construction. This reach typically has surface water year-around do to upstream urban runoff. This 35-foot bank erosion occurred in 2014. This project site has not been previously repaired.

The design process evaluated the need for riprap at this site versus completely biotechnical treatments and determined that soils at this site required additional shear strength provided by subsurface riprap. Three site conditions indicate the need for a buried rock riprap design (see Table 2 in Section 2.1.1): (1) rotational bank failure, (2) relatively high surface water velocity & shear stress, and (3) steep bank slope.

### **Proposed Work**

Following is a summary of the work activities, listed generally in sequence as they will occur.

- *BMPs:* A silt fence will be installed at the toe of the slope to prevent loosened materials from being deposited into the waterway. A water truck will be onsite for dust control and to water the backfill for compaction. Signage will be placed around the site to alert trail users to road closure due to construction.
- *Construction Mobilization:* Equipment such as a skip loader tractor, roller and excavator will be mobilized prior to the start of construction. Materials will be brought onsite using one to three dump trucks. Steel plates shall be placed on the road in order to reduce the impact of vibration to the adjacent neighbors from dumping riprap. The dump trucks will be dumping their load onto the steel plates placed on the access road at the project site. Work areas will be confined to the Zone 7 maintenance road / trail.
- *De-Watering:* Dewatering is not required. Since the slide material has migrated beyond the original slope toe, excavation will occur at the original toe leaving a “natural” berm around the repair such that there will be no impact to the live stream.
- *Preparation:* The site will be cleared and grubbed – removing only the minimum amount of existing vegetation matter and debris in order to access the failure material.
- *Repair:* Removal of the bank failure material will require an excavator. All work will be performed from the top of the bank. No equipment will be in the channel bed. The slide shall be excavated to undisturbed material as determined by the project engineer. The excavation shall continue to below the channel bottom to develop a shear key at the toe of the rebuilt bank. The face of the reconstructed bank shall be over-excavated to allow the placement of a 3.5-foot subsurface layer of riprap into the slope to the top of bank. Geotextile fabric will be placed within the keyway up the slope before backfilling with ½ ton rock riprap.
- *Restoration:* After the riprap is placed, 6”-12” of on-site native material shall be placed and compacted to 80% so that it is suitable for the establishment of native grasses. The finished slope shall be hydroseeded prior to the rainy season. Erosion fabric will be placed on the lower half of the slope to prevent the soil from eroding away prior to the establishment of the native grasses.
- *Construction De-mobilization and Clean-Up:* Excess material will be hauled away by dump trucks to be stockpiled at Zone 7’s Bernal storage yard. At this location, the combined disposal materials from all 5 projects will be loaded into semi-end dump trucks and hauled to Republic Services on Vasco Road in Livermore. Finally, the access road will be re-graded and aggregate baserock placed to restore the road.

It is expected this site work will be complete in approximately 4 working days.

**Table 2-7. Site #4 (Line J) Construction Summary**

| <b>TRUCK TRIPS AND VOLUME</b>                                                  |                                                                                          |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Import Rip-Rap<br><i>From Zone 7's Bernal storage yard</i>                     | 29 truck trips (172 cy)                                                                  |
| Import Aggregate for Road Repair<br><i>From: Zone 7's Bernal storage yard</i>  | 3 truck trips (18 cy)                                                                    |
| Haul-off grubbed & cleared material<br><i>To: Zone 7's Bernal storage yard</i> | 40 truck trips (240 cy)                                                                  |
| <b>PROJECT AREA</b>                                                            |                                                                                          |
| Clearing & Grubbing                                                            | Channel Length: 35 ft Width: 32 ft                                                       |
| Rock Repair / Excavation                                                       | Channel Length: 35 ft Width: 32 ft                                                       |
| Coffer Dam                                                                     | N/A                                                                                      |
| <b>IMPACTS TO JURISDICTIONAL WETLANDS &amp; WATERS</b>                         |                                                                                          |
| USACE                                                                          | WETLANDS Temporary: 0 ac Permanent: 0 ac<br>WATERS Temporary: 0.00028 ac Permanent: 0 ac |
| State                                                                          | Temporary: 0.0267 ac Permanent: 0 ac                                                     |
| <b>MATERIALS (also see Table 2)</b>                                            |                                                                                          |
| Cut / Dredged                                                                  | 66.41 cubic yards (below OHWM)                                                           |
| Fill                                                                           | 63.21 cubic yards (below OHWM)                                                           |

### **Haul Route**

Trucks will haul in new materials for construction and haul away unused or excess materials, as noted in the table above. The site is easily accessible by Amador Valley Blvd in Dublin. All work and storage areas will be within Zone 7's maintenance road.

- Rock will be imported from a storage area at the west end of Bernal Avenue in Pleasanton (distance to work site is approximately 7 miles on city streets). Excess rock will be returned here also.
- Aggregate to repair the road will be imported from Zone's Bernal storage yard (distance to work site is approximately 7 miles on city streets).
- Grubbed and cleared material will be hauled off-site to Zone 7's Bernal Ave. storage yard (distance to work site is approximately 7 miles via city streets).

### **Equipment**

The following equipment will be used at this repair site, and the total estimated time in use is noted:

|                       |        |
|-----------------------|--------|
| Excavator, Long Reach | 32 Hrs |
| Skiploader            | 8 Hrs  |
| Cat 980 loader        | 32 Hrs |
| Three 10 w trucks     | 96 Hrs |
| Water truck           | 32 Hrs |

### 2.3.5 Site #5: Line B (Arroyo de la Laguna) – Pleasanton

#### Site Condition

Photo Set 5: Site #5 (Line B)



This section of Arroyo de la Laguna in Pleasanton is an engineered trapezoidal flood control channel constructed in 1970. Due to the many upstream tributaries, including Arroyo del Valle, Arroyo Mocho, and Alamo Canal, this reach has surface water year-around. This site is closed to the public. It is immediately adjacent to Zone 7's storage yard. This 70-foot bank failure occurred during the persistent rains in December 2014. There has been a previous repair near this location. The channel bank along this reach of creek includes rock riprap and concrete banks in adjacent sections.

The design process evaluated the need for riprap at this site versus completely biotechnical treatments and determined that soils at this site required additional shear strength provided by subsurface riprap. Three site conditions indicate the need for a buried rock riprap design (see Table 2 in Section 2.1.1): (1) rotational failure, (2) poor quality native soils, and (3) relatively high surface water velocity & shear stress.

#### Proposed Work

Following is a summary of the work activities, listed generally in sequence as they will occur.

- *BMPs:* A silt fence will be installed at the toe of the slope to prevent loosened materials from being deposited into the waterway. A water truck will be onsite for dust control and to water the backfill material for compaction.
- *Construction Mobilization:* Equipment such as a skip loader tractor, roller and excavator will be mobilized prior to the start of construction. Materials are stockpiled on-site (adjacent storage yard) and will be moved to within the reach of the excavator with a loader. Work areas will be confined to the Zone 7 maintenance road.
- *De-Watering:* Dewatering is not required. Since the slide material has migrated beyond the original slope toe, excavation will occur at the original toe leaving a berm around the repair, and there will be no impact to the live stream.

- **Preparation:** The site will be cleared and grubbed – removing only the minimum amount of existing vegetation matter and debris in order to access the failure material.
- **Repair:** Removal of the bank failure material will require an excavator. All work will be performed from the top of the bank. No equipment will be in the channel bed. The slide shall be excavated to undisturbed material as determined by the project engineer. The excavation shall continue to below the canal bottom to develop a shear key at the toe of the rebuilt bank. The face of the reconstructed bank shall be overexcavated to allow the placement of a 3.5-foot layer of subsurface riprap into the slope to the top of bank. Geotextile fabric shall be placed within the keyway up the slope before backfilling with ½ ton rock riprap.
- **Restoration:** After the riprap is placed, 6”-12” of on-site native material shall be placed and compacted to 80% so that it is suitable for the establishment of native grasses. The finished slope shall be hydroseeded prior to the rainy season. Erosion fabric will be placed on the lower half of the slope to prevent the soil from eroding away prior to the establishment of the native grasses.
- **Construction De-mobilization and Clean-Up:** Excess material will be returned to Zone 7’s Bernal storage yard. At this location, the combined disposal materials from all 5 projects will be loaded into semi-end dump trucks and hauled to Republic Services on Vasco Road in Livermore. Finally, the access road will be re-graded and aggregate baserock placed to restore the road.

It is expected this site work will be complete in approximately 5 working days.

**Table 2-8. Site #5 (Line B) Construction Summary**

| <b>TRUCK TRIPS AND VOLUME</b>                                                    |                                                                                               |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <i>NOTE: No truck trips because project location is at Zone 7’s storage yard</i> |                                                                                               |
| Import Rip-Rap<br><i>From Zone 7’s Bernal storage yard</i>                       | 0 truck trips (672 cy)                                                                        |
| Import Aggregate for Road Repair<br><i>From: Zone 7’s Bernal storage yard</i>    | 0 truck trips (30 cy)                                                                         |
| Haul-off grubbed & cleared material<br><i>To: Zone 7’s Bernal storage yard</i>   | 40 truck trips (1133 cy)                                                                      |
| <b>PROJECT AREA</b>                                                              |                                                                                               |
| Clearing & Grubbing                                                              | Channel Length: 70 ft    Width: 45 ft                                                         |
| Rock Repair / Excavation                                                         | Channel Length: 70 ft    Width: 45 ft                                                         |
| Coffer Dam                                                                       | N/A                                                                                           |
| <b>IMPACTS TO JURISDICTIONAL WATERS</b>                                          |                                                                                               |
| USACE                                                                            | WETLANDS Temporary: 0 ac    Permanent: 0 ac<br>WATERS Temporary: 0.0005 ac    Permanent: 0 ac |
| State                                                                            | Temporary: 0.0609 ac    Permanent: 0 ac                                                       |
| <b>MATERIALS (also see Table 2)</b>                                              |                                                                                               |
| Cut / Dredged                                                                    | 453.08 cubic yards (below OHWM)                                                               |
| Fill                                                                             | 444.20 cubic yards (below OHWM)                                                               |

### **Haul Route**

In this case, the project site is immediately adjacent to Zone 7's storage area at the west end of Bernal Avenue in Pleasanton. The site is easily accessible by Bernal Ave. in Pleasanton. All work and storage areas will be within Zone 7's maintenance road.

- Rock is available at Zone 7's storage area at the west end of Bernal Avenue in Pleasanton (distance to work site is 200 feet).
- Soil and/or aggregate is available at Zone 7's storage area at the west end of Bernal Avenue in Pleasanton (distance to work site is 200 feet).
- Grubbed and cleared material will be left onsite at Zone 7's storage area at the west end of Bernal Avenue in Pleasanton (distance to work site is approximately 200 feet).

### **Equipment**

The following equipment will be used at this repair site, and the total estimated time in use is noted:

- Excavator, Long Reach      40 Hrs
- Skiploader      8 Hrs
- Cat 980 loader      40 Hrs
- Water truck      40 Hrs

### 3 ENVIRONMENTAL SETTING

This section provides an overview of key environmental features of the 5 work sites. Additional information is included within the topical discussions in Section 4.

The project area area is characterized by rolling hills, alluvial fans and floodplains. Regional natural plant communities include oak woodland, annual grassland, valley oak and sycamore riparian floodplains, and alkali wetlands. The climate is temperate with mean annual precipitation of 14 inches and mean annual temperatures ranging from a high of 73 to a low of 46 degrees Fahrenheit (Western Regional Climate Center, 2015).

The project sites are generally bounded by residential areas, schools, office parks, and/or major thoroughfares in the Cities of Dublin and Pleasanton. Zone 7 manages each of the channels described below for flood protection. All channels in the project analysis flow in a southerly path and are tributaries to Arroyo de la Laguna which is a tributary to Alameda Creek in Niles Canyon and eventually flows westerly to its discharge into San Francisco Bay.

There are five work sites; the study area for each is described below. Note that the study area is larger than the work site.

1. Line B-5, Pleasanton Canal. The Line B study area is located within and adjacent to the Pleasanton Canal. This 180-foot reach is contained between Hopyard Road to the east and Interstate 680 to the west, in the City of Pleasanton within eastern Alameda County. The Pleasanton Canal flows east to west into Arroyo Mocho which is located immediately east of the I-680. Surrounding land use is residential. The Pleasanton Canal flows perennially east to west into Arroyo de la Laguna.
2. Line G, Arroyo Mocho. The Line G study area is located within and adjacent to the Arroyo Mocho creek channel. This 560-foot reach is between the Stoneridge Drive crossing to the east and the Tassajara Creek confluence to the west, in the City of Pleasanton within eastern Alameda County. Surrounding land use is urbanized with residential homes bordering the channel study area. Arroyo Mocho flows perennially east to west into Arroyo de la Laguna.
3. Line G-1, Chabot Canal. The Line G-1 study area is located within and adjacent to the Chabot Canal channel. This 560-foot reach is contained between Gibraltar Drive to the north and Stoneridge Drive to the south, in the City of Pleasanton within eastern Alameda County. Land use surrounding the study area consists of office buildings and associated parking lots. The Chabot Canal flows perennially north to south into Arroyo Mocho.
4. Line J, South San Ramon Creek. The Line J study area is located within and adjacent to the South San Ramon Creek channel. This 145-foot reach is between Alcosta Boulevard to the north and Amador Valley Boulevard to the south, in the City of Dublin within eastern Alameda County. Land use surrounding the study area is generally residential and the Dublin High School athletic fields are located immediately west of the project site. Dougherty Hills Open Space is located east of the study area. South San Ramon Creek flows perennially from north to south into Alamo Creek.

5. Line B, Arroyo de la Laguna: The Line B study area is located within and adjacent to the Arroyo de la Laguna channel. This 365-foot reach is bounded by Interstate 680 to the northeast and Bernal Avenue to the south, in the City of Pleasanton within eastern Alameda County. Land use surrounding the study area is high end residential developments with some agricultural lands to the south. Arroyo de la Laguna flows perennially north to south into Alameda Creek in Niles Canyon.

## 4 ENVIRONMENTAL IMPACTS AND DISCUSSION

### 4.1 BASIC PROJECT INFORMATION

|                                            |                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project Title:                             | Stream Maintenance Priority Projects 2015                                                                                                                                                                                                                                                                                                  |
| Lead Agency Name and Address:              | Zone 7, Alameda County Flood Control and Water Conservation District<br>100 North Canyons Parkway Livermore, CA 94551                                                                                                                                                                                                                      |
| Contact Person and Phone Number:           | Elke Rank<br>Associate Water Resources Planner, Zone 7<br>(925) 454-5036                                                                                                                                                                                                                                                                   |
| Project Location:                          | See Section 2.0 – Project Description                                                                                                                                                                                                                                                                                                      |
| General Plan Designation:                  | Open Space                                                                                                                                                                                                                                                                                                                                 |
| Zoning:                                    | N/A                                                                                                                                                                                                                                                                                                                                        |
| Property Description:                      | Projects are contained within the Zone 7 - owned channel corridors and adjacent maintenance roads.                                                                                                                                                                                                                                         |
| Project Description:                       | The goal of this project is to repair eroded banks and access roads at these five flood control channel sites along Arroyo Mocho, Pleasanton Canal, South San Ramon Creek, Chabot Canal, and Arroyo de la Laguna and effectively restore these sites to Zone 7 Water Agency standards for flood control protection and maintenance access. |
| Surrounding Land Uses:                     | The project sites are generally bounded by residential areas, schools, office parks, and/or major thoroughfares in the Cities of Dublin and Pleasanton. Zone 7 manages each of the channels described below for flood protection. Also see Section 4 – Environmental Setting.                                                              |
| Other Agencies Whose Approval is Required: | Permits are required from USACE, RWQCB, and CDFW                                                                                                                                                                                                                                                                                           |

## 4.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |                                                          |                                                             |                                                             |
|----------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality             |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources      | <input type="checkbox"/> Geology/Soils                      |
| <input type="checkbox"/> Greenhouse Gas Emissions        | <input type="checkbox"/> Hazards & Hazardous Materials      | <input type="checkbox"/> Hydrology/Water Quality            |
| <input type="checkbox"/> Land Use/Planning               | <input type="checkbox"/> Mineral Resources                  | <input checked="" type="checkbox"/> Noise                   |
| <input type="checkbox"/> Population/Housing              | <input type="checkbox"/> Public Services                    | <input type="checkbox"/> Recreation                         |
| <input type="checkbox"/> Transportation/Traffic          | <input type="checkbox"/> Utilities/Service Systems          | <input type="checkbox"/> Mandatory Findings of Significance |

### DETERMINATION: (To be completed by the Lead Agency)

On the basis of the initial evaluation that follows:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. A TIERED ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental document is required. FINDINGS consistent with this determination will be prepared.

*Elke Rank*

6-26-2015

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Signature

Date

Elke Rank

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Printed Name

## 5 EVALUATION OF ENVIRONMENTAL IMPACTS

| <b>I. AESTHETICS</b>                                                                                                                                     | Potentially<br>Significant<br>Impact | Less Than<br>Significant with<br>Mitigation<br>Incorporated | Less Than<br>Significant<br>Impact | No Impact                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------|------------------------------------|-------------------------------------|
| Would the project:                                                                                                                                       |                                      |                                                             |                                    |                                     |
| a) Have a substantial adverse effect on a scenic vista?                                                                                                  | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings?                                                      | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?                                    | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

### DISCUSSION

- a-d. No Impact.** The Project is located within stream channel and riparian corridors. The Project will result in little difference in the appearance of the channels. After construction, vegetation enhancements in the riparian corridor may slightly improve the appearance of the project area. Therefore, there is no impact to the scenic resources or scenic highways. In addition, there are no proposed lights or building surfaces that would create a new source of substantial light. Therefore, there would be no impact related to light or glare.

### II. AGRICULTURE AND FORESTRY RESOURCES:

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

|                                                                                                                                                                                                                                                | Potentially<br>Significant<br>Impact | Less Than<br>Significant with<br>Mitigation<br>Incorporated | Less Than<br>Significant<br>Impact | No Impact                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------|------------------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

|                                                                                                                                                                                                                                                                                            |                          |                          |                          |                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?                                                                                                                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use?                                                                                                                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?                                                                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**DISCUSSION**

**a-e. No Impact.** The Project is confined to stream channels and riparian corridors. As such, there would be no impact related to loss of – or conflicting uses with – agricultural or forest lands associated with implementation of the Project.

**III. AIR QUALITY** -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

|                                                                                                                                                                                                                                                                                             | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?                                                                                                                                                                                                             | <input type="checkbox"/>       | <input checked="" type="checkbox"/>                | <input type="checkbox"/>            | <input type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?                                                                                                                                                                          | <input type="checkbox"/>       | <input checked="" type="checkbox"/>                | <input type="checkbox"/>            | <input type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/>       | <input checked="" type="checkbox"/>                | <input type="checkbox"/>            | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations?                                                                                                                                                                                                                      | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people?                                                                                                                                                                                                                     | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

## **DISCUSSION**

- a) **Less than Significant with Mitigation.** The most recently adopted air quality plan for the San Francisco Bay Area is the Bay Area 2010 Clean Air Plan (2010 CAP). The 2010 CAP is an update to the Bay Area Air Quality Management District (BAAQMD)'s 2005 Ozone Strategy to comply with state air quality planning requirements. The 2010 CAP also serves as a multi-pollutant air quality plan to protect public health and the climate. The 2010 CAP control strategy includes revised, updated, and new measures in the three traditional control measure categories, including stationary source measures, mobile source measures, and transportation control measures. In addition, the 2010 CAP identifies two new categories of control measures, including land use and local impact measures, and energy and climate measures (BAAQMD, 2010).

BAAQMD recommends that the agency approving a project where an air quality plan consistency determination is required, analyze the project with respect to the following questions: 1) does the project support the primary goals of the air quality plan; 2) does the project include applicable control measures from the air quality plan; and 3) does the project disrupt or hinder implementation of any 2010 CAP control measures? If all the questions are concluded in the affirmative, BAAQMD considers the project consistent with air quality plans prepared for the Bay Area (BAAQMD, 2012). Any project that would not support the 2010 CAP goals would not be considered consistent with the 2010 CAP, and if approval of the project would not result in significant and unavoidable air quality impacts after the application of mitigation, then the project would be considered consistent with the 2010 CAP.

As presented in the subsequent impact discussions, the proposed project would result in no new long-term operations-related emissions and with implementation of Mitigation Measure AIR-1, proposed project-related construction emissions would result in a less-than-significant impact. Therefore, the proposed project would support the primary goals of the 2010 CAP. As mentioned above, projects that incorporate all feasible air quality plan control measures are considered consistent with the 2010 CAP. There appear to be no 2010 CAP control measures that would be directly applicable to the proposed project; however, implementation of **Mitigation Measure AIR-1** (see discussion b), below) would ensure that BAAQMD basic construction control measures would be implemented.

Since approval of the project would not result in significant and unavoidable air quality impacts after the application of mitigation, it would be considered consistent with the primary goals of the 2010 CAP and it would not disrupt or hinder implementation of any 2010 CAP control measures. Therefore, with the impact associated with the project conflicting or obstructing implementation of the applicable air quality plan would be less than significant with mitigation.

- b) **Less than Significant with Mitigation.** The Federal Clean Air Act and the California Clean Air Act both require the establishment of standards for ambient concentrations of air pollutants, called Ambient Air Quality Standards (AAQs). The federal AAQs, established by U.S. Environmental Protection Agency (USEPA), are typically higher (less stringent) than the state AAQs, which are established by the California Air Resources Board (CARB) and enforced by the local air district, which is the BAAQMD in the project area. The standard time periods over which the various pollutants are measured range from a 1-hour average to an annual average. The standards are

read as a concentration, in parts per million (ppm) or as a weighted mass of material per a volume of air, in micrograms of the pollutant in a cubic meter of air ( $\mu\text{g}/\text{m}^3$ ).

In general, an area is designated as “attainment” of a given standard if the concentration of a particular air contaminant does not exceed the standard. Likewise, an area is generally designated as “non-attainment” if a standard is violated. In circumstances where there is not enough data available to support designation as either attainment or non-attainment, the area can be designated as unclassified. An unclassified area is normally treated by CARB and USEPA the same as an attainment area for regulatory purposes. An area could be designated attainment for one air contaminant while non-attainment for another, or attainment for the federal standard and non-attainment for the state standard for the same air contaminant.

The nearest ambient air quality monitoring location to the project site is at the Livermore air quality monitoring station, which is approximately 9 miles east-southeast of Dublin and 5 miles east-northeast of Pleasanton. The Livermore station monitors concentrations of ozone, fine particulate matter ( $\text{PM}_{2.5}$ ), and nitrogen dioxide ( $\text{NO}_2$ ). Maximum ambient concentrations measured at the Livermore monitoring station are representative of the project area and are shown in **Table 5-1**. The maximum ambient air pollutant concentrations identified in the table for the 4-year study period from 2011 through 2014 are compared to the most restrictive standards. As indicated in **Table 5-1**, the limiting AAQs for ozone were exceeded each year during the 4-year study period, with the exception of the 1-hour standard in 2014, and the limiting AAQS for  $\text{PM}_{2.5}$  was exceeded in 2011, 2013, and 2014. There were no exceedances of the  $\text{NO}_2$  limiting AAQS during the 4-year study period.

**Table 5-1 Criteria Pollutant Maximum Ambient Concentrations in Project Area**

| Pollutant         | Averaging Period | Units                    | 2011  | 2012  | 2013  | 2014  | Limiting AAQS* |
|-------------------|------------------|--------------------------|-------|-------|-------|-------|----------------|
| Ozone             | 1-Hour           | ppm                      | 0.12  | 0.10  | 0.10  | 0.09  | 0.09           |
| Ozone             | 8-Hour           | ppm                      | 0.084 | 0.090 | 0.077 | 0.080 | 0.070          |
| $\text{PM}_{2.5}$ | 24-Hour          | $\mu\text{g}/\text{m}^3$ | 45    | 31    | 40    | 68    | 35             |
| $\text{NO}_2$     | 1-Hour           | ppm                      | 0.057 | 0.053 | 0.051 | 0.049 | 0.100          |

NOTES:

\* The limiting AAQS is the most stringent of the federal or state AAQSs for that pollutant and averaging period.

SOURCES: CARB, 2015 and BAAQMD, 2015a.

The project area currently is designated as a non-attainment area for violation of the state 1-hour and 8-hour ozone standards, the state particulate matter ( $\text{PM}_{10}$ ) 24-hour and annual average standards, the state  $\text{PM}_{2.5}$  annual average standard, the federal ozone 8-hour standard, and the federal  $\text{PM}_{2.5}$  24-hour standard. The project area is designated as attainment for all other state and federal AAQSs (BAAQMD, 2015b).

Construction exhaust emissions were estimated and compared to regional significance thresholds recommended in the BAAQMD’s *Revised Draft Options and Justification Report* (2009) in order to determine the level of significance for the project to cause or contribute to an

air quality standard violation. The justification report provides substantial evidence to support the recommended mass emissions thresholds and, therefore, Zone 7 Water Agency has determined they are appropriate for use in this analysis. Based on the following, construction and operation of the mitigated project would not result in a violation of an air quality standard or contribute significantly to an existing or projected air quality violation. Therefore, the associated impact would be less than significant with mitigation.

**Construction**

Construction activities would occur over a period of approximately 30 workdays, between June 15, 2015, and October 30, 2015. The majority of proposed project-related exhaust emissions would be generated at the five creek maintenance sites and at the materials staging site. The Line G, Arroyo Mocho (#797); Line B-5, Pleasanton Canal (#794); Line G-1, Chabot Canal (#804); and the Line B, Arroyo de la Laguna (#795) creek maintenance sites, and the material staging site are located in Pleasanton. The Line J and South San Ramon Creek (#802) creek maintenance sites are located in Dublin.

Construction activities at the creek maintenance sites would occur sequentially, and activities at the staging area would occur concurrently with the creek maintenance sites, except for Line G, Arroyo Mocho (#797), which would not require hauling or staging of materials. Emissions would be generated at each of the creek maintenance sites for periods that would range between 2 and 12 days. On-site construction activities at the creek maintenance sites would include the use of an excavator or mini excavator, up to three haul trucks, a water truck, and the use of a compactor or a skip loader. The excavator or mini excavator would operate up to 8 hours a day for approximately 29 days, haul trucks and water trucks would operate up to 2 hours a day for 29 days. Emissions would be generated at the staging area site due to the use of a loader up to 8 hours per day for 29 days. Off-site exhaust emissions would also be generated by up to five construction workers commuting to and from the project sites each day as well as from up to three heavy-duty diesel trucks that would each make up to five trips per day exporting debris and importing materials to and from the project sites.

Criteria pollutant exhaust emissions of PM<sub>10</sub> and PM<sub>2.5</sub> and ozone precursor emissions of reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>) from construction equipment and vehicles would incrementally add to the regional atmospheric loading of these pollutants during construction of the proposed project. Impacts related to the project contributing to an existing or projected air quality violation and whether it would result in a cumulatively considerable net increase of any criteria pollutant or associated precursors are judged by comparing estimated direct and indirect project exhaust emissions to the significance thresholds. For short-term construction emissions, the applicable thresholds are 54 pounds per day for ROG, NO<sub>x</sub>, and PM<sub>2.5</sub>; and 82 pounds per day for PM<sub>10</sub>. Only the exhaust portion of PM<sub>2.5</sub> and PM<sub>10</sub> emissions are compared against the construction thresholds. The BAAQMD recommends that analyses focus on implementation of dust control measures rather than comparing estimated levels of fugitive dust to a quantitative significance threshold. Rather, the BAAQMD considers implementation of their basic mitigation measures for fugitive dust sufficient to ensure that the construction-related fugitive dust impact is reduced to a less-than-significant level (BAAQMD, 2009).

Air pollutant emissions, including ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> that would be generated by on-site construction equipment and vehicles (i.e., excavator, mini excavator, haul truck, water truck, compactor, skip loader, and loader) were estimated using the California Emission Estimator Model Version 2013.2.2 (CalEEMod2013.2.2). Air pollutant emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> that would be generated off-site from worker vehicles and haul trucks were estimated using emission factors obtained from CARB's EMFAC2014 emissions model for on-road sources.

**Table 5-2** shows the estimated total daily exhaust emissions that would be associated with construction of the proposed project. As mentioned above, construction activities at the creek maintenance sites would occur sequentially one after another; however, activities at the staging area site would occur concurrently with the creek restoration sites. Since work associated with the Line J, South San Ramon Creek (#802) site would result in the highest amount of air pollutants, the total maximum daily emissions would be a result of activities associated with the Line J, South San Ramon Creek (#802) site combined with activities that would occur at the staging area site.

**Table 5-2 Construction Criteria Pollutant Exhaust Emissions**

| Emissions Source                     | Average Daily Construction Emissions<br>(pounds/day) |                 |                  |                   |
|--------------------------------------|------------------------------------------------------|-----------------|------------------|-------------------|
|                                      | ROG                                                  | NO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Line G, Arroyo Mocho (#797)          | 0.85                                                 | 8.78            | 0.40             | 0.36              |
| Line B-5, Pleasanton Canal (#794)    | 1.58                                                 | 19.09           | 0.84             | 0.75              |
| Line J, South San Ramon Creek (#802) | 1.63                                                 | 20.65           | 0.88             | 0.78              |
| Line G-1, Chabot Canal (#804)        | 1.60                                                 | 19.72           | 0.85             | 0.76              |
| Line B, Arroyo de la Laguna (#795)   | 1.50                                                 | 16.86           | 0.77             | 0.70              |
| Bernal Staging Area Site             | 1.08                                                 | 12.12           | 0.61             | 0.56              |
| <b>Total Maximum Daily Emissions</b> | <b>2.72</b>                                          | <b>32.78</b>    | <b>1.49</b>      | <b>1.34</b>       |
| BAAQMD Significance Thresholds       | 54                                                   | 54              | 82               | 54                |
| Significant Impact?                  | No                                                   | No              | No               | No                |

*Notes: Emissions were estimated using CalEEMod2013.2.2 and EMFAC 2014. Refer to Appendix A for details on the emissions estimates.*

For all assumptions and calculations used to estimate the project-related construction emissions, refer to **Appendix A**. As indicated in **Table 5-2**, the total daily construction exhaust emissions would not exceed the BAAQMD's significance thresholds. Therefore, impacts associated with potential for construction-related exhaust emissions to result or contribute to a violation of an air quality standard would be less than significant.

In addition to exhaust emissions, emissions of fugitive dust would also be generated by project construction activities associated with earth disturbance, travel on paved and unpaved roads, etc. As discussed above, BAAQMD focuses on implementation of dust control measures to ensure that dust-related impacts would be less than significant rather than comparing estimated levels of fugitive dust to quantitative significance thresholds. **Mitigation Measure AIR-1** (see below), would be implemented to ensure that impacts associated with fugitive dust emissions would be reduced to a less-than-significant level.

**Mitigation Measure AIR-1: Implement BAAQMD Basic Mitigation Measures.** Zone 7 Water Agency and/or its construction contractors shall comply with the following applicable BAAQMD basic control measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, and graded areas, and unpaved access roads) shall be watered two times a day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at Zone 7 Water Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

### ***Operations***

Once construction is complete, the proposed project would result in no sources of air pollutants. Therefore, there would be no change in long-term conditions as a result of the project compared to the baseline conditions. There would be no long-term operational impact associated with the potential for construction-related exhaust emissions to result or contribute to a violation of an air quality standard.

- c) **Less than Significant with Mitigation.** Based on BAAQMD guidance, if a project would result in an increase in ROG, NO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> of more than its respective average daily mass

significance thresholds, then it would also contribute considerably to a significant cumulative impact. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project would exceed the identified significance thresholds, its emissions would be cumulatively considerable, and if a project would not exceed the significance thresholds, its emissions would not be cumulatively considerable. As presented in discussion b) above, short-term construction exhaust emissions would not exceed the applicable significance thresholds and implementation of **Mitigation Measure AIR-1** (see above) would ensure that impacts associated with fugitive dust emissions would be reduced to a less-than-significant level. In addition, the project would result in no long-term operational emissions. Therefore, the project would not be cumulatively considerable and cumulative impacts would be mitigated to a less-than-significant level.

- d) **Less than Significant Impact.** The BAAQMD recommends that lead agencies assess the incremental toxic air contaminant (TAC) exposure risk to all sensitive receptors (e.g., residences, schools) within a 1,000-foot radius of a project's fence line. Long-term operations that would be associated with the project would result in no new TAC emissions. However, short-term project construction activities would generate diesel particulate matter (DPM), which is considered to be a TAC. The majority of DPM exhaust emissions that would be generated during construction would be due to the use of diesel off-road equipment.

**Table 5-3** describes the approximate distances of the closest sensitive receptors to the proposed project sites. The closest residences would be at distances that would range from 30 feet to 300 feet from the project sites. In addition, sports fields at Dublin High School are within 100 feet of the Line J, South San Ramon Creek (#802) site and a child development center is within 150 feet of the Line G-1, Chabot Canal (#804) site.

**Table 5-3 Sensitive Receptors In The Vicinity Of The Project Sites**

| Project Site                         | Sensitive Receptor Type  | Distance from Site (feet) |
|--------------------------------------|--------------------------|---------------------------|
| Line G, Arroyo Mocho (#797)          | Residences               | 50                        |
| Line B-5, Pleasanton Canal (#794)    | Residences               | 50                        |
| Line J, South San Ramon Creek (#802) | Dublin High School       | 100                       |
|                                      | Residences               | 300                       |
| Line G-1, Chabot Canal (#804)        | Child Development Center | 150                       |
| Line B, Arroyo de la Laguna (#795)   | Residences               | 175                       |
| Bernal Staging Area Site             | Residences               | 125                       |

The dose to which receptors are exposed is the primary factor affecting health risk from exposure to TACs. Dose is a function of the concentration of a substance or substances in the

environment and the duration of exposure to the substance. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period when assessing TACs (such as DPM) that have only cancer or chronic non-cancer health effects (OEHHA, 2003). However, such health risk assessments should be limited to the duration of the emission-producing activities associated with the project. For the proposed project, DPM emissions that would be generated at the project sites would occur for periods that would vary from 2 to 29 workdays.

**Table 5-2** (above) shows that the total maximum daily PM<sub>2.5</sub> emissions from construction at each of the project sites would be up to 0.78 pound per day.<sup>1</sup> Because the daily emissions at any of the project sites would only occur over a period of up to 29 workdays, compared to the 70-year exposure period used in health risk assessments, project-related DPM emissions would not be considered substantial and would not result in a significant incremental cancer risk. Therefore, the impact related to exposing sensitive receptors to substantial pollutant concentrations would be less than significant.

- e) **Less than Significant Impact.** Diesel equipment used to construct the project may emit objectionable odors associated with combustion of diesel fuel. However, these emissions would be temporary and intermittent in nature, thus odor impacts associated with diesel combustion during construction activities would be less than significant. There would be no expected operational odors associated with the proposed project and no long-term impact would occur.

| <b>IV. BIOLOGICAL RESOURCES</b>                                                                                                                                                                                                                                                                                  |                                      |                                                             |                                     |                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------|--------------------------|
| Would the project:                                                                                                                                                                                                                                                                                               | Potentially<br>Significant<br>Impact | Less Than<br>Significant with<br>Mitigation<br>Incorporated | Less Than<br>Significant<br>Impact  | No Impact                |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/>             | <input checked="" type="checkbox"/>                         | <input type="checkbox"/>            | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian aquatic, or wetland habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?                                            | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

<sup>1</sup> PM<sub>2.5</sub> exhaust emissions are conservatively used here as a surrogate for DPM.

|                                                                                                                                                                                                                                                                      |                          |                                     |                                     |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?                                   | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Conflict with any local applicable policies protecting biological resources, such as a tree preservation policy or ordinance?                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?                                                                                                         | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## **REGULATORY SETTING**

### **Federal Regulations**

#### *Federal Endangered Species Act*

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have regulatory authority over federally listed species under the federal Endangered Species Act (ESA). Under the ESA, a permit is required to “take” a listed species for any action that may harm a member of that species. The term “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” under Section 9 of ESA. Under federal regulation, “take” further encompasses habitat modification or deprivation where it would be anticipated to result in death or injury to listed wildlife by significantly inhibiting critical behavioral patterns, including breeding, feeding, or sheltering. If a project would result in the “take” of a federally listed species, the project proponent must obtain either an incidental-take permit, under Section 10(a) of ESA, or a federal interagency consultation, under Section 7 of ESA prior to the take.

#### *Migratory Bird Treaty Act*

The Federal Migratory Bird Treaty Act (16 U.S. Code, Sec. 703 Supp. I, 1989) protects migratory birds and includes a federal prohibition against the “take” of any migratory bird, or the nest or eggs of protected birds.

#### *Clean Water Act, Section 404*

Section 404 of the Clean Water Act (CWA) requires that a permit be obtained by the United States Army Corps of Engineers (USACE) for any project that involves the discharge of dredged or fill material into “waters of the United States.” These waters include navigable waters of the United States, tributaries to navigable waters, interstate wetlands, wetlands which could affect interstate or foreign commerce, and wetlands adjacent to other waters in the United States. The USACE and the United States Environmental Protection Agency (EPA) defines wetlands as “areas that are inundated or saturated by surface or

ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions”. In order to qualify as a jurisdictional wetland, the following delineation criteria must be met: hydrophytic vegetation, hydric soil types, and wetland hydrology.

#### *Clean Water Act, Section 401*

Section 401 of the CWA requires that project proponents applying for a Section 404 permit must first obtain a certificate from the appropriate state agency confirming that the projected dredging or filling activity complies with the state’s water quality standards and criteria. In the State of California, water quality certification is granted by the State Water Resource Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB).

### **State Regulations**

#### *California Endangered Species Act*

According to the California Endangered Species Act (CESA) of the California Fish and Game Code, a permit from the California Department of Fish and Wildlife (CDFW)<sup>2</sup> is required when a project could result in the “take” of a State-listed threatened or endangered species. The exception is that listed plants that may be taken without a permit pursuant to the terms of the California Native Plant Protection Act (CNPPA). Section 2080 of the Fish and Game Code prohibits take of a listed species without an incidental take permit. Under CESA, the term “take” is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” a member of a state listed endangered or threatened species. The terms “harm” and “harass” are included in the federal act but are noticeably missing from the CESA definition. Therefore, the threshold for take under CESA is considered higher than under ESA.

#### *California Fish and Game Code, Section 1602 – Notification of Lake or Streambed Alteration*

The CDFW is responsible for the conservation, protection and management of the state’s fish, wildlife, and native plant resources. In order to fulfill this responsibility, Section 1602 of the Fish and Game Code requires that CDFW be notified if any proposed activity may substantially modify a river, stream or lake. Specifically, notification must be given if an activity will: substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel, or bank of, any river, stream or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

#### *CDFG Code - Nesting Birds*

Most native, nesting birds are protected under Section 3503 of the CDFG Code (Code), and raptors are protected under Section 3503.5. In addition, CDFG Code Section 3513 prohibits the killing, possession, or trading of migratory birds. Finally, Section 3800 of the Code prohibits the taking of non-game birds, which are defined as birds occurring naturally in California that are neither game birds nor fully protected species.

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<sup>2</sup> The California Department of Fish and Game (CDFG) formally changed their name to the California Department of Fish and Wildlife (CDFW) on January 1, 2013.

*Porter-Cologne Water Quality Control Act*

The Porter-Cologne Act grants jurisdiction of “waters of the state” to the appropriate RWQCB, which then must prepare and periodically update water quality control plans, also known as basin plans. Each plan should provide water quality standards for surface and ground water, as well as measures to control point and non-point pollution sources to achieve and maintain these standards. Projects that discharge waste to wetlands or waters of the state must meet the RWQCB waste discharge requirements, which may be issued in addition to water quality certification or waiver under Section 401 of CWA.

**Local Regulations***Alameda County East County Area Plan*

Policy 124. The County shall encourage the maintenance of biological diversity in East County including a variety of plant communities and animal habitats in areas designated for open space.

Policy 125. The County encourages preservation of areas known to support special-status species.

Policy 126. The County encourages no net loss of riparian and seasonal wetlands.

Policy 127. The County encourages the preservation of East County oak woodland plant communities.

Policy 129. The County shall protect existing riparian woodland habitat present along Arroyo Mocho, Arroyo Del Valle, Arroyo Las Positas, Arroyo de la Laguna; and Alamo, Tassajara, and Alameda Creeks.

**FINDINGS****Vegetation and Wildlife**

The project incorporates five sites all within maintained flood control channels in the cities of Pleasanton and Dublin, as described in the Project Description. Vegetation and wildlife habitat at each of these sites is generally described in Table 5-4.

**Table 5-4 General Description of Project Sites**

| Site | Description of Site                                                                                                                                                                                                                                                                                                                                                                                                          |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1   | <b>Line B-5, Pleasanton Canal.</b> Pleasanton Canal is a shallow channel passing through residential areas in Pleasanton. Site 1 supports no riparian habitat or sensitive natural communities and provides limited upland habitat for wildlife. The channel bottom is approximately 3 to 6 feet wide; water levels averaged 4 to 6 inches. Canal drains to Alamo Canal down a roughly 20-foot tall concrete drop structure. |
| #2   | <b>Line G, Arroyo Mocho.</b> Arroyo Mocho is a large, trapezoidal channel that passes through residential and commercial areas at Site 2. Site 2 supports no riparian habitat or sensitive natural communities, and has limited upland habitat. Channel is approximately 50 feet wide at the toe of slope; 120 feet wide at top of bank; and 1.5 to 2.5 feet deep at bank full.                                              |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #3 | <b>Line G-1, Chabot Canal.</b> Chabot Canal is a small trapezoidal flood control channel that passes through a commercial area in Pleasanton. The wetted channel at Site 4 ranges from 2 feet to 4 feet wide, with water ranging from 6 to 12 inches deep. No riparian vegetation or sensitive natural communities occur at this site, with limited non-native vegetation on banks.                                                                                                                                  |
| #4 | <b>Line J, South San Ramon Creek.</b> This trapezoidal flood control channel is a shallow, long glide only 3 to 4 feet across at the project site. Channel is adjacent to Dublin High School and residential housing in Dublin, with no riparian or natural communities and limited non-native upland habitat.                                                                                                                                                                                                       |
| #5 | <b>Line B, Arroyo de la Laguna.</b> Arroyo de la Laguna is a large, channelized, trapezoidal channel that conveys much of the flow from the Livermore-Amador Valley to Alameda Creek. The Channel is roughly 35 to 60 feet wide at the toe of the slope, and approximately 160 feet wide at the top of bank. Depth ranges from 6 inches to 4 feet. Limited riparian habitat with mature cottonwood trees on the east bank. The west bank, where improvements would occur, supports non-native grassland and rip rap. |

The presence of wetland-associated vegetation is restricted at all five project sites drainages due to seasonally intense flows, regular maintenance, and channel designs that promote a relatively uniform channel bottom. Typical wetland vegetation is restricted to narrow fringes of annual emergent species such as cattail (*Typha* sp.), watercress (*Rorippa nasturtium-aquaticum*), and curly dock (*Rumex crispus*), which grow along the channel edges. A number of low-growing subdominant plants occur intermittently in these channels and include umbrella sedge (*Cyperus eragrostis*), rabbit's foot grass (*Polypogon monspeliensis*), and water smartweed (*Polygonum* sp.). There is no woody streamside vegetation at any the work sites. Several mature cottonwood trees (*Populus trichocarpa*) line the east bank, opposite the project site at Site 6. Upland habitats vary, but typical dominants in these areas are Harding grass (*Phalaris aquatica*), fennel (*Foeniculum vulgare*), wild oats (*Avena fatua*), Italian ryegrass (*Lolium multiflorum*), Italian thistle (*Carduus pycnocephalus*), cockle burr (*Xanthium strumarium*), and wild radish (*Raphanus sativus*). Land uses surrounding the project sites are generally urbanized, with residential homes and office buildings adjacent to the channels.

### Special Status Species

The California Natural Diversity Database (CNDDB) documents 30 special-status plant and wildlife species in the Dublin and Livermore USGS 7.5-minute quadrangles (CDFW, 2015). In addition, a USFWS Endangered Species List for the Dublin and Livermore quadrangle (USFWS, 2015) documents 13 federal listed species in the regional vicinity of the project sites. However, a majority of these species are unlikely to occur either because the project sites are located outside of species' range, focused surveys have documented negative results, habitats are of poor quality, or unsuitable conditions occur at the project sites (ESA, 2014; 2015b). A list of special-status species with known occurrence or with the potential to occur in the project vicinities are provided in Appendix B.

The overall lack of instream vegetation provides little habitat for aquatic species, including California red-legged frog (*Rana draytonii*) and California tiger salamander (*Ambystoma californiense*), looking to forage, seek cover, or breed in the project's channel segments. The western pond turtle (*Emys marmorata*) was the only special-status species observed during focused California red-legged frogs

surveys. The project areas also provide potential foraging and nesting habitat for common birds, and several special-status birds. Special-status plants are not expected at any of the project sites based on a review of available habitat at each project site. An evaluation of the potential for each special-status plant and wildlife species to occur in the project region is provided in Appendix B. Avian species observed using the wetland and instream habitat during surveys include Canadian geese (*Branta canadensis*), snowy egret (*Egretta thula*), great egret (*Ardea alba*), Wilson's snipe (*Gallinago delicata*), and mallard (*Anas platyrhynchos*) (ESA, 2015b).

### Wetlands

All of the sites are engineered, trapezoidal flood protection channels within Dublin and Pleasanton cities. The proposed maintenance to the channels includes the stabilization of slope banks and removal of excess landslide fill to correct erosion into the drainages. Therefore the project will improve several acres of waters of the U.S., waters of the State, and CDFW jurisdictional wetlands.

ESA conducted a formal wetland delineation of the collective study areas on February 18, 2015. The field delineation identified and documented all potentially jurisdictional wetlands and other waters of the U.S. within the delineation study areas. Instream wetlands occur at four out of the five study areas in the action area. Table 5-5 summarizes findings of the delineation and summarizes estimated USACE jurisdictional areas for each feature type within the work area (ESA, 2015a).

The channel beds found at each of the study areas support a combination of upland and wetland species. Dominant plants observed during the wetland delineation at sample points included, Italian rye grass (*Festuca perennis*), bristly ox-tongue (*Helminthotheca echioides*), curly dock (*Rumex crispus*), umbrella sedge (*Cyperus eragrostis*), northern willow herb (*Epilobium ciliatum*), bitter cress (*Cardamine oligosperma*), prickly lettuce (*Lactuca serriola*), old man of spring (*Senecio vulgaris*), watercress (*Nasturtium officinale*), and bulrush (*Schoenoplectus americanus*).

**Table 5-5 Potentially Jurisdictional Wetlands and Other Waters Of The U.S.**

| Site | Feature Type                                          | Area (ac)     | Area (sq ft) |
|------|-------------------------------------------------------|---------------|--------------|
| 1    | <b>Line B-5, Pleasanton Canal</b>                     |               |              |
|      | Wetlands                                              | 0             | 0            |
|      | Other Waters of the U.S.                              | 0             | 0            |
|      | <b>Subtotal Wetlands and Other Waters of the U.S.</b> | <b>0</b>      | <b>0</b>     |
|      | Other Non-Corps Waters of the State                   | 0.0260        | 1,132        |
| 2    | <b>Line G, Arroyo Mocho</b>                           |               |              |
|      | Wetlands                                              | 0.0001        | 4            |
|      | Other Waters of the U.S.                              | 0.0030        | 131          |
|      | <b>Subtotal Wetlands and Other Waters of the U.S.</b> | <b>0.0031</b> | <b>135</b>   |
|      | Other Non-Corps Waters of the State                   | 0.0438        | 1,908        |
| 3    | <b>Line G-1, Chabot Canal</b>                         |               |              |
|      | Wetlands                                              | <0.0001       | 2            |
|      | Other Waters of the U.S.                              | 0.0012        | 52           |
|      | <b>Subtotal Wetlands and Other Waters of the U.S.</b> | <b>0.0013</b> | <b>54</b>    |
|      | Other Non-Corps Waters of the State                   | 0.0131        | 571          |

| Site | Feature Type                                          | Area (ac)     | Area (sq ft) |
|------|-------------------------------------------------------|---------------|--------------|
| 4    | <b>Line J, South San Ramon Creek</b>                  |               |              |
|      | Wetlands                                              | 0             | 0            |
|      | Other Waters of the U.S.                              | 0.0003        | 12           |
|      | <b>Subtotal Wetlands and Other Waters of the U.S.</b> | <b>0.0003</b> | <b>12</b>    |
|      | Other Non-Corps Waters of the State                   | 0.0267        | 1,163        |
| 5    | <b>Line B, Arroyo de la Laguna</b>                    |               |              |
|      | Wetlands                                              | 0             | 0            |
|      | Other Waters                                          | 0.0005        | 22           |
|      | <b>Subtotal Wetlands and Other Waters of the U.S.</b> | <b>0.0005</b> | <b>22</b>    |
|      | Other Non-Corps Waters of the State                   | 0.0609        | 2,653        |
|      | <b>Total Instream Wetlands</b>                        | <b>0.0002</b> | <b>6</b>     |
|      | <b>Total Other Waters of the U.S.</b>                 | <b>0.0050</b> | <b>217</b>   |
|      | <b>Total Non-Corps Waters of the State</b>            | <b>0.1705</b> | <b>7,426</b> |

Much of the in-stream work involves re-channeling flows and correcting channel lines, as well as, associated channel bank stabilization. Thus, temporarily disturbed areas would be restored as a component of the project.

## **DISCUSSION**

- a) **Less than Significant with Mitigation.** Special-status plants and wildlife that are known or have potential to occur in the project region include the California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*) and western pond turtle (*Emys marmorata*). However, based on focused surveys and review of on-site habitat and the available resources, only the western pond turtle is expected at project sites. Raptors, such as red-shouldered hawk (*Buteo lineatus*) and barn owl (*Tyto alba*), and passerine birds may nest in and near the project areas and are protected under state and federal regulations. Potential impacts to wildlife resources from the project are discussed below.

Eleven special-status plant species that are known to or have the potential to occur in the project vicinity were considered for their potential to occur at the project sites (CDFW, 2015; CNPS, 2015). These species are generally associated with alkaline, woodland, vernal pool, meadow, swamp, and scrub habitat that do not occur at the project sites. Based on past and present land uses, observed non-native vegetation, and available habitats on-site, special-status plant species are not expected at any of the project sites (Appendix B).

### **Construction**

*California Tiger Salamander.* The California tiger salamander is a federal and state-listed threatened species that most commonly breeds in vernal pools, but also breeds in the quiet waters of ponds, reservoirs, lakes, and drainages. Adults spend most of the year in terrestrial habitats including burrows of the California ground squirrel (*Otospermophilus beecheyi*) and pocket gopher (*Thomomys* spp.), debris piles, and beneath man-made structures.

California tiger salamanders have been detected in suitable breeding and dispersal habitat two to three miles from the project sites; in stock ponds surrounded by grazed-oak woodlands and annual grasslands with numerous California-ground squirrels; and to the north and east in annual grasslands also with burrows, agricultural fields, and vineyards (CDFW, 2015). Residential and commercial development surrounding the project sites completely restricts salamander access from these known breeding locations, and this species does not occur within urbanized portions of the cities of Pleasanton and Dublin. Based on the distance from known and potential breeding sites and lack of habitat in the project areas, California tiger salamanders are not anticipated in the project areas and no impacts are anticipated to this species.

*California Red-legged Frog.* The California red-legged frog is a federal threatened species and California species of special concern typically associated with deep pools or lakes with overhanging woody vegetation such as willows and cattails (USFWS, 2002). California red-legged frogs frequently breed in ephemeral creeks and drainages and in ponds that may or may not have riparian vegetation. During summer and fall months this species may disperse upstream and downstream of breeding sites to forage and seek sheltering habitat. Such shelter may include all aquatic, riparian, and upland areas within the range of the species and landscape features that provide cover, such as small mammal burrows, rocks piles, organic debris (e.g., downed trees or logs), leaf litter, or industrial debris. Incised stream channels may also provide important summer sheltering habitat. California red-legged frogs generally breed from November to April, attaching egg masses to vegetation, fencing, or any available attachment sites in shallow water pools or protected backwater areas in streams (USFWS, 2002).

The general lack of instream riparian habitat coupled with the isolation from known populations due to instream barriers and surrounding land uses, reduces the potential for California red-legged frogs to occur within any of the project sites. During February 2015 all sites were evaluated for habitat potential according to the USFWS *Revised Guidance on Habitat Assessment and Field Surveys for the California Red-Legged Frog* (USFWS, 2005; ESA, 2015b). The survey did not identify any backwater pools or other habitat features preferred by California red-legged frogs. Furthermore, protocol-level California red-legged frog surveys of the five project sites in 2015 failed to detect this species (ESA, 2015b). As a result, this species is considered absent from the projects areas through May 2017, when the survey expires. Protocol-level surveys for California red-legged frog performed between 2001 and 2014 have repeatedly produced negative results for the project sites and their associated channels (ESA, 2014).

Habitats in the project areas are poor quality for California red-legged frog and prior focused protocol surveys (2001 to 2014) have not identified presence in any of the project channels or upstream in connected drainages (ESA, 2014). Based on survey findings, coupled with poor quality upland and aquatic habitat, existing barriers to frog movement, and the absence of nearby California red-legged frog populations, this species is not expected at project sites. Thus, no impacts are anticipated to California red-legged frogs or occupied or potential habitat for this species. While California red-legged frogs are not anticipated in the work areas, **Mitigation Measure BIO-1a** has been proposed to the U.S. Fish and Wildlife Service at Site #2 to avoid and minimize potential adverse effects on California red-legged frogs at Site #2.

**Mitigation Measure BIO-1a:** Implement measures to reduce impacts to California red-legged frog. The following measures shall be implemented at Site #2 to reduce impacts to these species:

1. To the extent practicable, initial ground-disturbing activities will be avoided between November 1 and March 31, when California red-legged frogs are most likely to be moving through upland areas.
2. No more than twenty-four (24) hours prior to the date of initial ground disturbance, a preconstruction survey for California red-legged frogs shall be conducted by a qualified biologist. The survey will consist of walking the project limits and within the project site to ascertain the possible presence of the species. The USFWS-approved biologist will investigate all potential areas that could be used by California red-legged frog for feeding, breeding, sheltering, movement, and other essential behaviors. General minimum qualifications for the qualified biologist are a 4-year degree in biological sciences or other appropriate training and/or experience in surveying, identifying, and handling CRLF.
3. The qualified biologist will conduct employee education training for employees working on earthmoving and/or construction activities. Personnel will be required to attend the presentation which will describe California red-legged frog avoidance, minimization, and conservation measures, legal protection of the animal, and other related issues. All attendees will sign an attendance sheet along with their printed name, company or agency, email address, and telephone number.
4. If a California red-legged frog is detected, work shall cease in the immediate area and the USFWS shall be notified before work is reinitiated. Additional measures including full time or spot check biological monitoring and/or exclusion measures for California red-legged frog may be implemented during the remainder of construction following consultation with the USFWS.
5. Uneaten human food and trash attracts crows, ravens, coyotes, and other California red-legged frog predators. A litter control program will be instituted at each project site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the project site at the end of each working day.
6. Loss of soil from run-off or erosion will be prevented with non-monofilament straw bales, straw wattles, or similar means.
7. To the maximum extent practicable, no construction activities will occur during rain events or within 24-hours following a rain event. Prior to construction activities resuming, a USFWS approved biologist will inspect the action area and all equipment/materials for the presence of California red-legged frog. The animals will be allowed to move away from the project site of their own volition or moved by the qualified biologist.

*Western Pond Turtle.* The western pond turtle (*Emys marmorata*) is a California Species of Special Concern that ranges along the western portion of California, including the Central Valley, north into British Columbia and south into northern Baja California. Pond turtles inhabit ponds, marshes, streams, and ditches that typically have a rocky or muddy substrate and support emergent vegetation. The pond turtle is commonly associated with permanent water bodies, though they may seasonally move through upland habitat and intermittent drainages. Western pond turtles have been identified during ESA surveys in Chabot Canal (Site #3) and in Arroyo de la Laguna (upstream of Site #5) (Pittman, pers. obs.). This species may be encountered in work areas at the time of construction, and adult turtles could be subject to direct impacts from equipment.

Habitats in the project areas are of marginal quality for western pond turtle and do not possess suitable breeding features for this species (i.e., sandy banks). Surveys have identified western pond turtles in Arroyo Mocho, Chabot Canal, and Arroyo de la Laguna (B. Pittman, pers. obs.). Therefore, it is possible that this species may be present in work areas at the time of construction. Direct effects to western pond turtle would be considered a significant impact. The implementation of **Mitigation Measure BIO-1b** will reduce the potential for construction-related impacts to this species to less-than significant.

**Mitigation Measure BIO-1b:** Implement measures to reduce impacts to western pond turtle. The following measures shall be implemented to reduce impacts to these species:

1. Instream disturbances shall be performed during the dry season when stream flows are at their lowest (e.g., May 15 to October 15). Upstream water sources shall be diverted around the sites during in stream construction to minimize the likelihood of western pond turtle movement through the project area during construction.
2. A qualified biological monitor shall perform a preconstruction survey of the project area prior to construction to verify that western pond turtles are not present in work areas. Additionally, in the event that standing water is present at the time of construction, the monitor shall perform periodic inspections of the project sites to verify the absence of western pond turtle.
3. A biological resource education program shall be provided to construction crews and contractors before construction activities begin. The program shall describe the life history and identification of western pond turtles, protective measures to be implemented if sensitive species are identified or suspected to be in the work area (i.e., immediate notification of the biological monitor and temporary protective buffers of 100 feet), and penalties for handling or harming these species.
4. If pond turtles are identified in the work area, construction activities shall cease until the individual disperses from the project site, or is relocated by the biological monitor.

### *Nesting Birds*

A variety of suitable nesting habitat is present near the project sites in the form of ornamental landscaping that could support nesting passerine birds. During a reconnaissance survey on February 18, 2015 two Anna's hummingbird (*Calypte anna*) nests were detected in nearby residential yards adjacent to Site #1. In addition, an occupied black phoebe (*Sayornis nigricans*) nest was noted under I-680 overpass as well as swift colony nests around the bridge pillars. No ground squirrel or other mammal burrows of suitable size were observed near the project area during field surveys. Therefore burrowing owl (*Athene cunicularia*) is not expected within the project sites.

The tricolored blackbird (*Agelaius tricolor*) sometimes occurs in large nesting colonies or flocks, with a range including the Central Valley and much of the Coast Ranges. Nesting habitats include freshwater wetlands with dense cattails or other wetland vegetation, and nesting colonies are larger than any other North American landbird (Shuford and Garaldi, 2008). Basic requirements for the species' selection of nesting sites includes open accessible water, a protected nesting substrate with either flooded or thorny vegetation, and a suitable foraging space with adequate insect prey within one to two miles of the colony. As specific nesting habitat does not exist on site, it would be unlikely to encounter this bird species on the project sites.

As a result of project construction, any nesting raptors within 250 feet and passerine birds within 150 feet could be disrupted by project activities. The displacement of actively nesting birds is disallowed under the Migratory Bird Treaty Act and CDFG code, and would constitute a significant impact. The implementation of **Mitigation Measure BIO-2** will reduce potential impacts on nesting birds to a less-than significant level.

**Mitigation Measure BIO-2:** If construction or vegetation removal must be performed during the nesting period (February 1 through August 31), Zone 7 shall retain a qualified biologist to survey trees and dense wetland vegetation within 250 feet of the project site for any nesting birds to verify the presence or absence of nests no more than 14 days prior to construction activities. If active nests are observed, buffer zones will be established around trees/shrubs with nests, with a buffer size established by the qualified biologist through consultation with the appropriate regulatory agency (e.g., CDFW). Typical nest avoidance buffers are 50 to 150 feet for passerine birds and 150 to 500 feet for raptors, depending upon the nature of proposed activities and the sensitivity of the identified bird to disturbance. If buffers are established due to bird nesting, areas will be avoided during construction activities until the young birds have fledged.

### *Special-Status Bats*

The project sites do not provide roosting habitat for special-status bat species within project footprints and only limited roosting habitat is found nearby (such as under I-680 bridge). In general, special-status bats that occur locally, which include pallid bat (*Antrozous pallidus*), hoary bat (*Lasiurus cinereus*), and Yuma myotis (*Myotis yumanensis*), require protected areas such as rock crevices, cliffs, caves, bridges, buildings, and dense tree foliage for roosting. Special status bats are more sensitive to human disturbances and the surrounding development of the

project sites makes the likelihood of special status bat occurrence minimal. If bats were utilizing buildings or bridges in the vicinity of the project sites any disturbances caused by project activities would be minimal in relation to the high level of noise and disturbance already present at the sites. Bat foraging may occur in the channel sites; however, foraging bats would not be adversely impacted from on-site construction activities.

### **Operations**

Upon completion of the project, the channel would function as it does presently with bank stabilization improving stream flow. As a result, there would be no long-term operational impact to candidate, sensitive or special-status plant or wildlife species.

- b) Less than Significant.** There is only one site that supports riparian vegetation: Site #5: Line B, Arroyo de la Laguna. However, riparian vegetation occurs only on the east bank in the vicinity of the project site and is outside the project footprint. Project activities at Arroyo de la Laguna are restricted to the west bank and would not directly harm or remove any riparian vegetation in this location. All other project sites lack riparian vegetation or other sensitive natural communities. Therefore project impacts to riparian habitat or other sensitive natural communities would be less than significant.
- c) Less than Significant with Mitigation.** The project will result in temporary impacts to creek channels during construction, but instream flows are expected to be restored to current function or improved with bank stabilization activities. The removal of excess fill, correction of flow channels, and placement of hardpan material onto slopes will require in-stream access and disturbance. Project activities may potentially disturb 0.002 acres of USACE jurisdictional instream wetlands and up to 0.005 acres of Other Waters of the U.S. in the project areas (ESA, 2015a). Table 5-5 shows acreage of potential wetland and waters by project site. Impacts would be largely temporary. Following the placement of riprap, banks will be finished with a cap of native soils and compacted so they are suitable for the establishment of native grasses. Hence, post-project vegetation conditions will be similar to pre-project conditions. Project permitting is required with the USACE, RWQCB, and CDFW. Disturbance to wetlands and waters of the U.S. and state would constitute a significant impact. Implementation of **Mitigation Measures BIO-3a and BIO-3b** will reduce project impacts to wetlands and waters to less than significant.

**Mitigation Measure BIO-3a:** Where feasible, Zone 7 shall avoid and minimize disturbance of in-stream wetlands and riparian vegetation in the project areas as a focus of project design and construction. The preferable form of mitigation recommended by the USACE and CDFW is avoidance of jurisdictional waters and riparian vegetation. All project activities associated with recontouring stream banks, incorporating hardpan stabilization material, instream sediment removal, removal of structures, or vegetation grubbing would be limited to the minimum area necessary to complete the work. To minimize disturbance to the extent feasible project activities shall be conducted from top of bank on disturbed access roads. Furthermore, catchment screens and barriers shall be installed to reduce materials and sediments from entering water downstream and fueling and cleaning of equipment/vehicles will occur away from the channels off project sites.

**Mitigation Measure BIO-3b:** Where jurisdictional wetlands and other waters cannot be avoided, to offset temporary and permanent impacts that would occur as a result of the project, in-situ site restoration mitigation shall be provided through the following mechanisms: Prior to construction Zone 7 shall obtain relevant permits and authorizations from the USACE, CDFW, and RWQB. Consistent with the terms and conditions of these permits and authorizations, Zone 7 shall compensate for the unavoidable loss of wetlands and other waters at a minimum of a 1:1 ratio. Compensation may be provided by one or more of the following methods: 1) on-site creation or habitat restoration, 2) off-site habitat creation, restoration and/or enhancement, or 3) payment to an approved wetland mitigation bank.

- d) **Less than Significant.** As described in a) existing habitat conditions at the project sites are of minimal value and surrounded by developed and disturbed land uses. Project implementation will be temporary and channels will return to existing function with no long-term modification impacting wildlife movement. Thus, impacts to native resident or wildlife movement would be less than significant.
- e) **No Impact.** Project objectives to restore instream flows and stabilize banks are consistent with the open space and conservation elements of the Alameda County East County Area Plan. No trees would be removed under the project. As a result, the project does not conflict with local biological resource protection policies or ordinances.
- f) **No Impact.** No habitat conservation plans, natural community conservation plan, or other approved conservation plans have been approved for lands that include the project sites.

| <b>V. CULTURAL RESOURCES</b>                                                                                  | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                |
|---------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|--------------------------|
| Would the project:                                                                                            |                                |                                                    |                                     |                          |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?    | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?       | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries?                          | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

## **Discussion**

**a-d) Less than Significant Impact.** A Cultural Resources Survey Report was prepared to support compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended.

Results of the records search indicate no archaeological resources have been previously recorded within the area of potential effects (APE). Within the APE at Line B-5 and Line G are the previously recorded Arroyo Mocho Canal and the Pleasanton Canal, both channelized flood control canals. The canals were previously evaluated for their potential eligibility to the National Register of Historic Places; they were found not eligible for listing. [The project entails relatively shallow digging within limited segments of engineered channels built in the last 50 years; as such, it is unlikely that the project will disturb any unique paleontological resources or unique geologic features.](#)

A field survey of the work locations was completed in February 2015. No cultural resources were identified in the proposed project APE. Based on the survey results, geologic framework, and either the historic location within Willow Marsh or distance to the nearest perennial water source, Line G, Line B-5, Line J, and Line G-1 appear to have a low archaeological sensitivity. Despite the negative survey results and previous disturbance, the APE at Line B has archaeological sensitivity. This is due to its proximity to the historic Willow Marsh and the numerous prehistoric archaeological sites in the immediate vicinity.

**Mitigation Measure CULT-1:** The following measures shall be implemented at Line B. Because the project site and depth of excavation is relatively minor, no impacts to cultural resources are expected. However, these precautionary actions help to ensure that potential impacts are avoided:

Prior to ground disturbing activities at Line B, Zone 7 shall have a qualified archaeologist prepare a cultural resources monitoring plan addressing (but not be limited to) the following issues:

- Training program for all construction involved in site disturbance;
- Person(s) responsible for conducting monitoring activities;
- How the monitoring shall be conducted and the required format and content of monitoring reports;
- Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports;
- Protocol for notifications in case of encountering of cultural resources, as well as
- methods of dealing with the encountered resources (e.g., collection, identification, curation);
- Methods to ensure security of cultural resources;
- Protocol for notifying local authorities (i.e. Sheriff, Police) should looting and other illegal activities occur during construction.

The Zone 7 will retain the services of a qualified archaeological consultant that has experience in California prehistory to monitor ground-disturbing activity at Line B.

During the course of the monitoring, the archaeologist may adjust the frequency—from continuous to intermittent—of the monitoring based on the conditions and professional judgment regarding the potential to impact resources.

If an intact archaeological deposit is encountered, all soil disturbing activities within 100 feet will cease until the find is evaluated. The archaeological monitor will immediately notify the USACE and the Zone 7 of the encountered archaeological deposit. The monitor will, after making a reasonable effort to assess the identity, integrity, and significance of the encountered resource, present the findings of this assessment to the USACE and Zone 7.

If the archaeological monitor, in consultation with the USACE and the Zone 7, determines that a significant archaeological resource is present and that the resource could be adversely affected by the proposed project, Zone 7 may:

- Re-design the proposed project to avoid any adverse effect on the significant archaeological resource; or,
- Design and implement a Historic Properties Treatment Plan (HPTP). The project archaeologist, Zone 7, the USACE, and the SHPO shall meet and consult to determine the scope of the HPTP and develop a formal Memorandum of Agreement (MOA). The archaeologist will submit a draft HPTP for review and approval to the SHPO, the USACE, Zone 7, and, for prehistoric resources, the appropriate Native American representative. The HPTP will identify how a data recovery program would preserve any significant information the archaeological resource is expected to contain. The HPTP will identify the scientific and historic research questions applicable to the resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, will be limited to the portions of the site that could be adversely affected by the proposed project.

**Mitigation Measure CULT-2:** Based on the survey results, geologic framework, and historic location in relation to Willow Marsh and other waterways, there appears to be a low potential for the discovery of archaeological resources and/or human remains at Line G, Line B-5, Line J, and Line G-1. While unlikely, the accidental discovery of archaeological resources or human remains at these locations cannot be entirely discounted. In the event of accidental discovery, the following measures be implemented:

- **Accidental Discovery of Archaeological Resources:** If prehistoric or historic-era archaeological resources are encountered, all construction activities within 100 feet will halt. The Zone 7 Water Agency and the USACE will be notified. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might

include deposits of metal, glass, and/or ceramic refuse. A Secretary of the Interior-qualified archaeologist will inspect the findings within 24 hours of discovery. If it is determined that the project could damage a significant archaeological resource, the Zone 7 Water Agency shall re-design the proposed project to avoid any adverse effects. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed HPTP in consultation with the SHPO, the USACE, Zone 7, and, for prehistoric resources, the appropriate Native American representative.

- **Accidental Discovery of Human Remains:** In the event of discovery of any human remains during project activities, such activities within 100 feet of the find shall cease until the Alameda County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission (NAHC) will be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to the USACE and Zone 7 for the appropriate means of treating the human remains and any grave goods.

| VI. GEOLOGY AND SOILS                                                                                                                                                                                                                                                                  | Potentially<br>Significant<br>Impact | Less Than<br>Significant with<br>Mitigation<br>Incorporated | Less Than<br>Significant<br>Impact | No Impact                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------|------------------------------------|-------------------------------------|
| Would the project:                                                                                                                                                                                                                                                                     |                                      |                                                             |                                    |                                     |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:                                                                                                                                                       |                                      |                                                             |                                    |                                     |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking?                                                                                                                                                                                                                                                     | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction?                                                                                                                                                                                                                           | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| iv) Landslides?                                                                                                                                                                                                                                                                        | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?                                                                                                                                                                                                                          | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?                                                     | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

|                                                                                                                                                                                      |                          |                          |                          |                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

## **DISCUSSION**

- a-e) No Impact.** The project area is located in the San Francisco Bay area, a region of high seismic activity. The Calaveras fault—the most significant fault in the Dublin and Pleasanton area, has a 7% probability of producing a magnitude 6.7 or greater earthquake in the next 30 years. The Project is confined to segments of existing stream channels, built upon imported and/or packed materials that are currently subject to natural erosional process and sediment transport during both precipitation events and recharge operations. Slope repairs will stabilize the slopes that have been compromised due to erosion and drainage issues and in some cases will also protect existing maintenance roads and recreational trails. The Project is intended to reinforce unstable areas and therefore, would not result in a significant impact. The sites are non-habitable and would not expose people to injury or death, or risks to life or property. Therefore, this Project will have no impacts to geology or soils.

## **VII. GREENHOUSE GAS EMISSIONS**

Would the project:

| Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|--------------------------------|----------------------------------------------------|------------------------------|-----------|
|--------------------------------|----------------------------------------------------|------------------------------|-----------|

|                                                                                                                                  |                          |                          |                                     |                                     |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?      | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## **DISCUSSION**

- a) **Less than Significant Impact.** Based on the following analysis, construction and operation of the project would not generate greenhouse gas (GHG) emissions, either directly or indirectly, that would have a significant impact on the environment.

### ***Construction***

Construction activities that would be associated with the project would include improvements for flood protection, as well as riparian enhancements. Construction activities that would be associated with the proposed project would occur over the course of approximately 29

workdays, between June 15, 2015, and October 30, 2015. The majority of the project-related GHG emissions would be generated on-site due to the use of heavy-duty off-road equipment, including an excavator, mini excavator, compactor, skip loader, a loader, a water truck, and up to three haul trucks. The equipment operation hours per day and number of required workdays would vary depending on the specific type of equipment and on the construction activity. GHG emissions would also be generated off-site associated with construction worker daily commutes and material and debris hauling.

The BAAQMD's *Revised Draft Options and Justification Report* (BAAQMD, 2009) identifies qualitative and quantitative operations-related thresholds of significance for GHG emissions. For projects other than stationary sources, the qualitative threshold is noncompliance with a qualified climate action plan or qualified general plan. The quantitative threshold is annual operational emissions of more than 1,100 metric tons carbon dioxide equivalent (CO<sub>2</sub>e). For stationary source projects, there is only a quantitative threshold of 10,000 metric tons CO<sub>2</sub>e per year. There is no threshold established for emissions of GHG generated during project construction. However, for a conservative study, this analysis applies the BAAQMD's threshold of 1,100 metric tons CO<sub>2</sub>e per year for non-stationary source projects.

Project construction GHG emissions that would be associated with onsite activity were estimated using the CalEEMod2013.2.2 emissions estimating model. GHG emissions from motor vehicles used during construction were estimated using the EMFAC2014 model for carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) emission factors, and N<sub>2</sub>O emission factors for gasoline and diesel combustion were obtained from The Climate Registry (TCR, 2014). GHG emissions in the form of CO<sub>2</sub>e were calculated by multiplying the estimated total miles travelled by project-related worker vehicles and export and import haul trucks by the GHG emission factors, then multiplying the N<sub>2</sub>O and CH<sub>4</sub> emissions by their respective global warming potential, and then by adding the CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub> emissions.

Estimated construction GHG emissions that would be associated with the project are presented in **Table 5-6**. Refer to **Appendix A** for the assumptions used to estimate GHG construction emissions that would be associated with the project.

**Table 5-6 Construction GHG Emissions Estimate**

| <b>Construction Activity Source</b>  | <b>CO<sub>2</sub>e (metric tons)</b> |
|--------------------------------------|--------------------------------------|
| Line G, Arroyo Mocho (#797)          | 7.16                                 |
| Line B-5, Pleasanton Canal (#794)    | 2.22                                 |
| Line J, South San Ramon Creek (#802) | 6.17                                 |
| Line G-1, Chabot Canal (#804)        | 3.48                                 |
| Line B, Arroyo de la Laguna (#795)   | 1.88                                 |
| Bernal Staging Area Site             | 16.23                                |
| <b>Total Emissions</b>               | <b>43.18</b>                         |
| Significance Threshold (metric tons) | 1,100                                |
| <b>Significant Impact?</b>           | <b>No</b>                            |

As indicated in **Table 5-6** short-term total project construction-related GHG emissions would be up to approximately 43 metric tons CO<sub>2</sub>e, which would be considerably less than BAAQMD's quantitative threshold of 1,100 metric tons CO<sub>2</sub>e per year for non-stationary sources. Therefore, GHG emissions that would be associated with construction of the project would represent a less-than-significant impact.

### **Operations**

Once construction is complete, the project would result in no sources of GHG emissions. Therefore, there would be no change in long-term baseline conditions as a result of the project and there would be no long-term operational impact.

- b) **No Impact.** There are no adopted GHG-related plans, policies, or regulations that would be directly applicable to the project. Therefore, there would be no impact associated with the project conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

| VIII. HAZARDS AND HAZARDOUS MATERIALS                                                                                                                                                                                                                            | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|
| Would the project:                                                                                                                                                                                                                                               |                                |                                                    |                                     |                                     |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?                                                                                                                          | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?                                                                  | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?                                                                                                  | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?                                   | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?                                                                                                      | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

- |                                                                                                                                                                                                                      |                          |                          |                          |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?                                                                                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

## **DISCUSSION**

- a-b) Less Than Significant Impact.** The Project will require the use of certain potentially hazardous materials such as fuels and oils. Fuels and oil would be used by construction equipment. Spills during on-site fueling of equipment or an upset condition, could result in a release of these material into the environment. There will be limited equipment at each site, and equipment will be limited to top of bank. Therefore, impacts from hazardous materials release are considered less than significant.

As a matter of practice, Zone 7 tests soils from project locations prior to the onset of construction to ensure that the soils are suitable for either re-use onsite or for disposal at a local landfill (including transportation). Based on Zone 7's long history of managing these creeks, there are no indications that the soils at the 5 maintenance sites will be found to be contaminated. However, should they be, all applicable hazardous materials safety rules will be followed. Therefore, impacts from hazardous materials release as a result of encountering previously unidentified contaminated soils are considered less than significant.

- c) Less Than Significant Impact.** Two of the work sites (South San Ramon Creek and Chabot Canal) are situated within one-quarter mile of a school. However, the Project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. Therefore, there would be no impact on schools within one-quarter mile of the site related to hazardous emissions or materials.
- d) No Impact.** The project is not included on the hazardous materials sites compiled pursuant to Government Code §65962.5. Therefore, there is no impact with respect to this list.
- e) Less Than Significant Impact.** The five work sites are not located within two miles of an airport.
- f) No Impact.** There are no private airstrips within two miles of the project site. Therefore, there would be no impact with respect to safety at private airstrips.
- g) No Impact.** The project work is in the stream channel, in areas not accessible to cars. The project would not interfere with implementation of an emergency response or evacuation plan. Therefore, there would be no impact with respect to such emergency plans.
- h) No Impact.** The project site is not located in an extreme or high fire risk area. The Project would not result in creation of structures for habitation and would not expose people to wildfires. Therefore, there would be no impact with respect to extreme or high fire risks.

**IX. HYDROLOGY AND WATER QUALITY**

Would the project:

Potentially  
Significant  
ImpactLess Than  
Significant with  
Mitigation  
IncorporatedLess Than  
Significant  
Impact

No Impact

a) Violate any water quality standards or waste discharge requirements?

i) Is the project tributary to an already impaired water body, as listed in the Clean Water Act Section 303(d) list? If so, will it result in an increase in any pollutant for which the water body is already impaired?

☐☐☒☐

ii) Will the proposed project cause or contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?

☐☐☒☐

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

☐☐☐☒

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

☐☐☒☐

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

☐☐☒☐

i) Review the final approved CWP Hydrograph Modification Plan (HMP) to assess the significance of altering existing drainage patterns.

☐☐☒☐

ii) Potentially cause streambed or bank erosion downstream from the project?

☐☐☒☐

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

☐☐☐☒

|                                                                                                                                                                                                                                                                                                                                                                                                     |                          |                          |                                     |                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| i) Would the proposed project result in increased impervious surfaces and associated increased runoff? Does the project meet the NPDES permit's Group 1 or Group 2 criteria? Note that Provision C.3 requirements need to be met in environmental documents. For projects that do not meet Group 1 or Group 2 criteria, consider incorporating appropriate site design and source control measures. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Otherwise substantially degrade water quality?                                                                                                                                                                                                                                                                                                                                                   |                          |                          |                                     |                                     |
| i) Would the proposed project result in an increase in pollutant discharges to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity, and other typical stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).                               | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| ii) Would the proposed project result in significant alternation of receiving water quality during or following construction?                                                                                                                                                                                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iii) Would the proposed project have a potentially significant environmental impact on surface water quality to marine, fresh, or wetland waters?                                                                                                                                                                                                                                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iv) Would the proposed project have a potentially significant adverse impact on ground water quality?                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?                                                                                                                                                                                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?                                                                                                                                                                                                                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow?                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## **DISCUSSION**

- a) **Less Than Significant Impact.** Both Arroyo de la Laguna and Arroyo Mocho are each listed in the Clean Water Act Section 303(d) list as an impaired water body for diazanon. However, the Project should not result in an increase of this pollutant because there will be no additional discharges into the waterbodies as a result of this Project. The Arroyo Mocho has also been

listed under section 303(d) of the Clean Water Act as impaired due to excessive water temperatures; however, the Project will not result in further increases to water temperature.

- b) No Impact.** Two sites are located outside the main groundwater basin for the region, and the three remaining sites are located in areas that do not have high groundwater recharge capacity. Further, project activities will not affect recharge. Therefore, this Project will not deplete or alter groundwater supplies.
- c-e) Less Than Significant Impact.** The Project will not result in any new impervious surface, and is not expected to increase surface runoff. The Project is not expected to result in increased risk of streambed or bank erosion downstream of the project sites. Two sites may require coffer-dams and use of pipes to route flow around the work area. The coffer-dams are temporary and would last only for the duration of work at the site (approximately 7-8 days), after which the coffer-dams would be removed and the channel would return to its pre-construction alignment.
- f) Less Than Significant Impact.** Construction of the proposed project could violate water quality standards or waste discharge requirements should there be an accidental fuel spill, uncontrolled runoff of sediment laden water, or any other construction related soil erosion. This is unlikely, however, as Site #1 is typically dry in summer, sites #2 and #3 will be fully contained by coffer-dams on the upstream and downstream ends, and slide material at sites #4 and #5 has migrated beyond the original slope toe, allowing excavation to occur at the original toe leaving a “natural” berm around the repair such that there will be no impact to the live stream. Further, no equipment will be operated in the channel; all work will be done from the top of bank. BMPs are also in place to prevent loosened materials from being deposited into the waterway and control for dust. Polluted discharges to receiving waters are very unlikely during construction, but would be fully contained and clean-up readily achievable. No impact to groundwater quality is anticipated.
- g-i) No Impact.** The project is contained within the stream channel, which is designed to carry the 100-year storm event. No housing or other structures will be built as part of the project. The project does not include levees or dams and the sites are non-habitable and would not expose people to injury or death, or risks to life or property. Therefore, there is no impact with respect to flooding.
- j) No Impact.** The project area is not in a location affected by seiche, tsunami, or mudflow. Therefore, there is no impact with respect to flooding.

| <b>X. LAND USE AND PLANNING</b>                                                                                                                                                                                                                                                                                   | Potentially<br>Significant<br>Impact | Less Than<br>Significant with<br>Mitigation<br>Incorporated | Less Than<br>Significant<br>Impact | No Impact                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------|------------------------------------|-------------------------------------|
| Would the project:                                                                                                                                                                                                                                                                                                |                                      |                                                             |                                    |                                     |
| a) Physically divide an established community?                                                                                                                                                                                                                                                                    | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the LRDP, general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan?                                                                                                                                                                                                                 | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

**DISCUSSION**

- a) **No Impact.** There is no potential to physically divide an established community; therefore, there would be no impact since there is no established community.
- b) **No Impact.** The Project work sites are located in an existing stream (flood control) channel in Pleasanton and Dublin, CA; the work will not conflict with any other plans or policies.
- c) **No Impact.** The work will not conflict with the East Alameda County Conservation Strategy; therefore, there is no impact.

| <b>XI. MINERAL RESOURCES</b>                                                                                                                                          | Potentially<br>Significant<br>Impact | Less Than<br>Significant with<br>Mitigation<br>Incorporated | Less Than<br>Significant<br>Impact | No Impact                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------|------------------------------------|-------------------------------------|
| Would the project:                                                                                                                                                    |                                      |                                                             |                                    |                                     |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>           | <input checked="" type="checkbox"/> |

**DISCUSSION**

- a-b) **No Impact.** The Project work sites are contained within in existing stream (flood control) channels, and the work is limited to removing “failed” bank material. The Project will have no impact with respect to the loss of availability of mineral resources.

| <b>XII. NOISE</b>                                                                                                                                                                                                                                                   |                                      |                                                             |                                     |                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------|-------------------------------------|
| Would the project result in:                                                                                                                                                                                                                                        | Potentially<br>Significant<br>Impact | Less Than<br>Significant with<br>Mitigation<br>Incorporated | Less Than<br>Significant<br>Impact  | No Impact                           |
| a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?                                                                                    | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?                                                                                                                                                             | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?                                                                                                                                      | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?                                                                                                                          | <input type="checkbox"/>             | <input checked="" type="checkbox"/>                         | <input type="checkbox"/>            | <input type="checkbox"/>            |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?                                                                                                      | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## **DISCUSSION**

- a) **Less than Significant Impact.** Construction noise levels will be intermittent, and will fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. None of the sites require ongoing and/or deafening equipment use that typically exceed noise standards (jack hammers, etc). Given the background traffic and other noises, and the natural attenuation of noise with distance, this is considered a less than significant impact.
- b) **Less Than Significant Impact.** Construction activities do not include blasting or drilling or other activities typically associated with groundborne vibration or groundborne noise. Given the background traffic and other noises, and the natural attenuation of noise with distance, this is considered a less than significant impact.
- c) **No Impact.** Following construction, the project will result in no permanent increase in noise, and therefore there is no impact.
- d) **Less Than Significant Impact with Mitigation.** Construction noise levels will be intermittent, and would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. Much of the work does not require ongoing loud equipment (like jack hammers, etc.). The background traffic and other noises in the area, as well as the natural attenuation of noise with distance, will alleviate much of the nuisance associated with

construction noise. Still, construction would temporarily increase noise levels in the project vicinity. Some land uses are more sensitive to ambient noise levels than others due to the amount of noise exposure and types of activities typically involved. Noise sensitive land uses include residential, mobile home parks, motels and hotels, schools, libraries, churches, hospitals, nursing and convalescent homes, and some parks and cultural facilities. **Mitigation Measure NOI-1** would ensure that equipment noise is controlled to the degree feasible and would reduce potential noise impacts to less-than-significant levels.

**Measure NOI-1:** Noise generating construction work will generally be limited to weekdays from 8a.m. to 5p.m., or as specified in the City's ordinances. All construction work shall be conducted only as prescribed by City permits.

**e-f) No Impact.** The work sites are not within 2 miles of an active airport or private airstrip.

| <b>XIII. POPULATION AND HOUSING</b>                                                                                                                                                                       | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|------------------------------|-------------------------------------|
| Would the project:                                                                                                                                                                                        |                                |                                                    |                              |                                     |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?                                                                                     | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?                                                                                               | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

## **DISCUSSION**

**a-c) No Impact.** Growth inducement impacts will not occur because the project purpose is limited to repairing existing flood control channels. No existing housing will be displaced necessitating construction of replacement housing. No people will be displaced. Therefore, there are no impacts with respect to population/housing.

| <b>XIV. PUBLIC SERVICES</b>                                                                                                                                                                                                                                                                                                                                                                                                 | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|------------------------------|-----------|
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: |                                |                                                    |                              |           |

|                          |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Fire protection?         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Police protection?       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Schools?                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Parks?                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**DISCUSSION**

- a) **No Impact.** The proposed project would not necessitate the need for alteration of public services or facilities. Therefore, no physical or environmental impacts associated with the provision of new or altered governmental facilities would result.

| <b>XV. RECREATION</b>                                                                                                                                                                                          | Potentially<br>Significant<br>Impact | Less Than<br>Significant with<br>Mitigation<br>Incorporated | Less Than<br>Significant<br>Impact  | No Impact                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------|--------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?                        | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**DISCUSSION**

- a-b) **Less than Significant Impact.** Three of the five work sites are normally open to the public as part of the local trail systems. Two of the sites (Pleasanton Canal and Arroyo Mocho) will be closed to foot traffic for about a week during construction. It's not expected that this short period of closure will have any noticeable impact on other recreational facilities, nor will this repair alter the recreation use at these sites. Therefore, impacts are considered less than significant.

| <b>XVI. TRANSPORTATION/TRAFFIC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                      |                                                             |                                     |                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------|-------------------------------------|
| Would the project:                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Potentially<br>Significant<br>Impact | Less Than<br>Significant with<br>Mitigation<br>Incorporated | Less Than<br>Significant<br>Impact  | No Impact                           |
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Conflict with an applicable congestion management program, including, but not limited to a level of service standard and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?                                                                                                                                                                                                                | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access?                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Conflict with applicable policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>             | <input type="checkbox"/>                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## **DISCUSSION**

**a,b) Less Than Significant Impact.** The work sites are all easily accessible by major city streets. All work and storage areas will be within Zone 7's maintenance road. No street closures are planned.

Off-site vehicle trips generated by construction would primarily consist of truck movements associated with transporting the heavy equipment to the site, transport of soil and other materials to and from the project site, and the daily arrival and departure of construction workers. The impact of construction-related traffic would be a temporary – about a week for each site. At each work site, there will be a fairly steady stream of haul trucks entering and exiting the site on most days (see Tables 2-4 through 2-8). Over the course of 4 to 8 days, depending on the site, this is not a significant increase in local traffic. As a result, the proposed

project would not result in any long-term degradation in operating conditions or level of service on any project roadway.

In addition to construction truck trips, construction activities would require approximately three to five construction employees, who would generate about six to ten one-way commute trips per day (three to five inbound in the morning, and three to five outbound in the afternoon). As stated above, there are major arterial streets surrounding the project work sites, and the temporary addition of construction employee trips would not adversely affect traffic flow conditions. Therefore, vehicle trips associated with construction employees are considered a less than significant impact.

- c) **No Impact.** The project is not located near an airport; further, the project will not impact the air traffic since the project will not involve erecting structures that could impede flight path or radio signals.
- d) **No Impact.** The proposed project would not include any permanent design features (e.g., new facilities or obstructions) within public roadways or alterations of existing roadway features (e.g., road realignment) that would create a permanent and substantial design hazard.
- e) **No Impact.** All work will occur on Zone 7's channel maintenance roads and therefore will not affect emergency access.
- f) **No Impact.** The project will require parking for construction workers. There is adequate parking to accommodate the approximately three to six daily construction workers within the project area or nearby street parking. Therefore, there is no impact with respect to parking.
- g) **No Impact.** The project is limited to repairing existing stream (flood control) channels and as such will have no impact on public transit, bicycle, or pedestrian facilities.

| <b>XVI. UTILITIES AND SERVICE SYSTEMS</b>                                                                                                                                                              |                                |                                                    |                              |                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|------------------------------|-------------------------------------|
| Would the project:                                                                                                                                                                                     | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact                           |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?                                                                                                    | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?          | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?                                                 | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

|                                                                                                                                                                                                                                   |                          |                          |                          |                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?                                                                                                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?                                                                                                                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**DISCUSSION**

- a-g) No Impact.** The Project is limited to stream (flood control) channel bank repair. Activities will not require water or wastewater service onsite. Therefore, no expansion of existing or construction of new water or wastewater facilities would be required, and wastewater treatment requirements would not be exceeded. The project will not result in the construction of new storm water drainage facilities. Finally, there will be no solid waste generated as a result of this project, and therefore there would be no impact on water, wastewater, or solid waste disposal services.

| <b>XVII. MANDATORY FINDINGS OF SIGNIFICANCE</b>                                                                                                                                                                                                                                                                                                                                                                                                          | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact        | No Impact                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-------------------------------------|--------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?                                                                                                           | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**DISCUSSION**

- a) Less Than Significant Impact.** Without mitigation, the proposed project does have the potential to temporarily degrade the quality of the environment during construction activities. However,

with the mitigation measures included as part of this Initial Study, all potentially significant impacts would be reduced to a less-than significant level.

- b) **Less Than Significant Impact.** Potential impacts associated with the proposed project are related to construction activities, and are therefore temporary. Due to the limited scope of the proposed activities, the proposed project would not contribute to cumulatively considerable impacts. Therefore, potential impacts are considered to be less than significant.
- c) **Less Than Significant Impact.** Without mitigation, the proposed project does have the potential to adversely affect human beings, primarily through activities related to project construction. However, these impacts would be temporary (lasting only for the duration of construction) and the mitigation measures included as part of this Initial Study would reduce these potential impacts to a less-than-significant level.

#### **XVIII. FISH AND GAME DETERMINATION**

Based on the information above, there is no evidence that the project has a potential for a change that would adversely affect wildlife resources or the habitat upon which the wildlife depends. The presumption of adverse effect set forth in 14 CCR 753.5 (d) has been rebutted by substantial evidence.

- ☐ Yes (Certificate of Fee Exemption)  
☒ No (Pay fee)

## 6 PUBLIC COMMENTS

A notice of the Draft Initial Study/ Mitigated Negative Declaration document was mailed to agencies and interested parties, including property owners adjacent to the proposed Project site. It was also made available at the public library in Livermore, and noticed in the Valley Times newspaper. The 30-day public review period was June 29, 2015 through July 30, 2015.

Following is a summary of comments and responses received through July 30, 2015 (letters follow).

### Letter 1: California Department of Transportation:

- Comment 1-1: State mitigation responsibility on Caltrans right-of-way.
  - Response 1-1: Noted. Project is not in State right-of-way and therefore there are no shared responsibilities, costs, etc. with Caltrans.
- Comment 1-2: Request additional information and analysis on the paleontological resources.
  - Response 1-2: The cultural resources report was provided to Caltrans, as will the cultural resources monitoring plan on its completion. (Note: given the sensitive nature of these topics, these items are not included as part of the IS/MND but are available on request.) The project entails relatively shallow digging within limited segments of engineered channels built in the last 50 years; as such, it is unlikely that the project will disturb any unique paleontological resources or unique geologic features.
- Comment 1-3: Encroachment permit needed if work or traffic control encroaches onto the State right-of-way.
  - Response 1-3: Noted. The project is not within the State right-of-way and therefore an encroachment permit is not needed.

### Letter 2: California Department of Toxic Substances Control:

- Comment 2-1: Hazardous materials section in IS/MND needs to address any testing of soils that may be reused or hauled off-site for disposal.
  - Response 2-1: As a matter of practice, Zone 7 tests soils at project locations prior to the onset of construction to ensure that the soils are suitable for either re-use onsite or for disposal at a local landfill (including transportation). Based on Zone 7's long history of managing these creeks, there are no indications that the soils at the 5 maintenance sites will be found to be contaminated. However, should they be, all applicable hazardous materials safety rules will be followed. Therefore, impacts from hazardous materials release as a result of encountering previously unidentified contaminated soils are considered less than significant.

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

**DEPARTMENT OF TRANSPORTATION**

DISTRICT 4  
P.O. BOX 23660  
OAKLAND, CA 94623-0660  
PHONE (510) 286-5528  
FAX (510) 286-5559  
TTY 711  
www.dot.ca.gov



*Serious Drought  
Help save water!*

July 27, 2015

ALA680375  
ALA-680-R17.2, 18.0  
SCH# 2015062088

Ms. Elke Rank  
Zone 7 Water Agency  
100 North Canyons Parkway  
Livermore, CA 94551

**Stream Maintenance – Priority Projects 2015 – Mitigated Negative Declaration**

Dear Ms. Rank:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the project referenced above. The goal of this project is to repair eroded banks and access roads at five flood control channel sites along Arroyo Mocho, Pleasanton Canal, South San Ramon Creek, Chabot Canal, and Arroyo de la Laguna - and effectively restore these sites to Zone 7 Water Agency standards for flood control protection and maintenance access. The 2015 maintenance activities include five bank repair projects on engineered flood control channels. Two worksite locations, Line B-5, Pleasanton Canal and Line B, Arroyo de la Laguna, are located immediately adjacent to Interstate 680. Caltrans' comments seek to promote the State's new mission, vision, and smart mobility goals for sustainability, livability, economy, safety and health. We have reviewed the Mitigated Negative Declaration (MND) and have the following comments to offer.

***Mitigation Responsibility***

As the lead agency, the Zone 7 Water Agency is responsible for identifying and ensuring the coordinated implementation of all project mitigations. The project's fair share contribution, financing, scheduling, implementation responsibilities associated with planned improvements on Caltrans Right of Way should be listed, in addition to identifying viable funding sources per General Plan Guidelines.

1-1

***Cultural Resources***

Please elaborate on how the project's environmental impact related to paleontological resources is incorporated within the Cultural Resources analysis and provide further discussion in the MND.

1-2

Caltrans requests a copy of the monitoring plan and report completed for Mitigation Measure CULT-1 and requires review of any potential data recovery plans within State Right of Way.

*"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"*

Ms. Elke Rank, Zone 7 Water Agency  
July 27, 2015  
Page 2

Should construction activities within State Right of Way take place in relation to this project, the mitigation measures outlined in the MND will be implemented if there is an archaeological discovery. If there is an inadvertent archaeological or burial discovery within State Right of Way, the Caltrans Office of Cultural Resource Studies shall be immediately contacted at (510) 286-6336. A staff archaeologist will evaluate the finds within one business day after contact.

1-2

***Encroachment Permit***

Please be advised that any work or traffic control that encroaches onto the State Right of Way (ROW) requires an encroachment permit that is issued by Caltrans. Where construction-related traffic restrictions and detours affect State highways, a Transportation Management Plan or construction Traffic Impact Study may be required. Traffic-related mitigation measures should be incorporated into the construction plans prior to the encroachment permit process. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating State ROW must be submitted to the following address: David Salladay, District Office Chief, Office of Permits, California Department of Transportation, District 4, P.O. Box 23660, Oakland, CA 94623-0660. See the following website for more information:  
<http://www.dot.ca.gov/hq/traffops/developserv/permits>.

1-3

Should you have any questions regarding this letter or require additional information, please contact Sherie George at (510) 286-5535 or by email at: [sherie.george@dot.ca.gov](mailto:sherie.george@dot.ca.gov).

Sincerely,



PATRICIA MAURICE  
Acting District Branch Chief  
Local Development - Intergovernmental Review

c: State Clearinghouse

*"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"*



**Matthew Rodriguez**  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

**Barbara A. Lee, Director**  
700 Heinz Avenue  
Berkeley, California 94710-2721



**Edmund G. Brown Jr.**  
Governor

July 21, 2015

Ms. Elke Rank  
Zone 7, Alameda County Flood Control and Water District  
100 North Canyons Parkway  
Livermore, California 94566

Dear Ms. Rank:

Thank you for the opportunity to comment on the Mitigated Negative Declaration (MND) for the Zone 7, Alameda County Flood Control and Water Conservation District Stream Maintenance – Priority Projects 2015 (Projects). The Projects involve repair of eroded banks and access roads at five flood control channel sites along Arroyo Mocho, Pleasanton Canal, South San Ramon Creek, Chabot Canal, and Arroyo de la Laguna in Pleasanton and Dublin.

As you may be aware, the California Department of Toxic Substances Control (DTSC) oversees the cleanup of sites where hazardous substances have been released pursuant to the California Health and Safety Code, Division 20, Chapter 6.8. As a Responsible Agency, DTSC is submitting comments to ensure that the environmental documentation prepared for this project under the California Environmental Quality Act (CEQA) adequately addresses activities pertaining to releases of hazardous substances.

On pages 53-54 of the MND, the hazardous materials section should address testing any soils which may be reused or hauled off-site for disposal in order to ensure that contaminated material is not replaced and to identify the correct disposal location. If previously unidentified hazardous substances are encountered, they will need to be addressed as part of this project. For example, if hazardous substances were encountered, the project should include: (1) an assessment of air impacts and health impacts associated with the excavation activities; (2) identification of any applicable local standards which may be exceeded by the excavation or demolition activities, including dust levels and noise; (3) transportation impacts from the removal activities; and (4) risk of public upset should there be an accident at the Site.

2-1

Ms. Rank  
July 21, 2015  
Page 2 of 2

If you have any questions or would like to schedule a meeting, please contact Tom Price of my staff at (510) 540-3811. Thank you in advance for your cooperation in this matter.

Sincerely,



Karen M. Toth, P.E., Unit Chief  
Brownfields and Environmental Restoration Program  
Berkeley Office

cc: Governor's Office of Planning and Research  
State Clearinghouse  
P. O. Box 3044  
Sacramento, CA 95812-3044

Jackie Buttle  
Office of Planning and Environmental Analysis  
Department of Toxic Substances Control  
P.O. Box 806  
Sacramento, California 95812-0806

## 7 MITIGATION MONITORING AND REPORTING PLAN

The Mitigation Monitoring and Reporting Plan (MMRP) is included as Appendix C; it identifies the implementation procedure, monitoring and reporting actions, monitoring responsibility, and monitoring schedule for all mitigations measures.

## 8 REFERENCES

- Alameda County, 2000. Alameda County General Plan, East County Area Plan. Alameda County Community Development Agency. Revised by Initiative Nov. 2000.
- BAAQMD, 2010, *Bay Area 2010 Clean Air Plan, Final Clean Air Plan Volume 1*, adopted September 15, 2010.
- BAAQMD, 2012. *CEQA Air Quality Guidelines*, Updated May 2012.
- BAAQMD, 2015a. Air Monitoring Data webpage (<http://www.baaqmd.gov>), 2014 historical data for Livermore – Rincon Avenue, last updated February 2, 2015.
- BAAQMD, 2015b. *Ambient Air Quality Standards & Bay Area Attainment Status*, obtained online ([http://hank.baaqmd.gov/pln/air\\_quality/ambient\\_air\\_quality.htm](http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm)) March 2015b.
- Bay Area Air Quality Management District (BAAQMD), 2009. Revised *Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October, 2009.
- Bay Area Air Quality Management District (BAAQMD), 2009. *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October, 2009.
- California Air Resources Board (CARB), 2015. iADAM Air Quality Data Statistics. [<http://www.arb.ca.gov/adam/index.html>] Accessed March 2, 2015.
- California Department of Fish and Wildlife (CDFW), 2015. California Natural Diversity Database for the Livermore and Dublin 7.5 minute USGS topographic quadrangles, Commercial Version, accessed February, 24, 2015.
- California Native Plant Society (CNPS). 2015. Electronic Inventory of Rare and Endangered Plants of California, data request for the Livermore and Dublin 7.5-minute USGS topographic quadrangles. Available online at: <http://www.cnps.org/inventory>. Accessed February 24, 2015.
- Environmental Science Associates (ESA). 2012. Alameda County Flood Control and Water Conservation District, Zone 7, 2012 Maintenance Projects California Red-legged Frog Survey Report. Prepared for the Zone 7 Water Agency, August 2012
- Environmental Science Associates (ESA). 2014. Alameda County Flood Control and Water Conservation District, Zone 7 Water Agency 2014 Maintenance Projects, California Red-legged Frog Protocol-level Survey Report, Prepared for the Zone 7 Water Agency, July 2014.
- Environmental Science Associates (ESA). 2015a. Alameda County Flood Control and Water Conservation District, Zone 7 Water Agency 2015 Maintenance Projects, Preliminary Delineation of Waters of the United States, Prepared for the Zone 7 Water Agency, March, 2015.

- Environmental Science Associates (ESA). 2015b. Alameda County Flood Control and Water Conservation District, Zone 7 Water Agency 2015 Maintenance Projects, California Red-legged Frog Protocol-level Survey Report, Prepared for the Zone 7 Water Agency, May, 2015.
- Office of Environmental Health Hazard Assessment (OEHHA). 2003. *Air Toxics Hot Spots Program Risk Assessment Guidelines: The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. August, 2003.
- Shuford, W. D., and Gardali, T., editors, 2008. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California, Studies of Western Birds 1, Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.
- The Climate Registry (TCR), 2014. 2014 Climate Registry Default Emission Factors, released April 11, 2014.
- U.S. Fish and Wildlife Service (USFWS), 2015. Endangered Species List for the Livermore and Dublin 7.5 minute USGS topographic quadrangles, accessed February 24, 2015.
- U.S. Fish and Wildlife Service (USFWS). 2002. Final Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). Region 1, Portland, OR. viii + 173 pp, 2002.
- U.S. Fish and Wildlife Service (USFWS). 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog. August 2005.

## **Appendix A: Air Quality and Greenhouse Gas Evaluation**



## 1. Emissions Summaries

### Total Maximum Daily Criteria Pollutant Construction Emissions

| Emissions Source                     | Total Daily Emissions (pounds) |                 |                  |                   |
|--------------------------------------|--------------------------------|-----------------|------------------|-------------------|
|                                      | ROG                            | NO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Line G, Arroyo Mocho (#797)          | 0.85                           | 8.78            | 0.40             | 0.36              |
| Line B-5, Pleasanton Canal (#794)    | 1.58                           | 19.09           | 0.84             | 0.75              |
| Line J, South San Ramon Creek (#802) | 1.63                           | 20.65           | 0.88             | 0.78              |
| Line F-4 (#701 and #793)             | 1.62                           | 20.34           | 0.87             | 0.78              |
| Line G-1, Chabot Canal (#804)        | 1.60                           | 19.72           | 0.85             | 0.76              |
| Line B, Arroyo de la Laguna (#795)   | 1.50                           | 16.86           | 0.77             | 0.70              |
| Bernal Staging Area Site             | 1.08                           | 12.12           | 0.61             | 0.56              |
| <b>Total Maximum Daily Emissions</b> | <b>2.72</b>                    | <b>32.78</b>    | <b>1.49</b>      | <b>1.34</b>       |
| Significance Thresholds              | 54                             | 54              | 82               | 54                |
| Significant Impact?                  | No                             | No              | No               | No                |

### Total Combined Annual GHG Construction Emissions

| Emissions Source                     | CO <sub>2</sub> e (metric tons) |
|--------------------------------------|---------------------------------|
| Line G, Arroyo Mocho (#797)          | 7.16                            |
| Line B-5, Pleasanton Canal (#794)    | 2.22                            |
| Line J, South San Ramon Creek (#802) | 6.17                            |
| Line F-4 (#701 and #793)             | 6.04                            |
| Line G-1, Chabot Canal (#804)        | 3.48                            |
| Line B, Arroyo de la Laguna (#795)   | 1.88                            |
| Bernal Staging Area Site             | 16.23                           |
| <b>Total Emissions</b>               | <b>43.18</b>                    |
| Significance Thresholds              | 1,100                           |
| Significant Impact?                  | No                              |

## 2. Emission Summaries and Worker Vehicle and Truck Emissions

### On-Road Vehicle Criteria Pollutant Emission Factors

| Vehicle Type (calendar year) | grams/mile |                 |        |        |
|------------------------------|------------|-----------------|--------|--------|
|                              | ROG        | NO <sub>x</sub> | PM10*  | PM2.5* |
| Light duty truck (2015)      | 0.0323     | 0.1903          | 0.0463 | 0.0191 |
| Heavy Diesel Truck (2015)    | 0.3523     | 9.4479          | 0.2836 | 0.2133 |

\*PM10 and PM2.5 emission factors include tire and break wear.

Vehicle emission factors were obtained from EMFAC2014.

Light duty truck = LDT2

### On-Road Vehicle GHG Emission Factors

| Vehicle Type (calendar year) | grams/mile      |                 |                  |
|------------------------------|-----------------|-----------------|------------------|
|                              | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O |
| Light duty truck (2015)      | 443.8821        | 0.0103          | 0.0871           |
| Heavy Diesel Truck (2015)    | 1639.2672       | 0.0164          | 0.0048           |

Notes:

Vehicle emission factors for CO<sub>2</sub> and CH<sub>4</sub> are from EMFAC2014 (see appendix section 3, EMFAC2014 Emission Factors., N<sub>2</sub>O emission factors are from TCR, 2014.

Light duty truck = LDT2; Heavy diesel truck = T7 tractor construction.

Reference:

The Climate Registry (TCR), 2014. 2014 Climate Registry Default Emission Factors, Table 13.4. Released: April 11, 2014.

## Line G, Arroyo Mocho (#797)

### Criteria Pollutant Emissions Summary

| Emissions Source                | Total Emissions (pounds/day) |                 |      |       |
|---------------------------------|------------------------------|-----------------|------|-------|
|                                 | ROG                          | NO <sub>x</sub> | PM10 | PM2.5 |
| Off-road Equipment and Vehicles | 0.80                         | 7.74            | 0.35 | 0.33  |
| Worker Commute Truck Haul Trips | 0.05                         | 1.04            | 0.05 | 0.03  |
| Total                           | 0.85                         | 8.78            | 0.40 | 0.36  |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

### Worker Commute and Truck Haul Trip Criteria Pollutant Emissions

| Vehicle Type               | Trips/day | miles/trip | ROG  | NO <sub>x</sub> | PM10 | PM2.5 |
|----------------------------|-----------|------------|------|-----------------|------|-------|
| Light-Duty Gasoline Trucks | 5         | 50         | 0.02 | 0.10            | 0.03 | 0.01  |
| Heavy-Duty Diesel Trucks   | 5         | 9          | 0.03 | 0.94            | 0.03 | 0.02  |
| Total (pounds/day)         |           |            | 0.05 | 1.04            | 0.05 | 0.03  |

Five construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day. One dump truck would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 9 miles).

### GHG Emissions Summary

| Emissions Source                | CO <sub>2</sub> e |
|---------------------------------|-------------------|
|                                 | (metric tons)     |
| Off-road Equipment and Vehicles | 4.86              |
| Worker Commute Truck Haul Trips | 2.30              |
| Total                           | 7.16              |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

### Worker Commute and Truck Haul Trip GHG Emissions

| Vehicle Type               | Trips | miles/trip | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | CO <sub>2</sub> e |
|----------------------------|-------|------------|-----------------|-----------------|------------------|-------------------|
| Light-Duty Gasoline Trucks | 60    | 50         | 1.33            | 0.00            | 0.00             | 1.41              |
| Heavy-Duty Diesel Trucks   | 60    | 9          | 0.89            | 0.00            | 0.00             | 0.89              |
| Total (metric tons/year)   |       |            | 2.22            | 0.00            | 0.00             | 2.30              |

Five construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day for 12 days. One dump truck would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 9 miles) for 12 days.

Global Warming Potential for CH<sub>4</sub> = 25; GWP for N<sub>2</sub>O = 298 (CARB, 2014).

**Line B-5, Pleasanton Canal (#794)****Criteria Pollutant Emissions Summary**

| Emissions Source                | Total Emissions (pounds/day) |                 |      |       |
|---------------------------------|------------------------------|-----------------|------|-------|
|                                 | ROG                          | NO <sub>x</sub> | PM10 | PM2.5 |
| Off-road Equipment and Vehicles | 1.48                         | 16.82           | 0.75 | 0.69  |
| Worker Commute Truck Haul Trips | 0.10                         | 2.27            | 0.09 | 0.06  |
| Total                           | 1.58                         | 19.09           | 0.84 | 0.75  |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

**Worker Commute and Truck Haul Trip Criteria Pollutant Emissions**

| Vehicle Type               | Trips/day | miles/trip | ROG  | NO <sub>x</sub> | PM10 | PM2.5 |
|----------------------------|-----------|------------|------|-----------------|------|-------|
| Light-Duty Gasoline Trucks | 4         | 50         | 0.01 | 0.08            | 0.02 | 0.01  |
| Heavy-Duty Diesel Trucks   | 15        | 7          | 0.08 | 2.19            | 0.07 | 0.05  |
| Total (pounds/day)         |           |            | 0.10 | 2.27            | 0.09 | 0.06  |

Four construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day. Three dump trucks would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 7 miles).

**GHG Emissions Summary**

| Emissions Source                | CO <sub>2</sub> e<br>(metric tons) |
|---------------------------------|------------------------------------|
|                                 |                                    |
| Off-road Equipment and Vehicles | 1.69                               |
| Worker Commute Truck Haul Trips | 0.53                               |
| Total                           | 2.22                               |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

**Worker Commute and Truck Haul Trip GHG Emissions**

| Vehicle Type               | Trips | miles/trip | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | CO <sub>2</sub> e |
|----------------------------|-------|------------|-----------------|-----------------|------------------|-------------------|
| Light-Duty Gasoline Trucks | 8     | 50         | 0.18            | 0.00            | 0.00             | 0.19              |
| Heavy-Duty Diesel Trucks   | 30    | 7          | 0.34            | 0.00            | 0.00             | 0.34              |
| Total (metric tons/year)   |       |            | 0.52            | 0.00            | 0.00             | 0.53              |

Four construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day for 2 days. Three dump trucks would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 7 miles) for 2 days.

Global Warming Potential for CH<sub>4</sub> = 25; GWP for N<sub>2</sub>O = 298 (CARB, 2014).

**Line J, South San Ramon Creek (#802)****Criteria Pollutant Emissions Summary**

| Emissions Source                | Total Emissions (pounds/day) |                 |      |       |
|---------------------------------|------------------------------|-----------------|------|-------|
|                                 | ROG                          | NO <sub>x</sub> | PM10 | PM2.5 |
| Off-road Equipment and Vehicles | 1.48                         | 16.82           | 0.75 | 0.69  |
| Worker Commute Truck Haul Trips | 0.15                         | 3.83            | 0.13 | 0.09  |
| Total                           | 1.63                         | 20.65           | 0.88 | 0.78  |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

**Worker Commute and Truck Haul Trip Criteria Pollutant Emissions**

| Vehicle Type               | Trips/day | miles/trip | ROG  | NO <sub>x</sub> | PM10 | PM2.5 |
|----------------------------|-----------|------------|------|-----------------|------|-------|
| Light-Duty Gasoline Trucks | 4         | 50         | 0.01 | 0.08            | 0.02 | 0.01  |
| Heavy-Duty Diesel Trucks   | 15        | 12         | 0.14 | 3.75            | 0.11 | 0.08  |
| Total (pounds/day)         |           |            | 0.15 | 3.83            | 0.13 | 0.09  |

Four construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day. Three dump trucks would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 12 miles).

**GHG Emissions Summary**

| Emissions Source                | CO <sub>2</sub> e |
|---------------------------------|-------------------|
|                                 | (metric tons)     |
| Off-road Equipment and Vehicles | 4.22              |
| Worker Commute Truck Haul Trips | 1.95              |
| Total                           | 6.17              |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

**Worker Commute and Truck Haul Trip GHG Emissions**

| Vehicle Type               | Trips | miles/trip | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | CO <sub>2</sub> e |
|----------------------------|-------|------------|-----------------|-----------------|------------------|-------------------|
| Light-Duty Gasoline Trucks | 20    | 50         | 0.44            | 0.00            | 0.00             | 0.47              |
| Heavy-Duty Diesel Trucks   | 75    | 12         | 1.48            | 0.00            | 0.00             | 1.48              |
| Total (metric tons/year)   |       |            | 1.92            | 0.00            | 0.00             | 1.95              |

Four construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day for 5 days. Three dump trucks would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 12 miles) for 5 days.

Global Warming Potential for CH<sub>4</sub> = 25; GWP for N<sub>2</sub>O = 298 (CARB, 2014).

**Line F-4 (#701 and #793)****Criteria Pollutant Emissions Summary**

| Emissions Source                | Total Emissions (pounds/day) |                 |      |       |
|---------------------------------|------------------------------|-----------------|------|-------|
|                                 | ROG                          | NO <sub>x</sub> | PM10 | PM2.5 |
| Off-road Equipment and Vehicles | 1.48                         | 16.82           | 0.75 | 0.69  |
| Worker Commute Truck Haul Trips | 0.14                         | 3.52            | 0.12 | 0.09  |
| Total                           | 1.62                         | 20.34           | 0.87 | 0.78  |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

**Worker Commute and Truck Haul Trip Criteria Pollutant Emissions**

| Vehicle Type               | Trips/day | miles/trip | ROG  | NO <sub>x</sub> | PM10 | PM2.5 |
|----------------------------|-----------|------------|------|-----------------|------|-------|
| Light-Duty Gasoline Trucks | 4         | 50         | 0.01 | 0.08            | 0.02 | 0.01  |
| Heavy-Duty Diesel Trucks   | 15        | 11         | 0.13 | 3.44            | 0.10 | 0.08  |
| Total (pounds/day)         |           |            | 0.14 | 3.52            | 0.12 | 0.09  |

Four construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day. Three dump trucks would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 11 miles).

**GHG Emissions Summary**

| Emissions Source                | CO <sub>2</sub> e |
|---------------------------------|-------------------|
|                                 | (metric tons)     |
| Off-road Equipment and Vehicles | 4.22              |
| Worker Commute Truck Haul Trips | 1.82              |
| Total                           | 6.04              |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

**Worker Commute and Truck Haul Trip GHG Emissions**

| Vehicle Type               | Trips | miles/trip | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | CO <sub>2</sub> e |
|----------------------------|-------|------------|-----------------|-----------------|------------------|-------------------|
| Light-Duty Gasoline Trucks | 20    | 50         | 0.44            | 0.00            | 0.00             | 0.47              |
| Heavy-Duty Diesel Trucks   | 75    | 11         | 1.35            | 0.00            | 0.00             | 1.35              |
| Total (metric tons/year)   |       |            | 1.80            | 0.00            | 0.00             | 1.82              |

Four construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day for 5 days. Three dump trucks would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 11 miles) for 5 days.

Global Warming Potential for CH<sub>4</sub> = 25; GWP for N<sub>2</sub>O = 298 (CARB, 2014).

**Line G-1, Chabot Canal (#804)****Criteria Pollutant Emissions Summary**

| Emissions Source                | Total Emissions (pounds/day) |                 |      |       |
|---------------------------------|------------------------------|-----------------|------|-------|
|                                 | ROG                          | NO <sub>x</sub> | PM10 | PM2.5 |
| Off-road Equipment and Vehicles | 1.48                         | 16.82           | 0.75 | 0.69  |
| Worker Commute Truck Haul Trips | 0.12                         | 2.90            | 0.10 | 0.07  |
| Total                           | 1.60                         | 19.72           | 0.85 | 0.76  |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

**Worker Commute and Truck Haul Trip Criteria Pollutant Emissions**

| Vehicle Type               | Trips/day | miles/trip | ROG  | NO <sub>x</sub> | PM10 | PM2.5 |
|----------------------------|-----------|------------|------|-----------------|------|-------|
| Light-Duty Gasoline Trucks | 4         | 50         | 0.01 | 0.08            | 0.02 | 0.01  |
| Heavy-Duty Diesel Trucks   | 15        | 9          | 0.10 | 2.81            | 0.08 | 0.06  |
| Total (pounds/day)         |           |            | 0.12 | 2.90            | 0.10 | 0.07  |

Four construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day. Three dump trucks would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 9 miles).

**GHG Emissions Summary**

| Emissions Source                | CO <sub>2</sub> e |
|---------------------------------|-------------------|
|                                 | (metric tons)     |
| Off-road Equipment and Vehicles | 2.53              |
| Worker Commute Truck Haul Trips | 0.95              |
| Total                           | 3.48              |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

**Worker Commute and Truck Haul Trip GHG Emissions**

| Vehicle Type               | Trips | miles/trip | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | CO <sub>2</sub> e |
|----------------------------|-------|------------|-----------------|-----------------|------------------|-------------------|
| Light-Duty Gasoline Trucks | 12    | 50         | 0.27            | 0.00            | 0.00             | 0.28              |
| Heavy-Duty Diesel Trucks   | 45    | 9          | 0.66            | 0.00            | 0.00             | 0.66              |
| Total (metric tons/year)   |       |            | 0.93            | 0.00            | 0.00             | 0.95              |

Four construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day for 3 days. Three dump trucks would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 9 miles) for 3 days.

Global Warming Potential for CH<sub>4</sub> = 25; GWP for N<sub>2</sub>O = 298 (CARB, 2014).

**Line B, Arroyo de la Laguna (#795)****Criteria Pollutant Emissions Summary**

| Emissions Source                | Total Emissions (pounds/day) |                 |      |       |
|---------------------------------|------------------------------|-----------------|------|-------|
|                                 | ROG                          | NO <sub>x</sub> | PM10 | PM2.5 |
| Off-road Equipment and Vehicles | 1.48                         | 16.82           | 0.75 | 0.69  |
| Worker Commute Truck Haul Trips | 0.02                         | 0.04            | 0.02 | 0.01  |
| Total                           | 1.50                         | 16.86           | 0.77 | 0.70  |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

**Worker Commute and Truck Haul Trip Criteria Pollutant Emissions**

| Vehicle Type               | Trips/day | miles/trip | ROG  | NO <sub>x</sub> | PM10 | PM2.5 |
|----------------------------|-----------|------------|------|-----------------|------|-------|
| Light-Duty Gasoline Trucks | 4         | 50         | 0.01 | 0.00            | 0.02 | 0.01  |
| Heavy-Duty Diesel Trucks   | 15        | 0.11       | 0.00 | 0.04            | 0.00 | 0.00  |
| Total (pounds/day)         |           |            | 0.02 | 0.04            | 0.02 | 0.01  |

Four construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day. Three dump trucks would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 600 feet).

**GHG Emissions Summary**

| Emissions Source                | CO <sub>2</sub> e |
|---------------------------------|-------------------|
|                                 | (metric tons)     |
| Off-road Equipment and Vehicles | 1.69              |
| Worker Commute Truck Haul Trips | 0.19              |
| Total                           | 1.88              |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

**Worker Commute and Truck Haul Trip GHG Emissions**

| Vehicle Type               | Trips | miles/trip | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | CO <sub>2</sub> e |
|----------------------------|-------|------------|-----------------|-----------------|------------------|-------------------|
| Light-Duty Gasoline Trucks | 8     | 50         | 0.18            | 0.00            | 0.00             | 0.19              |
| Heavy-Duty Diesel Trucks   | 30    | 0.11       | 0.01            | 0.00            | 0.00             | 0.01              |
| Total (metric tons/year)   |       |            | 0.18            | 0.00            | 0.00             | 0.19              |

Four construction crew members would commute average of 25 miles (50 miles roundtrip) to the site each day for 2 days. Three dump trucks would make 5 trips per day to the Bernal Staging site (roundtrip estimated to be approximately 600 feet) for 2 days.

Global Warming Potential for CH<sub>4</sub> = 25; GWP for N<sub>2</sub>O = 298 (CARB, 2014).

## Bernal Staging Area Site

### Criteria Pollutant Emissions Summary

| Emissions Source                | Total Emissions (pounds/day) |                 |      |       |
|---------------------------------|------------------------------|-----------------|------|-------|
|                                 | ROG                          | NO <sub>x</sub> | PM10 | PM2.5 |
| Off-road Equipment and Vehicles | 1.07                         | 12.04           | 0.59 | 0.55  |
| Worker Commute                  | 0.01                         | 0.08            | 0.02 | 0.01  |
| Total                           | 1.08                         | 12.12           | 0.61 | 0.56  |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

### Worker Commute and Truck Haul Trip Criteria Pollutant Emissions

| Vehicle Type               | Trips/day | miles/trip | ROG  | NO <sub>x</sub> | PM10 | PM2.5 |
|----------------------------|-----------|------------|------|-----------------|------|-------|
| Light-Duty Gasoline Trucks | 4         | 50         | 0.01 | 0.08            | 0.02 | 0.01  |
| Total (pounds/day)         |           |            | 0.01 | 0.08            | 0.02 | 0.01  |

One construction crew member would commute average of 25 miles (50 miles roundtrip) to the site each day.

### GHG Emissions Summary

| Emissions Source                | CO <sub>2</sub> e |
|---------------------------------|-------------------|
|                                 | (metric tons)     |
| Off-road Equipment and Vehicles | 15.83             |
| Worker Commute                  | 0.40              |
| Total                           | 16.23             |

For Off-road Equipment and Vehicle Emissions see CalEEMod output sheets.

### Worker Commute and Truck Haul Trip GHG Emissions

| Vehicle Type               | Trips | miles/trip | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | CO <sub>2</sub> e |
|----------------------------|-------|------------|-----------------|-----------------|------------------|-------------------|
| Light-Duty Gasoline Trucks | 17    | 50         | 0.38            | 0.00            | 0.00             | 0.40              |
| Total (metric tons/year)   |       |            | 0.38            | 0.00            | 0.00             | 0.40              |

One construction crew member would commute average of 25 miles (50 miles roundtrip) to the site each day for 17 days.

Global Warming Potential for CH<sub>4</sub> = 25; GWP for N<sub>2</sub>O = 298 (CARB, 2014).

### 3. Emfac 2014 Emission Factors

| calendar year | season month | sub area     | vehicle class           | temp | relative humidity | process | speed time | pollutant | emission rate (g/mile) |
|---------------|--------------|--------------|-------------------------|------|-------------------|---------|------------|-----------|------------------------|
| 2015          | Annual       | Alameda (SF) | LDT2                    | 60   | 78                | RUNEX   | 65         | NOx       | 0.190273992            |
| 2015          | Annual       | Alameda (SF) | LDT2                    | 60   | 78                | RUNEX   | 65         | ROG       | 0.032297342            |
| 2015          | Annual       | Alameda (SF) | LDT2                    | 60   | 78                | RUNEX   | 65         | CO2       | 443.8820681            |
| 2015          | Annual       | Alameda (SF) | LDT2                    | 60   | 78                | RUNEX   | 65         | CH4       | 0.010266338            |
| 2015          | Annual       | Alameda (SF) | LDT2                    | 60   | 78                | RUNEX   | 65         | PM10      | 0.001501593            |
| 2015          | Annual       | Alameda (SF) | LDT2                    | 60   | 78                | RUNEX   | 65         | PM2_5     | 0.001384098            |
| 2015          | Annual       | Alameda (SF) | LDT2                    |      |                   | PMTW    |            | PM10      | 0.008                  |
| 2015          | Annual       | Alameda (SF) | LDT2                    |      |                   | PMTW    |            | PM2_5     | 0.002                  |
| 2015          | Annual       | Alameda (SF) | LDT2                    |      |                   | PMBW    |            | PM10      | 0.03675                |
| 2015          | Annual       | Alameda (SF) | LDT2                    |      |                   | PMBW    |            | PM2_5     | 0.01575                |
| 2015          | Annual       | Alameda (SF) | T7 Tractor Construction | 60   | 50                | RUNEX   | 45         | NOx       | 9.447869774            |
| 2015          | Annual       | Alameda (SF) | T7 Tractor Construction | 60   | 50                | RUNEX   | 45         | ROG       | 0.352343404            |
| 2015          | Annual       | Alameda (SF) | T7 Tractor Construction | 60   | 50                | RUNEX   | 45         | CO2       | 1639.267177            |
| 2015          | Annual       | Alameda (SF) | T7 Tractor Construction | 60   | 50                | RUNEX   | 45         | CH4       | 0.016365439            |
| 2015          | Annual       | Alameda (SF) | T7 Tractor Construction | 60   | 50                | RUNEX   | 45         | PM10      | 0.18588309             |
| 2015          | Annual       | Alameda (SF) | T7 Tractor Construction | 60   | 50                | RUNEX   | 45         | PM2_5     | 0.17784187             |
| 2015          | Annual       | Alameda (SF) | T7 Tractor Construction |      |                   | PMTW    |            | PM10      | 0.036                  |
| 2015          | Annual       | Alameda (SF) | T7 Tractor Construction |      |                   | PMTW    |            | PM2_5     | 0.009                  |
| 2015          | Annual       | Alameda (SF) | T7 Tractor Construction |      |                   | PMBW    |            | PM10      | 0.06174                |
| 2015          | Annual       | Alameda (SF) | T7 Tractor Construction |      |                   | PMBW    |            | PM2_5     | 0.02646                |

## Zone 7 2015 Flood Control Maintenance

### Bay Area AQMD Air District, Summer

## 1.0 Project Characteristics

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### 1.1 Land Usage

| Land Uses                 | Size | Metric            | Lot Acreage | Floor Surface Area | Population |
|---------------------------|------|-------------------|-------------|--------------------|------------|
| User Defined Recreational | 1.00 | User Defined Unit | 0.00        | 0.00               | 0          |

### 1.2 Other Project Characteristics

|                             |       |                             |     |                             |      |
|-----------------------------|-------|-----------------------------|-----|-----------------------------|------|
| Urbanization                | Rural | Wind Speed (m/s)            | 2.2 | Precipitation Freq (Days)   | 64   |
| Climate Zone                | 4     |                             |     | Operational Year            | 2015 |
| Utility Company             |       |                             |     |                             |      |
| CO2 Intensity<br>(lb/MW hr) | 0     | CH4 Intensity<br>(lb/MW hr) | 0   | N2O Intensity<br>(lb/MW hr) | 0    |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Custom phase names represent each of the six flood control maintenance sites.

Off-road Equipment - Cat 980 Loader

Off-road Equipment - Construction equipment per contractor specifications

Off-road Equipment - Rubber tired loaders represent a skip loader and a cat 980 loader.

Off-highway trucks represent a dump truck and a water truck.

Off-road Equipment - contractor specifications

Off-road Equipment - Rubber tired loaders represent a skiploader and a cat 980 loader.

The off-highway trucks represent a dump truck and a water truck.

Off-road Equipment - One of the offroad trucks represent a dump truck and the other represents a water truck.

Off-road Equipment - One off-highway truck is a dump truck and the other represents a water truck.

One rubber tired loader represents a skip loader and the other represents a Cat 980 loader.

Grading -

Trips and VMT - Off-site trips are estimated outside of CalEEMod using EMFAC2014.

| Table Name           | Column Name    | Default Value | New Value |
|----------------------|----------------|---------------|-----------|
| tblConstructionPhase | NumDays        | 0.00          | 12.00     |
| tblConstructionPhase | NumDays        | 0.00          | 29.00     |
| tblConstructionPhase | NumDays        | 0.00          | 2.00      |
| tblConstructionPhase | NumDays        | 0.00          | 5.00      |
| tblConstructionPhase | NumDays        | 0.00          | 5.00      |
| tblConstructionPhase | NumDays        | 0.00          | 3.00      |
| tblConstructionPhase | NumDays        | 0.00          | 2.00      |
| tblConstructionPhase | PhaseEndDate   | 8/26/2015     | 8/10/2015 |
| tblConstructionPhase | PhaseEndDate   | 8/12/2015     | 7/20/2015 |
| tblConstructionPhase | PhaseStartDate | 7/17/2015     | 7/1/2015  |
| tblConstructionPhase | PhaseStartDate | 8/11/2015     | 7/17/2015 |
| tblGrading           | AcresOfGrading | 0.00          | 6.00      |
| tblGrading           | AcresOfGrading | 0.00          | 15.00     |
| tblGrading           | AcresOfGrading | 0.00          | 1.00      |
| tblGrading           | AcresOfGrading | 0.00          | 1.00      |
| tblGrading           | AcresOfGrading | 0.00          | 2.00      |
| tblGrading           | AcresOfGrading | 0.00          | 1.50      |
| tblGrading           | AcresOfGrading | 0.00          | 1.00      |
| tblOffRoadEquipment  | HorsePower     | 174.00        | 0.00      |
| tblOffRoadEquipment  | HorsePower     | 162.00        | 47.00     |

|                     |                            |        |        |
|---------------------|----------------------------|--------|--------|
| tblOffRoadEquipment | HorsePower                 | 162.00 | 165.00 |
| tblOffRoadEquipment | HorsePower                 | 162.00 | 165.00 |
| tblOffRoadEquipment | HorsePower                 | 162.00 | 165.00 |
| tblOffRoadEquipment | HorsePower                 | 162.00 | 165.00 |
| tblOffRoadEquipment | HorsePower                 | 162.00 | 165.00 |
| tblOffRoadEquipment | HorsePower                 | 400.00 | 207.00 |
| tblOffRoadEquipment | HorsePower                 | 400.00 | 207.00 |
| tblOffRoadEquipment | HorsePower                 | 400.00 | 207.00 |
| tblOffRoadEquipment | HorsePower                 | 400.00 | 207.00 |
| tblOffRoadEquipment | HorsePower                 | 400.00 | 207.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 85.00  |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 85.00  |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 85.00  |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 85.00  |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 85.00  |
| tblOffRoadEquipment | LoadFactor                 | 0.41   | 0.00   |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00   | 0.00   |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00   | 0.00   |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00   | 0.00   |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00   | 0.00   |

|                           |                            |       |       |
|---------------------------|----------------------------|-------|-------|
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblProjectCharacteristics | OperationalYear            | 2014  | 2015  |
| tblProjectCharacteristics | UrbanizationLevel          | Urban | Rural |
| tblTripsAndVMT            | WorkerTripNumber           | 10.00 | 0.00  |
| tblTripsAndVMT            | WorkerTripNumber           | 5.00  | 0.00  |

|                |                  |       |      |
|----------------|------------------|-------|------|
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 0.00 |

## 2.0 Emissions Summary

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### 2.1 Overall Construction (Maximum Daily Emission)

#### Unmitigated Construction

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Year         | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |               |                   |
| 2015         | 2.5492        | 28.8602        | 15.2570        | 0.0290        | 1.0788        | 1.3463        | 2.4251        | 0.1165         | 1.2386        | 1.3551        | 0.0000        | 3,042.8353        | 3,042.8353        | 0.9084        | 0.0000        | 3,061.9120        |
| <b>Total</b> | <b>2.5492</b> | <b>28.8602</b> | <b>15.2570</b> | <b>0.0290</b> | <b>1.0788</b> | <b>1.3463</b> | <b>2.4251</b> | <b>0.1165</b>  | <b>1.2386</b> | <b>1.3551</b> | <b>0.0000</b> | <b>3,042.8353</b> | <b>3,042.8353</b> | <b>0.9084</b> | <b>0.0000</b> | <b>3,061.9120</b> |

### 3.0 Construction Detail

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#### Construction Phase

| Phase Number | Phase Name                           | Phase Type       | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|--------------------------------------|------------------|------------|-----------|---------------|----------|-------------------|
| 1            | Line G, Arroyo Mocho (#797)          | Site Preparation | 7/1/2015   | 7/16/2015 | 5             | 12       |                   |
| 2            | Bernal Staging Site                  | Site Preparation | 7/1/2015   | 8/10/2015 | 5             | 29       |                   |
| 3            | Line B-5, Pleasanton Canal (#794)    | Site Preparation | 7/17/2015  | 7/20/2015 | 5             | 2        |                   |
| 4            | Line J, South San Ramon Creek (#802) | Site Preparation | 7/21/2015  | 7/27/2015 | 5             | 5        |                   |
| 5            | Line F-4, (#701 and #793)            | Site Preparation | 7/28/2015  | 8/3/2015  | 5             | 5        |                   |
| 6            | Line G-1, Chabot Canal (#804)        | Site Preparation | 8/4/2015   | 8/6/2015  | 5             | 3        |                   |
| 7            | Line B, Arroyo de la Laguna (#795)   | Site Preparation | 8/7/2015   | 8/10/2015 | 5             | 2        |                   |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

#### OffRoad Equipment

| Phase Name                  | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------------|------------------------|--------|-------------|-------------|-------------|
| Line G, Arroyo Mocho (#797) | Excavators             | 1      | 8.00        | 47          | 0.38        |
| Line G, Arroyo Mocho (#797) | Graders                | 0      | 0.00        | 174         | 0.41        |
| Line G, Arroyo Mocho (#797) | Off-Highway Trucks     | 1      | 2.00        | 400         | 0.38        |
| Line G, Arroyo Mocho (#797) | Off-Highway Trucks     | 1      | 2.00        | 400         | 0.38        |

|                                      |                           |   |      |     |      |
|--------------------------------------|---------------------------|---|------|-----|------|
| Line G, Arroyo Mocho (#797)          | Plate Compactors          | 1 | 4.00 | 8   | 0.43 |
| Line G, Arroyo Mocho (#797)          | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |
| Bernal Staging Site                  | Graders                   | 0 | 0.00 | 174 | 0.41 |
| Bernal Staging Site                  | Rubber Tired Loaders      | 1 | 8.00 | 270 | 0.36 |
| Bernal Staging Site                  | Tractors/Loaders/Backhoes | 1 | 8.00 | 97  | 0.37 |
| Line B-5, Pleasanton Canal (#794)    | Excavators                | 1 | 8.00 | 165 | 0.38 |
| Line B-5, Pleasanton Canal (#794)    | Graders                   | 0 | 0.00 | 0   | 0.00 |
| Line B-5, Pleasanton Canal (#794)    | Off-Highway Trucks        | 3 | 2.00 | 400 | 0.38 |
| Line B-5, Pleasanton Canal (#794)    | Off-Highway Trucks        | 1 | 2.00 | 207 | 0.38 |
| Line B-5, Pleasanton Canal (#794)    | Rubber Tired Loaders      | 0 | 0.00 | 270 | 0.36 |
| Line B-5, Pleasanton Canal (#794)    | Rubber Tired Loaders      | 1 | 2.00 | 85  | 0.36 |
| Line B-5, Pleasanton Canal (#794)    | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |
| Line J, South San Ramon Creek (#802) | Excavators                | 1 | 8.00 | 165 | 0.38 |
| Line J, South San Ramon Creek (#802) | Graders                   | 0 | 0.00 | 174 | 0.41 |
| Line J, South San Ramon Creek (#802) | Off-Highway Trucks        | 3 | 2.00 | 400 | 0.38 |
| Line J, South San Ramon Creek (#802) | Off-Highway Trucks        | 1 | 2.00 | 207 | 0.38 |
| Line J, South San Ramon Creek (#802) | Rubber Tired Loaders      | 0 | 0.00 | 270 | 0.36 |
| Line J, South San Ramon Creek (#802) | Rubber Tired Loaders      | 1 | 2.00 | 85  | 0.36 |
| Line J, South San Ramon Creek (#802) | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |
| Line F-4, (#701 and #793)            | Excavators                | 1 | 8.00 | 165 | 0.38 |
| Line F-4, (#701 and #793)            | Graders                   | 0 | 0.00 | 174 | 0.41 |
| Line F-4, (#701 and #793)            | Off-Highway Trucks        | 3 | 2.00 | 400 | 0.38 |
| Line F-4, (#701 and #793)            | Off-Highway Trucks        | 1 | 2.00 | 207 | 0.38 |
| Line F-4, (#701 and #793)            | Rubber Tired Loaders      | 0 | 0.00 | 270 | 0.36 |
| Line F-4, (#701 and #793)            | Rubber Tired Loaders      | 1 | 2.00 | 85  | 0.36 |
| Line F-4, (#701 and #793)            | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |

|                                    |                           |   |      |     |      |
|------------------------------------|---------------------------|---|------|-----|------|
| Line G-1, Chabot Canal (#804)      | Excavators                | 1 | 8.00 | 165 | 0.38 |
| Line G-1, Chabot Canal (#804)      | Graders                   | 0 | 0.00 | 174 | 0.41 |
| Line G-1, Chabot Canal (#804)      | Off-Highway Trucks        | 3 | 2.00 | 400 | 0.38 |
| Line G-1, Chabot Canal (#804)      | Off-Highway Trucks        | 1 | 2.00 | 207 | 0.38 |
| Line G-1, Chabot Canal (#804)      | Rubber Tired Loaders      | 0 | 0.00 | 270 | 0.36 |
| Line G-1, Chabot Canal (#804)      | Rubber Tired Loaders      | 1 | 2.00 | 85  | 0.36 |
| Line G-1, Chabot Canal (#804)      | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |
| Line B, Arroyo de la Laguna (#795) | Excavators                | 1 | 8.00 | 165 | 0.38 |
| Line B, Arroyo de la Laguna (#795) | Graders                   | 0 | 0.00 | 174 | 0.41 |
| Line B, Arroyo de la Laguna (#795) | Off-Highway Trucks        | 3 | 2.00 | 400 | 0.38 |
| Line B, Arroyo de la Laguna (#795) | Off-Highway Trucks        | 1 | 2.00 | 207 | 0.38 |
| Line B, Arroyo de la Laguna (#795) | Rubber Tired Loaders      | 0 | 0.00 | 270 | 0.36 |
| Line B, Arroyo de la Laguna (#795) | Rubber Tired Loaders      | 1 | 2.00 | 85  | 0.36 |
| Line B, Arroyo de la Laguna (#795) | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |

### 3.1 Line G, Arroyo Mocho (#797) - 2015

#### Unmitigated Construction On-Site

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category      | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Fugitive Dust |               |               |               |                    | 0.5303        | 0.0000        | 0.5303        | 0.0573         | 0.0000        | 0.0573        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road      | 0.7977        | 7.7442        | 4.3866        | 8.5400e-003        |               | 0.3547        | 0.3547        |                | 0.3268        | 0.3268        |          | 888.0738        | 888.0738        | 0.2618        |     | 893.5710        |
| <b>Total</b>  | <b>0.7977</b> | <b>7.7442</b> | <b>4.3866</b> | <b>8.5400e-003</b> | <b>0.5303</b> | <b>0.3547</b> | <b>0.8850</b> | <b>0.0573</b>  | <b>0.3268</b> | <b>0.3840</b> |          | <b>888.0738</b> | <b>888.0738</b> | <b>0.2618</b> |     | <b>893.5710</b> |

**3.2 Bernal Staging Site - 2015**  
**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 0.5485        | 0.0000        | 0.5485        | 0.0592         | 0.0000        | 0.0592        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.0723        | 12.0372        | 6.4235        | 0.0114        |               | 0.5935        | 0.5935        |                | 0.5461        | 0.5461        |          | 1,195.5691        | 1,195.5691        | 0.3569        |     | 1,203.0646        |
| <b>Total</b>  | <b>1.0723</b> | <b>12.0372</b> | <b>6.4235</b> | <b>0.0114</b> | <b>0.5485</b> | <b>0.5935</b> | <b>1.1421</b> | <b>0.0592</b>  | <b>0.5461</b> | <b>0.6053</b> |          | <b>1,195.5691</b> | <b>1,195.5691</b> | <b>0.3569</b> |     | <b>1,203.0646</b> |

**3.3 Line B-5, Pleasanton Canal (#794) - 2015****Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 0.5303        | 0.0000        | 0.5303        | 0.0573         | 0.0000        | 0.0573        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.4769        | 16.8231        | 8.8335        | 0.0176        |               | 0.7527        | 0.7527        |                | 0.6925        | 0.6925        |          | 1,847.2662        | 1,847.2662        | 0.5515        |     | 1,858.8474        |
| <b>Total</b>  | <b>1.4769</b> | <b>16.8231</b> | <b>8.8335</b> | <b>0.0176</b> | <b>0.5303</b> | <b>0.7527</b> | <b>1.2830</b> | <b>0.0573</b>  | <b>0.6925</b> | <b>0.7498</b> |          | <b>1,847.2662</b> | <b>1,847.2662</b> | <b>0.5515</b> |     | <b>1,858.8474</b> |

**3.4 Line J, South San Ramon Creek (#802) - 2015****Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 0.2121        | 0.0000        | 0.2121        | 0.0229         | 0.0000        | 0.0229        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.4769        | 16.8231        | 8.8335        | 0.0176        |               | 0.7527        | 0.7527        |                | 0.6925        | 0.6925        |          | 1,847.2662        | 1,847.2662        | 0.5515        |     | 1,858.8474        |
| <b>Total</b>  | <b>1.4769</b> | <b>16.8231</b> | <b>8.8335</b> | <b>0.0176</b> | <b>0.2121</b> | <b>0.7527</b> | <b>0.9648</b> | <b>0.0229</b>  | <b>0.6925</b> | <b>0.7154</b> |          | <b>1,847.2662</b> | <b>1,847.2662</b> | <b>0.5515</b> |     | <b>1,858.8474</b> |

**3.5 Line F-4, (#701 and #793) - 2015****Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 0.4242        | 0.0000        | 0.4242        | 0.0458         | 0.0000        | 0.0458        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.4769        | 16.8231        | 8.8335        | 0.0176        |               | 0.7527        | 0.7527        |                | 0.6925        | 0.6925        |          | 1,847.2662        | 1,847.2662        | 0.5515        |     | 1,858.8474        |
| <b>Total</b>  | <b>1.4769</b> | <b>16.8231</b> | <b>8.8335</b> | <b>0.0176</b> | <b>0.4242</b> | <b>0.7527</b> | <b>1.1769</b> | <b>0.0458</b>  | <b>0.6925</b> | <b>0.7383</b> |          | <b>1,847.2662</b> | <b>1,847.2662</b> | <b>0.5515</b> |     | <b>1,858.8474</b> |

**3.6 Line G-1, Chabot Canal (#804) - 2015****Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 0.5303        | 0.0000        | 0.5303        | 0.0573         | 0.0000        | 0.0573        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.4769        | 16.8231        | 8.8335        | 0.0176        |               | 0.7527        | 0.7527        |                | 0.6925        | 0.6925        |          | 1,847.2662        | 1,847.2662        | 0.5515        |     | 1,858.8474        |
| <b>Total</b>  | <b>1.4769</b> | <b>16.8231</b> | <b>8.8335</b> | <b>0.0176</b> | <b>0.5303</b> | <b>0.7527</b> | <b>1.2830</b> | <b>0.0573</b>  | <b>0.6925</b> | <b>0.7498</b> |          | <b>1,847.2662</b> | <b>1,847.2662</b> | <b>0.5515</b> |     | <b>1,858.8474</b> |

**3.7 Line B, Arroyo de la Laguna (#795) - 2015****Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 0.5303        | 0.0000        | 0.5303        | 0.0573         | 0.0000        | 0.0573        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.4769        | 16.8231        | 8.8335        | 0.0176        |               | 0.7527        | 0.7527        |                | 0.6925        | 0.6925        |          | 1,847.2662        | 1,847.2662        | 0.5515        |     | 1,858.8474        |
| <b>Total</b>  | <b>1.4769</b> | <b>16.8231</b> | <b>8.8335</b> | <b>0.0176</b> | <b>0.5303</b> | <b>0.7527</b> | <b>1.2830</b> | <b>0.0573</b>  | <b>0.6925</b> | <b>0.7498</b> |          | <b>1,847.2662</b> | <b>1,847.2662</b> | <b>0.5515</b> |     | <b>1,858.8474</b> |

## Zone 7 2015 Flood Control Maintenance

### Bay Area AQMD Air District, Annual

## 1.0 Project Characteristics

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### 1.1 Land Usage

| Land Uses                 | Size | Metric            | Lot Acreage | Floor Surface Area | Population |
|---------------------------|------|-------------------|-------------|--------------------|------------|
| User Defined Recreational | 1.00 | User Defined Unit | 0.00        | 0.00               | 0          |

### 1.2 Other Project Characteristics

|                             |       |                             |     |                             |      |
|-----------------------------|-------|-----------------------------|-----|-----------------------------|------|
| Urbanization                | Rural | Wind Speed (m/s)            | 2.2 | Precipitation Freq (Days)   | 64   |
| Climate Zone                | 4     |                             |     | Operational Year            | 2015 |
| Utility Company             |       |                             |     |                             |      |
| CO2 Intensity<br>(lb/MW hr) | 0     | CH4 Intensity<br>(lb/MW hr) | 0   | N2O Intensity<br>(lb/MW hr) | 0    |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Custom phase names represent each of the six flood control maintenance sites.

Off-road Equipment - Cat 980 Loader

Off-road Equipment - Construction equipment per contractor specifications

Off-road Equipment - Rubber tired loaders represent a skip loader and a cat 980 loader.

Off-highway trucks represent a dump truck and a water truck.

Off-road Equipment - contractor specifications

Off-road Equipment - Rubber tired loaders represent a skiploader and a cat 980 loader.

The off-highway trucks represent a dump truck and a water truck.

Off-road Equipment - One of the offroad trucks represent a dump truck and the other represents a water truck.

Off-road Equipment - One off-highway truck is a dump truck and the other represents a water truck.

One rubber tired loader represents a skip loader and the other represents a Cat 980 loader.

Grading -

Trips and VMT - Off-site trips are estimated outside of CalEEMod using EMFAC2014.

| Table Name           | Column Name    | Default Value | New Value |
|----------------------|----------------|---------------|-----------|
| tblConstructionPhase | NumDays        | 0.00          | 12.00     |
| tblConstructionPhase | NumDays        | 0.00          | 29.00     |
| tblConstructionPhase | NumDays        | 0.00          | 2.00      |
| tblConstructionPhase | NumDays        | 0.00          | 5.00      |
| tblConstructionPhase | NumDays        | 0.00          | 5.00      |
| tblConstructionPhase | NumDays        | 0.00          | 3.00      |
| tblConstructionPhase | NumDays        | 0.00          | 2.00      |
| tblConstructionPhase | PhaseEndDate   | 8/26/2015     | 8/10/2015 |
| tblConstructionPhase | PhaseEndDate   | 8/12/2015     | 7/20/2015 |
| tblConstructionPhase | PhaseStartDate | 7/17/2015     | 7/1/2015  |
| tblConstructionPhase | PhaseStartDate | 8/11/2015     | 7/17/2015 |
| tblGrading           | AcresOfGrading | 0.00          | 6.00      |
| tblGrading           | AcresOfGrading | 0.00          | 15.00     |
| tblGrading           | AcresOfGrading | 0.00          | 1.00      |
| tblGrading           | AcresOfGrading | 0.00          | 1.00      |
| tblGrading           | AcresOfGrading | 0.00          | 2.00      |
| tblGrading           | AcresOfGrading | 0.00          | 1.50      |
| tblGrading           | AcresOfGrading | 0.00          | 1.00      |
| tblOffRoadEquipment  | HorsePower     | 174.00        | 0.00      |
| tblOffRoadEquipment  | HorsePower     | 162.00        | 47.00     |

|                     |                            |        |        |
|---------------------|----------------------------|--------|--------|
| tblOffRoadEquipment | HorsePower                 | 162.00 | 165.00 |
| tblOffRoadEquipment | HorsePower                 | 162.00 | 165.00 |
| tblOffRoadEquipment | HorsePower                 | 162.00 | 165.00 |
| tblOffRoadEquipment | HorsePower                 | 162.00 | 165.00 |
| tblOffRoadEquipment | HorsePower                 | 162.00 | 165.00 |
| tblOffRoadEquipment | HorsePower                 | 400.00 | 207.00 |
| tblOffRoadEquipment | HorsePower                 | 400.00 | 207.00 |
| tblOffRoadEquipment | HorsePower                 | 400.00 | 207.00 |
| tblOffRoadEquipment | HorsePower                 | 400.00 | 207.00 |
| tblOffRoadEquipment | HorsePower                 | 400.00 | 207.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 85.00  |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 85.00  |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 85.00  |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 85.00  |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 270.00 |
| tblOffRoadEquipment | HorsePower                 | 199.00 | 85.00  |
| tblOffRoadEquipment | LoadFactor                 | 0.41   | 0.00   |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00   | 0.00   |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00   | 0.00   |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00   | 0.00   |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00   | 0.00   |

|                           |                            |       |       |
|---------------------------|----------------------------|-------|-------|
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 1.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblOffRoadEquipment       | UsageHours                 | 8.00  | 0.00  |
| tblProjectCharacteristics | OperationalYear            | 2014  | 2015  |
| tblProjectCharacteristics | UrbanizationLevel          | Urban | Rural |
| tblTripsAndVMT            | WorkerTripNumber           | 10.00 | 0.00  |
| tblTripsAndVMT            | WorkerTripNumber           | 5.00  | 0.00  |

|                |                  |       |      |
|----------------|------------------|-------|------|
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 0.00 |

## 2.0 Emissions Summary

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### 2.1 Overall Construction

#### Unmitigated Construction

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Year         | tons/yr       |               |               |                    |               |               |               |                    |               |               | MT/yr         |                |                |               |               |                |
| 2015         | 0.0329        | 0.3640        | 0.1946        | 3.7000e-004        | 0.0146        | 0.0171        | 0.0317        | 1.5700e-003        | 0.0158        | 0.0173        | 0.0000        | 34.8050        | 34.8050        | 0.0104        | 0.0000        | 35.0228        |
| <b>Total</b> | <b>0.0329</b> | <b>0.3640</b> | <b>0.1946</b> | <b>3.7000e-004</b> | <b>0.0146</b> | <b>0.0171</b> | <b>0.0317</b> | <b>1.5700e-003</b> | <b>0.0158</b> | <b>0.0173</b> | <b>0.0000</b> | <b>34.8050</b> | <b>34.8050</b> | <b>0.0104</b> | <b>0.0000</b> | <b>35.0228</b> |

### 3.0 Construction Detail

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#### Construction Phase

| Phase Number | Phase Name                           | Phase Type       | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|--------------------------------------|------------------|------------|-----------|---------------|----------|-------------------|
| 1            | Line G, Arroyo Mocho (#797)          | Site Preparation | 7/1/2015   | 7/16/2015 | 5             | 12       |                   |
| 2            | Bernal Staging Site                  | Site Preparation | 7/1/2015   | 8/10/2015 | 5             | 29       |                   |
| 3            | Line B-5, Pleasanton Canal (#794)    | Site Preparation | 7/17/2015  | 7/20/2015 | 5             | 2        |                   |
| 4            | Line J, South San Ramon Creek (#802) | Site Preparation | 7/21/2015  | 7/27/2015 | 5             | 5        |                   |
| 5            | Line F-4, (#701 and #793)            | Site Preparation | 7/28/2015  | 8/3/2015  | 5             | 5        |                   |
| 6            | Line G-1, Chabot Canal (#804)        | Site Preparation | 8/4/2015   | 8/6/2015  | 5             | 3        |                   |
| 7            | Line B, Arroyo de la Laguna (#795)   | Site Preparation | 8/7/2015   | 8/10/2015 | 5             | 2        |                   |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

#### OffRoad Equipment

| Phase Name                  | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------------|------------------------|--------|-------------|-------------|-------------|
| Line G, Arroyo Mocho (#797) | Excavators             | 1      | 8.00        | 47          | 0.38        |
| Line G, Arroyo Mocho (#797) | Graders                | 0      | 0.00        | 174         | 0.41        |

|                                      |                           |   |      |     |      |
|--------------------------------------|---------------------------|---|------|-----|------|
| Line G, Arroyo Mocho (#797)          | Off-Highway Trucks        | 1 | 2.00 | 400 | 0.38 |
| Line G, Arroyo Mocho (#797)          | Off-Highway Trucks        | 1 | 2.00 | 400 | 0.38 |
| Line G, Arroyo Mocho (#797)          | Plate Compactors          | 1 | 4.00 | 8   | 0.43 |
| Line G, Arroyo Mocho (#797)          | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |
| Bernal Staging Site                  | Graders                   | 0 | 0.00 | 174 | 0.41 |
| Bernal Staging Site                  | Rubber Tired Loaders      | 1 | 8.00 | 270 | 0.36 |
| Bernal Staging Site                  | Tractors/Loaders/Backhoes | 1 | 8.00 | 97  | 0.37 |
| Line B-5, Pleasanton Canal (#794)    | Excavators                | 1 | 8.00 | 165 | 0.38 |
| Line B-5, Pleasanton Canal (#794)    | Graders                   | 0 | 0.00 | 0   | 0.00 |
| Line B-5, Pleasanton Canal (#794)    | Off-Highway Trucks        | 3 | 2.00 | 400 | 0.38 |
| Line B-5, Pleasanton Canal (#794)    | Off-Highway Trucks        | 1 | 2.00 | 207 | 0.38 |
| Line B-5, Pleasanton Canal (#794)    | Rubber Tired Loaders      | 0 | 0.00 | 270 | 0.36 |
| Line B-5, Pleasanton Canal (#794)    | Rubber Tired Loaders      | 1 | 2.00 | 85  | 0.36 |
| Line B-5, Pleasanton Canal (#794)    | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |
| Line J, South San Ramon Creek (#802) | Excavators                | 1 | 8.00 | 165 | 0.38 |
| Line J, South San Ramon Creek (#802) | Graders                   | 0 | 0.00 | 174 | 0.41 |
| Line J, South San Ramon Creek (#802) | Off-Highway Trucks        | 3 | 2.00 | 400 | 0.38 |
| Line J, South San Ramon Creek (#802) | Off-Highway Trucks        | 1 | 2.00 | 207 | 0.38 |
| Line J, South San Ramon Creek (#802) | Rubber Tired Loaders      | 0 | 0.00 | 270 | 0.36 |
| Line J, South San Ramon Creek (#802) | Rubber Tired Loaders      | 1 | 2.00 | 85  | 0.36 |
| Line J, South San Ramon Creek (#802) | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |
| Line F-4, (#701 and #793)            | Excavators                | 1 | 8.00 | 165 | 0.38 |
| Line F-4, (#701 and #793)            | Graders                   | 0 | 0.00 | 174 | 0.41 |
| Line F-4, (#701 and #793)            | Off-Highway Trucks        | 3 | 2.00 | 400 | 0.38 |
| Line F-4, (#701 and #793)            | Off-Highway Trucks        | 1 | 2.00 | 207 | 0.38 |
| Line F-4, (#701 and #793)            | Rubber Tired Loaders      | 0 | 0.00 | 270 | 0.36 |

|                                    |                           |   |      |     |      |
|------------------------------------|---------------------------|---|------|-----|------|
| Line F-4, (#701 and #793)          | Rubber Tired Loaders      | 1 | 2.00 | 85  | 0.36 |
| Line F-4, (#701 and #793)          | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |
| Line G-1, Chabot Canal (#804)      | Excavators                | 1 | 8.00 | 165 | 0.38 |
| Line G-1, Chabot Canal (#804)      | Graders                   | 0 | 0.00 | 174 | 0.41 |
| Line G-1, Chabot Canal (#804)      | Off-Highway Trucks        | 3 | 2.00 | 400 | 0.38 |
| Line G-1, Chabot Canal (#804)      | Off-Highway Trucks        | 1 | 2.00 | 207 | 0.38 |
| Line G-1, Chabot Canal (#804)      | Rubber Tired Loaders      | 0 | 0.00 | 270 | 0.36 |
| Line G-1, Chabot Canal (#804)      | Rubber Tired Loaders      | 1 | 2.00 | 85  | 0.36 |
| Line G-1, Chabot Canal (#804)      | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |
| Line B, Arroyo de la Laguna (#795) | Excavators                | 1 | 8.00 | 165 | 0.38 |
| Line B, Arroyo de la Laguna (#795) | Graders                   | 0 | 0.00 | 174 | 0.41 |
| Line B, Arroyo de la Laguna (#795) | Off-Highway Trucks        | 3 | 2.00 | 400 | 0.38 |
| Line B, Arroyo de la Laguna (#795) | Off-Highway Trucks        | 1 | 2.00 | 207 | 0.38 |
| Line B, Arroyo de la Laguna (#795) | Rubber Tired Loaders      | 0 | 0.00 | 270 | 0.36 |
| Line B, Arroyo de la Laguna (#795) | Rubber Tired Loaders      | 1 | 2.00 | 85  | 0.36 |
| Line B, Arroyo de la Laguna (#795) | Tractors/Loaders/Backhoes | 0 | 0.00 | 97  | 0.37 |

### 3.1 Line G, Arroyo Mocho (#797) - 2015

#### Unmitigated Construction On-Site

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 3.1800e-003        | 0.0000             | 3.1800e-003        | 3.4000e-004        | 0.0000             | 3.4000e-004        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 4.7900e-003        | 0.0465        | 0.0263        | 5.0000e-005        |                    | 2.1300e-003        | 2.1300e-003        |                    | 1.9600e-003        | 1.9600e-003        | 0.0000        | 4.8339        | 4.8339        | 1.4200e-003        | 0.0000        | 4.8638        |
| <b>Total</b>  | <b>4.7900e-003</b> | <b>0.0465</b> | <b>0.0263</b> | <b>5.0000e-005</b> | <b>3.1800e-003</b> | <b>2.1300e-003</b> | <b>5.3100e-003</b> | <b>3.4000e-004</b> | <b>1.9600e-003</b> | <b>2.3000e-003</b> | <b>0.0000</b> | <b>4.8339</b> | <b>4.8339</b> | <b>1.4200e-003</b> | <b>0.0000</b> | <b>4.8638</b> |

### 3.2 Bernal Staging Site - 2015

#### Unmitigated Construction On-Site

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |                    |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 7.9500e-003        | 0.0000             | 7.9500e-003   | 8.6000e-004        | 0.0000             | 8.6000e-004        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0156        | 0.1745        | 0.0931        | 1.7000e-004        |                    | 8.6100e-003        | 8.6100e-003   |                    | 7.9200e-003        | 7.9200e-003        | 0.0000        | 15.7267        | 15.7267        | 4.7000e-003        | 0.0000        | 15.8253        |
| <b>Total</b>  | <b>0.0156</b> | <b>0.1745</b> | <b>0.0931</b> | <b>1.7000e-004</b> | <b>7.9500e-003</b> | <b>8.6100e-003</b> | <b>0.0166</b> | <b>8.6000e-004</b> | <b>7.9200e-003</b> | <b>8.7800e-003</b> | <b>0.0000</b> | <b>15.7267</b> | <b>15.7267</b> | <b>4.7000e-003</b> | <b>0.0000</b> | <b>15.8253</b> |

**3.3 Line B-5, Pleasanton Canal (#794) - 2015****Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |                    |                    | 5.3000e-004        | 0.0000             | 5.3000e-004        | 6.0000e-005        | 0.0000             | 6.0000e-005        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 1.4800e-003        | 0.0168        | 8.8300e-003        | 2.0000e-005        |                    | 7.5000e-004        | 7.5000e-004        |                    | 6.9000e-004        | 6.9000e-004        | 0.0000        | 1.6758        | 1.6758        | 5.0000e-004        | 0.0000        | 1.6863        |
| <b>Total</b>  | <b>1.4800e-003</b> | <b>0.0168</b> | <b>8.8300e-003</b> | <b>2.0000e-005</b> | <b>5.3000e-004</b> | <b>7.5000e-004</b> | <b>1.2800e-003</b> | <b>6.0000e-005</b> | <b>6.9000e-004</b> | <b>7.5000e-004</b> | <b>0.0000</b> | <b>1.6758</b> | <b>1.6758</b> | <b>5.0000e-004</b> | <b>0.0000</b> | <b>1.6863</b> |

**3.4 Line J, South San Ramon Creek (#802) - 2015****Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 5.3000e-004        | 0.0000             | 5.3000e-004        | 6.0000e-005        | 0.0000             | 6.0000e-005        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 3.6900e-003        | 0.0421        | 0.0221        | 4.0000e-005        |                    | 1.8800e-003        | 1.8800e-003        |                    | 1.7300e-003        | 1.7300e-003        | 0.0000        | 4.1895        | 4.1895        | 1.2500e-003        | 0.0000        | 4.2158        |
| <b>Total</b>  | <b>3.6900e-003</b> | <b>0.0421</b> | <b>0.0221</b> | <b>4.0000e-005</b> | <b>5.3000e-004</b> | <b>1.8800e-003</b> | <b>2.4100e-003</b> | <b>6.0000e-005</b> | <b>1.7300e-003</b> | <b>1.7900e-003</b> | <b>0.0000</b> | <b>4.1895</b> | <b>4.1895</b> | <b>1.2500e-003</b> | <b>0.0000</b> | <b>4.2158</b> |

**3.5 Line F-4, (#701 and #793) - 2015****Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 1.0600e-003        | 0.0000             | 1.0600e-003        | 1.1000e-004        | 0.0000             | 1.1000e-004        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 3.6900e-003        | 0.0421        | 0.0221        | 4.0000e-005        |                    | 1.8800e-003        | 1.8800e-003        |                    | 1.7300e-003        | 1.7300e-003        | 0.0000        | 4.1895        | 4.1895        | 1.2500e-003        | 0.0000        | 4.2158        |
| <b>Total</b>  | <b>3.6900e-003</b> | <b>0.0421</b> | <b>0.0221</b> | <b>4.0000e-005</b> | <b>1.0600e-003</b> | <b>1.8800e-003</b> | <b>2.9400e-003</b> | <b>1.1000e-004</b> | <b>1.7300e-003</b> | <b>1.8400e-003</b> | <b>0.0000</b> | <b>4.1895</b> | <b>4.1895</b> | <b>1.2500e-003</b> | <b>0.0000</b> | <b>4.2158</b> |

**3.6 Line G-1, Chabot Canal (#804) - 2015****Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 8.0000e-004        | 0.0000             | 8.0000e-004        | 9.0000e-005        | 0.0000             | 9.0000e-005        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 2.2200e-003        | 0.0252        | 0.0133        | 3.0000e-005        |                    | 1.1300e-003        | 1.1300e-003        |                    | 1.0400e-003        | 1.0400e-003        | 0.0000        | 2.5137        | 2.5137        | 7.5000e-004        | 0.0000        | 2.5295        |
| <b>Total</b>  | <b>2.2200e-003</b> | <b>0.0252</b> | <b>0.0133</b> | <b>3.0000e-005</b> | <b>8.0000e-004</b> | <b>1.1300e-003</b> | <b>1.9300e-003</b> | <b>9.0000e-005</b> | <b>1.0400e-003</b> | <b>1.1300e-003</b> | <b>0.0000</b> | <b>2.5137</b> | <b>2.5137</b> | <b>7.5000e-004</b> | <b>0.0000</b> | <b>2.5295</b> |

**3.7 Line B, Arroyo de la Laguna (#795) - 2015****Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |                    |                    | 5.3000e-004        | 0.0000             | 5.3000e-004        | 6.0000e-005        | 0.0000             | 6.0000e-005        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 1.4800e-003        | 0.0168        | 8.8300e-003        | 2.0000e-005        |                    | 7.5000e-004        | 7.5000e-004        |                    | 6.9000e-004        | 6.9000e-004        | 0.0000        | 1.6758        | 1.6758        | 5.0000e-004        | 0.0000        | 1.6863        |
| <b>Total</b>  | <b>1.4800e-003</b> | <b>0.0168</b> | <b>8.8300e-003</b> | <b>2.0000e-005</b> | <b>5.3000e-004</b> | <b>7.5000e-004</b> | <b>1.2800e-003</b> | <b>6.0000e-005</b> | <b>6.9000e-004</b> | <b>7.5000e-004</b> | <b>0.0000</b> | <b>1.6758</b> | <b>1.6758</b> | <b>5.0000e-004</b> | <b>0.0000</b> | <b>1.6863</b> |

## **Appendix B: Special-Status Species**



## APPENDIX B

### LISTED AND SPECIAL-STATUS SPECIES CONSIDERED FOR ZONE 7 MAINTENANCE PROJECT

| Name                                                              | Listing Status | General Habitat Requirements                                                                                                                                                                                                                      | Occurrence                                                                                                                                                                                                                                                                                                                              | Potential for Species Occurrence Within the Survey Area                                                                                                                                                                                                              |
|-------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Invertebrates</b>                                              |                |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                      |
| Conservancy fairy shrimp<br>( <i>Branchinecta conservatio</i> )   | FE/--          | Vernal pools.                                                                                                                                                                                                                                     | Endemic to the grasslands of the northern two-thirds of the Central Valley                                                                                                                                                                                                                                                              | <b>Absent.</b> Habitat is not present on project sites                                                                                                                                                                                                               |
| Longhorn fairy shrimp<br>( <i>Branchinecta longiantenna</i> )     | FE/--          | Vernal pools or other areas capable of ponding water seasonally                                                                                                                                                                                   | Endemic to the eastern margin of the Central Coast mountains in seasonally astatic grassland vernal pools                                                                                                                                                                                                                               | <b>Absent.</b> Habitat is not present on project sites                                                                                                                                                                                                               |
| Vernal pool fairy shrimp<br>( <i>Branchinecta lynchi</i> )        | FT/--          | Grassland vernal pools.                                                                                                                                                                                                                           | East San Francisco Bay including Livermore area.                                                                                                                                                                                                                                                                                        | <b>Absent.</b> Habitat is not present on project sites                                                                                                                                                                                                               |
| San Bruno elfin butterfly<br>( <i>Incisalia mossil bayensis</i> ) | FE/--          | Valley & foothill grassland                                                                                                                                                                                                                       | Coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County.                                                                                                                                                                                                                    | <b>Absent.</b> Habitat is not present on project sites                                                                                                                                                                                                               |
| <b>Amphibians</b>                                                 |                |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                      |
| California tiger salamander<br>( <i>Ambystoma californiense</i> ) | FT/ CT         | Vernal or temporary pools in annual grasslands, or open stages of woodlands. Typically adults use mammal burrows.                                                                                                                                 | The species occurs from Petaluma in Sonoma County, east through the Central Valley to Yolo and Sacramento Counties south to Tulare County, and from the San Francisco Bay south to Santa Barbara County. Most Central Valley populations have been extirpated, and any remaining populations likely occur in the surrounding foothills. | <b>Absent.</b> Habitat is not present on project sites                                                                                                                                                                                                               |
| California red-legged frog<br>( <i>Rana draytonii</i> )           | FT/ CT         | Streams, freshwater pools, and ponds with overhanging vegetation. Also found in woods adjacent to streams. Requires permanent or ephemeral water sources such as reservoirs and slow moving streams and needs pools of >0.5 m depth for breeding. | Historical range is Sacramento Valley east into the Sierra Nevada foothills.                                                                                                                                                                                                                                                            | <b>Absent.</b> Although general aquatic habitat is present, specific habitat requirements including backwater pools and emergent, overhanging vegetation is lacking. Furthermore, protocol-level surveys in 2015 did not identify CRLF at project sites (ESA, 2015). |
| Foothill yellow-legged frog<br>( <i>Rana boylei</i> )             | --/CSC         | Breeds and overwinters in and near cobbled streams with permanent water                                                                                                                                                                           | Nearest occurrences are associated with rocky, perennial streams, greater than 5 miles from project sites.                                                                                                                                                                                                                              | <b>Absent.</b> Habitat not present on sites or in immediate vicinity.                                                                                                                                                                                                |
| <b>Fish</b>                                                       |                |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                      |
| Steelhead- California Coast ESU<br>( <i>Oncorhynchus mykiss</i> ) | FT/--          | Aquatic streams and drainages.                                                                                                                                                                                                                    | Drainages of San Francisco and San Pablo Bays, central Calif. Coastal drainages.                                                                                                                                                                                                                                                        | <b>Absent.</b> Habitats not present within the project sites and project sites are isolated from this species known range.                                                                                                                                           |

# APPENDIX B (CONTINUED)

## LISTED AND SPECIAL-STATUS SPECIES CONSIDERED FOR ZONE 7 MAINTENANCE PROJECT

| Name                                                              | Listing Status           | General Habitat Requirements                                                                                                                                                                                                                         | Occurrence                                                                                                                                                                             | Potential for Species Occurrence Within the Survey Area                                                                                                                                                |
|-------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reptiles</b>                                                   |                          |                                                                                                                                                                                                                                                      |                                                                                                                                                                                        |                                                                                                                                                                                                        |
| Western pond turtle<br>( <i>Emys marmorata</i> )                  | --/CSC                   | Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation <6,000' in elevation. Require basking sites and upland habitat for egg laying (sandy banks and open, grassy fields)                                                  | Western California including coast ranges and the Central Valley.                                                                                                                      | <b>High Potential.</b> Observed during CRLF protocol surveys, adult turtles may be encountered at all project sites (ESA, 2015). Project areas do not support egg deposition.                          |
| Alameda whipsnake<br>( <i>Masticophis lateralis euryxanthus</i> ) | FT/CT                    | Coastal ranges, in chaparral and riparian habitat and adjacent grasslands                                                                                                                                                                            | Limited to coastal scrub and oak communities of East Bay in Contra Costa, Alameda, and parts of San Joaquin and Santa Clara Counties.                                                  | <b>Absent.</b> Habitat for this species does not occur on the Livermore-Amador Valley floor.                                                                                                           |
| <b>Birds</b>                                                      |                          |                                                                                                                                                                                                                                                      |                                                                                                                                                                                        |                                                                                                                                                                                                        |
| Cooper's hawk<br>( <i>Accipiter cooperii</i> )                    | CDFW §3503.5             | Forests, woodlands, and fields. Will also inhabit trees in suburban areas in parks and neighborhoods.                                                                                                                                                | Widespread across California and the United States.                                                                                                                                    | <b>Moderate potential.</b> A common raptor; ample open habitat areas exist nearby the project site that could support this raptor. Large trees adjacent to projects sites may provide nesting habitat. |
| Sharp-shinned hawk<br>( <i>Accipiter striatus</i> )               | CDFW §3503.5             | Forests and forest edges. Require dense forests for breeding.                                                                                                                                                                                        | Widespread across California and the United States.                                                                                                                                    | <b>Moderate potential.</b> Open habitat areas exist nearby the project site that could support this raptor. Large trees adjacent to projects sites may provide nesting habitat.                        |
| Tricolored blackbird<br>( <i>Agelaius tricolor</i> )              | --/CT                    | Nests in freshwater marshes with dense stands of cattails or bulrushes, occasionally in willows, thistles, mustard, blackberry brambles, and dense shrubs and grains. Requires open water, protected areas for nests, foraging habitat with insects. | Sacramento-San Joaquin River Delta, Monterey and Marin counties, and coastal lagoons from Sonoma to San Diego Counties during winter. Large breeding colonies occur in Central Valley. | <b>Low potential.</b> Breeding habitat does not exist on sites or nearby. This species is not documented in the urbanized project area.                                                                |
| Burrowing owl<br>( <i>Athene cunicularia</i> )                    | --/CSC (burrowing sites) | Nests and forages in low-growing grasslands with burrowing mammals                                                                                                                                                                                   | Interior areas of San Francisco Bay, with larger numbers in Alameda, Contra Costa, and Santa Clara counties.                                                                           | <b>Absent.</b> There are no burrows at the sites that could support nesting burrowing owls and this species has not been observed in the project vicinities.                                           |
| Red-tailed hawk<br>( <i>Buteo jamaicensis</i> )                   | CDFW §3503.5             | Occupies numerous types of open habitat including desert, scrublands, grasslands, roadsides, fields and pastures. Commonly found at field edges and perched on fences, poles, and trees. Nests in tall trees.                                        | Widespread across California and the United States.                                                                                                                                    | <b>Moderate potential.</b> Common raptor. Open habitat areas exist nearby the project site that could support this raptor. Large trees adjacent to projects sites may provide nesting habitat.         |

# APPENDIX B (CONTINUED)

## LISTED AND SPECIAL-STATUS SPECIES CONSIDERED FOR ZONE 7 MAINTENANCE PROJECT

| Name                                                           | Listing Status | General Habitat Requirements                                                                                                                                                           | Occurrence                                                                                                                                                                    | Potential for Species Occurrence Within the Survey Area                                                                                                                                        |
|----------------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Birds (Continued)</b>                                       |                |                                                                                                                                                                                        |                                                                                                                                                                               |                                                                                                                                                                                                |
| White-tailed kite<br>( <i>Elanus leucurus</i> )                | --/*           | Nests in shrubs and trees adjacent to grasslands, forages over grasslands and agricultural lands                                                                                       | Widespread across California and the United States.                                                                                                                           | <b>Low Potential.</b> Cottonwood trees on Arroyo de la Laguna can provide nesting opportunity. All other sites lack suitable nesting habitat and are too disturbed for this sensitive species. |
| American kestrel<br>( <i>Falco sparverius</i> )                | CDFW §3503.5   | Open areas such as meadows, grasslands, and open woodlands. Also utilize human modified habitat such as parks, agricultural fields, and suburban areas. Nest in pre-existing cavities. | Widespread across California and the United States.                                                                                                                           | <b>Low potential.</b> Suitable nesting cavities do not occur within project sites but adjacent open areas can support foraging.                                                                |
| California least tern<br>( <i>Sternula antillarum browni</i> ) | FE/CE          | Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.                                                                | Nests along the coast from San Francisco Bay south to northern Baja California.                                                                                               | <b>Absent.</b> Habitat not present on project sites or in immediate vicinities.                                                                                                                |
| <b>Mammals</b>                                                 |                |                                                                                                                                                                                        |                                                                                                                                                                               |                                                                                                                                                                                                |
| Pallid bat<br>( <i>Antrozous pallidus</i> )                    | CSC            | Grasslands, shrublands, woodlands, and forests. Common in arid regions with rocky outcroppings, particularly near water. Roosts in rock crevices, buildings, and under bridges.        | British Colombia to west Texas, Baja, and Central Mexico                                                                                                                      | <b>Low potential.</b> Project sites are located in highly disturbed areas which would deter this species from roosting.                                                                        |
| Townsend's big-eared bat<br>( <i>Corynorhinus townsendii</i> ) | --/CT          | Throughout California in a wide variety of habitats. Roosts in the open, hanging from walls & ceilings.                                                                                | Throughout California in a wide variety of habitats.                                                                                                                          | <b>Low potential.</b> Project sites are located in highly disturbed areas which would deter this species from roosting.                                                                        |
| San Joaquin kit fox<br>( <i>Vulpes macrotis mutica</i> )       | FE/CT          | Undeveloped grasslands and agricultural land.                                                                                                                                          | Patchily distributed in the Diablo Range and south to Bakersfield                                                                                                             | <b>Absent.</b> Habitat does not occur at project sites.                                                                                                                                        |
| Hoary bat<br>( <i>Lasiurus cinereus</i> )                      | WBWG Medium    | Forested habitats and trees along clearing edges. Roosts in trees with dense foliage. Forages in trees and along streams and lake shores.                                              | Widespread across California                                                                                                                                                  | <b>Low potential.</b> Although trees in vicinity do not have dense foliage required for roosting, stream zone could potentially be used for foraging.                                          |
| Yuma myotis<br>( <i>Myotis yumanensis</i> )                    | WBWG Low       | Groups roost in caves, trees, cliff crevices, mines, and under bridges. Forages over water and thus lives near ponds and rivers.                                                       | Widespread across California                                                                                                                                                  | <b>Low potential.</b> Suitable roosting habitat occurs under I-680 bridge and creek zones could potentially be used for foraging.                                                              |
| <b>Plants</b>                                                  |                |                                                                                                                                                                                        |                                                                                                                                                                               |                                                                                                                                                                                                |
| Palmate salty bird's-beak<br>( <i>Chloropyron palmatum</i> )   | FE/SE/1B.1     | Chenopod scrub, valley and foothill grasslands                                                                                                                                         | Endemic to California. Occurrences in Central Valley north of Sacramento and west of Yuba City. Local populations limited to alkali scalds at the Springtown Alkali Preserve. | <b>Absent.</b> Alkaline habitat not present on project site or in immediate vicinity.                                                                                                          |

# APPENDIX B (CONTINUED)

## LISTED AND SPECIAL-STATUS SPECIES CONSIDERED FOR ZONE 7 MAINTENANCE PROJECT

| Name                                                               | Listing Status | General Habitat Requirements                                                                                             | Occurrence                                                                                                                                                                                                                  | Potential for Species Occurrence Within the Survey Area                                                                                 |
|--------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plants (Continued)</b>                                          |                |                                                                                                                          |                                                                                                                                                                                                                             |                                                                                                                                         |
| Alkali milk-vetch<br>( <i>Astragalus tener</i> var. <i>tener</i> ) | --/--/1B.2     | Alkali playa, valley and foothill grassland (adobe clay), vernal pool, wetland.                                          | Endemic to California. Occurrences in greater San Francisco Bay Area including Livermore area, Napa River, and from Suisun Bay north to greater Davis area.                                                                 | <b>Absent.</b> Alkaline habitat not present on project site or in immediate vicinity.                                                   |
| Heartscale<br>( <i>Atriplex cordulata</i> var. <i>cordulata</i> )  | -/--/1B.2      | Saline or alkaline habitat including chenopod scrub, meadow and seep, and valley and foothill grassland                  | Endemic to California. Occurrences in Central Valley, East San Francisco Bay in Livermore area. Also in Contra Costa, Solano, Butte, Colusa, Fresno, Stanislaus, Glenn, Kern, Madera, Merced, and San Luis Obispo Counties. | <b>Absent.</b> Saline or alkaline habitat not present on project site or in immediate vicinity.                                         |
| Brittlescale<br>( <i>Atriplex depressa</i> )                       | --/--/1B.2     | Alkali playa, chenopod scrub, meadow and seep, valley and foothill grassland, vernal pool, wetland.                      | Endemic to California. Occurrences in greater San Francisco Bay Area including Livermore area. Occurs in Contra Costa, Solano, Colusa, Fresno, Glenn, Kern, Merced, Stanislaus, Tulare, and Yolo Counties.                  | <b>Absent.</b> Alkaline habitat not present on project site or in immediate vicinity.                                                   |
| Lesser saltscale<br>( <i>Atriplex minuscula</i> )                  | --/--/1B.1     | Chenopod scrub, alkali playa, valley and foothill grassland.                                                             | Endemic to California. Occurrences in Livermore area. Also occurs in Alameda, Butte, Fresno, Kern, Madera, Merced, and Tulare Counties.                                                                                     | <b>Absent.</b> Alkaline habitat not present on project site or in immediate vicinity.                                                   |
| San Joaquin spearscale<br>( <i>Atriplex joaquinana</i> )           | --/--/1B.2     | Chenopod scrub, meadow and seep, alkali meadow, playa, valley and foothill grassland                                     | Endemic to California. Occurrences in East San Francisco Bay in Livermore area. Also in Contra Costa, Solano, Napa, Monterey, Fresno, Colusa, Glenn, Merced, San Benito, and Yolo Counties.                                 | <b>Absent.</b> Alkaline habitat not present on project sites or in immediate vicinity.                                                  |
| Diablo helianthella<br>( <i>Helianthella castanea</i> )            | FSC/--/1B      | Forest, woodland, chaparral, coastal scrub, riparian woodland, and grassland; usually in chaparral/oak woodland ecotone. | San Francisco Bay Area mostly around Mount Diablo proper                                                                                                                                                                    | <b>Absent.</b> Project sites do not contain preferred habitat and all sites area highly disturbed dominated with non-native vegetation. |
| Prostrate navarretia<br>( <i>Navarretia prostrate</i> )            | FSC/--/1B      | In mesic, alkali areas of coastal scrub and grassland, particularly vernal pools                                         | Scattered distribution from San Francisco Bay Area, through Transverse Ranges and Peninsular Ranges, to south California border.                                                                                            | <b>Absent.</b> Alkaline habitat not present on project sites or in immediate vicinity.                                                  |

## APPENDIX B (CONTINUED)

### LISTED AND SPECIAL-STATUS SPECIES CONSIDERED FOR ZONE 7 MAINTENANCE PROJECT

| Name                                                                         | Listing Status | General Habitat Requirements                                                                           | Occurrence                                                                                                                                                                            | Potential for Species Occurrence Within the Survey Area                                                              |
|------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Plants (Continued)</b>                                                    |                |                                                                                                        |                                                                                                                                                                                       |                                                                                                                      |
| Congdon's tarplant<br>( <i>Centromadia parryi</i> ssp.<br><i>congdonii</i> ) | --/--/1B.1     | Valley and foothill grassland.                                                                         | Endemic to California. Occurrences in San Francisco Bay Area from the South Bay northeast to the East Bay including Dublin/Pleasanton/Livermore area and northeast to Brentwood area. | <b>Absent.</b> Site supports species associated with grassland habitat. However this plant was not observed on site. |
| Saline clover<br>( <i>Trifolium hydrophilum</i> )                            | --/--/1B.2     | Marshes and swamps, mesic and alkaline valley and foothill grasslands (mesic, alkaline), vernal pools. | Greater San Francisco Bay Area including the North Bay, the East Bay, the South Bay around San Jose, east to Sacramento and Stockton, and areas around Salinas, and Monterey.         | <b>Absent.</b> Saline habitat not present on project sites or in immediate vicinity.                                 |
| Caper-fruited tropidocarpum<br><i>Tropidocarpum capparideum</i>              | --/--/1B.1     | Valley and foothill grassland alkaline hills.                                                          | Endemic to California. Occurs in Central Valley around Fresno, in Central Coast near San Luis Obispo and north of Lake San Antonio.                                                   | <b>Absent.</b> Presumed extirpated from Livermore and surrounding areas.                                             |

#### Status Codes:

USFWS (U.S. Fish and Wildlife Service)

FE = Listed as Endangered by the Federal Government

FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the Federal Government.

CDFW (California Department of Fish and Wildlife)

CE = Listed as Endangered by the State of California

CT = Listed as Threatened by the State of California

CSC = California Species of Special Concern

§3503.5 = CDFW Fish and Game Code Section §3503.5; this code protects nesting raptors and birds of prey

#### California Native Plant Society (CNPS):

List 1A: Plants presumed extinct.

List 1B: Plants rare, threatened, or endangered in California and elsewhere.

List 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere.

List 3: Plants about which more information is needed – a review list.

List 4: Plants of limited distribution – a watch list.

0.1 = Seriously endangered in California.

0.2 = Fairly endangered in California.

0.3 = Not very endangered in California.

#### Potential to Occur Categories:

Unlikely = The project areas and/or immediate vicinities do not support suitable habitat for a particular species. Project areas are outside of the species known range.

Low Potential = The project areas and/or immediate vicinities only provide limited habitat. In addition, the species' known range may be outside of the project areas.

Moderate Potential = The project areas and/or immediate vicinities provide suitable habitat.

High Potential = The project areas and/or immediate vicinity provide ideal habitat conditions.

SOURCES: CDFW, 2015; CNPS, 2015; USFWS, 2015.



## **Appendix C: Mitigation Monitoring and Reporting Plan**



### APPENDIX C: MITIGATION MONITORING AND REPORTING PLAN

| <u>Mitigation Measure</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <u>Mitigation Implementation Responsibility</u>                                                                                                          | <u>Monitoring and Reporting Actions, Timing, and Responsibility</u>                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Mitigation Measure AIR-1:</b> Implement BAAQMD Basic Mitigation Measures. Zone 7 Water Agency and/or its construction contractors shall comply with the following applicable BAAQMD basic control measures:</p> <ul style="list-style-type: none"> <li>• All exposed surfaces (e.g., parking areas, staging areas, soil piles, and graded areas, and unpaved access roads) shall be watered two times a day.</li> <li>• All haul trucks transporting soil, sand, or other loose material off-site shall be covered.</li> <li>• All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</li> <li>• All vehicle speeds on unpaved roads shall be limited to 15 mph.</li> <li>• Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California Airborne Toxics Control Measure Tile 13, Section 2485 of California of Regulations). Clear signage shall be provided for construction workers at all access points.</li> <li>• All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.</li> <li>• Post a publicly visible sign with the telephone number and person to contact at Zone 7 Water Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.</li> </ul> | <p>Construction contractor is responsible for implementation of all air quality control measures, excluding signage for which Zone 7 is responsible.</p> | <p>Construction contractor shall perform daily inspections confirm with Zone 7 that measures are being implemented, and identifying any lapses or issues.</p> |

**APPENDIX C: MITIGATION MONITORING AND REPORTING PLAN**

| <u>Mitigation Measure</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <u>Mitigation Implementation Responsibility</u>                                                                                                                                                                                                                                                                                                                                                                                                             | <u>Monitoring and Reporting Actions, Timing, and Responsibility</u> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <p><b>Mitigation Measure BIO-1a:</b> Implement measures to reduce impacts to California red-legged frog. The following measures shall be implemented at Site #2 to reduce impacts to these species:</p> <ol style="list-style-type: none"> <li>1. To the extent practicable, initial ground-disturbing activities will be avoided between November 1 and March 31, when California red-legged frogs are most likely to be moving through upland areas.</li> <li>2. No more than twenty-four (24) hours prior to the date of initial ground disturbance, a preconstruction survey for California red-legged frogs shall be conducted by a qualified biologist. The survey will consist of walking the project limits and within the project site to ascertain the possible presence of the species. The USFWS-approved biologist will investigate all potential areas that could be used by California red-legged frog for feeding, breeding, sheltering, movement, and other essential behaviors. General minimum qualifications for the qualified biologist are a 4-year degree in biological sciences or other appropriate training and/or experience in surveying, identifying, and handling CRLF.</li> <li>3. The qualified biologist will conduct employee education training for employees working on earthmoving and/or construction activities. Personnel will be required to attend the presentation which will describe California red-legged frog avoidance, minimization, and conservation measures, legal protection of the animal, and other related issues. All attendees will sign an attendance sheet along with their printed name, company or agency, email address, and telephone number.</li> <li>4. If a California red-legged frog is detected, work shall cease in the immediate area and the USFWS shall be notified before work is reinitiated. Additional measures including full time or spot check biological monitoring and/or exclusion measures</li> </ol> | <p>Zone 7 is responsible for implementing all biological surveys and monitoring, as well as a worker education program.</p> <p>Construction contractor is responsible for controlling soil erosion and litter.</p> <p>Construction contractor will notify Zone 7 immediately should they encounter California red-legged frogs or Pacific pond turtle in the project area.</p> <p>Zone 7 is responsible for notifying U.S. Fish and Wildlife as needed.</p> | <p>Zone 7 will have daily onsite project monitoring.</p>            |

**APPENDIX C: MITIGATION MONITORING AND REPORTING PLAN**

| <u>Mitigation Measure</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>Mitigation Implementation Responsibility</u>                                                                                                                                                                    | <u>Monitoring and Reporting Actions, Timing, and Responsibility</u> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <p>for California red-legged frog may be implemented during the remainder of construction following consultation with the USFWS.</p> <p>5. Uneaten human food and trash attracts crows, ravens, coyotes, and other California red-legged frog predators. A litter control program will be instituted at each project site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the project site at the end of each working day.</p> <p>6. Loss of soil from run-off or erosion will be prevented with non-monofilament straw bales, straw wattles, or similar means.</p> <p>7. To the maximum extent practicable, no construction activities will occur during rain events or within 24-hours following a rain event. Prior to construction activities resuming, a USFWS approved biologist will inspect the action area and all equipment/materials for the presence of California red-legged frog. The animals will be allowed to move away from the project site of their own volition or moved by the qualified biologist.</p> |                                                                                                                                                                                                                    |                                                                     |
| <p><b>Mitigation Measure BIO-1b:</b> Implement measures to reduce impacts to western pond turtle. The following measures shall be implemented to reduce impacts to these species:</p> <p>1. Instream disturbances shall be performed during the dry season when stream flows are at their lowest (e.g., May 15 to October 15). Upstream water sources shall be diverted around the sites during in stream construction to minimize the likelihood of western pond turtle movement through the project area during construction.</p> <p>2. A qualified biological monitor shall perform a preconstruction survey of the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>Zone 7 is responsible for implementing all biological surveys and monitoring, as well as a worker education program.</p> <p>Construction contractor is responsible for controlling soil erosion and litter.</p> | <p>Zone 7 will have daily onsite project monitoring.</p>            |

**APPENDIX C: MITIGATION MONITORING AND REPORTING PLAN**

| <u>Mitigation Measure</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>Mitigation Implementation Responsibility</u>                                                                                                                                                                                                                                                                           | <u>Monitoring and Reporting Actions, Timing, and Responsibility</u> |
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| <p>project area prior to construction to verify that western pond turtles are not present in work areas. Additionally, in the event that standing water is present at the time of construction, the monitor shall perform periodic inspections of the project sites to verify the absence of western pond turtle.</p> <p>3. A biological resource education program shall be provided to construction crews and contractors before construction activities begin. The program shall describe the life history and identification of western pond turtles, protective measures to be implemented if sensitive species are identified or suspected to be in the work area (i.e., immediate notification of the biological monitor and temporary protective buffers of 100 feet), and penalties for handling or harming these species.</p> <p>4. If pond turtles are identified in the work area, construction activities shall cease until the individual disperses from the project site, or is relocated by the biological monitor.</p> | <p>Construction contractor will notify Zone 7 immediately should they encounter California red-legged frogs or Pacific pond turtle in the project area.</p> <p>Zone 7 is responsible for notifying U.S. Fish and Wildlife as needed.</p>                                                                                  |                                                                     |
| <p><b>Mitigation Measure BIO-2:</b> If construction or vegetation removal must be performed during the nesting period (February 1 through August 31), Zone 7 shall retain a qualified biologist to survey trees and dense wetland vegetation within 250 feet of the project site for any nesting birds to verify the presence or absence of nests no more than 14 days prior to construction activities. If active nests are observed, buffer zones will be established around trees/shrubs with nests, with a buffer size established by the qualified biologist through consultation with the appropriate regulatory agency (e.g., CDFW). Typical nest avoidance buffers are 50 to 150 feet for passerine birds and 150 to 500 feet for raptors, depending upon the nature of proposed activities and the sensitivity of the identified bird to disturbance. If buffers are established due to bird nesting, areas will be avoided during construction activities until the young birds have</p>                                      | <p>Zone 7 is responsible for implementing all biological surveys and monitoring.</p> <p>Construction contractor is responsible for controlling soil erosion and litter.</p> <p>Construction contractor will notify Zone 7 immediately should they encounter California red-legged frogs or Pacific pond turtle in the</p> | <p>Zone 7 will have daily onsite project monitoring.</p>            |

### APPENDIX C: MITIGATION MONITORING AND REPORTING PLAN

| <u>Mitigation Measure</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <u>Mitigation Implementation Responsibility</u>                                                   | <u>Monitoring and Reporting Actions, Timing, and Responsibility</u> |
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| fledged.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>project area.</p> <p>Zone 7 is responsible for notifying U.S. Fish and Wildlife as needed.</p> |                                                                     |
| <p><b>Mitigation Measure BIO-3a:</b> Where feasible, Zone 7 shall avoid and minimize disturbance of in-stream wetlands and riparian vegetation in the project areas as a focus of project design and construction. The preferable form of mitigation recommended by the USACE and CDFW is avoidance of jurisdictional waters and riparian vegetation. All project activities associated with recontouring stream banks, incorporating hardpan stabilization material, instream sediment removal, removal of structures, or vegetation grubbing would be limited to the minimum area necessary to complete the work. To minimize disturbance to the extent feasible project activities shall be conducted from top of bank on disturbed access roads. Furthermore, catchment screens and barriers shall be installed to reduce materials and sediments from entering water downstream and fueling and cleaning of equipment/vehicles will occur away from the channels off project sites.</p> | Construction contractor to identify suitable BMPs for Zone 7 review and approval.                 | Zone 7 will have daily onsite project monitoring.                   |
| <p><b>Mitigation Measure BIO-3b:</b> Where jurisdictional wetlands and other waters cannot be avoided, to offset temporary and permanent impacts that would occur as a result of the project, in-situ site restoration mitigation shall be provided through the following mechanisms: Prior to construction Zone 7 shall obtain relevant permits and authorizations from the USACE, CDFW, and RWQB. Consistent with the terms and conditions of these permits and authorizations, Zone 7 shall compensate for the unavoidable loss of wetlands and other waters at a minimum of a 1:1 ratio. Compensation may be provided by one or more of the following methods: 1) on-site creation or habitat restoration, 2) off-site habitat creation, restoration and/or</p>                                                                                                                                                                                                                          | Zone 7 will negotiate terms with permitting agencies.                                             | Per permits.                                                        |

**APPENDIX C: MITIGATION MONITORING AND REPORTING PLAN**

| <u>Mitigation Measure</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>Mitigation Implementation Responsibility</u>                        | <u>Monitoring and Reporting Actions, Timing, and Responsibility</u> |
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| enhancement, or 3) payment to an approved wetland mitigation bank.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                        |                                                                     |
| <p><b>Mitigation Measure CULT-1:</b> The following measures shall be implemented at Line B. Because the project site and depth of excavation is relatively minor, no impacts to cultural resources are expected. However, these precautionary actions help to ensure that potential impacts are avoided:</p> <ul style="list-style-type: none"> <li>• Prior to ground disturbing activities at Line B, Zone 7 shall have a qualified archaeologist prepare a cultural resources monitoring plan addressing (but not be limited to) the following issues: <ul style="list-style-type: none"> <li>o Training program for all construction involved in site disturbance;</li> <li>o Person(s) responsible for conducting monitoring activities;</li> <li>o How the monitoring shall be conducted and the required format and content of monitoring reports;</li> <li>o Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports;</li> <li>o Protocol for notifications in case of encountering of cultural resources, as well as</li> <li>o methods of dealing with the encountered resources (e.g., collection, identification, curation);</li> <li>o Methods to ensure security of cultural resources;</li> <li>o Protocol for notifying local authorities (i.e. Sheriff, Police) should looting and other illegal activities occur during construction.</li> </ul> </li> <li>• The Zone 7 will retain the services of a qualified archaeological consultant that has experience in California prehistory to monitor ground-disturbing activity at Line B. During the course of the monitoring, the archaeologist may adjust the frequency—from continuous to intermittent—of the monitoring based on the</li> </ul> | Zone 7 will be responsible to implementing all surveys and monitoring. | Zone 7 will have daily onsite project monitoring.                   |

**APPENDIX C: MITIGATION MONITORING AND REPORTING PLAN**

| <u>Mitigation Measure</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <u>Mitigation Implementation Responsibility</u> | <u>Monitoring and Reporting Actions, Timing, and Responsibility</u> |
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| <p>conditions and professional judgment regarding the potential to impact resources.</p> <ul style="list-style-type: none"> <li>• If an intact archaeological deposit is encountered, all soil disturbing activities within 100 feet will cease until the find is evaluated. The archaeological monitor will immediately notify the USACE and the Zone 7 of the encountered archaeological deposit. The monitor will, after making a reasonable effort to assess the identity, integrity, and significance of the encountered resource, present the findings of this assessment to the USACE and Zone 7.</li> <li>• If the archaeological monitor, in consultation with the USACE and the Zone 7, determines that a significant archaeological resource is present and that the resource could be adversely affected by the proposed project, Zone 7 may: <ul style="list-style-type: none"> <li>○ Re-design the proposed project to avoid any adverse effect on the significant archaeological resource; or,</li> <li>○ Design and implement a Historic Properties Treatment Plan (HPTP). The project archaeologist, Zone 7, the USACE, and the SHPO shall meet and consult to determine the scope of the HPTP and develop a formal Memorandum of Agreement (MOA). The archaeologist will submit a draft HPTP for review and approval to the SHPO, the USACE, Zone 7, and, for prehistoric resources, the appropriate Native American representative. The HPTP will identify how a data recovery program would preserve any significant information the archaeological resource is expected to contain. The HPTP will identify the scientific and historic research questions applicable to the resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, will be limited to the</li> </ul> </li> </ul> |                                                 |                                                                     |

**APPENDIX C: MITIGATION MONITORING AND REPORTING PLAN**

| <u>Mitigation Measure</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <u>Mitigation Implementation Responsibility</u>                                                                                                                                                                             | <u>Monitoring and Reporting Actions, Timing, and Responsibility</u> |
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| portions of the site that could be adversely affected by the proposed project.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                     |
| <p><b>Mitigation Measure CULT-2:</b> Based on the survey results, geologic framework, and historic location in relation to Willow Marsh and other waterways, there appears to be a low potential for the discovery of archaeological resources and/or human remains at Line G, Line B-5, Line J, and Line G-1. While unlikely, the accidental discovery of archaeological resources or human remains at these locations cannot be entirely discounted. In the event of accidental discovery, the following measures be implemented:</p> <ul style="list-style-type: none"> <li> <b>Accidental Discovery of Archaeological Resources:</b> If prehistoric or historic-era archaeological resources are encountered, all construction activities within 100 feet will halt. The Zone 7 Water Agency and the USACE will be notified. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include deposits of metal, glass, and/or ceramic refuse. A Secretary of the Interior-qualified archaeologist will inspect the findings within 24 hours of discovery. If it is determined that the project could damage a significant archaeological resource, the Zone 7 Water Agency shall re-design the proposed project to avoid any adverse effects. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed HPTP in consultation with the SHPO, the USACE, Zone 7, and, for prehistoric resources, the appropriate Native American representative. </li> </ul> | <p>Zone 7 will be responsible to implementing all surveys and monitoring.</p> <p>Contractor responsible for stopping work if any potential cultural resource is discovered, and will notify the Zone 7 project manager.</p> | <p>Zone 7 will have daily onsite project monitoring.</p>            |

### APPENDIX C: MITIGATION MONITORING AND REPORTING PLAN

| <u>Mitigation Measure</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>Mitigation Implementation Responsibility</u>         | <u>Monitoring and Reporting Actions, Timing, and Responsibility</u> |
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| <ul style="list-style-type: none"> <li> <b>Accidental Discovery of Human Remains:</b> In the event of discovery of any human remains during project activities, such activities within 100 feet of the find shall cease until the Alameda County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission (NAHC) will be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to the USACE and Zone 7 for the appropriate means of treating the human remains and any grave goods. </li> </ul> |                                                         |                                                                     |
| <b>Measure NOI-1:</b> Noise generating construction work will generally be limited to weekdays from 8a.m. to 5p.m., or as specified in the City's ordinances. All construction work shall be conducted only as prescribed by City permits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Contractor responsible for adhering to city ordinances. | Zone 7 will have daily onsite project monitoring.                   |



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: GROUNDWATER SECTION**

**CONTACT: Tom Rooze/Matt Katen**

**AGENDA DATE:** August 19, 2015

**ITEM NO. 8**

**SUBJECT:** Contract Amendment for HydroMetrics Water Resources, Inc.

**SUMMARY:**

- In 2011, Zone 7 entered into a contract with HydroMetrics Water Resources, Inc. (HMWRI) to update Zone 7's groundwater model for an amount not-to-exceed \$199,875.
- Zone 7 was awarded a Local Groundwater Assistance grant of up to \$199,976 by the Department of Water Resources (DWR) in 2013 to complete the remaining groundwater model update effort; reimbursing Zone 7 for outstanding HMWRI and Zone 7 effort.
- Project delays have resulted from software incompatibilities needing to be resolved, and from the addition of actual 2014 "critical dry" hydrologic data to the model calibration to improve the model's predictive reliability for future drought scenarios.
- In addition, at staff's request, HMWRI performed some tasks that were originally planned for Zone 7 staff which is reimbursable by the grant.
- Staff would also like to add two more minor tasks to the HMWRI scope-of-work:
  1. Provide assistance to staff for incorporating a new MODFLOW version; and
  2. Provide computer programming and model operation training to Zone 7 staff.
- Staff requests that an additional \$31,000, be added to the current contract amount to cover all of the additional HMWRI work scope, of which about \$10,650 will be reimbursed by the DWR grant.
- Staff also requests that the contract period be extended to June 30, 2016 to accomplish the two new recommended post-project tasks.

**FUNDING:**

Funding is available from Fund 120 – Renewal Replacement\System Wide Improvements (70%) and Fund 130 – Expansion (30%); however, \$10,650 of the additional expense will be reimbursed back to these funds by the DWR grant.

**RECOMMENDED ACTION:**

Adopt the attached resolution authorizing the General Manager to execute a contract amendment with HMWRI that extends the contract period to June 30, 2016 and adds \$31,000 for a new not-to-exceed amount of \$230,875.

**ATTACHMENTS:**

- Memo providing additional background and discussion
- Resolution

## **Interoffice Memo**

**Date:** August 19, 2015  
**To:** Jill Duerig, General Manager  
**From:** Tom Rooze, Associate Hydrogeologist  
**Subject:** Contract Amendment for HydroMetrics Water Resources, Inc.

The following provides additional background and discussion on the above-referenced agenda item.

### **BACKGROUND:**

In 2011 as part of Zone 7's Groundwater Management Plan and Salt Nutrient Management Plan update, Zone 7 entered into a contract with HydroMetrics (HMWRI) of Oakland, California (Contract A12-33-HYD) to evaluate and update Zone 7's groundwater model for an amount not to exceed \$199,875. The original scope of work consisted of three phases:

1. Convert model software from MODFLOW-SURFACT to the new MODFLOW-NWT and develop better approach for inputting areal recharge into the model;
2. Relayer the model and incorporate streams, lakes, and arroyos features; and
3. Calibrate model, perform initial optimization runs, and prepare report.

While HMWRI and staff were completing Phase I, Zone 7 applied for and received approval for a Local Groundwater Assistance Grant from the Department of Water Resources (DWR) (Proposition 84) to complete the remainder of the project (Phases II and III). The awarded grant amount is \$199,976, and includes reimbursement for HMWRI and Zone 7 staff effort.

Phases I and II were restructured and grant administration elements were added to the scope of work to re-establish the project as a new project for the grant. However, the HMWRI contract remained in place. Since then, the contract period has been extended, but the contract amount has not been changed from the original amount.

Separate from the contract with HMWRI, staff has applied for two extensions of the grant period to accommodate:

1. The extra time needed to collect and incorporate 2014 data, a "critical dry" year which should be useful for calibrating the model over a wider range of conditions (see additional discussion below), and
2. Delays in the development of software interface between the MODFLOW - NWT flow model and the MT3D salt transport model.

Project completion for the grant work is now planned for the end of February 2016.

## **DISCUSSION:**

Staff is seeking an amendment to the HMWRI contract that would increase the contract's not-to-exceed amount to \$230,875, a \$31,000 increase, and extend the contract term to June 2016.

The budget increase and term extension are requested for the following reasons:

- To complete the grant project including some effort originally anticipated for Zone 7 staff to complete (\$10,650);
- To reimburse HMWRI for updating the Areal Recharge Spreadsheet used to input data into the model, debugging the new model's apparent incompatibility, and incorporating the 2014 data into the calibration dataset (\$13,300);
- To conduct computer programming to incorporate new MODFLOW model upgrades (\$4,000); and
- To provide computer programming training and model operation training to Zone 7 staff after the model has been upgraded and tested and the grant project has been completed (\$3,000).

Because the first item is part of the grant project scope, charges associated with this HMWRI effort, approximately \$10,650 of the budget increase request, will be submitted to DWR for reimbursement. This effort is already budgeted for in the grant project; however, some of the work originally planned for staff to complete was assigned to HMWRI because of their specialized knowledge and shortage of available in-house staff time due to other commitments. These activities include assisting with the re-layering of the model, formatting the streams and lakes data and incorporating them into the model, and assisting with the grant administration effort.

The remainder of the requested budget increase is for items that were not included in the original grant proposal: items such as HMWRI efforts that were required to diagnose and fix unforeseen software incompatibilities, and for adding the 2014 hydrologic data to the calibration data set. The software incompatibilities were the result of using an unreleased version of MT3D-USGS, a salt transport model that included surface water transport enhancements funded by Zone 7 during the pre-grant portion for the project. HMWRI diagnosed the issues and debugged the software in order to make it work with the groundwater flow model. They also assisted staff with revisions to the Zone 7 areal recharge spreadsheet to make its output compatible for input into the upgraded groundwater model. The total costs for these efforts were about \$10,450.

Because the project started in 2013, the model calibration dataset was built with actual hydrology data from 1974 to 2013. However, "critical dry" conditions in 2014 provided a great opportunity to apply modern drought data to the model calibration period. This additional data will improve the reliability of the model to predict groundwater elevations and concentrations when modeling future drought scenarios. Charges for this effort were \$2,850.

Also not included in the original HMWRI contract scope are the last two items on the list above. Future upgrades to MODFLOW are underway by the USGS. Staff anticipates that additional software programming will be needed to replace the MODFLOW package currently being used

in the Zone 7 groundwater model with the upgraded version. Staff would also like for HMWRI to provide training to staff on the set-up and operation of the upgraded Zone 7 groundwater model, particularly with the Python programming enhancements that were created to simplify data pre-processing. This training should eliminate much of the future outside assistance that staff would otherwise need to make changes to the model. The budget being requested for these two additional, but related items are \$4,000 and \$3,000, respectively. Although the grant-related work will be completed in February, with the training and other work, staff are recommending the contract be extended to June 2016.

**RECOMMENDATION:**

Staff recommends that the Zone 7 Board authorize the General Manager to execute a contract amendment that increases the not-to-exceed contract amount to \$230,875 and extends the contract period to June 30, 2016.

ZONE 7  
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY  
SECONDED BY

***Amendment to Contract (A12-33-HYD) With HydroMetrics Water Resources, Inc.***

WHEREAS, in 2011 Zone 7 of the Alameda County Flood Control and Water Conservation District entered into a contract with HydroMetrics Water Resources, Inc. (HMWRI), for \$199,875 to update Zone 7's groundwater model (Contract A12-33-HYD); and

WHEREAS, in 2013 Zone 7 entered into a grant agreement with the Department of Water Resources for \$199,976 to complete the remainder of the groundwater model update project, reimbursing Zone 7 for HMWRI and Zone 7 effort; and

WHEREAS, the project has required additional work and incurred schedule delays while resolving unforeseen software incompatibilities and adding important "critical dry" hydrologic data from 2014 into the model; and

WHEREAS, staff desires HMWRI to provide additional post-grant computer programming and staff training related to the model upgrade effort; and

WHEREAS, HMWRI is expected to complete all the additional work for approximately \$31,000; and

WHEREAS, approximately \$10,650 of the addition charges are expected to be reimbursed by the DWR grant.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize the General Manager to execute a contract amendment with HMWRI that extends the contract period to June 30, 2016 and increases the contract amount to an amount not-to-exceed \$230,875.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on August 19, 2015.

By \_\_\_\_\_  
President, Board of Directors



**ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7**

100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: FACILITIES ENGINEERING**  
**CONTACT: JAIME RIOS / RHETT ALZONA**

**AGENDA DATE:** August 19, 2015

**ITEM NO.** 9

**SUBJECT:** Arroyo Mocho Floodplain and Riparian Forest Restoration Project

**SUMMARY:**

- The Arroyo Mocho Floodplain and Riparian Forest Restoration Project is identified in Zone 7's Stream Management Master Plan as a regional flood protection improvement project. The project will provide storm water detention while promoting natural habitat, and coordinating compatible recreational uses by enhancing existing trails. The project may also increase groundwater recharge capacity which will improve both groundwater supply and quality sustainability.
- The project is located along a reach of the Arroyo Mocho between Holmes Street and Arroyo Road in Livermore. The overall planning, permitting, design and construction cost for the project is estimated to be about \$6.64 million.
- Four proposals were received for planning, permitting, CEQA and design related services.
- Staff evaluated the proposals and determined Flow West to be the most suitable firm.
- Per the Agreement between the City of Livermore and Zone 7 for the El Charro Specific Plan Area Flood Protection Improvements, executed on April 1, 2011, the City of Livermore has prepared Irrevocable Offers of Dedication (IOD) for acceptance by Zone 7 for the 44.59 acre Madeiros Parkway property (including the 14.78 acre Oak Grove Nature Reserve) for the purpose of flood protection and groundwater management and recharge.
- Since the City and Zone 7 desire to maintain the use of the property for recreation per the IOD, staff has drafted Amendment No. 2 to add these parcels to the existing Recreation Use License Agreement between City of Livermore and Zone 7.

**FUNDING:** FY 15/16 adopted budget includes \$420,000 for the project from Funds 200 – General Flood Control (43%) and Fund 210 – Flood Protection and Stormwater Drainage (57%) for planning, and initial design activities.

**RECOMMENDED ACTION:** Authorize the General Manager to: 1) Negotiate and execute a contract with FlowWest or other qualified firm for an amount not to exceed \$345,000 for the Arroyo Mocho Floodplain and Riparian Forest Restoration Project which includes a 10% contingency; 2) Accept the irrevocable offers of dedication for the Madeiros Parkway property from the City of Livermore, and 3) Negotiate and execute Amendment No. 2 to add Madeiros Parkway and Oak Grove Nature Reserve parcels to the existing Recreational Use License Agreement with Livermore.

**ATTACHMENTS:** 1) Memo providing additional background and discussion of agenda item, 2) Zone 7 Board Resolution, 3) Irrevocable Offers of Dedication for the Madeiros Parkway Property, 4) Draft Amendment No. 2 to the existing Recreational Use License Agreement with Livermore, 5) Location Map

## **Interoffice Memo**

**Date:** August 19, 2015  
**To:** Jill Duerig, General Manager  
**From:** Jaime Rios, Associate Civil Engineer  
**Subject:** Arroyo Mocho Floodplain and Riparian Forest Restoration Project

The following provides additional background and discussion on the above-referenced agenda item:

### **BACKGROUND:**

The Arroyo Mocho Floodplain and Riparian Forest Restoration Project is identified in Zone 7's Stream Management Master Plan and Capital Improvement Plan to improve regional flood protection. The project is located along a reach of the Arroyo Mocho surrounded by largely undeveloped parcels commonly known as Madeiros Parkway between Holmes Street and Arroyo Road in Livermore.

The purpose of the project is to create a natural floodplain along the Arroyo Mocho, which will provide storm water detention while promoting natural habitat, and allowing compatible recreational use by enhancing existing trails. The project may also help mitigate sedimentation issues along Holmes Street, while promoting a more natural hydrograph that mimics historical conditions. As a secondary benefit, the natural floodplain may increase groundwater recharge capacity which will improve groundwater supply and quality sustainability for the Livermore Valley Groundwater Basin.

### **DISCUSSION:**

The planning, permitting, design and construction for the project is scheduled to occur over the next three to four years and the cost is estimated to be approximately \$6.64 million. There is \$420,000 budgeted in the adopted FY 2015/16 budget for planning and preliminary design (Phase-I). Phase-I work is intended to include activities such as initial planning, preliminary design, and start of the environmental impact evaluation process per CEQA guidelines. The Capital Improvement Plan (CIP) includes \$360,000 in FY 21016/17 to complete the CEQA process, obtain the necessary regulatory agency approvals, complete design, and advertise the project for bids. The remaining \$6.22 million funding for future construction which is anticipated to occur in FY 17/18 is currently included in that year's CIP. In case of project permitting delays, construction could be extended to FY 18/19.

## Planning and Design

To aid staff in planning, permitting, environmental impact evaluation and design-related services for the project, staff sent out a request for proposal to twenty-three environmental engineering firms and posted the Request for Proposal on the Zone 7 website. Proposals were received from the following four firms:

1. Analytical Environmental Services (AES)
2. ESA
3. FlowWest
4. Stillwater Services

Staff evaluated the proposals. The two most suitable proposals for providing the required services for this project were submitted by FlowWest followed by ESA. Staff recommends negotiating and executing a consulting services contract with FlowWest for this project. Staff recommends dividing the consultant's scope into three phases to reflect the schedule of the project which is spread over three fiscal years. Phase-I of the scope will include activities such as initial planning, preliminary design, and start of the environmental impact evaluation process per CEQA guidelines which is budgeted for FY 2015/16. Phase-I scope of services is estimated to be around \$346,500 which includes a 10% contingency. Phase-II of the contract scope will include completing the environmental impact evaluation, assistance in obtaining regulatory agency permits and completing the design. Phase-II is proposed in the Capital Improvement Plan (CIP) to be completed in FY 2016/17. Phase-III of the scope will include engineering support services during construction of the project. Phase-III is proposed in the CIP to be completed in FY 2017/18. In the event that Zone 7 is unable to negotiate a contract with FlowWest, staff recommends negotiating and executing a contract with ESA or other qualified firm.

As the design and the CEQA and permitting process progresses, staff will seek Zone 7 Board approvals in the future to negotiate contract amendments for Phase-II and Phase-III of the contract.

## Land Acquisition and Recreational Use

As part of the El Charro Specific Plan Area Flood Protection Improvements Agreement, executed on April 1, 2011, one of the measures agreed upon was that the City of Livermore would provide an Irrevocable Offer of Dedication (IOD) to Zone 7 for approximately 44.59 acres known as the Madeiros Parkway property including approximately 14.78 acres of the Oak Grove Nature Reserve which is a park for public use and recreation. The property is shown in the attached Exhibit F from the El Charro Specific Plan Area Flood Protection Improvements Agreement.

The City of Livermore has prepared an Irrevocable Offer of Dedication (IOD) for acceptance by Zone 7 for the Madeiros Parkway property (including the Oak Grove Nature Reserve) for the purpose of flood protection and groundwater management and recharge. Staff recommends that the Board authorize the General Manager to accept the IOD for the Madeiros Parkway property.

Acceptance of the IOD will allow staff to proceed with implementation and also pursue grant opportunities for the Arroyo Mocho Floodplain and Riparian Forest Restoration Project.

For recreational purposes, the City of Livermore also maintains existing trails in and around the proposed area offered in the IOD. Since the City and Zone 7 desire to maintain the use of the property for recreational use, staff has drafted Amendment No.2 to add the Madeiros Parkway and the Oak Grove Nature Reserve parcels to the existing Recreation Use License Agreement between the City and Zone 7. The existing Recreation Use License Agreement between the City and Zone 7 was first executed on December 12, 2005 to allow the use of certain flood control facilities for trails and recreation to be operated and maintained by the City of Livermore. Amendment No. 1 to this agreement was executed on March 18, 2009 to add additional flood control facilities to this agreement.

### **RECOMMENDATION:**

Staff recommends that the General Manager be authorized to:

1. Negotiate and execute a contract with FlowWest or, if unable to do so, to negotiate with the second ranked firm in an amount not to exceed \$345,000 for Phase-I services for the Arroyo Mocho Floodplain and Riparian Forest Restoration Project, which includes 10% as contingency; and
2. Accept the irrevocable offers of dedication for the 44.59 acre Madeiros Parkway property (including the 14.78 acre Oak Grove Nature Reserve) from the City of Livermore and execute a certificate of acceptance causing the same to be recorded at the Office of the Recorder of Alameda County; and
3. Negotiate and execute Amendment No. 2 to add Madeiros Parkway and Oak Grove Nature Reserve parcels to the existing Recreational Use License Agreement with the City of Livermore.

ZONE 7  
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY  
SECONDED BY

***Arroyo Mocho Floodplain and Riparian Forest Restoration Project***

WHEREAS, Zone 7 of the Alameda County Flood Control and Water Conservation District has a project for the construction of the Arroyo Mocho Floodplain and Riparian Forest Restoration Project; and

WHEREAS, the Arroyo Mocho Floodplain and Riparian Forest Restoration Project is identified in Zone 7's Stream Management Master Plan as a regional flood protection improvement project; and

WHEREAS, the project is intended to provide storm water detention while promoting natural habitat, coordinating compatible recreational uses by enhancing existing trails and, as a secondary benefit, may also increase groundwater recharge capacity which will improve both groundwater supply and quality sustainability for the Main Basin; and

WHEREAS, Zone 7 sent a request for proposal to twenty-three environmental engineering firms and posted the request for proposal on the Zone 7 website; and

WHEREAS, a total of four proposals were received, and evaluated by staff ; and

WHEREAS, it was determined that the team proposed by FlowWest is the most suitable for providing the required services for the project followed by ESA; and

WHEREAS, under the Agreement between the City of Livermore and Zone 7 for the El Charro Specific Plan Area Flood Protection Improvements, executed on April 1, 2011, the City of Livermore has prepared an Irrevocable Offer of Dedication (IOD) for acceptance by Zone 7 for the Madeiros Parkway property (including Oak Grove Nature Reserve) for the purpose of flood protection and groundwater management and recharge; and

WHEREAS, the City of Livermore and Zone 7 wish to maintain the existing recreational uses of the Madeiros Parkway property and Oak Grove Nature Reserve and staff has drafted Amendment No. 2 to add the Madeiros Parkway property and the Oak Grove Nature Reserve to the existing Recreation Use License Agreement between the City of Livermore and Zone 7.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize the

General Manager to negotiate and execute a contract with FlowWest, or, failing that, negotiate and execute a contract with the second-ranked firm, in an amount not-to-exceed \$346,500, for Phase-I services for the Arroyo Mocho Floodplain and Riparian Forest Restoration Project, which includes 10% as contingency; and

BE IT FURTHER RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize the General Manager to accept the Irrevocable Offers of Dedication for the Madeiros Parkway properties including the Oak Grove Nature Reserve from the City of Livermore and execute a certificate of acceptance causing the same to be recorded at the Office of the Recorder of Alameda County; and

BE IT FURTHER RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize the General Manager to negotiate and execute Amendment No. 2 to add the Madeiros Parkway and Oak Grove Nature Reserve parcels to the existing Recreational Use License Agreement between the City of Livermore and Zone 7.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on August 19, 2015.

By \_\_\_\_\_  
President, Board of Directors

RECORDING REQUESTED BY:

Order No.  
Escrow No.  
Loan No.

WHEN RECORDED MAIL TO:

City Clerk  
City of Livermore  
1052 South Livermore Avenue  
Livermore, CA 94550

ABOVE THIS LINE FOR RECORDER'S USE

MAIL TAX STATEMENTS TO:

The Undersigned grantor(s) declare(s):  
CITY TRANSFER TAX \$  
DOCUMENTARY TRANSFER TAX \$  
SURVEY MONUMENT FEE \$

SAME AS ABOVE

Computed on the consideration or value or property conveyed; OR  
Computed on the consideration or value less liens or encumbrances  
remaining at time of sale.

APN: 097-0090-0039-07, 097-0137-002-09, 097-0149-089-00 and 097-0149-070-00

11-131

**IRREVOCABLE OFFER OF DEDICATION**

APN:097-900-039-079 (Portion) & 097-0137-002-009 (Portion)

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, the CITY OF LIVERMORE, a Municipal Corporation hereby Grant(s) to the ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7, a body corporate and politic, real property in the City of Livermore, County of Alameda, State of California, more particularly described in the Grant Deed to the City of Livermore, recorded June 9, 1972 at reel:3153, image; 359 (72-77729) Official Records of Alameda County, California.

Commonly known as Medieros Parkway totaling approximately 44.59 acres dedicated in fee, including Oak Grove Nature Reserve) totaling approximately 14.78 acres to be reserved as a park for public use through the existing Recreational Use License Agreement or other similar mechanism between the City of Livermore and Zone 7, for the purpose of flood protection and groundwater management and recharge.

This Grant Deed is one of the four land transfers described in the Agreement between the City of Livermore and Zone 7, Alameda County Flood Control and Water Conservation District, for the El Charro Specific Plan Area Flood Protection Improvements, executed on April 1, 2011.

IN WITNESS WHEREOF, this instrument is duly executed pursuant to City of Livermore Resolution No. 2010-197, adopted December 16, 2010, a certified copy of which is attached hereto and made a part hereof.

Dated: June 17, 2011

CITY OF LIVERMORE

By: 

Troy Brown, Asst. City Manager  
for Linda Barton, City Manager

STATE OF CALIFORNIA  
COUNTY OF ALAMEDA

}  
} SS.  
}

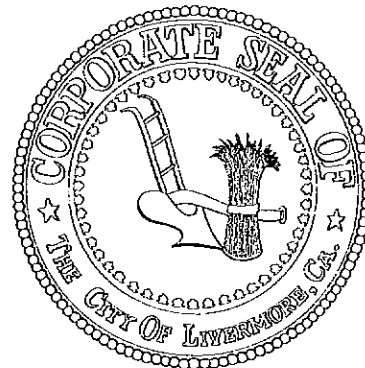
On June 17, 2011 before me, SUSAN NEER, CITY CLERK,

personally appeared Troy Brown, Assistant City Manager,  
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s)  
is/are subscribed to the within instrument and acknowledged to me that he/she/they executed  
the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the  
instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the  
instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the  
foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Susan Neer



1972

OR

3 1 5 3

3 5 9

Order No.  
Escrow No. 301282/300982  
Loan No.

WHEN RECORDED MAIL TO:  
CITY OF LIVERMORE  
2250 First Street  
Livermore, California

RECORDED AT REQUEST OF  
FIRST AMERICAN TITLE CO.  
3:00 PM  
At Mr. Post

RE: 3153 IM 359

JUN - 9 1972

OFFICIAL RECORDS OF  
ALAMEDA COUNTY, CALIFORNIA  
JACK G. BLUE  
COUNTY RECORDER

72-77729

SPACE ABOVE THIS LINE FOR RECORDER'S USE

MAIL TAX STATEMENTS TO:

Same as above

DOCUMENTARY TRANSFER TAX \$ NONE

Computed on the consideration or value of property conveyed; OR  
Computed on the consideration or value less liens or encumbrances  
remaining at time of sale. 1st American Title

Signature of Declarant or Agent determining tax - Firm Name  
Livermore

## GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

DANIEL L. GILLICE

hereby GRANT(S) to

CITY OF LIVERMORE, a municipal corporation

the real property in the City of Livermore  
County of Alameda

, State of California, described as

SEE EXHIBIT "A" ATTACHED HERETO

EXCEPTING FROM said real property described in Exhibit "A", ninety percent (90%) of  
any and all sand and gravel, in kind, which shall at any time be excavated, dug out  
of, or removed from any part of said real property, except for the construction of  
sidewalks, streets, curbing and other improvements upon the real property, as here-  
tofore excepted and reserved of record by the Kaiser Industries Corporation.

Dated June 7, 1972

STATE OF CALIFORNIA  
COUNTY OF  
Alameda

On June 7, 1972

before me, the undersigned, a Notary Public in and for said  
State, personally appeared Daniel L. Gillice

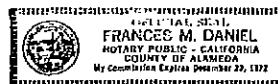
known to me to be the person whose name is  
subscribed to the within instrument and acknowledged that  
he executed the same.

WITNESS my hand and official seal.

Signature

Frances M. Daniel

*Daniel L. Gillice*  
DANIEL L. GILLICE



(This area for official notary seal)

MAIL TAX STATEMENTS AS DIRECTED ABOVE

1032 (10/69)

1972

OR

3 1 5 3

3 6 0

## PARCEL 1:

EXHIBIT "A"

RE: 3153 IN 360

Beginning at the northwestern corner of the 250 acre tract of land conveyed by Watson A. Bray, et. al., to Daniel M. Teeter, by Deed dated February 10, 1875, and recorded February 11, 1875, in Book 103 of Deeds, page 359, Alameda County Records; running thence south 0° 06' east along the western boundary line of said 250 acre tract of land 449.55 feet; thence north 89° 06' east, 741.2 feet; thence south 75° 07' east, 294.8 feet; thence north 88° 13' east, 887.1 feet; thence north 73° 14' east 528 feet; thence north 28° 29' west, 89.9 feet; thence west, 101.6 feet; thence north 71° 50' west, 93.4 feet to the southern boundary line of the tract of land containing 4.65 acres more or less, conveyed by Daniel M. Teeter and S. C. Teeter, his wife, to J. W. Robertson, by Deed dated February 10, 1898 and recorded February 14, 1898, in Book 642 of Deeds, page 258, Alameda County Records; thence west along the last named boundary line and along the southern boundary line of the 3 acre tract of land conveyed by D. M. Teeter and Susie Teeter, his wife, to John W. Robertson, by Deed dated April 23, 1913 and recorded July 29, 1913, in Book 2174 of Deeds, page 411, Alameda County Records, 1360.5 feet to the southwestern corner of said last mentioned 3 acre tract of land; thence north along the western boundary line of said 3 acre tract of land, 225.6 feet to the line dividing Plots 18 and 24 of the Bernal Portion of the Rancho El Valle De San Jose; thence west along said dividing line, 326.3 feet to the point of beginning.

Being a portion of Plot 24 of the Bernal Portion of the Rancho El Valle De San Jose, as said Plot is shown on the map accompanying the report of the commissioners appointed to partition said rancho by the District Court of the Third Judicial District of the State of California, in and for the County of Alameda, in the suit entitled, Augustin Bernal, et. al., plaintiffs, vs. Juan Pablo Bernal, et. al., defendants; and as described in the Decree of Partition therein, a certified copy of which decree and said map was recorded in Book 40 of Deeds, page 315, Alameda County Records.

## PARCEL 2:

72-77729

Beginning at a point on the southern boundary line of that certain 6.827 acre tract of land conveyed by Charles Ginger to Kaiser Paving Company, a corporation, by Deed dated July 12, 1924, and recorded July 17, 1924, in Book 786 of Official Records of Alameda County, page 3, said point of beginning being distant south 89° 05' 40" east 253 feet from the southeastern line of Holmes Street, the bearing of the southern boundary line of said 6.827 acre tract being taken as south 89° 05' 40" east for the purpose of this description; and running thence along the southern boundary line of said 6.827 acre tract south 89° 05' 40" east, 753.17 feet to the western boundary line of that certain 17.20 acre tract of land conveyed by D. M. Teeter and Susie Teeter, his wife, to Kaiser Paving Company, a corporation, by Deed dated March 6, 1924, and recorded April 5, 1924, in Book 640 of Official Records of Alameda County, at page 466; thence southerly along said last named boundary line 368.94 feet; thence north 74° 57' 20" west 570.83 feet; and thence north 40° 56' 20" west 308 feet to the point of beginning.

Being a portion of Plot 24 of the Bernal Portion of the Rancho El Valle De San Jose, as said Plot is shown on the map accompanying the report of the commissioners appointed to partition said Rancho by the District Court of the Third Judicial District of the State of California, in and for the County of Alameda, in the suit entitled, Augustin Bernal, et. al., plaintiffs, vs. Juan Pablo Bernal, et. al., defendants; and as described in the Decree of Partition therein, a certified copy of which decree and said map was recorded in Book 40 of Deeds, at page 315, Alameda County Records.

## PARCEL 3:

Portion of the Parcel of Land described in the Deed by J. K. Warner, et. al., to Kaiser Paving Company, dated April 29, 1926, recorded May 8, 1926, in Book 1311 of Official Records of Alameda County, page 99, W/40213, described as follows:

Begin at a point on the southwestern line of College Avenue, as said avenue now exists, 60 feet wide, distant thereon northwesterly 50 feet from the eastern line of said land described in said deed; and run then parallel with said line of said land described in said deed, southerly 168.58 feet; then parallel with said line of College Avenue, southeasterly 50 feet to the eastern line of said land described in said deed; then along the last named line, south 10° 40' west, 568.98 feet to the southwestern line of said land described in said deed; then along the last named line, northwesterly 300 feet to the western line of said land described in said deed; then along the last named line, northerly 570 feet to the southwestern line of the parcel of land described in the deed by Kaiser Paving Company to Claude T. Rosa and Johanna E. Ross, dated August 17, 1932, recorded August 31, 1932, in Book 2867 of Official Records of Alameda County, page 128, (CC/42373) then along the last named line, and along the southwestern line of the parcel of land described in the deed by Henry J. Kaiser Company, to Allen M. Winslow and Rae Murden Winslow, dated April 14, 1953, recorded April 21, 1953, in Book 7024 of Official Records of Alameda County, page 139, AH/41300, southeasterly 75 feet to the eastern line of said land described in said last mentioned deed; then along the last named line, northerly 164.78 feet to said line of College Avenue; and then along the last named, southeasterly 175.30 feet to the point of beginning.

1972

OR

3 1 5 3

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PARCEL 4:

EXHIBIT "A"

RE: 3153 IM:361

All those certain lots, pieces or parcels of land situate, lying and being partly in the City of Livermore and partly in the Township of Murray, County of Alameda, State of California, described as follows:

Begin at a point on the eastern line of Holmes Street, distant thereon 701 feet southerly from the point of intersection of said line of said street with the southern line of College Avenue, as said street and avenue existed prior to widening, in the City of Livermore, said beginning point being the southwesterly corner of that certain 5 acre tract of land described in the Deed from WM. A. Mendenhall to August Brecht, dated January 17, 1877, and recorded April 11, 1877, in Book 141 of Deeds, page 132, Alameda County Records; and run then south  $10^{\circ} 45'$  west 310.2 feet along said line of said Holmes Street; then south  $86^{\circ} 34'$  east 229 feet; then south  $1^{\circ} 44'$  west 310.5 feet to the southern line of that certain 1.682 acre tract of land described in the deed from Ole R. Groth and Ellen Groth, his wife, to Charles Ginger, dated June 10, 1924 and recorded July 17, 1924, in Book 786 of Official Records of Alameda County, page 1; then east, along the southern boundary line of said 1.682 acre tract of land, 727.2 feet to the southeast corner thereof; then north 196.9 feet to the southern boundary line of a tract of land formerly owned by James Anderson; then north  $68-1/4^{\circ}$  west 429.7 feet to the eastern boundary line of that certain 5 acre tract of land described in the Deed from John McDevitt to Isabella McDevitt, his wife, dated January 29, 1904 and recorded January 30, 1904, in book 939 of Deeds, page 455, Alameda County Records; then south  $10^{\circ} 40'$  west 42.2 feet to the southeast corner of said 5 acre tract conveyed to Isabella McDevitt; then north  $75^{\circ}$  west 270 feet to the southwest corner of said 5 acre tract conveyed to Isabella McDevitt; then north  $10^{\circ} 40'$  east 53 feet to the southeast corner of said 5 acre tract of land described in said deed from Mendenhall to Brecht; and then north  $54^{\circ} 50'$  west 324 feet to the point of beginning.

Being a portion of plots 18 and 24 of the Bernal Portion of the Rancho El Valle De San Jose, as said plots are shown on the map accompanying the report of the Commissioners appointed to Partition said Rancho by the District Court of the Third Judicial District of the State of California, in and for the County of Alameda, in the suit entitled,

Augustin Bernal, et al., Plaintiffs, vs. Juan Pablo Bernal, et al., defendants, and as described in the Decree of Partition therein, a certified copy of which decree and said map was recorded in Book 40 of Deeds, page 315, Alameda County Records.

EXCEPTING THE portion lying within the lines of said Holmes Street, as it now exists.

ALSO EXCEPTING THEREFROM that portion thereof described in the Deed from Henry J. Kaiser Company, a Nevada corporation, formerly Kaiser Industries, Inc., a Nevada corporation, successor by Merger to Henry J. Kaiser Company, a Nevada corporation, to City of Livermore, a municipal corporation, dated June 11, 1956, recorded June 27, 1956, in Book 8072 of Official Records of Alameda County, page 334.

PARCEL 5:

72-77729

Begin at the southwestern corner of that certain 5 acre tract of land conveyed by Isabella McDevitt to Catarina Shirley, by Deed dated January 24, 1907, and recorded January 29, 1907, in Book 1312 of Deeds, page 81, Alameda County Records; and run then north  $10^{\circ} 40'$  east, along the western boundary line of said land so conveyed to Shirley, 77.5 feet; then south  $68^{\circ} 30'$  east 272 feet to the eastern boundary line of said land so conveyed to Shirley; then southerly, along said last named line, 45 feet to the southern boundary line of said land so conveyed to Shirley; and then north  $75^{\circ}$  west along said last named line, to the point of beginning.

Being a portion of Plot 18 of the Bernal Portion of the Rancho El Valle De San Jose, as said Plot is shown on the map accompanying the report of the commissioners appointed to Partition said Rancho by the District Court of the Third Judicial District, of the State of California, in and for the County of Alameda, in the Suit Entitled, Augustin Bernal, et. al., plaintiffs, vs. Juan Pablo Bernal, et. al., defendants, and as described in the Decree of Partition therein, a certified copy of which Decree and said map was recorded in Book 40 of Deeds, page 315, Alameda County Records.

1972

OR

3 1 5 3

3 6 2

PARCEL 6:

EXHIBIT "A"

RE: 3153 IM 362

Begin at a point on the western boundary line of that certain 5.08 acre tract of land described in the Deed from Amelia Anderson to Dale S. Anderson, dated March 13, 1912, and recorded March 15, 1912, in Book 2039 of Deeds, page 282, Alameda County Records, distant thereon south 21° 22' west 200 feet from the point of intersection thereof with the southwestern line of College Avenue, as the same existed prior to widening; and run then north 68° 15' west 201.34 feet; thence north 21° east 25 feet; then north 68° 15' west 430.40 feet to a point on the eastern boundary line of that certain tract described in the Deed from Wm. M. Mendenhall to John A. Clary, dated May 19, 1873, and recorded May 20, 1873, in Book 91 of Deeds, page 195, Alameda County Records, distant thereon southerly 178.80 feet from the northeastern corner of said tract conveyed to Clary; then south 9° 45' west, along said last named line, 569 feet; thence south 68° 15' east 448.80 feet to the southern boundary line of Plot 18 of the Rancho El Valle De San Jose, as said plot is shown upon the map herein referred to; then easterly, along said last named line, 73.03 feet to said western boundary line of said 5.08 acre tract; and then, along said last named line, north 21° 22' east 505.50 feet to the point of beginning.

Being a portion of Plot 18 of the Bernal Portion of the Rancho El Valle De San Jose, as said plot is shown on the map accompanying the report of the Commissioners appointed to Partition said Rancho by the District Court of the Third Judicial District of the State of California, in and for the County of Alameda, in the suit entitled, Augustin Bernal, et. al., plaintiffs, vs. Juan Pablo Bernal, et. al., defendants and as described in the Decree of Partition therein, a certified copy of which decree and said map was recorded in Book 40 of Deeds, page 315, Alameda County Records.

72-77729

PARCEL 7:

Begin at a point on the eastern boundary line of that certain 5.08 acre tract of land conveyed by D. S. Anderson to Amelia Anderson, by deed dated November 7, 1919, and recorded November 7, 1919, in Book 2841 of Deeds, page 146, Alameda County Records, distant thereon north 4° 12' east 136.65 feet from the southeastern corner of said 5.08 acre tract, the bearing of said eastern boundary line being taken as north 4° 12' east for the purpose of making this description; and run then along said eastern boundary line, south 4° 12' west 136.65 feet to the aforesaid southeastern corner; then along the southern boundary line of said 5.08 acre tract, being also the southern boundary line of Plot 18 of the Rancho El Valle De San Jose, south 89° 45' 40" west, 447.50 feet to the southwestern corner of said 5.08 acre tract; then along the western boundary line of said 5.08 acre tract, north 21° 38' 20" east 295.08 feet; and then leaving said western boundary line, south 68° 40' 20" east 374.34 feet to the point of beginning.

Being a portion of Plot 18 of the Bernal Portion of the Rancho El Valle De San Jose, as said Plot is shown on the map accompanying the report of the commissioners appointed to partition said Rancho by the District Court of the Third Judicial District of the State of California, in and for the County of Alameda, in the Suit Entitled, Augustin Bernal, et. al., plaintiffs, vs. Juan Pablo Bernal, et. al., defendants, and as described in the Decree of Partition therein, a certified copy of which Decree and said map was recorded in Book 40 of Deeds, page 315, Alameda County Records.

## CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property conveyed by the Irrevocable Offer of Dedication dated June 17, 2011, from the City of Livermore to the Alameda County Flood Control and Water Control District, Zone 7, a corporate and politic, is hereby accepted by its General Manager pursuant to authority conferred by Resolution No. 16-\_\_\_\_\_ adopted by the Board of Directors of Zone 7 on August 19, 2015, and the Grantee consents to recordation thereof.

Dated \_\_\_\_\_, 2015

By: \_\_\_\_\_  
G. F. Duerig, General Manager

### ATTEST:

By: \_\_\_\_\_  
Linda Van Buskirk  
Acting Executive Assistant

AMENDMENT NO. 2

TO THE RECREATIONAL USE LICENSE AGREEMENT BETWEEN  
THE CITY OF LIVERMORE AND ZONE 7 OF THE ALAMEDA COUNTY  
FLOOD CONTROL AND WATER CONSERVATION DISTRICT

THIS AMENDMENT TO THE RECREATIONAL USE LICENSE AGREEMENT (“AMENDMENT”), is made and entered in this \_\_\_ day of \_\_\_\_\_, 2015 by and between Zone 7 of Alameda County Flood Control and Water Conservation District, a body corporate and politic, hereinafter referred to as “ZONE 7”, and the City of Livermore, a Municipal Corporation, hereinafter referred to as “CITY”.

RECITALS

This AMENDMENT is entered into on the basis of the following facts, intentions and understanding of ZONE 7 and CITY hereto:

WHEREAS, ZONE 7 and CITY previously entered into that certain Recreational Use License Agreement between the Zone 7 of Alameda County Flood Control and Water Conservation District and the City of Livermore dated December 12, 2005, as authorized by City Resolution No. 2005-256 and Zone 7 Resolution No.06-2799 (“LICENSE”); and

WHEREAS, ZONE 7 has agreed to allow CITY to use certain flood control channel properties (LICENSED AREAS) to construct, improve, maintain and operate the LICENSED AREAS for park and recreation purposes; and

WHEREAS, it is mutually agreed between ZONE 7 and CITY to add additional channel properties to the LICENSE for the privilege of using said properties for park and recreational facilities use under the terms of said LICENSE as modified by this AMENDMENT; and

NOW, THEREFORE, in consideration of the mutual covenants and promises set forth herein, the receipt and adequacy of which is hereby acknowledged, ZONE 7 and CITY hereby agree to the following AMENDMENT:

1. LICENSED AREA to be added to LICENSE, as provided under Section 3, is the property delineated in Exhibit "A", which is attached hereto and made a part hereof and more particularly described as follows:

Grand Deed to the City of Livermore, recorded June 9, 1972 at reel:3153,  
Image;359 (72-77729) Official Records of Alameda County  
Assessor's Parcel No. 097-0090-0039-07, 097-0137-002-09, 097-0149-089-00  
and 097-0149-070-00

2. In all other respects, the terms and provisions of the LICENSE are to continue in full force and effect.

IN WITNESS WHEREOF, ZONE 7 and CITY have caused their corporate names to be affixed hereto by their respective officers authorized to do so.

ZONE 7 OF ALAMEDA COUNTY  
FLOOD CONTROL AND WATER  
DISTRICT

CITY OF LIVERMORE

By: \_\_\_\_\_

Marc Roberts

City Manager, City of Livermore

By: \_\_\_\_\_

G.F. Duerig  
General Manager, Zone 7

Madeiras Parkway (approx. 44.59 acres)

OAK GROVE NATURE RESERVE  
(14.78 ACRES)

TOTAL (44.59 ACRES)

SCALE: 1"=400'

Location Map





ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: ADMINISTRATION**  
**CONTACT: JILL DUERIG**

**AGENDA DATE:** August 19, 2015

**ITEM NO. 10**

**SUBJECT:** Consider Response to the 2014/15 Alameda County Grand Jury Final Report

**SUMMARY:**

- In June 2015, the Alameda County Grand Jury issued its 2014/15 Final Report.
- This report included Findings and Recommendations about Zone 7 concerning its compliance with the Brown Act, general transparency and use of developer fees.
- Pursuant to Penal Code section 933, Zone 7 is required to respond to each of these Findings and Recommendations.
- Zone 7 has completed the District Transparency Certificate of Excellence program, proving its dedication to being fully transparent as well as open and accessible to the public and other stakeholders.
- While Zone 7 is appreciative of the Grand Jury's thoughtful review of a citizen's complaint, a thorough legal review resulted in disagreement with all the Findings and confirmation that Zone 7 has been in complete compliance with the law and the Agency's own commitment to transparency. Given this disagreement with the Findings, Zone 7 also disagrees with the need to implement any Recommendations presented in the Grand Jury's Report.
- The Administrative Committee met and recommended authorizing the President of the Board to provide the required response to the Grand Jury's 2014/15 Final Report, generally outlining these points.
- A draft response has been prepared and is attached.

**FINANCIAL:**

There are no costs associated with this item.

**RECOMMENDED ACTION:**

Adopt attached resolution authorizing the President of the Board to provide the required response.

**Attachments:** Resolution, Grand Jury Transmittal Letter, and Draft Response

ZONE 7  
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT  
BOARD OF DIRECTORS

RESOLUTION NO

INTRODUCED BY  
SECONDED BY

***Authorizing the President of the Board to Provide Required Grand Jury Response***

WHEREAS, in June 2015 the Alameda County Grand Jury issued its 2014/15 Report; and

WHEREAS, this report included Findings and Recommendations to which Zone 7 must provide a response no later than September 29, 2015; and

WHEREAS, a Draft Response Letter has been prepared outlining the major points to be made in providing the required response.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize and direct the President of the Zone 7 Board to finalize the Agency's Response and provide it to the Grand Jury, as required.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on August 19, 2015.

By: \_\_\_\_\_  
President, Board of Directors



Alameda County  
**Grand Jury**

1401 Lakeside Drive  
Suite 1104  
Oakland, California 94612

June 29, 2015

510.272.6259  
fax 510.465.9647  
[www.acgov.org/grandjury](http://www.acgov.org/grandjury)

Zone 7 Water Agency  
Board of Directors  
100 North Canyons Parkway  
Livermore, CA 94551

Dear Zone 7 Board of Directors:

Enclosed please find a copy of the 2014-2015 Alameda County Grand Jury Final Report. The California Penal Code requires you to respond to certain findings and recommendations made by the Grand Jury. You must respond in writing to the Presiding Judge of the Alameda County Superior Court and to the Grand Jury. Please address the original of your response to: Honorable Winifred Y. Smith, Presiding Judge, Alameda County Superior Court, 1225 Fallon Street, Department One, Oakland, CA 94612; **and submit one copy to:** Alameda County Grand Jury, 1401 Lakeside Drive, Suite 1104, Oakland, CA 94612.

Penal Code section 933.05(a) requires you to respond to the Grand Jury's findings by stating that you agree or disagree with each individual finding, and if you disagree, you must explain the reasons. When responding to each individual recommendation, the statute requires you to include one of the following with each response: the Grand Jury's recommendation *has been implemented*; the recommendation will be implemented in the future *with a timeline for implementation*; the recommendation will not be implemented *with an explanation why*; or the recommendation requires further analysis, with an explanation of the scope and parameters of an analysis and the timeframe for review. Copies of the specific instructions contained in the code sections are enclosed for your reference. **Incomplete responses or responses not in accordance with the Penal Code will not be accepted.** All responses will be posted on the Grand Jury's website at [www.acgov.org/grandjury](http://www.acgov.org/grandjury). Extra copies of this report are also available on the Grand Jury's website.

Please respond to Findings 15-15 through 15-21  
and to Recommendations 15-15 through 15-17

Your response is due **no later than Tuesday, September 29, 2015.** If you have any questions please call the Grand Jury's Legal Advisor, Deputy District Attorney Rob Warren at (510) 272-6320, or the Grand Jury's Legal Assistant, Cassie Barner at (510) 208-9855. We appreciate your time and consideration.

Sincerely,

A handwritten signature in blue ink, which appears to read "George Phillips".

GEORGE PHILLIPS, Foreperson  
2014-2015 Alameda County Grand Jury

encl: 2014-2015 Final Report; How To Respond to Findings & Recommendations;  
Penal Code sections 933 and 933.05

## **HOW TO RESPOND TO FINDINGS & RECOMMENDATIONS IN THIS REPORT**

Pursuant to the California Penal Code section 933.05, the person or entity responding to each grand jury finding shall indicate one of the following:

1. The respondent agrees with the finding.
2. The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefore.

The person or entity responding to each grand jury recommendation shall report one of the following actions:

1. The recommendation has been implemented, with a summary regarding the implemented action.
2. The recommendation has not yet been implemented, but will be implemented in the future, with a timeframe for implementation.
3. The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a timeframe for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency where applicable. This timeframe shall not exceed six months from the date of publication of the grand jury report.
4. The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefore.

### **SEND ALL RESPONSES TO:**

Presiding Judge Winifred Y. Smith  
Alameda County Superior Court  
1225 Fallon Street, Department One  
Oakland, California 94612

### **A COPY MUST ALSO BE SENT TO:**

Cassie Barner c/o  
Alameda County Grand Jury  
1401 Lakeside Drive, Suite 1104  
Oakland, California 94612

All responses for the 2014-2015 Grand Jury Final Report must be submitted no later than 90 days after the public release of the report.

**California Penal Code section 933.05**

933.05. (a) For purposes of subdivision (b) of Section 933, as to each grand jury finding, the responding person or entity shall indicate one of the following:

- (1) The respondent agrees with the finding.
- (2) The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefor.

(b) For purposes of subdivision (b) of Section 933, as to each grand jury recommendation, the responding person or entity shall report one of the following actions:

- (1) The recommendation has been implemented, with a summary regarding the implemented action.
- (2) The recommendation has not yet been implemented, but will be implemented in the future, with a timeframe for implementation.
- (3) The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a timeframe for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This timeframe shall not exceed six months from the date of publication of the grand jury report.

(4) The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefor.

(c) However, if a finding or recommendation of the grand jury addresses budgetary or personnel matters of a county agency or department headed by an elected officer, both the agency or department head and the board of supervisors shall respond if requested by the grand jury, but the response of the board of supervisors shall address only those budgetary or personnel matters over which it has some decision-making authority. The response of the elected agency or department head shall address all aspects of the findings or recommendations affecting his or her agency or department.

(d) A grand jury may request a subject person or entity to come before the grand jury for the purpose of reading and discussing the findings of the grand jury report that relates to that person or entity in order to verify the accuracy of the findings prior to their release.

(e) During an investigation, the grand jury shall meet with the subject of that investigation regarding the investigation, unless the court, either on its own determination or upon request of the foreperson of the grand jury, determines that such a meeting would be detrimental.

(f) A grand jury shall provide to the affected agency a copy of the portion of the grand jury report relating to that person or entity two working days prior to its public release and after the approval of the presiding judge. No officer, agency, department, or governing body of a public agency shall disclose any contents of the report prior to the public release of the final report.

August 20, 2015

Honorable Winifred Y. Smith, Presiding Judge  
Alameda County Superior Court  
1225 Fallon Street, Department One  
Oakland, CA 94612

Subject: ***Zone 7's Response to Findings and Recommendations in Grand Jury Report***

Dear Judge Smith:

Pursuant to Penal Code §933, *et seq.*, Zone 7 Water Agency (Zone 7) is submitting these responses to each of the Findings and Recommendations presented in the 2014-15 Grand Jury Report. We thank the Grand Jury for its thoughtful review of a citizen's complaint about the Agency's transparency leading up to the purchase of the former Patterson Ranch Property, which Zone 7 refers to as the Lake Del Valle Property.

Zone 7 takes transparency in government very seriously. Since the Brown Act was adopted, Zone 7 has complied with all legal requirements for advanced posting, notifications and accommodating public participation in board meetings. Beyond that, Zone 7 includes transparency in its Core Values and has recently been awarded a "District Transparency Certificate of Excellence" by the California Special District Association's Leadership Foundation. Therefore, Zone 7 respectfully disagrees with the 2014-15 Grand Jury's Findings challenging its transparency and compliance with the Brown Act, as detailed in the attached. Zone 7 also disagrees with the suggestion that there may have been any violation of the Mitigation Fee Act, also as detailed in the attached.

Zone 7 appreciates your consideration of these responses. If you have any questions, please feel free to contact either me or Zone 7's General Manager Jill Duerig (at the number above or by email at [jduerig@zone7water.com](mailto:jduerig@zone7water.com)).

Sincerely,

Sarah Palmer, PhD  
President, Zone 7 Board of Directors

Attachment: Specific Responses to Each of the Findings and Recommendations in the 2014-15 Grand Jury Report

cc: Cassie Barner c/o Alameda County Grand Jury, 1401 Lakeside Drive, Suite 1104,  
Oakland, CA 94612  
Zone 7 Board of Directors

*Specific Responses to Each of the Findings and Recommendations in the Grand Jury Report*Finding 15-15:

The Zone 7 Water Agency Board of Directors failed to follow the Brown Act, limiting opportunities for public comment and discussion throughout its decision-making process of the Patterson Ranch Property Purchase.

*Zone 7 disagrees with this finding. Government Code §54956.81, which authorizes the governing boards of public agencies to hold closed sessions regarding real property negotiations, states that “Notwithstanding any other provision of this chapter, a legislative body of a local agency may hold a closed session with its negotiator prior to the purchase...of real property...for the local agency to grant authority to its negotiator regarding the price and terms of payment for the purchase...” Closed session discussions between the Zone 7 Board and Zone 7’s negotiator, the General Manager, concerning the purchase of the Patterson Ranch Property adhered to this limited closed session description in the Brown Act, discussing with the Agency Negotiator only negotiating strategy, price and terms. Each closed session discussion was properly disclosed as part of the public, posted agendas for the respective meetings with all parcel numbers listed. No members of the public appeared nor spoke on the potential real property purchase at any of these meetings.*

*The Grand Jury’s report implies that disclosure beyond that required by the Brown Act is necessary in order to serve the values of openness, transparency and fiscal responsibility in the conduct of the public’s business. Zone 7 respectfully disagrees with this view. As is well-known to anyone who has purchased a home, sometimes confidentiality is important in order to be able to secure real property. The Brown Act’s requirement that a public agency identify the specific parcels under discussion balances that need for confidentiality against the public’s right to know how public funds may be used. As noted above, despite the fact that the parcel numbers and the names of the negotiating parties representing the Patterson Ranch owners were clearly posted on Zone 7’s agendas for five months before the July 17, 2013 meeting that authorized the purchase of the property, not one member of the public asked any question about the potential purchase.*

Finding 15-16:

The Zone 7 Water Agency Board of Directors failed to follow its organizational core values of openness, transparency, and fiscal responsibility throughout the process of acquiring the Patterson Ranch property.

*Zone 7 disagrees with this finding. The referenced Core Value states, “OPEN AND TRANSPARENT – The Board’s meetings and communications shall be open and public, **except when the Brown Act***

***authorizes otherwise.*** "[emphasis added] As discussed above, all Zone 7's actions were consistent with both the letter and the spirit of the Brown Act as well as with this Core Value, by extension.

*Other core values were similarly followed, as is the tradition at Zone 7. For example, the core value "We will operate in a productive, cost effective, transparent and efficient manner to ensure sound financial stability" has clearly been followed. Budgets include retailer and public meetings followed by public adoption, posting of a first draft and then posting of the adopted budget. The Zone 7 Budget Book won the Government Finance Officers Association's Distinguished Budget Award in both 2014 and this year. This year, it was also awarded the Budget Award from the California Society of Municipal Finance Officers Association (CSMFO). Each year, a third party audit is also conducted, discussed in public board meetings and posted on the website (see <http://www.zone7water.com/publications-reports/financial-documents>).*

**Finding 15-17:**

The Zone 7 Water Agency Board of Directors failed to make a public case supporting and justifying the purchase of the Patterson Ranch property prior to the actual acquisition of the same.

*Zone 7 disagrees with the implication of this finding - that specifically making a public case for purchase is legally required or even appropriate. There are times when a public agency might have to seek bond funding to make a public purchase of land and, in that case, said public agency would need to seek advance approval for the act of borrowing since it commits future expenditures beyond any one-year budget. In this case, however, Zone 7 had adequate reserves to make the purchase so there was no requirement, beyond the public budget process that was followed (see below).*

*It is important that the Grand Jury understand the constraints that were facing Zone 7 in connection with the potential purchase of the Patterson Ranch. The seller's lead negotiator indicated that, due to the diverse members of the respective trusts, if the property were not purchased by a single seller in a short period of time, the property might very well be taken off the market or sold piecemeal to developers. The potential revenues to the seller of such a piecemeal sale would be substantially greater than the price that Zone 7 could have paid; thus, the Board of Directors believed that it was important that Zone 7 act quickly. This was a purchase from a willing seller and it was important to negotiate price and terms (including timing) with that willing seller.*

*Further, as discussed below, the acquisition of the Patterson Ranch property, while not specifically contemplated prior to February 2013, was entirely consistent with Zone 7's approach to watershed management as*

*reflected in the Stream Management Master Plan (SMMP), which was approved by the Board of Directors in 2006 and which has guided Zone 7's activities ever since. This approach to integrated water resources management, wherein a public agency protects habitat surrounding a reservoir in order to protect drinking water quality and better manage flood risk, is common throughout California; for instance, Contra Costa Water District uses these principles to manage Los Vaqueros Reservoir and protect downstream areas from flooding.*

*Residential development around Lake Del Valle on the Patterson Ranch property would inevitably create water quality and stormwater runoff problems for Zone 7 in the form of additional erosion, runoff of contaminants (e.g., sediments, grease, oil and pesticides/herbicides), habitat loss and other issues related to development in, or degradation of, the watershed. It is for these reasons that other water agencies in the Bay Area (such as Contra Costa Water District) do not permit any development around or use of their reservoirs. Property acquisition as part of a watershed protection program is not limited to Contra Costa Water District. Other examples of environmental stewardship programs which include a watershed protection component with public ownership of watershed lands to limit development include San Francisco Public Utilities Commission's Alameda Watershed Program and similar programs at Sonoma County Water District, East Bay Municipal Utility District and Santa Clara Valley Water District.*

*Such watershed protection programs are often associated with Habitat Conservation Plans (see, for example, <http://sfwater.org/index.aspx?page=412>). In Zone 7's case, the January 2015 "Grazing Management and Watershed Protection Plan" for the Lake Del Valle Property is based on the Eastern Alameda County Conservation Strategy which was accepted by the Zone 7 Board on March 16, 2011, to provide guidance for Zone 7's future projects.*

*In conclusion, faced with a situation where Zone 7 needed to move expeditiously and confidentially in order to secure watershed property in keeping with existing strategies, policies and programs, the quick action was very much in the public interest and Zone 7 acted to secure that property in full compliance with the Brown Act.*

**Finding 15-18:**

The Zone 7 Water Agency failed to publicly disclose funds to acquire the Patterson Ranch property, except as a broad watershed investment, when its Capital Improvement Program Strategic Priorities were adopted.

*Zone 7 disagrees with this finding and is unsure to which document the Grand Jury refers when it says the "Capital Improvement Program Strategic Priorities." The Capital Improvement Program and the Strategic*

*Planning Priorities are two separate documents, with the Budget a third document (more budget discussion below). It was the Strategic Planning Priorities document that was amended on October 16, 2013. The Strategic Planning Priorities (SPP) provides strategic direction from the board to the staff at the agency. Each year, staff priorities are set by the SPP. Annual summer board retreats discuss whether or not any SPP updates are needed.*

*During the Summer 2013 retreat, a public Special Board Meeting (conducted on August 19, 2013), the board discussed how best to manage the parcel for watershed protection, in anticipation of the acquisition; the Board asked its Water Resources Committee to consider the matter. At the September 24, 2013 meeting of the Water Resources Committee, the item was discussed. In October 2013, the Board adopted changes to the SPP based on the Water Resources Committee's recommendations in order to guide staff's approach to developing a "Grazing Management and Watershed Protection Plan for the Lake Del Valle Property." This was used to define key tenant responsibilities for long-term leasing that would be compatible with watershed protection.*

Finding 15-19:

The Zone 7 Water Agency failed to adequately disclose detailed budget information regarding the purchase of the Patterson Ranch property prior to adoption of the 2013-2014 annual budget. The purchase included a questionable use of restricted funds.

*Zone 7 disagrees with this finding. The 2013-14 Budget was discussed at two public meetings: the April 22, 2013 Finance Committee Meeting and the May 15, 2013 Regular Board Meeting.*

*The Agency has long acknowledged the multiple benefits of any watershed protection projects in addressing flood control, water management and environmental stewardship. This is well described in the Agency's August 2006 Stream Management Master Plan, posted on the Agency's website at: <http://www.zone7water.com/publications-reports/reports-planning-documents/35-final-smmp>. Projects in Zone 7's Master Planning documents that have multiple benefits are funded from the program funds receiving the identified benefits. An example is a project for a flood control channel that improves the stability of the existing channel, expands stormwater capacity and enhances groundwater recharge. The portion that improves channel stability would be funded from Flood Control (Fund 200). The portion that increases flow capacity in the channel would be funded from developer impact fees (Fund 210). And the portion that enhances groundwater recharge would be funded from water rates (Fund 100). The relative apportionments would be based upon an analysis of relative benefits.*

*In the case of purchasing the Lake Del Valle property, multiple benefits were realized. A rigorous analysis was performed on each parcel to determine pro-rated shares in the purchase price for each parcel to be provided from each impacted fund. The analysis resulted in the funding breakdown presented in the proposed 2013-14 budget which was later adopted during open, public sessions. No questions were raised concerning the proposed breakdown at either of the public meetings at which the budget was discussed nor were any requests for additional detail received. The analysis can be provided which shows that no questionable use of restricted funds occurred.*

*The Grand Jury's comment that Development Impact Fees can only be used only for downstream improvements is technically incorrect and shows a lack of understanding of the SMMP's basic approach to regional flood protection, to create regional detention in areas that may be upstream or downstream of the development to reduce flows in the areas being impacted by the development when the receiving streams may be physically constrained in some way which prevents a more-direct capacity expansion. In the case of the Patterson Ranch property, proper management of the lands above Lake Del Valle reduces the instantaneous runoff into the Lake and so reduces the quantity of water that is released into downstream areas and reduces silting of the reservoir. In this way the acquisition of the Patterson Ranch property and its proper management by Zone 7 represents a very cost-effective way to reduce potential flooding downstream of Lake Del Valle. Spending Development Impact Fees to defray the appropriate portion of the acquisition cost (as determined from a detailed analysis) was a very cost-effective way to provide the flood control benefits that are the purpose of those funds.*

Finding 15-20:

The Zone 7 Water Agency claimed that the acquisition of the Patterson Ranch property would provide important "watershed" or "watershed protection" or "protection of water rights," broadening its strategic interests in the region. These interests were not explained to the public until inserted in the documents after the actual acquisition of the property.

*Zone 7 disagrees with this finding. As described below, Zone 7 has for many years been committed to a watershed approach to providing flood protection, improving water quality and protecting habitat, mirroring the watershed approach adopted by the USEPA. The acquisition of the Patterson Ranch furthered all of these goals and so was entirely consistent with previous strategic direction from the Board of Directors and plans that were approved by the Board of Directors. Accordingly, Zone 7 disagrees with the Grand Jury's claim that the acquisition of the Patterson Ranch somehow broadened Zone 7's strategic interests in the region.*

*Further, as noted above, this land acquisition had multiple benefits. By purchasing the property, a large fraction of the watershed directly above Lake Del Valle can be protected, which provides both water quality and flood control benefits. The 2006 Stream Management Master Plan (SMMP) is a holistic management program that improves water quality, enhances habitat and manages flood waters, while allowing multiple uses of property and facilities for recreation and other public purposes. The SMMP was developed as a result of an extensive public stakeholder effort and is posted on Zone 7's website.*

*This integrated approach to managing water resources with flood facilities is well-established in all Zone 7's documents. For instance, the 2012 Annual Report (released in Spring 2013 and posted on the website at <http://www.zone7water.com/publications-reports/reports-planning-documents/>), entitled "We're All About Water," highlights the significance of Zone 7's strong commitment to Integrated Water Resources Management as a tool to manage water resources and facilities in a holistic, cohesive fashion. The President's message states, "The interdependence of these valuable resources was evident as the agency worked to complete a project to improve Cope Lake, a key facility in Zone 7's future Chain of Lakes, to be used for both Valley-wide flood protection and water supply. The interrelated nature of water resources was celebrated during the 50th anniversary of Zone 7 groundwater management. Zone 7 uses State Water Project supplies and the Valley's vast system of arroyos – which double as flood control channels -- to recharge the groundwater basin."*

**Finding 15-21:**

The Zone 7 Water Agency Board of Directors did not follow Brown Act protocols by failing to disclose in a timely manner actions taken during closed session that affected a Zone 7 partnership with East Bay Regional Parks District serving mutual interests after the acquisition of the Patterson Ranch property.

*Zone 7 disagrees with this finding. The seller first approached EBRPD to determine whether that agency would be interested in purchasing the property. The seller was, as noted above, interested in a quick sale with little publicity due to the difficulty of obtaining agreement on a sale from all of the owners of the property. EBRPD was not able to move quickly in the manner desired by the seller; hence, the seller was willing to discuss a sale to Zone 7 as long as Zone 7 would be able to move quickly and also had EBRPD's support for the purchase. Authorizing the negotiator to execute the Memorandum of Understanding (MOU) with EBRPD positioned Zone 7 to acquire the property at a reasonable price during the short time period that the seller was willing to sell. In this way, the discussion of the MOU was an integral element of the terms and conditions of the purchase of the Patterson Ranch property and so well*

*within the provision of the Brown Act authorizing the Board of Directors to give direction on the terms for the proposed acquisition to the general manager.*

*“Partnership” is an exaggeration of the terms of the MOU. The key “Understandings” are that the MOU allows the Parties to better coordinate acquisition and management efforts and that there should not be any significant changes to the site’s use until a public planning process and associated environmental reviews are conducted.*

Recommendation 15-15: The Zone 7 Water Agency Board of Directors and general manager must strictly follow established rules and practices for conducting agency business in an open and transparent manner consistent with its organizational core values and the Brown Act. Specifically, the Zone 7 Water Agency must:

- (a) Post board meeting agenda items in advance of public meetings as required by law.
- (b) Provide ample time and opportunity for public comment and participation before taking actions.
- (c) Publicly report actions and individual votes made by each board member in closed sessions.

*Zone 7 believes that our agency already conducts its business in a manner that is fully consistent with the Brown Act and other governing laws, as well as our core values, and that Zone 7 did so in connection with the purchase of the Patterson Ranch property. Since the adoption of the Brown Act, Zone 7 has always been in compliance with both the spirit and the letter of the law, posting board agendas in advance, providing time for public comment during the meetings and reporting actions taken in closed session as required under the law.*

*Zone 7 has been awarded a District Transparency Certificate of Excellence by the California Special District Association’s Special District Leadership Foundation (SDLF). This certificate is statewide recognition by a non-partisan, impartial professional organization that Zone 7 satisfies not only the basic government transparency requirements of the Brown Act but also achieves website and outreach openness typical of excellent special districts.*

*When Zone 7 moved into the current North Canyons Office, the board room was designed with enhanced public access in mind. Over the years, Zone 7 has received awards for outreach from the Association of California Water Agencies including taking first place in Region 5 Outreach in 2008, 2009 and 2011, as well as a “Best in Blue” finalist award in 2013 and a Clair Hill Finalist award in 2015.*

*Zone 7 has been very active in many statewide outreach campaigns, especially during the recent drought. These include participation in the “Save Our Water” program; participation in development and implementation of the Value of Water Program (educating consumers on the role and value of public water agencies); and participation in other statewide outreach programs on a variety of water quality issues.*

*Since the internet has become a popular way to provide information to the public, website postings of all meeting materials have been added to hard copy mailings (board meetings going back to 2008; expanded to include committee meetings in 2010). In addition, eNewsletters have been added to the Outreach Program. The website is in a constant state of improvement to enhance its user-friendliness and to make information and key reports (for example, the Stream Management Master Plan, Annual Budgets and Audits, the Strategic Planning Priorities and many others) available to the public.*

*Zone 7 has always been scrupulous about encouraging public comment on agenda items during public meetings. Indeed, on many matters, the President of the Board has actively invited and encouraged public comments during the meeting. To the extent that the Grand Jury recommendation suggests that matters should be carried over for more than one meeting after proper notice in order to encourage greater public participation, that suggestion is not to be found in the Brown Act. The President of the Board has the discretion to direct staff to carry over matters to allow for greater deliberation and/or to enable questions to be addressed; again, the President has exercised that discretion on a number of matters. Nonetheless, requiring Zone 7 to consider certain matters during more than a single meeting when not required by law would unreasonably interfere with the conduct of the public’s business.*

Recommendation 15-16:

The Zone 7 Water Agency must provide greater transparency, making archived video or audio of public meetings available on Zone 7's website.

*While Zone 7 will consider this recommendation, Zone 7's current approach goes well beyond the requirements of the Brown Act, the sole legal requirement for transparency. Zone 7 respectfully disagrees that there is any requirement to make changes in policies or procedures. Specifically, the Brown Act authorizes a local agency to destroy any recordings made by the agency of a public meeting 30 days after the recording. In this way, the Brown Act does not require – and perhaps even discourages – agencies from archiving recordings of public meetings in favor of official minutes that are approved by a governing board.*

*Again, Zone 7 has been awarded a District Transparency Certificate of Excellence by the California Special District Association's Special District Leadership Foundation (SDLF). This certificate is statewide recognition by a non-partisan, impartial professional organization that Zone 7 satisfies not only the basic government transparency requirements of the Brown Act but also achieves website and outreach openness typical of excellent special districts.*

*Zone 7 will continue its ongoing strategic efforts to increase transparency beyond the minimum required under the Brown Act. Note that Zone 7's website is a major source of information to the public about the Agency and the Lake Del Valle Property. For instance, the "Grazing Management and Watershed Protection Plan for the Lake Del Valle Property" is posted on Zone 7's website under Watershed Stewardship at:*

*<http://www.zone7water.com/reports-a-planning-documents>. Zone 7 conducted a Request for Proposal (RFP) process to identify the ideal tenant to implement the Watershed Protection Plan. The RFP was broadly distributed and posted on the website, interviews of the top three candidates were conducted at an open, Special Board Meeting and the final selection was made during a Regular Board Meeting. Members of the public were present and spoke on behalf of various candidates.*

*Detailed minutes from public meetings (both committee and full board) are posted when approved. Draft minutes are posted three days in advance of the regular board meetings as part of the board meeting agenda packages.*

Recommendation 15-17:

The Zone 7 Water Agency Board of Directors must implement a plan of action to ensure public awareness and provide opportunities for attendance and participation at board meetings.

*While Zone 7 will consider this recommendation, we disagree that there has been any violation of the Brown Act nor do we agree that there is any external requirement to ensure public awareness or participation beyond what is currently practiced by the Agency. Zone 7's meetings are open to the public. All meetings are held in locations within its service area that are accessible to the public. Any member of the public can request to be added to Zone 7's e-Newsletter distribution list to receive timely notification of major developments at Zone 7. Members of the public do attend Board and committee meetings and do participate and comment on matters of interest. Finally, virtually every meeting of the Board of Directors is covered by the local media, which describes – often in great detail – the activities of Zone 7.*

*Zone 7 has been awarded a District Transparency Certificate of Excellence by the California Special District Association's Special District Leadership Foundation (SDLF). This certificate is statewide recognition by a non-partisan, impartial professional organization that Zone 7 satisfies not only the basic government transparency requirements of the Brown Act but also achieves website and outreach openness typical of excellent special districts. Zone 7 has also been the recipient of Outreach Awards from the Association of California Water Agencies (ACWA). That being said, in keeping with its Core Values, Zone 7 will continue to strive to maintain and improve transparency beyond the minimum requirements of the Brown Act.*



**Tri-Valley Water Roundtable**  
**Held July 22, 2015**  
**Discussion Notes**  
8-13-15

On Wednesday, July 22, 2015, the Tri-Valley Water Policy Roundtable met from 5:00 p.m. to 7:00 pm at the Robert Livermore Community Center at 4444 East Avenue, Livermore, California.

Agencies represented included the Cities of Livermore, Pleasanton, San Ramon and Dublin; Zone 7 Water Agency; Dublin San Ramon Services District (DSRSD); and the California Water Service Company. Pat O'Keeffe and Brittany Gabel of Management Partners served as the facilitator and recorder respectively. The following is a summary of the discussion that was captured on flip charts.

Four objectives were established for the session:

- Understanding preliminary findings of Zone 7 water supply evaluation update related to the need to pursue desalination and/or indirect potable reuse (IPR);
- Understanding and supporting a preliminary Zone 7 study to evaluate regional desalination and indirect potable reuse;
- Receive a presentation on a successful community engagement effort to support a large-scale advanced water treatment and recycling project; and,
- Discussion of potential community engagement efforts necessary to support a Tri-Valley IPR project.

***Participants***

Elected/Designated Representatives

- Mayor John Marchand, Livermore
- Council Member Bob Woerner, Livermore
- Council Member Karla Brown, Pleasanton
- Council Member Kathy Narum, Pleasanton
- Director Vonheeder-Leopold, DSRSD
- Director Richard Halket, DSRSD
- Director Bill Stevens, Zone 7
- Director Dick Quigley, Zone 7
- Frank Vallejo, General Manager Cal Water

Staff

- Brian Bornstein, City Engineer, San Ramon
- Roger Bradley, Assistant to the City Manager, Dublin
- Jill Duerig, General Manager, Zone 7
- Darren Greenwood, Public Works Director, Livermore
- Dan McIntyre, Engineering Services Manager, DSRSD
- Bert Michalczyk, General Manager, DSRSD
- Daniel Smith, Operations Services Director, Pleasanton
- Nelson Fialho, City Manager, Pleasanton
- Marc Roberts, City Manager, Livermore

### ***Presentation by Jill Duerig and Darren Greenwood***

The General Manager of Zone 7, Jill Duerig, and the Livermore Public Works Director, Darren Greenwood, delivered a presentation on the preliminary findings of the water supply evaluation update and the phased study on desalination and indirect potable reuse being conducted by Zone 7. Attachment A includes the slides from this presentation. Workshop participants were invited to provide comments and ask clarifying questions about the presentation. Comments and responses to questions included:

- Currently our reliability threshold aims to go below 85% reliability less than 1% of the time. A revised threshold hasn't been agreed upon.
- How will the bottom line (cost per acre foot) cited in the study affect retail prices?  
*Response: We expect roughly that every 1% increase in cost of production (per acre foot) for Zone 7 will translate into a 2/3% increase in retail rates, although these are very preliminary numbers.*
- Are these price increases feasible for the consumer? *Response: This is a policy question, but we believe these price increases could be feasible.*
- Have we engaged in any public outreach yet about indirect potable reuse or desalination options? *Response: We think that many people (perhaps 40%) are not familiar with reverse osmosis.*
- Neighboring agencies such as the East Bay Municipal Utilities District (EBMUD) and the San Francisco Public Utilities Commission have had significant rate increases, sometimes in the double digits. These types of increases may become the norm.
- Do we need another portfolio option that drops the Delta fix and the chain of lakes, as these are fairly uncertain and we should factor in the possibility that they could take longer than anticipated? *Response: We account for some of that uncertainty in the study's scenarios, although the costs associated with the Delta fix are included in all scenarios, regardless of the completion date.*
- Have we incorporated 2014 data? If not, can we legitimately ignore 2014 given how big of an impact it has made on the industry? *Response: It is difficult for the Department of Water Resources (DWR) to incorporate data quickly; we build risk into our model with our own analysis. The bottom line is that higher levels of reliability comes at a cost.*
- Can we use more recycled water than what is currently incorporated into the study's portfolio options, because isn't recycled water less expensive than desalination?  
*Response: There is only so much waste water generated that can be recycled. Although this is*



*still being evaluated, it appears that 8,700 acre feet is a reliable estimate. In our analysis, we are identifying options that will not dramatically increase the cost of water.*

- Desalination is a regional project; we would share the costs as well as the eventual supply for desalinated water. The desalinated water would not come from the ocean directly, but from the Bay estuary which will have less expensive operations costs.
- One limitation of desalination is that it is not a locally controlled water source (the broader region would invest in this alternative together).
- Cost estimates for the analysis likely do not include inflation.
- What would happen if the Delta Fix was never completed? How would that affect our reliability projections, given our current plan? *Response: We would expect reliability to drop to 46-51% (at or below health and safety levels). Short-term solutions need to be explored, but the study does have a scenario where the Delta Fix is not completed until 2048.*
- There is grant money available (potentially \$7.5 million) for collaborative projects; if we developed a regional project, we could get some attention. We should come together as a group for the Phase 2 effort.
- What is the best approach for elected officials to take towards these issues? *Response: Even with El Niño, we're not out of the drought; let's move now and collaborate as partners; local control is a key concern.*
- The state is already giving money away and eager to show they are doing something tangible; we should move jointly to apply for these funds.
- Part of our job is to make sure the byproducts of the IPR process are not harmful.

### ***Presentation by the West Basin Water District***

A presentation was delivered by Ron Rildermuth, the Manager of Public Information and Conservation of the West Basin Water District about recent efforts to gain community support for recycled water and indirect potable reuse. Attachment B includes the slides from this presentation. Workshop participants were invited to provide comments and ask clarifying questions about the presentation. Comments and clarifications included:

- Is there is a difference in the public perception of injection versus replenishment (augmentation)? *Response: The latter is easier.*
- Would you suggest preparing a survey before sharing information with the community? *Response: Initial survey can be done now and another can be done in two years; staff and elected officials can begin communicating with the public about the concept now.*
- How did you get the environmental community on your side? *Response: We actually could have done a lot more in this area.*
- Would you expect even stronger community support now for these projects (given the drought)? *Response: Absolutely.*
- Could national laboratories be a potential partner and supporter? *Response: It really depends.*
- For its public outreach, West Basin Water District reached out to elected officials, the business community (Chamber of Commerce), community groups, and other formal and informal leaders in the community.
- It is important to build trust and reliability within our communities; West Basin was lucky to have high trust even before public outreach began; they had relatively good



relations with the media, routinely responded to questions, and was proactive in making sure the media had the correct information.

### ***Group Discussion on Public Outreach***

In order to facilitate workshop discussion, participants were asked to answer the following four questions in small groups:

1. Should the agencies agree to jointly participate in an active public outreach effort, and how might this effort be structured?
2. If the need for IPR is confirmed by the Zone 7 water supply evaluation, should public outreach begin in the fall, or wait until a further study is completed and why?
3. List the key political, business and community leaders or organizations that should be the focus of early outreach efforts.
4. How should elected officials support the public outreach effort?

A summary of the overall discussion that occurred in relation to each individual question is presented below.

***Discussion of Question 1: Should the agencies agree to jointly participate in an active public outreach effort, and how might this effort be structured?***

Responses from participants were as follow:

- We should use the communication strategy we utilized for the drought as our model for organizing public outreach efforts for these projects.
- We should move together, but have a lead agency who contracts for services and is committed to steering the effort; joint funding is important to keep us all committed.
- We should move as a group and have an administrative lead agency (similar to the reciprocal service agreement) to help coordinate messaging and delivery.
- We should have joint outreach and a unified message (but the solution can be tailored to our distinct communities).

***Discussion of Question 2: If the need for IPR is confirmed by the water supply evaluation, should public outreach begin in the fall, or wait until a further study is completed and why?***

Responses from participants were as follow:

- There seems to be support for this already, given the nature of media articles.
- Yes; public outreach should begin in the fall and we should start with a survey.
- We should start now, rather than waiting for the water supply evaluation to be complete; there are some basic elements we could start and we need to take advantage of current community awareness of these issues.
- Outreach is practically starting already with last two roundtables; existing use of recycled water is a potential springboard (e.g., fill stations).

***Discussion of Question 3: List the key political, business and community leaders or organizations that should be the focus of early outreach efforts?***

Responses from participants were as follow:

- |                                  |                        |                      |
|----------------------------------|------------------------|----------------------|
| • Veterans of Foreign Wars (VFW) | • “No growth” groups   | • Senior centers     |
|                                  | • Friends of Livermore | • Large home owner’s |



- Sierra Club
- Friends of Alameda Creek
- Hospitals
- Chamber of Commerce and other business leaders (Oracle, Workday)
- Rotary
- Lions
- Shriners
- National Research Council
- Lawrence Livermore National Laboratory
- Sandia National Laboratories
- PleasantonVoters.com
- Town hall
- American Association of University Women (AAUW)
- Unions (SEIU, employees)
- City employees
- City committees and commissions
- Stockmen's and wine grower associations; ranchers associations
- Pacific Gas & Electric
- Wineries
- associations
- Water agencies
- City Councils and other elected officials (state, federal, county)
- Nongovernment organizations (NGO) leaders
- Real estate associations
- School districts
- Service groups
- East Bay Regional Park District (EBRPD)
- Livermore Area Recreation and Park District

Some additional comments on the nature of outreach included:

- We should incorporate testimonials for other water agencies who are further along in implementing indirect potable reuse.
- It is important for us to stay on the message; this is about a preference for locally sourced water; indirect potable reuse decreases necessity for large Delta facilities.

***Discussion of Question 4: How should elected officials support the public outreach effort?***

Responses from participants about ideas to be explored were as follow:

- Take photos of elected officials "tasting" the water (possibly at a community wine tasting event).
- Have a booth for outreach at public events and farmers market.
- Contact supporters about indirect potable reuse specifically.
- Support staff at events.
- Have recycled water dunk tanks at events.
- Build consensus on talking points and work in unison.
- Develop a resolution that supports indirect potable reuse; engage community to define project before we go too far.
- Build reliability from the bottom (so we are less dependent on the Delta fix); the tunnels may be less of a necessity if indirect potable reuse is widespread.
- We have to have consistent messaging about the twin tunnels and keep in mind that we are 80% dependent on water conveyed through the South Bay Aqueduct and the Delta, which is our cheapest source of water; it is not possible for us to make up the difference with desalination and indirect potable reuse; nevertheless, our 80% dependency could be reduced.



### ***Wrap Up Discussion***

To conclude the roundtable discussions, participants reviewed shared observations and desired next steps. Comments included:

- The City of Pleasanton offered to begin developing a plan for a joint effort regarding public outreach and take the plan to Council for funding, if everyone agrees to do the same. A number of agencies expressed support for this idea, including Zone 7 and DSRSD, but it was expressed that we should sort out some details and conduct a joint survey before moving too quickly.
- Another option is to have the elected officials commit to supporting the represented agencies in the development of a community survey; we can have some preliminary outreach about the importance of having a diverse water portfolio and the importance of reliability.
- We need to get started and move as a group (people are tired of waiting for us).
- *Next Step: Staff will start working on plans for outreach and a survey; staff will develop a joint plan for immediate outreach in the fall.*

### ***Attachments***

- A. Presentation by Jill Duerig and Darren Greenwood
- B. Presentation by the West Basin Water District



## Administrative Committee

### Summary Notes

|                           |                                            |                       |                            |
|---------------------------|--------------------------------------------|-----------------------|----------------------------|
| <b>Meeting Date:</b>      | August 11, 2015                            | <b>Start Time:</b>    | 4:00 p.m.                  |
| <b>Directors Present:</b> | Sarah Palmer<br>Bill Stevens<br>John Greci | <b>Staff Present:</b> | Jill Duerig<br>Kurt Arends |

President Palmer called the meeting to order at 4:00 p.m.

**1. Public Comment on Items Not on the Agenda:** None.

**2. Update on Ground Movement Study and Neighborhood Reaction**

Mr. Arends began by providing a brief summary of the neighborhood meeting held on August 5, 2015. At the meeting, Zone 7's consultant, Cal Engineering and Geology (CE&G) provided an overview of their June 2015 report which described the three main causes of ground surface movement: expansive soils, groundwater level fluctuations, and tectonic movement. The study concluded that the foundational cracking and differential settlement being experienced in the Sutter Gate Avenue area of Pleasanton is likely caused by the extensive drying of the expansive soils found under that neighborhood rather than groundwater management activities.

At the August 5<sup>th</sup> meeting, the Pleasanton residents who were present questioned Zone 7's groundwater management practices and expressed an ongoing belief that the damages they are seeing throughout the area began about the same time that Zone 7 installed and began operating Mocho Wells 3 and 4. The residents felt that if the Mocho Wells were used as aquifer storage and recovery (ASR) wells to inject treated water back into the ground as originally envisioned and considered in the 1999 environmental impact analysis, groundwater levels would be higher and they would not be experiencing the differential settlement and damage to their homes.

CE&G and Zone 7 staff explained that since Zone 7 manages the groundwater basin and operates its wells to maintain groundwater levels above historic lows, the valley will not experience permanent inelastic subsidence. Any elastic subsidence potentially caused by fluctuating groundwater levels will be very small in magnitude and manifest over a very large area with very low angular distortion. This type of movement would not cause the differential settlement which causes structural cracks and displacement.

Director Stevens stated that the report and presentation may have been too technical for some residents and was broader in scope than the Sutter Gate neighbors had expected. He would like to see a summary added to the report written in terms that lay people could understand and suggested that an outline of the neighborhood be added to some maps used in the presentation to more easily identify the neighborhood in question.

Director Stevens also suggested that Zone 7 board representatives convene a meeting with the representatives from the Pleasanton City Council to come up with a plan. He handed out a suggested investigation plan based on his experience as a geotechnical engineer which included additional soil sampling, monitoring and data gathering.

President Palmer asked the audience when the Sutter Gate neighborhood was built to which a member of the audience responded 1984. President Palmer also pointed out that any decision to perform additional work would require approval of the full Zone 7 Board.

Ms. Duerig explained that the reason the CE&G report was broad was to minimize the cost and to serve as a peer review of Zone 7 staff's knowledge. The study was also to determine if the damage the neighbors were experiencing could be related to groundwater pumping and management. Ms. Duerig stated that had the report suggested that the damage could be related to Zone 7's groundwater pumping, staff would have supported further investigations.

Director Greci described from his experience growing up in the valley how canals were built to drain the land in the Sutter Gate area and how the soil removed to build the canals was spread across areas burying vegetation and any other debris that may have been there. The land was built up with very poor soil and eventually houses were built in those areas.

President Palmer agreed that she would like to see the Sutter Gate area indicated on the maps as the neighbors appeared to have lost confidence in the study when the consultant could not identify their neighborhood on the map. A member of the audience stated that they wanted to see evidence that there is no correlation between the damage to their homes and the operation of Mocho Wells 3 and 4.

A member of the audience identified himself as Michael Grossman and read a two page statement about the CE&G report, stating that it did not address their concerns and that they wanted to hear about updates to the 1999 Negative Declaration for Mocho Wells 3 and 4 since it had included ASR but was never implemented.

Ms. Duerig explained that several studies and reports were prepared after the 1999 Negative Declaration including the Salt Management Plan and Well Master Plan. She also explained how Zone 7 uses the arroyos to recharge the groundwater basin and that the groundwater levels in the Sutter Gate neighborhood have not been near the historic lows for that area. She reiterated that the study confirmed that the effects being seen are due to soil and not groundwater pumping and that staff is comfortable with the work that was done and was not recommending any additional studies.

Director Stevens provided some history about aquifer storage and recovery (ASR) at Zone 7. The Board was fully supportive of ASR in 1999 to improve water quality and reliability. However, there was a problem with an ASR pilot project and it was determined that ASR wells are not feasible in this area. More work was done on this in subsequent studies that looked at this issue even though a new impact study was not done.

The Committee expressed to the audience that they understand the issues and were sympathetic to the concerns being expressed and felt that more discussion was needed with the City of Pleasanton to determine the next steps. President Palmer said she would reach out to members of the City Council to see how this should be addressed and let staff if any further steps need to be taken.

### **3. Update on Special District Leadership Foundation "District Transparency Certificate of Excellence" Application Status**

Ms. Duerig introduced Osborn Solitei, the new Assistant General Manager of Finance. The Committee welcomed Mr. Solitei.

Ms. Duerig then informed the Committee that Zone 7 had received the District Transparency Certificate of Excellence from the Special District Leadership Foundation. A copy of the notice was distributed which is good for two years at which time the agency will have to reapply.

Ms. Duerig then provided a brief follow-up report on a related Administrative Committee request to explore televising Zone 7 Board meetings. Ms. Duerig explained that further study indicated that there is a difference between cities and special districts in that cable bills collect 1% to fund public access which goes to the cities. The local cities help fund cable channels like TV 30 which allows the cities to broadcast at a reduced rate. In fact, TV 30's board is made up of the mayors of Livermore, Pleasanton and Dublin. Zone 7 is still waiting for a quote from TV 30 but it is expected to cost more than what the cities pay. Some large special districts use Granicus to webcast their meetings but this service is much more expensive.

The Committee requested that once the study is completed, staff bring back the costs and evaluation of the various options to the Administrative Committee for direction and it was acknowledged that this item would not be on the August Regular Board Meeting Agenda.

#### **4. Discussion of Grand Jury Response**

President Palmer had been discussing potential responses with General Counsel David Aladjem and felt that any response should highlight the newly-awarded District Transparency Certificate of Excellence. Zone 7's General Counsel conducted a legal review of the Grand Jury's findings and recommendations and confirmed that the Brown Act has been followed by Zone 7 and that all other legal requirements have been met. Director Greci expressed his feeling that it was important to convey that Zone 7 is doing things right but that any letter should thank the Grand Jury for their suggestions and confirm Zone 7's commitment to continuing to improve its transparency. The Committee discussed how best to get Board member input prior to the response coming to the full Board for approval. The committee then asked to have the General Counsel circulate the draft response to all Board members to allow directors the opportunity to provide any suggestions before finalizing the draft and including in the August agenda package.

#### **5. Verbal Reports**

President Palmer asked that the upcoming Board Retreat include guidelines from General Counsel about how Board Members should respond when attending public meetings and what to do if more than three Board members attend a public meeting. President Palmer asked that any other suggestions for the agenda be sent to her.

Director Greci reported that he accompanied staff to a Drought Summit hosted by Congressman Swalwell. Topics included the drought and water supply. Many Bay Area water agencies and all the local retailers were present. Director Greci felt the Congressman was open minded and open to discussion and wanted to help move issues forward. Director Greci suggested that more cooperation was needed from the State and Federal Fish and Wildlife agencies to move projects quicker through the permitting processes.

**6. Adjournment:** President Palmer adjourned the meeting at 5:25 p.m.

### 8/19/15 Board Written/Narrative Comments by Dick Quigley

**July 22: Participated at water policy round table.** Good community leadership discussion of water supply and sustainability issues long term. Leadership group seems poised to move and Pleasanton made the first offer to lead with DSRSD on a recycle solution. My concern is that the community may be keying on recycling as the water supply solution, and dismissing storage conveyance and the "Delta Fix". Bill Stevens and I both stressed at the meeting. I also note from the recent annual report and others that total year-end storage is down 33,900-ac ft ending 2014 numbers and 62,800-ac ft down from year end 2011. Do we have any idea of how our 2015-year end storage might look? If my numbers are wrong please let me know.

Note the following from Bert Michalczyk

Here is the answer to the question you asked at the recent ACWA Region 5 meeting:

Over the past four years LAV Exports have averaged 13,764 AF. Keep in mind that FY 13-14 is skewing the numbers a bit because of the heavy recycling that was done that year and combined with lower than normal WWTP flows, both due to the drought. Credit to Dan Gallagher and his staff for quickly gathering the data.

QuickTime™ and a  
TIFF (Uncompressed) decompressor  
are needed to see this picture.

**Aug 12:** Participated in ACWA Chair & Vice Chair [Issues](#) Webinar.

Power point presentation is available and has been shared with staff listing key issues and strategies.

1. **Welcome and Introductions** Quinn 5 minutes
2. **Federal Legislation: Forest Management** 30 minutes
  - a. Staff Presentation Quinn/Reynolds
  - b. Member Input/Feedback Chairs/Vice Chairs
3. **Federal Legislation: Drought Management** 30 minutes
  - a. Staff Presentation Reynolds
  - b. Member Input/Feedback Chairs/Vice Chairs
4. **ACWA Updates** 15 minutes
  - a. CA Water Foundation / Public Good Charge Persike
  - b. California Water Fix Quinn
  - c. Proposition 218 Tuck

- d. Groundwater Legislation Wiley
- e. SWRCB Work Groups Quinn

**5. Additional Regions Issues/Future Webinar Topics** Chairs/Vice Chairs 10 minutes

**Key Fed bills with Cal Water implications:**

HR 2647 Resilient Federal Forests 2015-Eco system restoration projects and possibly Delta

SB 1691 National Forest Eco System Improvements Act of 2015 administration opposes but may grow legs, as "Protects Municipal Water Supplies" Western States sponsored bills. Ques. Do we know how much of our State Water Project water drains from Federal landscape? My guess is 50-70%.

**Drought Legislation:**

HR 2898 Western Water and Americas Security Act of 2015 & S 1894 Boxer, Feinstein Bill with 200 Mil for Title 16 projects (Chain of Lakes and Recycling reuse may qualify) and a RIFIA loan guarantee for reuse projects.

**On Water Rates:**

Public never more aware of water issues and needs; Heavy water users should pay more, higher rates may be gaining acceptability. Water Fees; consultant suggests public seems OK with up charge on their monthly billing for visible solutions. Public perception-failure to invest.

Let me know if you have any questions or suggestions.

Thanks DQ



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION:** ADMINISTRATION

**CONTACT:** Jill Duerig

**AGENDA DATE:** August 19, 2015

**ITEM NO. 14a**

**SUBJECT:** GENERAL MANAGER'S REPORT

**SUMMARY:** The following highlights a few of the key activities which occurred last month. Also attached is a list of the General Manager (GM) contract(s) executed during July.

Administration:

- The Save-Our-Water Campaign recently partnered with "Releaf" to identify ways to reduce stress on trees and other critical landscaping components. The new web page describes how best to manage tree preservation during the drought (see <http://saveourwater.com/blog-posts/importance-of-proper-tree-care-stressed/>) and the key points have been posted on the Zone 7 drought web page (<http://www.zone7water.com/conservation-rebates/water-conservation/203-drought>).
- In partnership with the Natural Resources Conservation Service and the County Resource Conservation District, staff submitted a grant application to the California Department of Fish and Wildlife for planning and preliminary design work along the Arroyo De La Laguna where excessive erosion is occurring.
- Zone 7's exhibit, "Lose Your Lawn" was prepared for this year's Alameda County Fair and, when the fair ended, was put on display at the Dublin Library for the remainder of July.

Environmental & External Affairs:

- The U.S. Bureau of Reclamation released its final environmental impact and feasibility reports on raising the height of Shasta Dam 18-1/2 feet, finding the concept feasible but not recommending approval because of the \$1.3 billion cost and related financing issues. Typically, Congress approves up-front funding for projects such as raising a dam and then the costs are repaid over 40 or 50 years by selling water and hydropower, but the report states that approach is "unrealistic" because of current budget constraints.
- The Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) was released July 10<sup>th</sup>, commencing a 45-day notification period. Later in the month, a 60-day extension of the public comment period was announced, extending the deadline until October 30, 2015. The slightly modified project responds to comments received and improvements in the design to reduce impacts. Documents are available on the state's Bay Delta Conservation Plan website, <http://baydeltaconservationplan.com/2015PublicReview.aspx>.
- The California Fish and Wildlife Department's local representative informed Zone 7 staff that a hybrid salamander was recently identified in Altamont Creek. Regional sampling is being planned to determine the extent of the hybrid population.

#### Engineering and Flood Control:

- The algal toxin treatment study continues. Initial results suggest that both chlorine and ozone remove the toxins being tested, although ozone appears to be more effective. Chloramines do not remove the toxins.
- The summer interns completed a map of all the wells within the Nutrient Management Plan's Greenville-Tesla high nitrate area-of-concern, compiling all the pertinent well data. Staff completed local cross-sections and sent letters requesting monitoring access where there are data gaps. Work on the next cross-section, in the Mines Road area-of-concern, has begun.

#### Operations and Maintenance:

- At the Patterson Pass Conventional Plant, demand for the alternative coagulant, aluminum chlorohydrate or ACH, is at 26 mg/L, which is being augmented by about 15-20 mg/L of ferric chloride to enhance removal of disinfection byproduct precursors so the generation of trihalomethanes is minimized. The Ultra-Filtration Plant remains offline for the duration of the alternative coagulant testing.
- The carbon dioxide pilot test at the Del Valle Plant remained on hold throughout July, pending identification of a new vendor and resolution of contracting issues. In the meantime, coagulant doses at Del Valle remain extremely high (70-78 mg/L compared to average doses about half that amount).

## Monthly List of GM Contracts

**July 2015**

Contracts:

|                                 |                  |                                                                           |
|---------------------------------|------------------|---------------------------------------------------------------------------|
| Cal Engineering & Geology       | \$39,956         | Evaluation of Ground Movement                                             |
| Cal Engineering & Geology       | \$50,000         | Geotechnical Engineering<br>Services - Annual Project Support             |
| Jan-Pro Cleaning Systems        | \$26,856         | Janitorial Services for DVWTP, PPWTP<br>MGDP, and Parkside Office         |
| HDR Engineering, Inc.           | \$50,000         | Support for WSE Update, specifically<br>Recycled Water and Desalination   |
| JDH Corrosion Consultants, Inc. | \$49,480         | Corrosion Engineering Services –<br>Annual Cathodic Protection Monitoring |
| Maddaus Water Management        | \$10,000         | Peer Review of<br>Zone 7's Water Conservation Program                     |
| <b>Total July 2015</b>          | <b>\$226,292</b> |                                                                           |



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: OFFICE OF THE GENERAL MANAGER**  
**CONTACT: BONI BREWER**

**AGENDA DATE:** August 19, 2015

**ITEM NO. 14b**

**SUBJECT:** Legislative Update

**SUMMARY:**

- Zone 7 staff, with the support of Agency consultants, monitors legislation that is being considered in Sacramento, as well as other political activities of interest to the Agency.
- The Legislature adjourned for its summer recess on July 17 and will return August 17. Bills had to pass the second house's policy committee before the recess to remain active this year. The session is scheduled to again be on recess between September 11 and January 4, 2016.
- Legislation to respond to the 4<sup>th</sup> District Court of Appeal ruling that found tiered water rates must be tied to actual costs will be two-year bills. Proponents will continue to work with stakeholder groups and try to line up sponsors. The California Supreme Court declined to "depublish" the court's decision, meaning it can be cited as a precedent.
- AB 1201 (Salas) cleared the Senate Natural Resources and Water Committee on a unanimous vote. The bill would require the Department of Fish and Wildlife to develop a science-based approach to help address predation by non-native species on Delta species. It was opposed by 38 sport fishing associations and businesses.
- The U.S. House of Representatives passed on a largely party-line vote (245-176) HR 2898, the Western Water and Food Security Act of 2015, authored by San Joaquin Valley Representative David Valadao. The bill would require agencies to use current and reliable scientific data when applying the Endangered Species Act. It also would provide regulators with more flexibility to store water during high flows and simplify regulations and significantly change the salmon restoration program on the San Joaquin River. It now moves to the Senate where Lisa Murkowski, chairwoman of the Energy and Natural Resources Committee, already has convened a committee working on the drought in the Western United States.
- Senators Dianne Feinstein and Barbara Boxer have co-authored the California Emergency Drought Relief Act of 2015, which totals \$1.3 billion. It would supply money over 10 years, for new and expanded dams, groundwater recharge and desalination plants. Feinstein said the bill would be heard by a committee in the fall and then likely folded into the broader bill.

**RECOMMENDED ACTION:** Information only



## EXECUTIVE SUMMARY State Legislation



Prepared for the Zone 7 Water Agency  
by The Gualco Group, Inc.

| Bill | Topic | Synopsis | Staff Recommendation | Status of the Bill/Comments as of 07/31/15 |
|------|-------|----------|----------------------|--------------------------------------------|
|------|-------|----------|----------------------|--------------------------------------------|

### Water Management

|                                                       |                                        |                                                                                                                                                                                                                                                                          |       |                                                                  |
|-------------------------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------------------|
| <a href="#">AB 149</a><br><a href="#">(Chavez)</a>    | Urban water management plans           | This bill would require each urban water supplier to update and submit its 2020 urban water management plan to the Department of Water Resources by July 1, 2021.                                                                                                        | Watch | Chapters by the Secretary of State, Chapter 49, Statutes of 2015 |
| <a href="#">AB 935</a><br><a href="#">(Salas)</a>     | Water projects                         | This bill would require, upon appropriation by the Legislature, the department to provide funding for certain projects.                                                                                                                                                  | Watch | In Senate Committee on Appropriations                            |
| <a href="#">SB 664</a><br><a href="#">(Hertzberg)</a> | Water: urban water management planning | This bill would require an urban water supplier to include within its plan, beginning January 1, 2020, a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities. | Watch | In Assembly Committee on Appropriations                          |

### Groundwater

|                                                   |             |                                                                                                                                                                                                                                        |       |                                       |
|---------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------|
| <a href="#">AB 617</a><br><a href="#">(Perea)</a> | Groundwater | This bill would define "in-lieu use" for the purposes of the Sustainable Groundwater Management Act and would provide that, where appropriate, measures addressing in-lieu use shall be included in a groundwater sustainability plan. | Watch | In Senate Committee on Appropriations |
|---------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------|

| Bill                                               | Topic                                                                                   | Synopsis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Staff Recommendation | Status of the Bill/Comments as of 07/31/15 |
|----------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------|
| <a href="#">AB 937</a><br><a href="#">(Salas)</a>  | Groundwater planning and monitoring: disadvantaged communities                          | This bill would require the Department of Water Resources to provide technical assistance to disadvantaged communities so that they may participate in groundwater planning, including, but not limited to, plans for regional groundwater banking, with any county or other local agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Watch                | In Senate Committee on Appropriations      |
| <a href="#">AB 938</a><br><a href="#">(Salas)</a>  | Groundwater: basin reprioritization: establishment of groundwater sustainability agency | This bill would impose a requirement to establish a groundwater sustainability agency or submit an alternative after reprioritization on a local agency or combination of local agencies overlying a groundwater basin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Watch                | DEAD                                       |
| <a href="#">AB 939</a><br><a href="#">(Salas)</a>  | Groundwater sustainability agency                                                       | The Sustainable Groundwater Management Act authorizes a groundwater sustainability agency to impose fees to fund the costs of a groundwater sustainability program and requires a groundwater sustainability agency to hold at least one public meeting prior to imposing or increasing a fee. This bill would require a groundwater sustainability agency to make the data upon which the proposed fee is based available 20 days prior to the public meeting to impose or increase a fee.                                                                                                                                                                                                                                                | Watch                | On Senate Floor                            |
| <a href="#">AB 1242</a><br><a href="#">(Gray)</a>  | Water quality: impacts                                                                  | This bill would require the State Water Resources Control Board, in formulating state policy for water quality control and adopting or approving a water quality control plan, to take into consideration, consistent with the requirements of the California Environmental Quality Act, any applicable groundwater sustainability plan or alternative and available information and data regarding the impacts of groundwater use and management on beneficial uses of surface waters.                                                                                                                                                                                                                                                    | Watch                | In Senate Committee on Appropriations      |
| <a href="#">AB 1390</a><br><a href="#">(Alejo)</a> | Groundwater: adjudication                                                               | This bill would establish special procedures for a comprehensive adjudication, which is defined as an action filed in superior court to comprehensively determine the rights to extract groundwater in a basin. The bill would authorize the court to determine all rights to groundwater in a basin whether based on appropriation, overlying right, or other basis of right. The bill would require these special procedures to govern all comprehensive adjudications except in-cases not involving a comprehensive allocation of a basin's groundwater supply or cases that can be resolved among a limited number of parties and that do not involve a comprehensive determination of rights to extract groundwater within the basin. | Watch                | In Senate Committee on Appropriations      |

| Bill | Topic | Synopsis | Staff Recommendation | Status of the Bill/Comments as of 07/31/15 |
|------|-------|----------|----------------------|--------------------------------------------|
|------|-------|----------|----------------------|--------------------------------------------|

[SB 13](#)  
[\(Pavley\)](#)

Groundwater

This bill would specify that the State Water Resources Control Board is authorized to designate a high- or medium-priority basin as a probationary basin. This bill would provide a local agency or groundwater sustainability agency 90 or 180 days, as prescribed, to remedy certain deficiencies that caused the board to designate the basin as a probationary basin. This bill would authorize the board to develop an interim plan for certain probationary basins one year after the designation of the basin as a probationary basin.

Watch

On Assembly Floor

### Well Reports

[SB 20](#)  
[\(Pavley\)](#)

Wells: reports: public availability

This bill would require the Department of Water Resources to, upon request, make the report of any person who digs, bores, or drills a water well, cathodic protection well, or a monitoring well, or abandons or destroys a well, or deepens or re-perforates a well, available to the public.

Watch

DEAD

### Public Works

[AB 251](#)  
[\(Levine\)](#)

Public Works: public subsidies

This bill would provide that a public subsidy is de minimis if it is both less than \$250,000 and less than 2% of the total project cost. The bill would specify that those provisions do not apply to a project that was advertised for bid, or a contract that was awarded, before July 1, 2016.

Watch

To Engrossing and Enrolling

### Invasive Species

[AB 300](#)  
[\(Alejo\)](#)

Safe Water and Wildlife Protection Act of 2016

This bill would enact the Safe Water and Wildlife Protection Act of 2016, which would require the State Water Resources Control Board to establish and coordinate the Algal Bloom Task Force, comprised of specified representatives of state agencies, including the conservancy, in consultation with the Secretary for Environmental Protection, and would prescribe the functions and duties of the task force.

Watch

In Senate Committee on Appropriations

| Bill                                                  | Topic                                                                           | Synopsis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Staff Recommendation | Status of the Bill/Comments as of 07/31/15 |
|-------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------|
| <a href="#">SB 223</a><br><a href="#">(Galgiani)</a>  | Division of Boating and Waterways: oversight committee: invasive aquatic plants | This bill would require the Division of Boating and Waterways, no later than January 1, 2017, to establish an advisory and oversight committee to evaluate and monitor the activities of the division relating to the management and control or eradication of invasive aquatic plants in the Sacramento-San Joaquin Delta.                                                                                                                                                                                      | Watch                | In Assembly Committee on Appropriations    |
| <b>Governance</b>                                     |                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |                                            |
| <a href="#">AB 402</a><br><a href="#">(Dodd)</a>      | Local agency services: contracts                                                | This bill would revise the circumstances under which a local agency formation commission may authorize a city or district to provide new or extended services. This bill would additionally establish a pilot program, until January 1, 2021, for the Napa, Sonoma, and San Bernardino commissions that would permit those commissions to authorize a city or district to provide new or extended services outside both its jurisdictional boundaries and its sphere of influence under specified circumstances. | Watch                | On Senate Floor                            |
| <a href="#">AB 656</a><br><a href="#">(Garcia)</a>    | Joint powers agreements: mutual water companies                                 | This bill would specifically authorize a mutual water company and a public agency to participate in a joint powers agreement for the provision of insurance and risk-pooling, technical support, and other similar services for the purpose of reducing risk liability, as specified.                                                                                                                                                                                                                            | Watch                | On Senate Floor                            |
| <a href="#">SB 272</a><br><a href="#">(Hertzberg)</a> | The California Public Records Act: local agencies: inventory                    | This bill would require each local agency, in implementing the California Public Records Act, to create a catalog of enterprise systems, as defined, to make the catalog publicly available upon request in the Office of the person or officer designated by the agency's legislative body, and to post the catalog on the local agency's Internet Web site.                                                                                                                                                    | Watch                | In Assembly Committee on Appropriations    |
| <a href="#">SB 704</a><br><a href="#">(Gaines)</a>    | Public officers and employees: conflict of interest                             | This bill would include in the definition of "remote interest" the interest of a person who is an owner or partner of a firm serving as an appointed member of an unelected board or commission of the contracting agency, if the owner or partner recuses himself or herself from providing any advice to the contracting agency regarding the contract between the firm and the contracting agency, and from all participation in reviewing a project that results from that contract.                         | Watch                | In Assembly Committee on Appropriations    |

| Bill | Topic | Synopsis | Staff Recommendation | Status of the Bill/Comments as of 07/31/15 |
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### Sacramento-San Joaquin Delta

|                                 |                                                                                 |                                                                                                                                                                                                                                                                                                   |       |                                       |
|---------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------|
| <a href="#">AB 1201 (Salas)</a> | Fish and wildlife: Sacramento-San Joaquin Delta: predation by nonnative species | This bill would require the Department of Fish and Wildlife, by June 30, 2016, to develop a science-based approach that addresses predation by nonnative species upon species of fish listed pursuant to the act that reside all or a portion of their lives in the Sacramento-San Joaquin Delta. | Favor | In Senate Committee on Appropriations |
|---------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------|

### Energy

|                                 |                                                                    |                                                                                                                                                                                                                                                                                                                                                                                           |       |                                         |
|---------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------|
| <a href="#">AB 568 (Dodd)</a>   | Reclamation District No. 108: hydroelectric power                  | Existing law authorizes Reclamation District No. 1004, in conjunction with the County of Colusa, to construct, maintain, and operate a plant, transmission lines, and other necessary or appropriate facilities for the generation of hydroelectric power. This bill would grant the above-described hydroelectric power authority to Reclamation District No. 108 until January 1, 2021. | Watch | To Engrossing and Enrollment            |
| <a href="#">SB 471 (Pavley)</a> | Water, energy, and reduction of greenhouse gas emissions: planning | This bill would include reduction of greenhouse gas emissions associated with water treatment among the investments that are eligible for funding from the Greenhouse Gas Reduction Fund.                                                                                                                                                                                                 | Watch | In Assembly Committee on Appropriations |

### Water Efficiency

|                                   |                                                                                    |                                                                                                                                                                                                                                                                                                                                         |       |                                         |
|-----------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------|
| <a href="#">AB 585 (Melendez)</a> | Outdoor Water Efficiency Act of 2015: income tax credits: outdoor water efficiency | This bill, for taxable years beginning on or after January 1, 2016, and before January 1, 2021, would allow a credit equal to 25% of the amount paid or incurred by a qualified taxpayer for water-efficiency improvements, as defined, on qualified real property in this state, not to exceed \$2,500 per taxable year, as specified. | Watch | In Assembly Committee on Appropriations |
|-----------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------|

### Disadvantaged Communities

|                                 |                                                             |                                                                                                                                                                                                                                                                                                                                                          |       |      |
|---------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|
| <a href="#">AB 615 (Rendon)</a> | Office of Sustainable Water Solutions: technical assistance | Existing law authorizes the Office of Sustainable Water Solutions to take certain actions to further this purpose, including providing technical assistance to disadvantaged communities and small drinking water systems and wastewater systems. This bill would specify the types of technical assistance services that may be provided by the office. | Watch | DEAD |
|---------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|

| Bill                            | Topic                                                                                  | Synopsis                                                                                                                                                                                                                                                                                                                                                                                                                                    | Staff Recommendation | Status of the Bill/Comments as of 07/31/15 |
|---------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------|
| <a href="#">SB 552 (Wolk)</a>   | Public water systems: disadvantaged communities: consolidation or extension of service | This bill would allow a community to be defined as a "disadvantaged community" if the community is in a mobile home park even if it is not in an unincorporated area or served by a mutual water company. The bill would limit the authority of the state board to order consolidation or extension of service only with regard to a disadvantaged community.                                                                               | Watch                | DEAD                                       |
| <b>Water Use</b>                |                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                                            |
| <a href="#">AB 647 (Eggman)</a> | Beneficial use: storing of water underground                                           | This bill would declare that the diversion of water to underground storage constitutes a beneficial use of water if the water so stored is thereafter applied to the beneficial purposes for which the appropriation for storage was made, or if the water is so stored consistent with a sustainable groundwater management plan, statutory authority to conduct groundwater recharge, or a judicial decree and is for specified purposes. | Watch                | DEAD                                       |
| <a href="#">SB 555 (Wolk)</a>   | Urban retail water suppliers: water loss management                                    | This bill would require each urban retail water supplier, on or before October 1, 2017, and on or before July 1 of each year thereafter, to submit a completed and validated water loss audit report for the previous calendar year as prescribed by rules adopted by the Department of Water Resources on or before January 1, 2017, and updated as provided.                                                                              | Watch                | In Assembly Committee on Appropriations    |
| <a href="#">SB 758 (Block)</a>  | Atmospheric Rivers Research and Mitigation Fund                                        | This bill would establish the Atmospheric Rivers Research and Mitigation Program in the Department of Water Resources to research the causes and effects of atmospheric rivers, and to take actions to capture water generated by atmospheric rivers to increase the water supply and reliability of water resources in the state and to operate reservoirs in a manner that improves flood protection in the state.                        | Watch                | In Assembly Committee on Appropriations    |

| Bill | Topic | Synopsis | Staff Recommendation | Status of the Bill/Comments as of 07/31/15 |
|------|-------|----------|----------------------|--------------------------------------------|
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## Drinking Water

|                                                       |                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                   |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------|
| <a href="#">AB 1173</a><br><a href="#">(Williams)</a> | Water equipment: backflow prevention devices testing: certification                         | This bill would require, if a local health officer does not maintain a program for certification of backflow prevention device testers, the testing and maintenance of a backflow prevention device be performed by a person who has received a California-specific certification for testing backflow prevention devices from one of specified entities or a similar certification provider deemed acceptable by the state board or the local health officer.                                                                                       | Watch | DEAD              |
| <a href="#">AB 1376</a><br><a href="#">(Perea)</a>    | State Water Resources Control Board: appropriation: drought-related drinking water projects | This bill would appropriate \$15,000,000 from the General Fund to the state board, for expenditure until June 30, 2016, for grants of up to \$500,000 per project for public water systems to address drought-related drinking water emergencies or threatened emergencies in the state. The bill would require the state board to make every effort to use other funds available to address drinking water emergencies, including federal funds made available for the drought, prior to using the funds appropriated pursuant to these provisions. | Watch | DEAD              |
| <a href="#">SB 385</a><br><a href="#">(Hueso)</a>     | Primary drinking water standards: hexavalent chromium: compliance plan                      | This bill would authorize, until January 1, 2020, the State Water Resources Control Board, at the request of a public water system, that prepares and submits a compliance plan to the state board, to grant a period of time to achieve compliance with the primary drinking water standard for hexavalent chromium by approving a compliance plan.                                                                                                                                                                                                 | Watch | On Assembly Floor |

## CEQA

|                                                    |                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |      |
|----------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|
| <a href="#">AB 291</a><br><a href="#">(Medina)</a> | California Environmental Quality Act: local agencies: notice of determination: water | This bill would authorize a local agency, for certain water projects, to file the notice with the county clerk of the county in which the local agency's principal office is located, along with any required payment to the Department of Fish and Wildlife, and with the Office of Planning and Research, and to transmit a copy of the notice to the county clerks of the counties in which the water project is located, as specified. | Watch | DEAD |
|----------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|



## ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: OFFICE OF THE GENERAL MANAGER**  
**CONTACT: BONI BREWER**

**AGENDA DATE:** August 19, 2015

**ITEM NO. 14c**

**SUBJECT:** Outreach Activities

### **E-Newsletter, July 20<sup>th</sup>**

The e-newsletter had articles on: 1) the Valley's excellent statewide ranking in May for drought-related water conservation, 2) online availability of Zone 7's Annual Report, 3) the launching of Zone 7's Cost of Service study that will review the Agency's water rates to assure financial sustainability, and 4) the partially recirculated draft environmental documents for the California WaterFix.

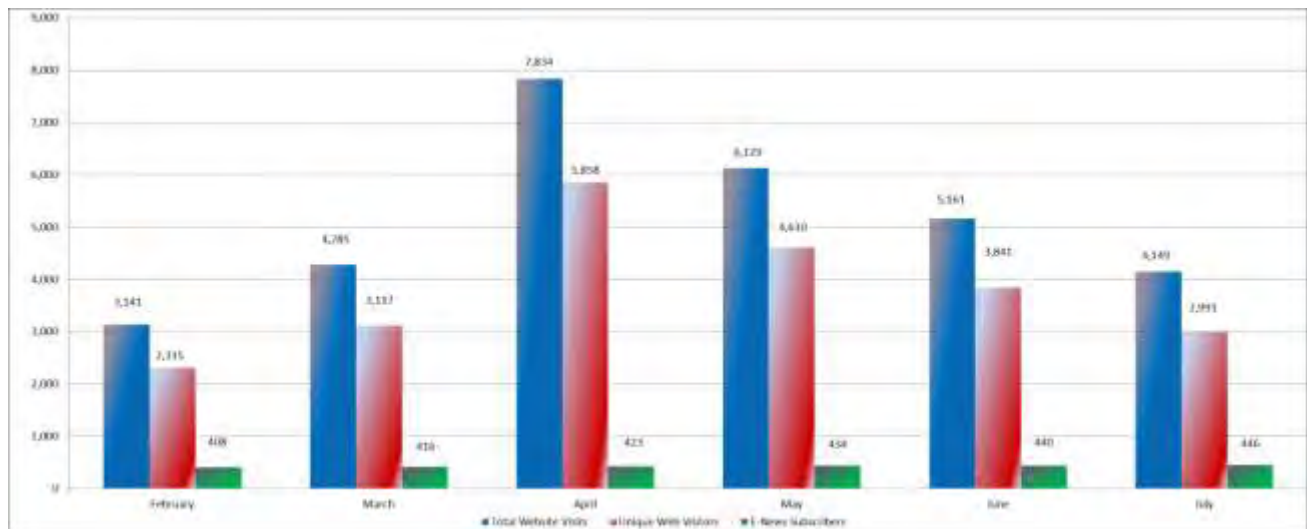
### **Drought Display at Dublin Library**

Zone 7's tabletop drought display encouraging residents and businesses to keep up the good work with drought-related water conservation went on exhibit at the Dublin Library for a month, starting on July 13<sup>th</sup>. Displays at the Pleasanton and Livermore libraries are also planned.

### **ACWA Drought Response Web Portal**

A summary of Zone 7's various drought actions, along with a photo of the Agency's drought display, are now included in the Association of California Water Agencies Drought Response Gallery, featuring measures being taken by "local water agencies on the front lines." It can be accessed at <http://droughtresponse.acwa.com/>.

### **Website & E-news Subscription Activity**





ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7

100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION:** Engineering  
**CONTACT:** Rhett Alzona

**AGENDA DATE:** August 19, 2015

**SUBJECT:** Drought Update

ITEM NO. **14d**

**SUMMARY:**

- Lake Del Valle's water level has been dropping from releases and evaporation. Releases to the Arroyo Valle continue in the range of 12 to 14 cubic feet per second (724 to 825 acre-feet for the month) including 2.5 cfs (around 150 AF) to Shadow Cliffs. As of July 31, the lake level in Del Valle is around 700 feet above MSL (37,800 AF).
- Raw water TOC concentrations were observed to be around 4.5 mg/L at the treatment plants in July. Ferric chloride coagulant demand at DVWTP continues to be higher than normal to combat the elevated TOC levels. Pilot testing of carbon dioxide at Del Valle provided only minor relief.
- Filter performance testing with a blend of coagulants continues at PPWTP in an effort to find a more optimum blend for water treatment with reduced sludge production and lower THM levels. In July, TOC and bromide levels continued to be elevated. Zone 7 Operations has been using a coagulant blend of 25 mg/L aluminum chlorohydrate (ACH) and 20 mg/L ferric chloride which appears to be performing reasonably well in terms of plant filter run times and treated water quality.
- Following is the status of the ongoing emergency projects approved by the board:
  1. Busch Valley Well No. 1, Phase 1 – Zone 7 entered into a Progressive Design-Build (D/B) contract with Conco West, Inc. (with Stantec as sub-consultant). Along with the Basis of Design, Zone 7 is proceeding with Phase 1 work to provide a connection for the new well to the Zone 7 transmission system. In the near term, in case of limited to no surface water, this connection would give Zone 7 the option of using a temporary booster pump station to pump well water from the west side to the east side of the Zone 7 transmission system. This will be the final work to be undertaken before the remainder of the Busch Valley Well project is deferred. The Zone 7 Board has approved up to \$2.15 million which includes Zone 7 staff time, PG&E service, right-of-way engineering, and contingencies for the remaining work.

As of August 1, the only major work remaining is the installation of the electrical service. Zone 7 staff has reviewed and Conco West has ordered an electrical

switchgear/ service panel. Delivery of this component to the BV1 site is expected around October 2015. Electrical work and coordination with PG&E for installation would take place in the October-November period. Conco West is currently working on punchlist work for the pipeline tie-in and aesthetics for the site. Graffiti removal along the existing pre-fabricated tongue and groove fence and screening for a portion of the perimeter fence facing Valley Avenue is scheduled for the first week in August. Due to the electrical work and PG&E coordination, completion of this project is still anticipated in December 2015.

2. Stoneridge Cross Valley Isolation Valve – Stoneridge Well is Zone 7's highest producing well. By itself the well produces water that is just below the current hexavalent chromium (Cr6) drinking water standard or maximum contaminant level (MCL). By blending with surface water, water at the turnouts can be easily managed well below the Cr6 MCL. This new isolation valve enables Zone 7 to direct Stoneridge Well water in the westerly direction in the event the well water exceeds the hexavalent chromium and there is limited surface water. During times of limited to no surface water, Stoneridge Well water can stay well below the MCL by blending with other wells and water from the Mocho Groundwater Demineralization Plant on the west side of the Zone 7 transmission system. The Zone 7 Board approved a project budget up to \$566,000 which includes Zone 7 staff time, installation of the valve, vault, electrical and control systems.

Zone 7 entered into a Progressive Design-Build contract with Conco West, Inc. (with Stantec as sub-consultant) for a not-to-exceed amount of \$506,000 which includes a 10% contingency. Construction to install the new valve and valve vault is complete. As of August 1, Conco West is working on punch list items that include painting of the metal piping components, corrosion protection issues, and documentation (e.g. O&M Manuals, record drawings, etc). Total Conco West effort is expected to be around \$500,000.

During the month of July both Treatment Plants were online and groundwater use made up only 4.5% of supply. Semitropic Water District continued to recover water for Zone 7 in July while Cawelo is on hold until further notice. Zone 7 continued to make releases on Arroyo Valle to maintain a live stream and recharge the groundwater basin. The Mocho Groundwater Demineralization Plant (MGDP) operation was limited to minimum reverse osmosis (RO) feed to maintain the membranes. Minimal MGDP use reduces discharge of the concentrate which minimizes water loss (waste stream is approximately 15% of the amount of groundwater pumped).

- DWR's pumping filled Lake Del Valle to capacity in April. Zone 7 also has a claim to about 3,000 AF of local runoff minus a portion that is lost to evaporation. Zone 7 is working on a possible water exchange with Byron Bethany Irrigation District (BBID) in which Zone 7 would provide up to 2,800 AF of this local water to BBID, in return for up to 4,200 AF of water over the next 3-5 years.
- Zone 7 continues to store any excess surface water supply (i.e., surface water from the State Water Project that could not be used directly at this time) in San Luis Reservoir.

## **BACKGROUND:**

Calendar Year 2013 was the driest year in recorded state history. 2013 also set a new record as the driest year measured in the Livermore-Amador Valley, with total precipitation of only 4.5 inches out of the average yearly rainfall of 14.47-inches (only 31% of average recorded at Livermore Station 15e). In early January 2014, the snowpack's statewide water content was estimated at about 20% of the recorded average for this time of year. On January 17, 2014, Governor Jerry Brown declared a State of Emergency in California due to the current drought conditions and asked all citizens to cut back water use by 20%. On January 29, 2014 at a Special Meeting of the Zone 7 Board, a Local Drought Emergency was declared and a Drought Emergency Response Plan was accepted. In addition, on January 31, 2014, the California Department of Water Resources (DWR) announced they were reducing State Water Project allocations from 5% to zero for the first time in history.

On January 29, 2014, the General Manager was authorized and directed to establish an appropriate level of conservation for the Livermore-Amador Valley, consistent with the governor's proclamation of a drought emergency (20% or greater). The initial conservation level was set at 20%.

On April 16, 2014, the Zone 7 Board received the annual Sustainability Report and authorized the General Manager to implement Stage Two Actions under the 2010 Urban Water Management Plan to achieve 25% demand reductions. On April 25<sup>th</sup>, Governor Jerry Brown issued a second drought proclamation.

On July 29, 2014, a State Water Resources Control Board (SWRCB) emergency regulation to increase conservation practices for all Californians went into effect. The new conservation regulation targets outdoor urban water use and mandates conservation reporting by retail water agencies.

On August 14, 2014, the California Public Utilities Commission ordered the water companies under its jurisdiction to provide notice to their customers of the July 29<sup>th</sup> emergency regulation.

While conditions have improved from Calendar Year 2013, the drought still continues. The fall season of 2014 was relatively dry. A wet December 2014 was followed by a record dry January 2015, the driest January in recorded history for the State and Bay Area. Some rain in February and April helped locally.

On April 1, 2015, DWR's manual snow survey found the statewide snowpack with less water content today than any April 1<sup>st</sup> since 1950. The dismal snow survey results were followed by a new Executive Order from the Governor mandating 25% demand reduction across California underscoring the continued severity of the drought.

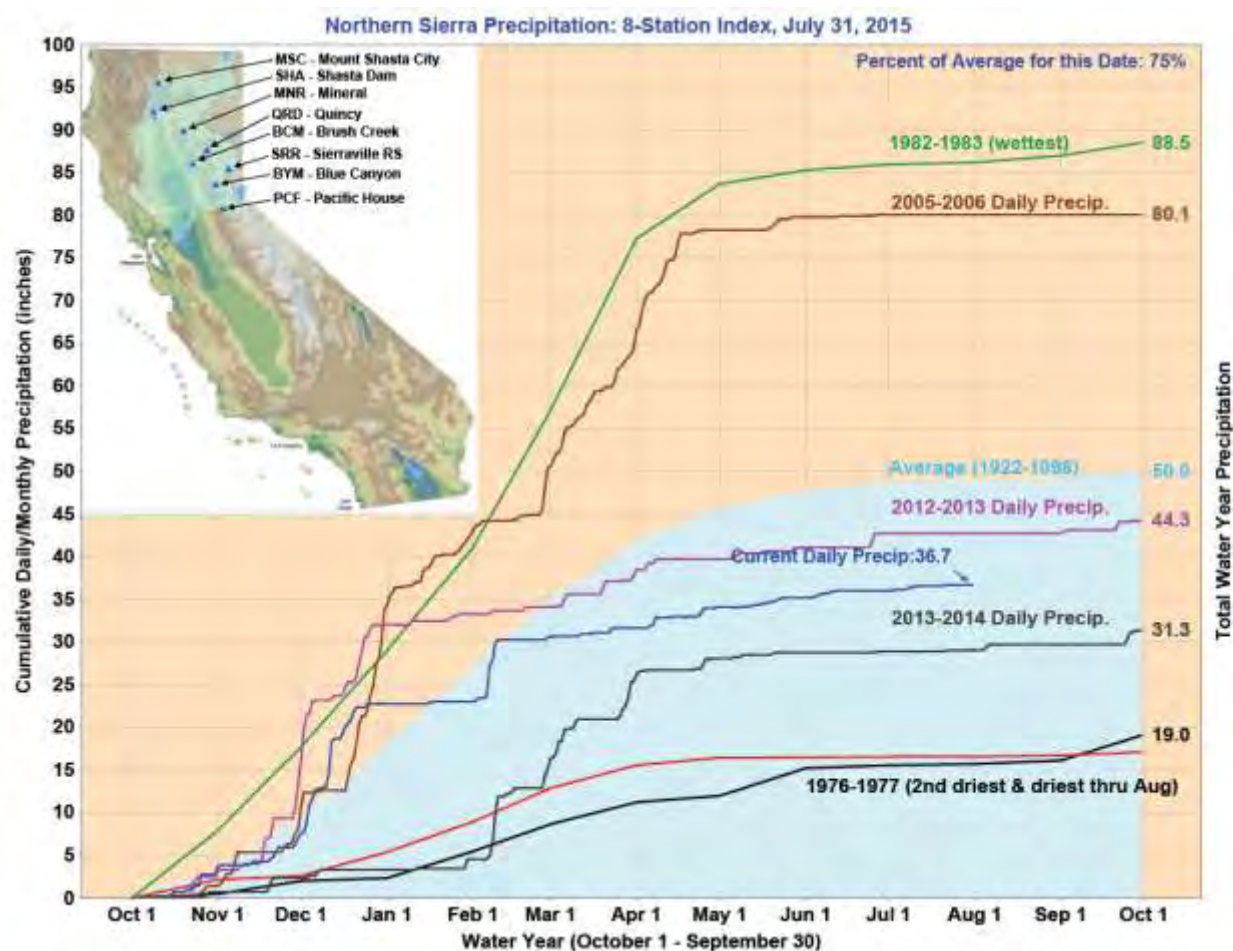
On April 15, 2015, the Zone 7 Board extended the local state of drought emergency, lifting the Stage 2 actions, and shifting to support the new statewide water conservation requirements.

On May 5, 2015, the SWRCB adopted an emergency conservation regulation in accordance with the Governor's latest directive. The provisions of the emergency regulation went into effect on May 15, 2015. This regulation set specific conservation targets for each water retailer.

## DISCUSSION:

The Northern Sierra hydrology average is at 36.7 inches compared to an average of 48.5 inches for this time of year (see graph; or for updates see [http://cdec.water.ca.gov/cgi-progs/products/PLOT\\_ESI.pdf](http://cdec.water.ca.gov/cgi-progs/products/PLOT_ESI.pdf)).

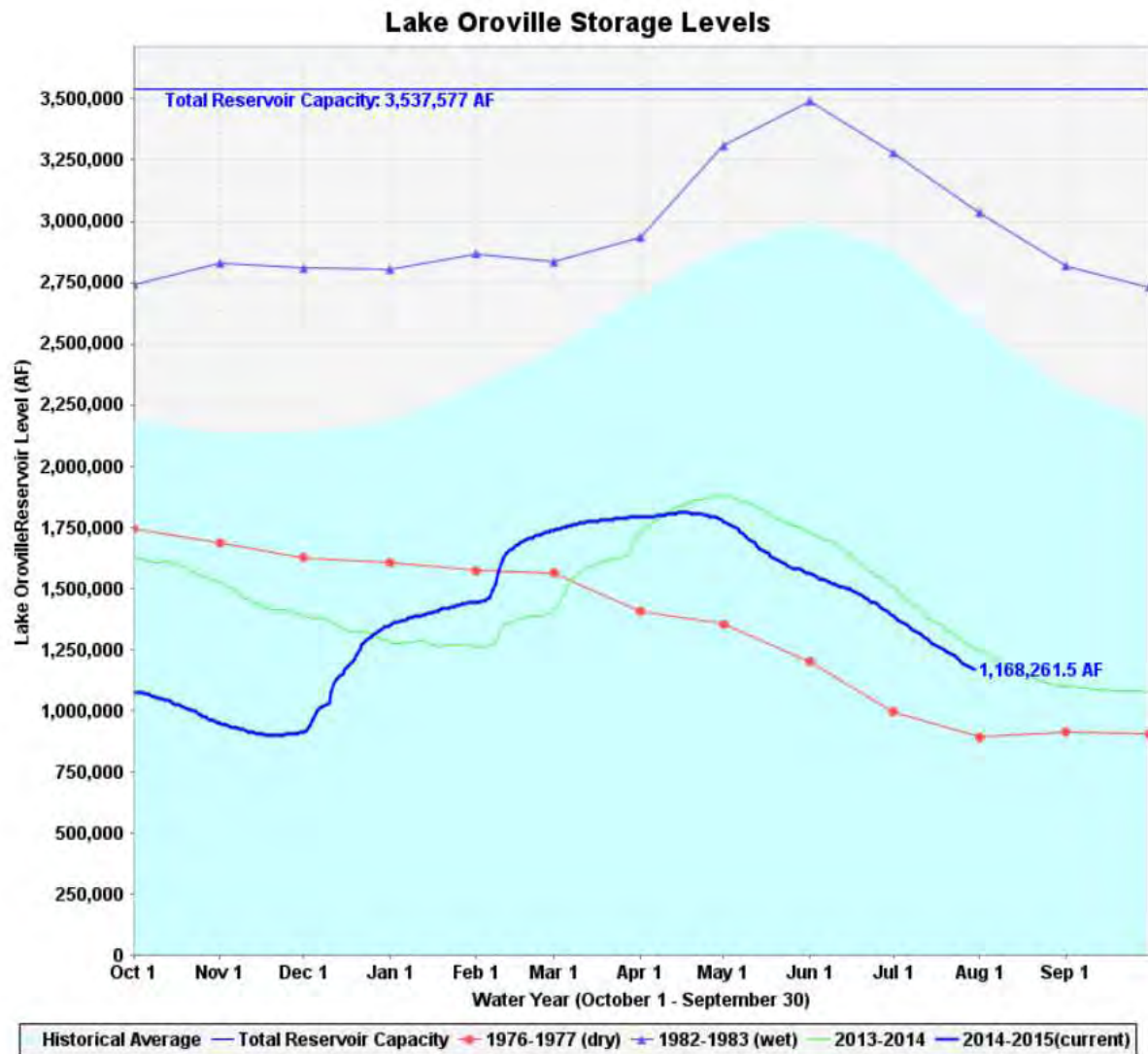
Northern Sierra precipitation is critical as it determines DWR's ability to refill Lake Oroville, which is the primary source of water for Zone 7 (water is released from Lake Oroville into the Feather and then the Sacramento River and from there it is conveyed through the Delta by a series of levees that direct the Oroville releases to the South Delta pumps which bring water to the Livermore Valley and to other State Water Contractors).



The local hydrology for this Water Year (October 1, 2014-July 30, 2015) is currently at 90% of average recorded conditions to-date at 13.07 inches. This is 10% below the annual recorded average of 14.45 inches.

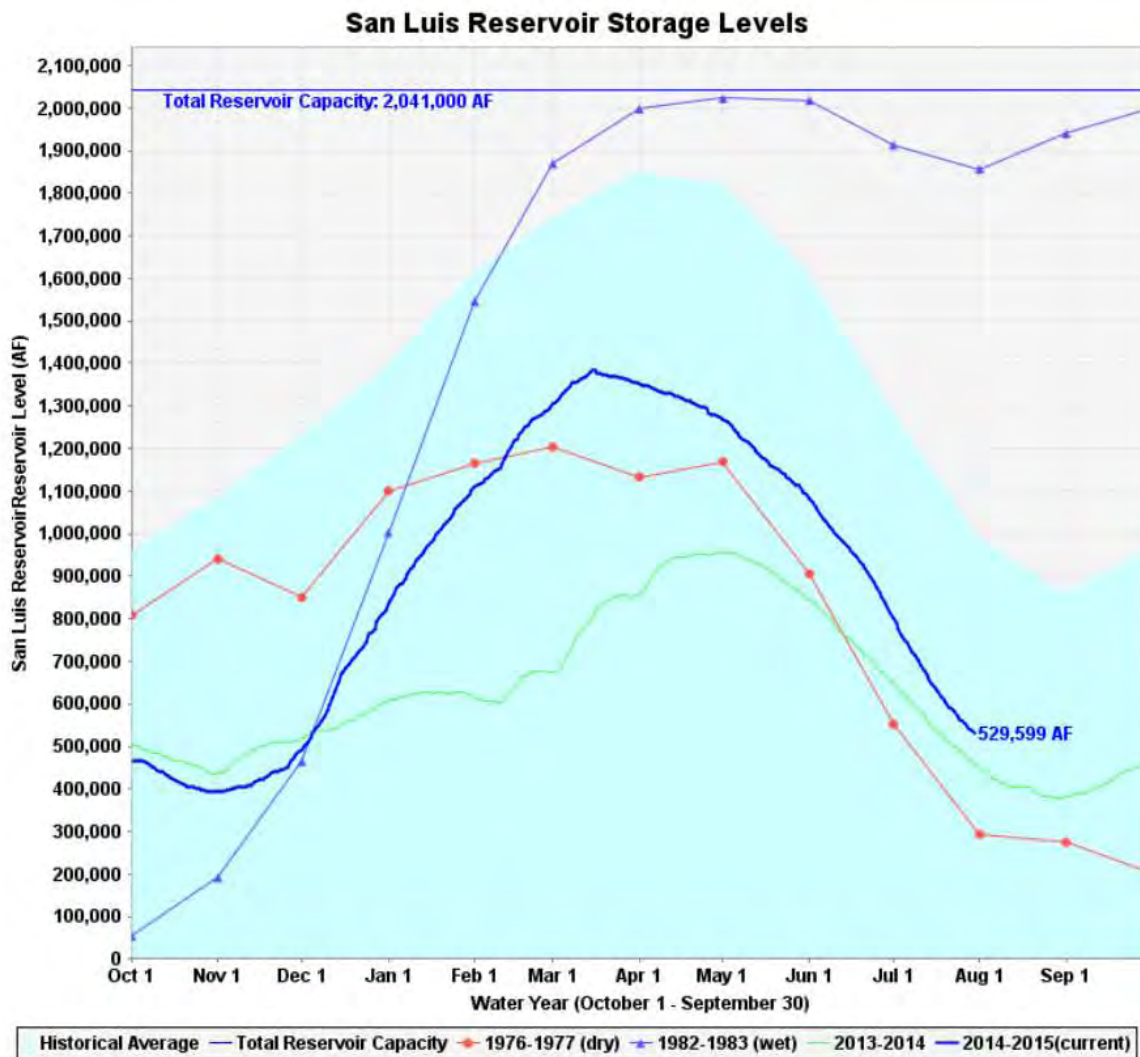
With limited snow pack this year and very little runoff, Lake Oroville levels have dipped and are slightly lower than at this time last year. However, Lake Oroville levels continue to be above the 1976-1977 critical dry year conditions (see Oroville graph, below). The current 1,168,261 AF of storage represents 33% of Lake Oroville's total capacity and approximately 45% of the historic average.

Lake Oroville storage levels can be tracked on the DWR data website at <http://cdec.water.ca.gov/cdecapp/resapp/resDetailOrig.action?resid=ORO>



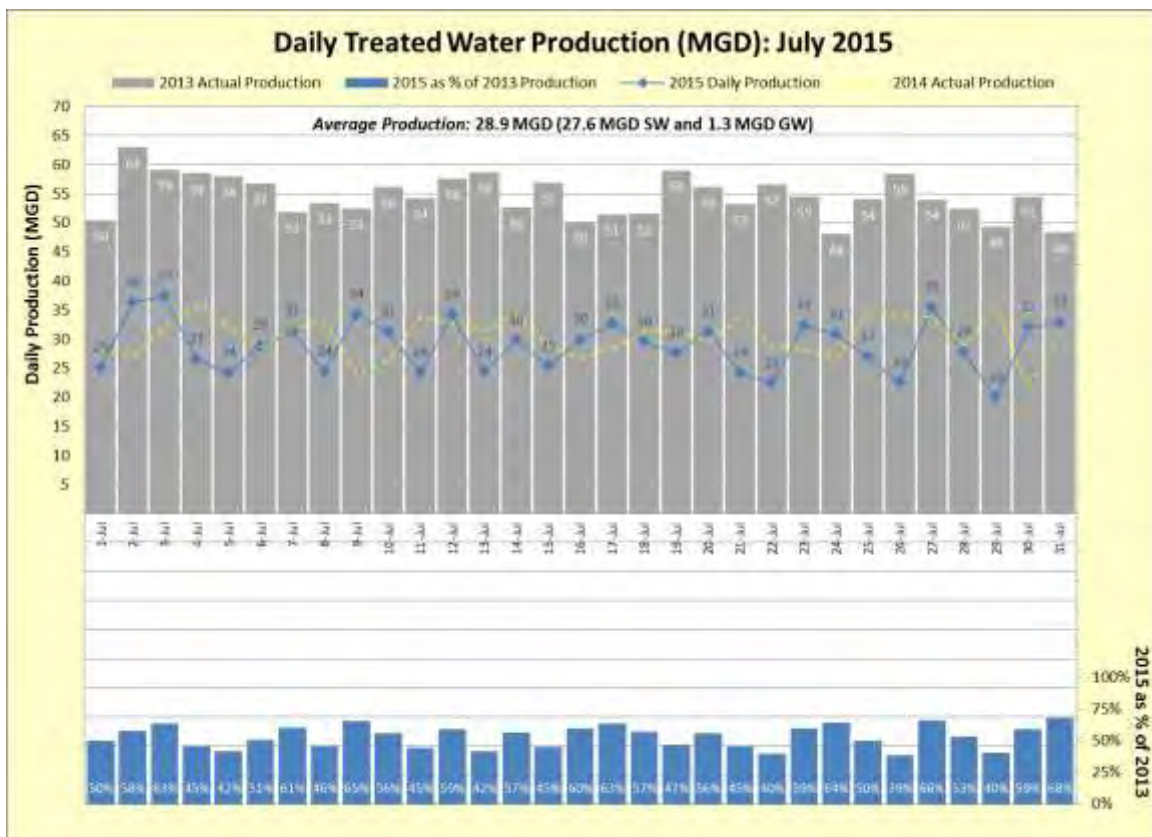
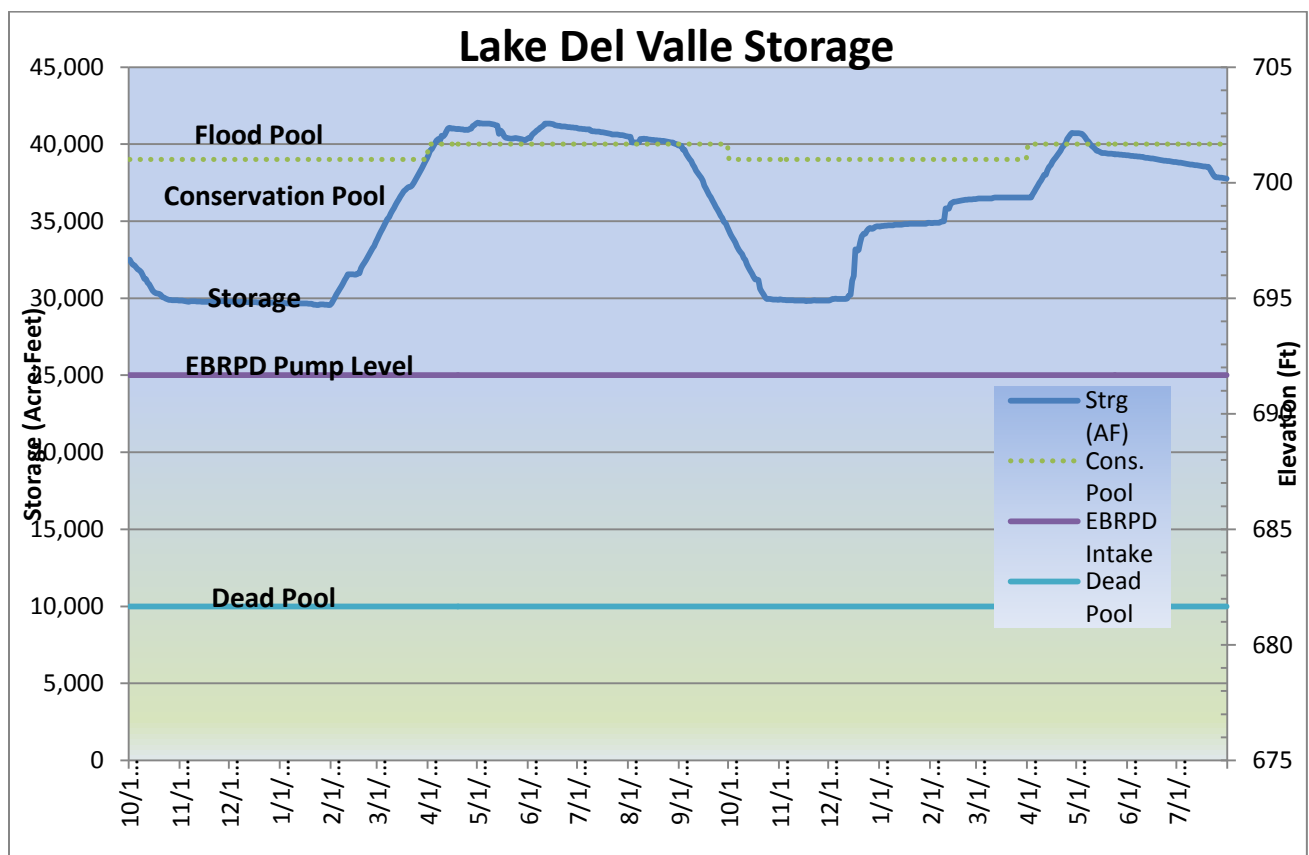
While Lake Oroville levels remain low, as shown in the graph above, San Luis Reservoir storage levels are slightly higher at this time in Water Year 2014-2015 than Water Year 2013-2014 (see graph below). The current 529,599 AF of storage represents 26% of San Luis Reservoir's total capacity and approximately 56% of the historic average.

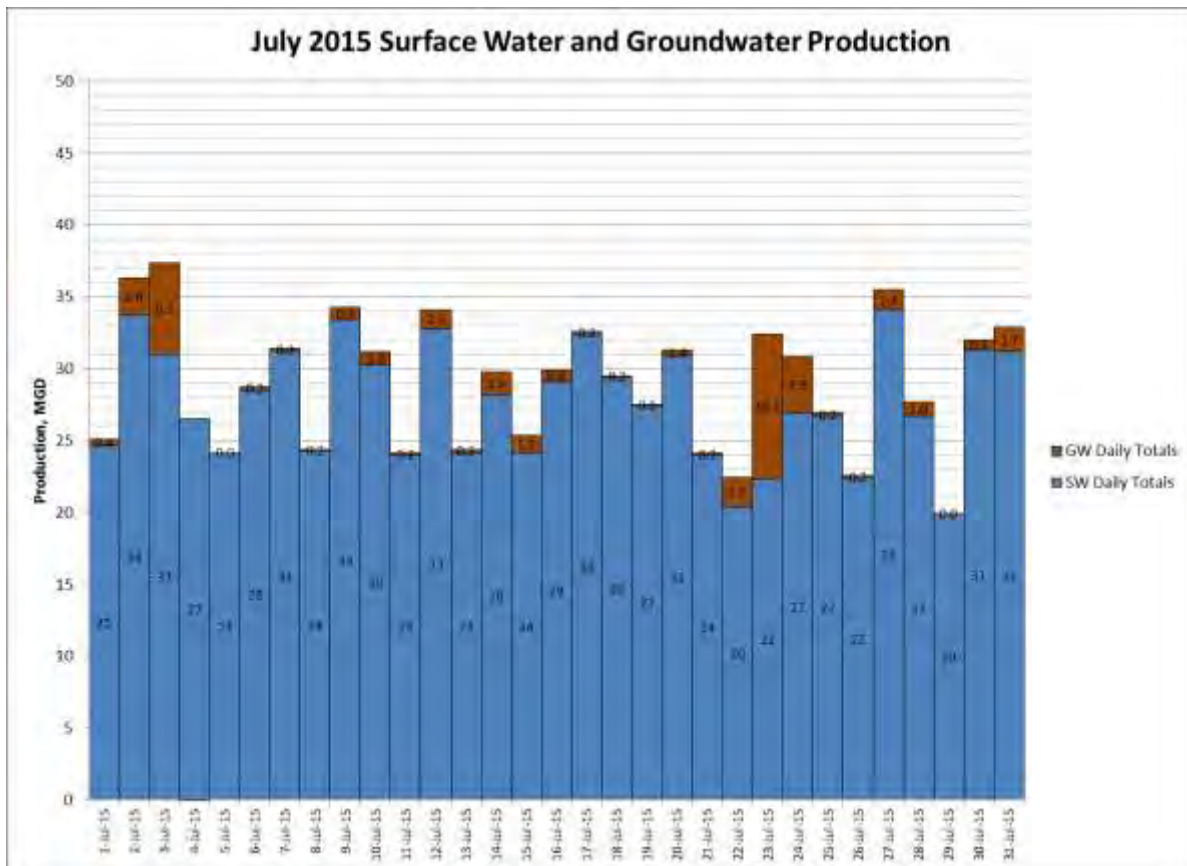
San Luis Reservoir storage levels can be tracked on the DWR data website at <http://cdec.water.ca.gov/cdecapp/resapp/resDetailOrig.action?resid=SNL>



Local demands for treated water in July 2015 slightly decreased from 30 MGD in June to 29 MGD in July, which is significantly lower than the July 2013 demand of 55 MGD. Surface water made up 96% of the water supply in July. Del Valle Water Treatment Plant and the Patterson Pass Water Treatment Plant produced an average of 27.6 MGD with wells supplying 1.3 MGD for a total average production of 28.9 MGD.

Lake Del Valle storage levels are shown in the graph below. In the winter months, lake elevations are lowered for flood control purposes to capture storm water runoff. In the summer months, lake elevations are raised for recreational purposes. The conservation pool (dotted line) designates the amount of water that can be stored for water supply purposes. Lake Del Valle's current water level has been dropping with releases to the South Bay Aqueduct. On July 31, the lake level in Del Valle was around 700 feet (37,800 AF), accounting for evaporative losses.

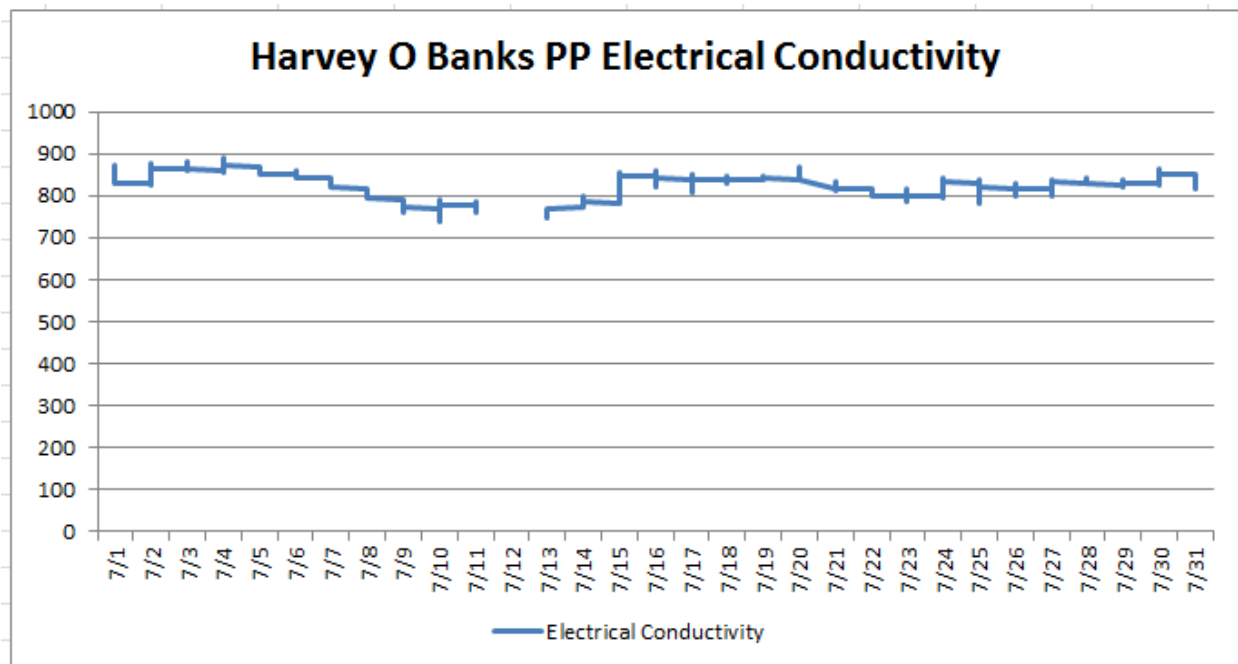




Semitropic Water District continues recovering water for 2015 and is planning on returning almost 11 TAF by December and an additional 2 TAF in January 2016. Cawelo Water District recovery water deliveries are currently on hold since every acre-foot that is recovered must be eventually replaced with two acre-feet.

Zone 7 continues to bolster regional water supply management tools by exploring various forms of water exchanges. Zone 7 continues to work with Contra Costa Water District on an exchange that would allow storage of up to 2,500 AF in Los Vaqueros Reservoir, located upstream of the Tri-Valley service area, in the fall. Zone 7 is also working on an exchange with Byron Bethany Irrigation District (BBID), in which Zone 7 would provide up to a possible 2,800 AF of local water to BBID during the remainder of this year's irrigation season; in return, over the next 3 to 5 years, BBID would return 1.5 times the amount of water they receive from Zone 7.

Electrical conductivity ( $\mu\text{S}/\text{cm}$ ) is measured as a surrogate for TDS (TDS is approximately equal to 0.58 times EC):



Based on the above data, in the month of July, raw water at Harvey O. Banks Pumping Plant has total dissolved solids (TDS) ranging around 430 to 520 mg/L. In addition to elevated EC levels, bromide levels continue to be elevated.

Higher Total Organic Carbon (TOC) levels continue to impact treatment at the plants requiring higher ferric chloride dosages and more pH adjustments. Ferric chloride dosages have been around 75 mg/L in July at DVWTP. In the past, Zone 7 treatment plants have operated with ferric chloride dosages in the neighborhood of 25 mg/L.

Zone 7 staff continues to evaluate aluminum chlorohydrate (ACH) as a coagulant. Due to the elevated bromide in the raw water, trihalomethane (THM) levels increased as ACH does not remove total organic carbon (TOC) as well as ferric chloride. Zone 7 Operations staff continues to use a blend of ACH, ferric chloride and at times, powdered activated carbon (PAC) to optimize conventional filter performance while reducing coagulant dosing, sludge production and THM levels. PPWTP appeared to operate reasonably around 25 mg/L ACH, and 20 mg/L ferric chloride.



**ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7**

100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION: Engineering**

**CONTACT: Jarnail Chahal/Kurt Arends**

**AGENDA DATE:** August 19, 2015

ITEM NO. **14e**

**SUBJECT:** Ground Movement Study Livermore Valley Presentation, August 5, 2015

**SUMMARY:**

- Staff arranged for Cal Engineering & Geology (CE&G) to present a summary of their Ground Movement Study (Study) to the area residents who had previously expressed concerns. The meeting was attended primarily by residents from the Sutter Gate Avenue area of Pleasanton. These residents had, in turn, invited Pleasanton City Council members Karla Brown and Kathy Narum, who also attended. A copy of CE&G's presentation was posted on the Zone 7 website.
- Key CE&G conclusions -
  - Types and localities of observed distress are strongly associated with areas of expansive soils, and historical creek/marsh settings.
  - Impact of drought conditions (reduced precipitation) is compounded by reduced irrigation.
  - Valley soils are drying more severely, and to greater depths, than ever before experienced since the area was settled.
  - Groundwater system has been managed and monitored to stay above historic lows (observed in the 1960's, 1977, or 1987-1992 droughts). No patterns of observations suggest inelastic subsidence.
  - Elastic movement is basin-wide in scale, quite small.
- Key concerns raised by Pleasanton residents in attendance -
  - Residential structures in the vicinity of Mocho Wells 3&4 are experiencing damage which is costing the residents tens of thousands of dollars to repair and they feel it is due to groundwater pumping, specifically from Mocho Wells 3&4.
  - Residents believe the lack of treated water injection in Mocho Wells 3&4 is causing lower groundwater levels in the area and causing damage to their structures.
  - The Ground Movement Study prepared by CE&G is a valley wide study. Residents were disappointed it did not look at the specific damage occurring in their neighborhood.
- An update was provided to the Administrative Committee on August 11, 2015.

**FUNDING:**

Funding for the Groundwater Movement Study was provided from Fund 100 - Water Enterprise.

**RECOMMENDED ACTION:**

Information only.

**ATTACHMENTS:**

- Memo providing additional background and discussion of agenda item
- CE&G presentation

## **Interoffice Memo**

**Date:** August 19, 2015  
**To:** Jill Duerig, General Manager  
**From:** Jarnail Chahal, Engineering Manager  
Kurt Arends, Assistant General Manager  
**Subject:** Ground Movement Study Livermore Valley Presentation, August 5, 2015

The following provides additional background and discussion of the above-referenced agenda item.

### **BACKGROUND:**

In early 2015, Zone 7 received several inquiries from Pleasanton residents regarding damage to their residential structures apparently related to ground settlement. All of the inquiries received were from the Sutter Gate Avenue area near the Las Positas Boulevard and Stoneridge Drive intersection in Pleasanton. Zone 7 received similar inquiries from the same neighborhoods in 2002.

Zone 7 has experienced similar embankment settlement and slide problems in the northern and north-eastern areas of Pleasanton and Dublin along Zone 7's Flood Control channels. In response to these inquiries, Zone 7 contracted with Cal Engineering and Geology (CE&G) to perform a Ground Movement Study for the Livermore Valley to help understand various potential ground movement mechanisms.

CE&G completed the Study (Study) in June 2015. The Study was included in the June 17, 2015 Board meeting agenda package as a staff report, mailed to the Pleasanton residents who had previously expressed interest in the matter and City of Pleasanton staff, and made available on the Zone 7 web site.

### **DISCUSSION:**

- Staff arranged for Cal Engineering & Geology (CE&G) to present a summary of their Ground Movement Study (Study) to the area residents who had previously expressed concerns. The meeting was attended primarily by residents from the Sutter Gate Avenue area of Pleasanton. These residents had, in turn, invited Pleasanton City Council members Karla Brown and Kathy Narum, who also attended. A copy of CE&G's presentation was posted on the Zone 7 website.

The CE&G presentation covered: 1) Purpose of the Study, 2) Soils, geology and groundwater setting for the Livermore Valley, 3) Expansive soil movement mechanisms and their effects, 4) Groundwater level fluctuations and their effects, 5) Tectonic movement and their effects, 6) Ongoing groundwater levels, groundwater storage, and land surface monitoring efforts by Zone 7, 7) CE&G field observations, 8) Conclusions, and 9) Answered Questions from the audience. A copy of the presentation is attached. The complete Ground Movement Study report is available on the Zone 7 web site at [Zone7water.com](http://Zone7water.com).

Key takeaway points from CE&G presentation related to ground movement in general and specific to the areas showing distress:

### **Expansive Soil Effects**

- Distribution of expansive soil is controlled by area geology and natural setting.
- Areas experiencing distress are strongly associated with occurrence of expansive soil.
- Nature of distress is a localized phenomenon, strongly influenced by local conditions (cover, drying, irrigation, vegetation, grading, soils, etc.).
- The more extreme the swings in moisture content, the more the effect is observed.

### **Groundwater Levels Effects**

- Inelastic ground subsidence from pumping is a “long wavelength” phenomenon, typically detected over distances of miles, with very low angular distortion.
- Distress typically seen as flexing (large radius of curvature), rather than cracking/breakage of surface improvements (e.g. curbs, foundations).
- Groundwater levels have to drop below historic lows for there to be potential for inelastic subsidence. Not all sediments are susceptible to inelastic subsidence when groundwater levels drop below historic low levels.
- Elastic response is also “long wavelength”, and is characteristic of recharge/withdrawal cycles. It is typically minor (e.g. on order of <0.1 ft/yr) and cyclic.

### **Tectonic Movement**

- Very long wavelength phenomena, typically detected over distances of tens to thousands of miles unless right at a fault.
- Rates tend to be fairly stable.
- Rates very low (on order of a few mm/yr).

### **Ongoing Monitoring and Findings in Livermore Valley**

- Ground surface elevation monitoring – Biannual, by Zone 7. (Ref. Zone 7 GWMP Annual Report for WY2014). Expanded in 2002 by Zone 7; considered prudent groundwater management practice.
- Groundwater elevation monitoring – Various schedules (biannual/monthly/datalogger), by Zone 7. (Ref. Zone 7 GWMP Annual Report for WY2014). Monitoring by Zone 7 since at least 1957; considered required for sustainable groundwater management.
- GPS/InSAR ground surface monitoring – ongoing by USGS, UC Berkeley, others; ref. Burgmann et al.(2006), Argus and Gordon (2001).
- Precipitation, Water Consumption– ongoing by Zone 7, others.

### **Data Review for Livermore Valley**

- Trends show annual cyclicity on order of up to about 0.05 ft.
- Relatively minor long-term change in elevation even through current drought (e.g. maximum net change in elevation since 2002 is 0.1 ft).
- Seeing localized small variations; not seeing basin-wide drops in elevation.
- Benchmarks differ in types of foundations used; those on shallower foundations appear to reflect expansive soil movement.
- Broadly, precipitation about 63% of average in WY2013, about 40% of average in WY2014, and about 85% of average in WY2015 year to date.

- Conservation has resulted in about 70% to 80% reduction in urban irrigation in 2014. and 2015 (for Zone 7 service area).
- Result is less water input to surficial soils from both these sources.
- Groundwater levels primarily maintained above historic low levels (from GWL maps).

### **Conclusions for Livermore Valley**

- Of the three potentially contributing processes to surface ground movements, expansive soil movement by far is the greatest in magnitude.
- Geology, soils, and groundwater data, together with unprecedented drought, yield consistent picture with respect to observed movements.
- Types and localities of observed distress are strongly associated with areas of expansive soils, and historical creek/marsh settings.
- Impact of drought conditions (reduced precipitation) is compounded by reduced irrigation.
- Valley soils are drying more severely, and to greater depths, than ever before experienced since the area was settled.
- Groundwater system has been managed and monitored to stay above historic lows (observed in the 1960's, 1977, or 1987-1992 droughts). No patterns of observations suggest inelastic subsidence.
- Elastic movement is basin-wide in scale and quite small.

Following is a summary of the concerns raised during and after the CE&G presentation by the residents in attendance:

- Residential structures in the vicinity of Mocho Wells 3&4 are experiencing damage which is costing the residents tens of thousands of dollars and they feel it is due to groundwater pumping, specifically from Mocho Wells 3&4.
- The residents said that structures started experiencing damage after Mocho Wells 3&4 began pumping in 2002.
- The residents said that the lack of treated water injection in Mocho Wells 3&4 is causing lower groundwater levels in the area and causing damage to their structures.
- A significant number of houses in the area have installed piers (piles) to support the foundation of their homes at a great cost to the home owners.
- The residents characterized the Ground Movement Study prepared by CE&G as a valley-wide study, stating that the study did not look at their specific structures and the damage they are experiencing in their neighborhood.

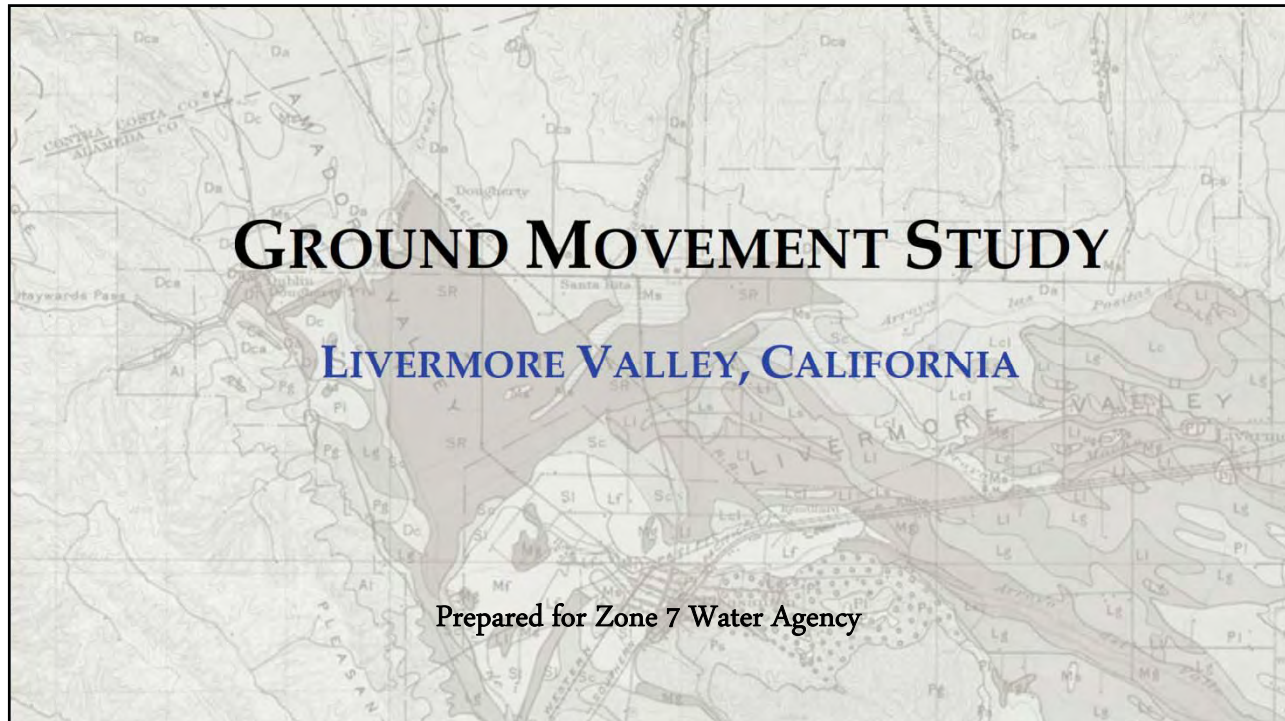
Pleasanton Vice Mayor Karla Brown acknowledged residents' concerns and said that the issue will need to be researched further by city staff and it will take some time to collect the existing data and to determine if additional data needs to be collected.

### **Staff Conclusions:**

Based on the analysis presented by CE&G in the Ground Movement Study report, the presentation, and from the complaints and concerns raised by the Pleasanton residents from the Sutter Gate Avenue area of Pleasanton, the following is a summary of Zone 7 staff's observations and conclusions:

1. All of the reports received related to damage to residential structures due to differential settlement came from areas west of Santa Rita Road and west of the Mocho Wells 3&4.
2. This area of Pleasanton was historically a fresh water marsh which deposited expansive fine soils.
3. The linear Extensibility of the soils is greater than 6% for the areas where damage reports have been received (see Figure 6 of the Ground Movement Study for distribution of expansive soils).
4. Expansive soil movement due to changes in moisture conditions is the primary cause for the localized differential settlement experienced in parts of Pleasanton.
5. Damage to residential structures, cracking in parking lots and roads, and bridge\culvert ramps is due to localized differential settlement caused by expansive soil movement due to drying of soils.
6. Groundwater pumping is not the cause of the localized differential settlement causing damage to residential structures.

A summary of the meeting was presented to the Administrative Committee on August 11, 2015.



## AGENDA

- Introductions
- Presentation
- Questions Regarding Study

## PRESENTATION OUTLINE

- Purpose of Study – Evaluate Livermore Valley Ground Movement Processes
  - Soil-related
  - Groundwater-related
  - Tectonic-related
- Soil/Geologic/Groundwater Setting for Livermore Valley
- Expansive Soil Movement
  - Active zone
  - Effects on structures
  - Associations
- Groundwater Fluctuations and Effects
  - Elastic ground movement
  - Inelastic ground movement
- Tectonic Movement
- Ongoing Monitoring – Findings
  - Ground surface elevation
  - Groundwater elevation
  - Tectonic
- Observed Distress – What we're seeing, not seeing
- Conclusions
- Questions On Study Findings



3

## PURPOSE

- Purpose:
  - Identify the primary movement mechanisms that have potential to result in significant ground movement in the Livermore Valley.
  - Develop an understanding of how those processes work, and how they are typically manifested at the ground surface.
  - Evaluate the kinds of impacts these various movement mechanisms may have in the Livermore Valley.



4

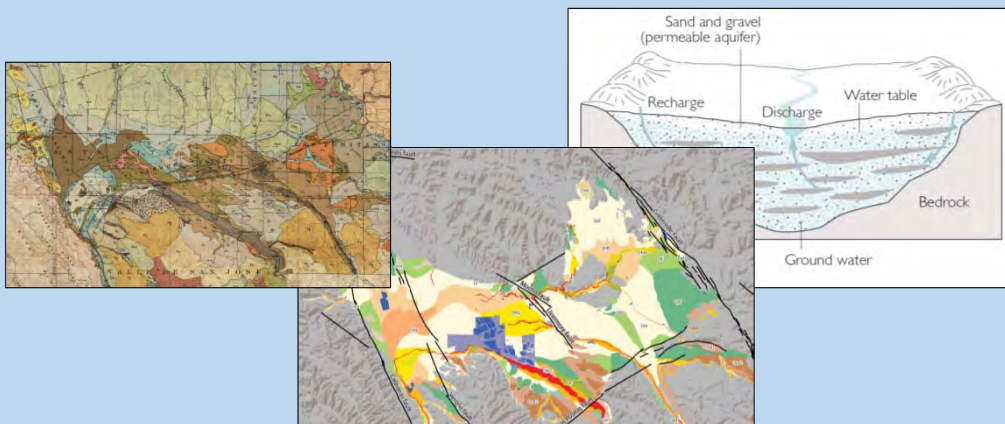
## SCOPE

- Literature Review – Research, assemble and review information such as regional geologic mapping and reports; regional soils mapping; geohydrologic reports; tectonic modelling.
- Aerial Imagery Review
- Review Monitoring Data – Including ground surface elevation monitoring; groundwater level monitoring; GPS (tectonic) monitoring.
- Reconnaissance
- Summary Report – Describing conclusions regarding ground movement mechanisms, how they are expressed, and likely impacts in the Livermore Valley.

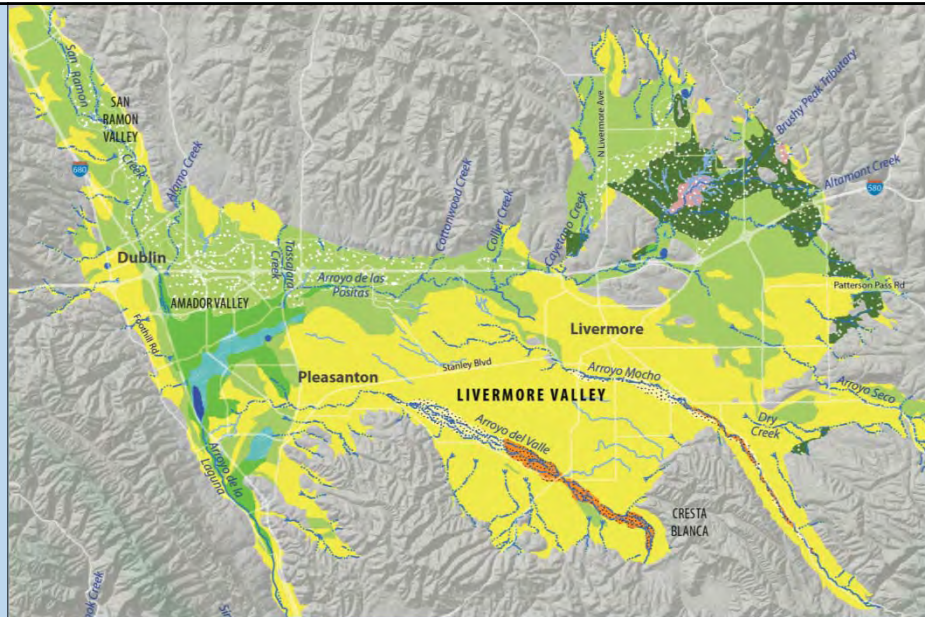


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## SOIL/GEOLOGY/WATER BACKGROUND



6

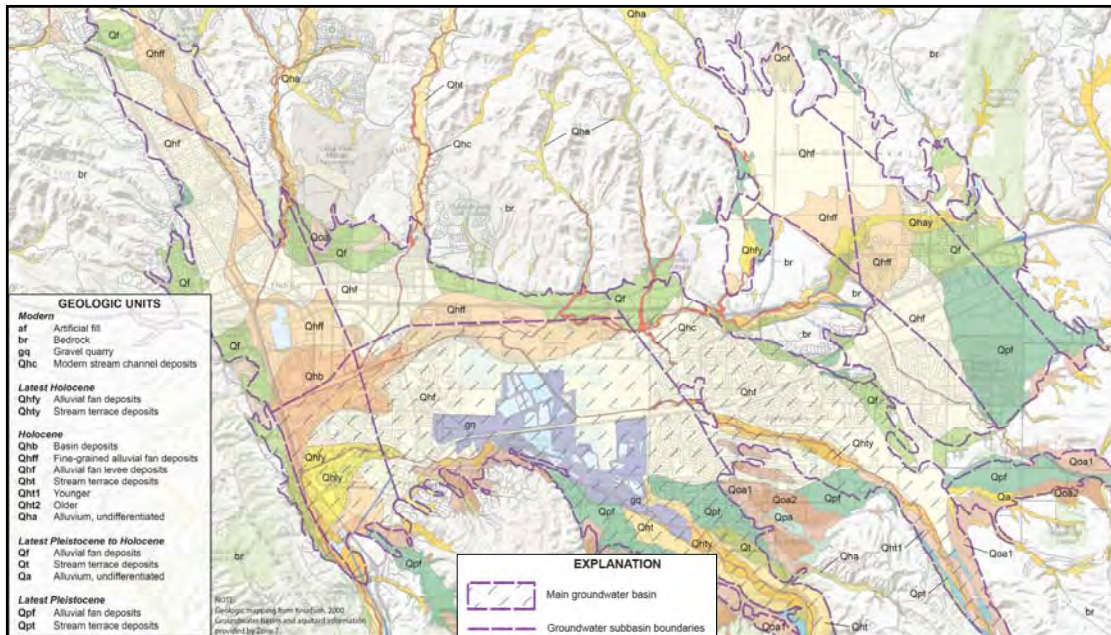


(Adapted from SFEI, 2013)



## HISTORIC MARSH TERRAIN

7

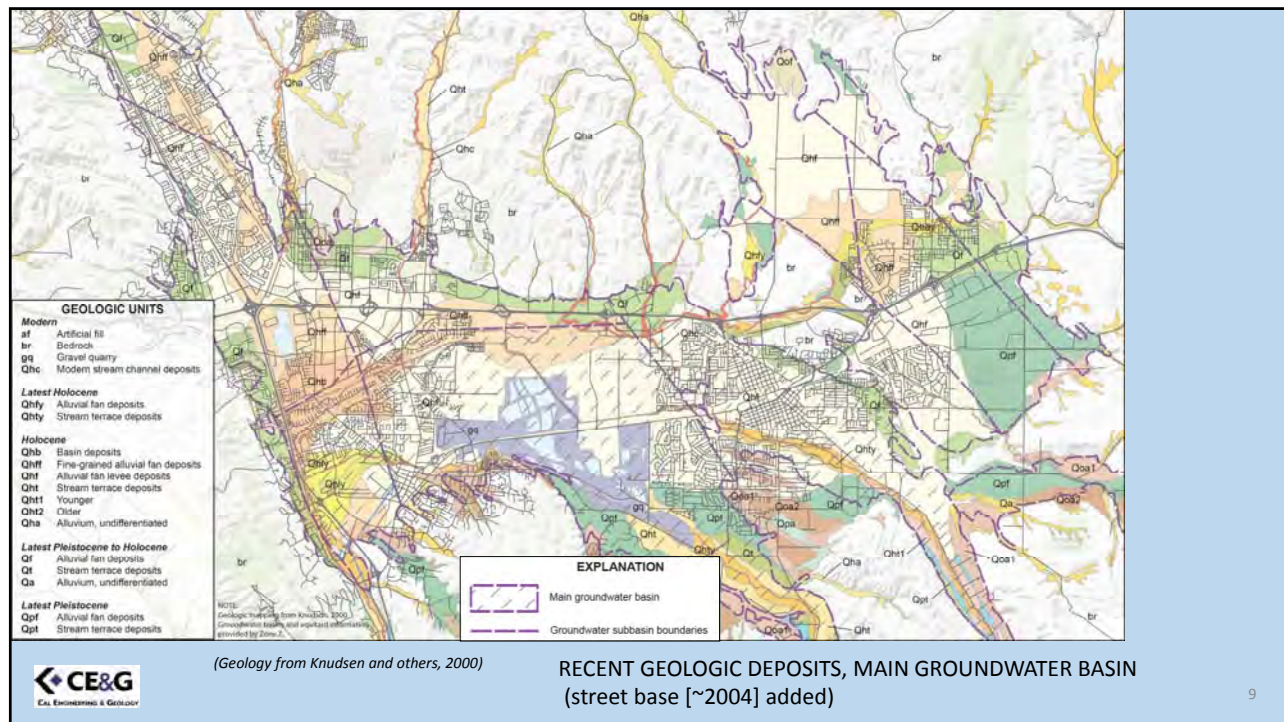


(Geology from Knudsen and others, 2000)

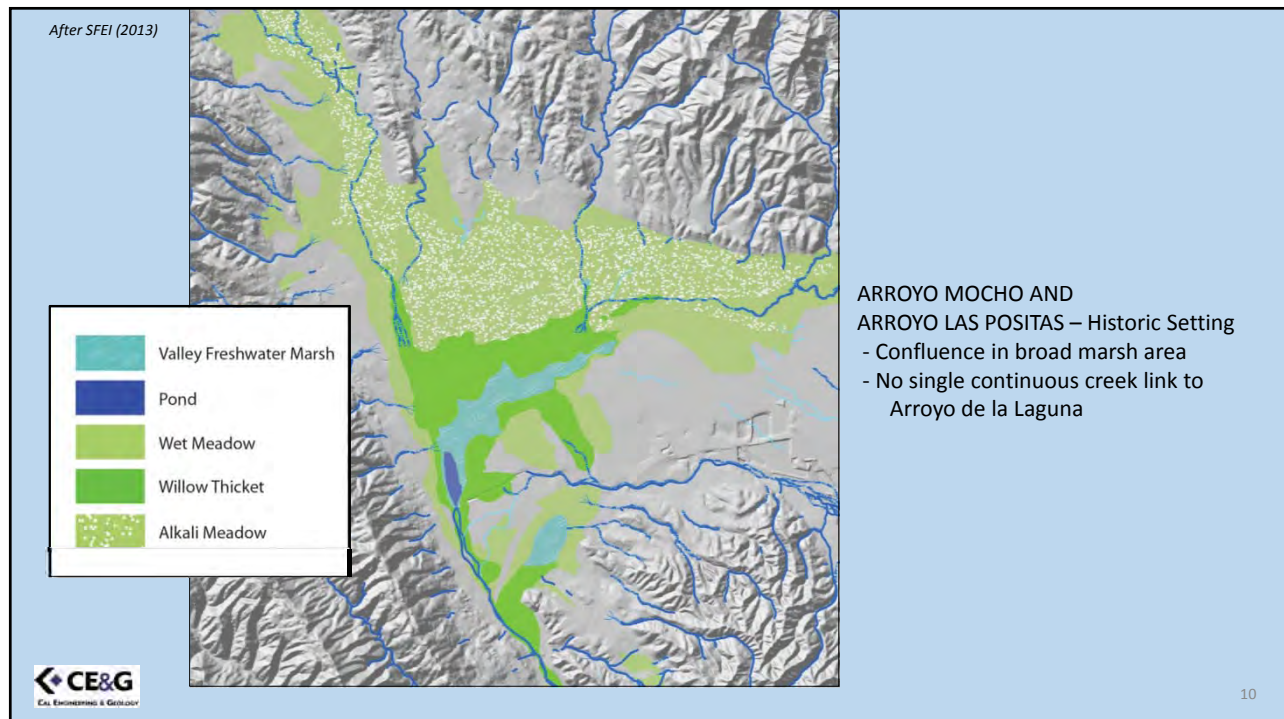


## RECENT GEOLOGIC DEPOSITS, MAIN GROUNDWATER BASIN (street base screened back)

8

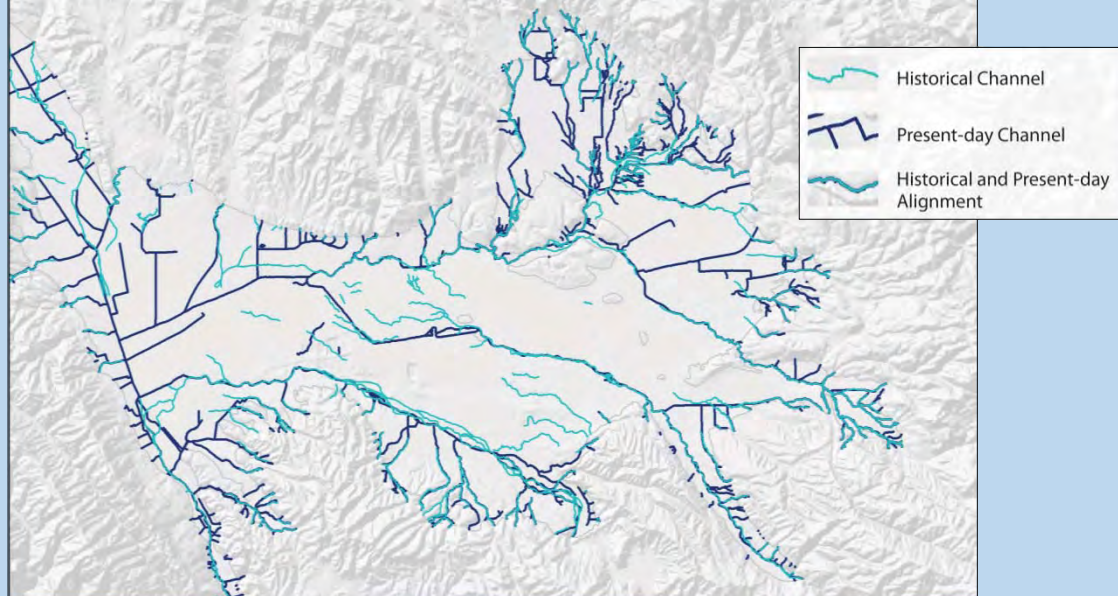


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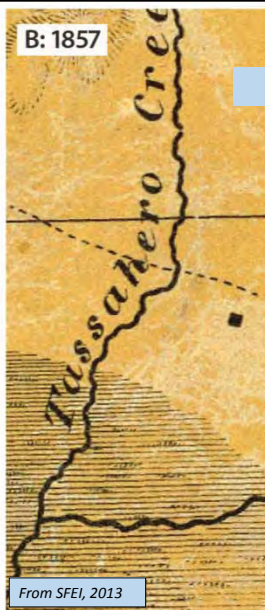
From SFEI (2013)



COMPARISON OF MODERN AND HISTORICAL CREEK CHANNELS  
- Historical Channels Often Not Continuous

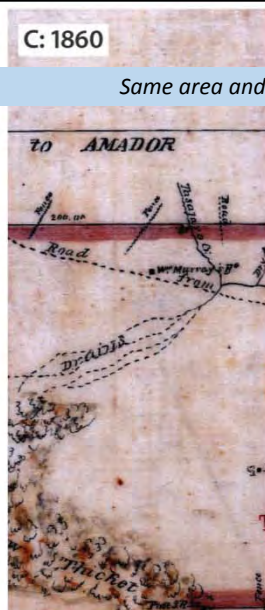
11

B: 1857



From SFEI, 2013

C: 1860



D: 1873



E: 1878

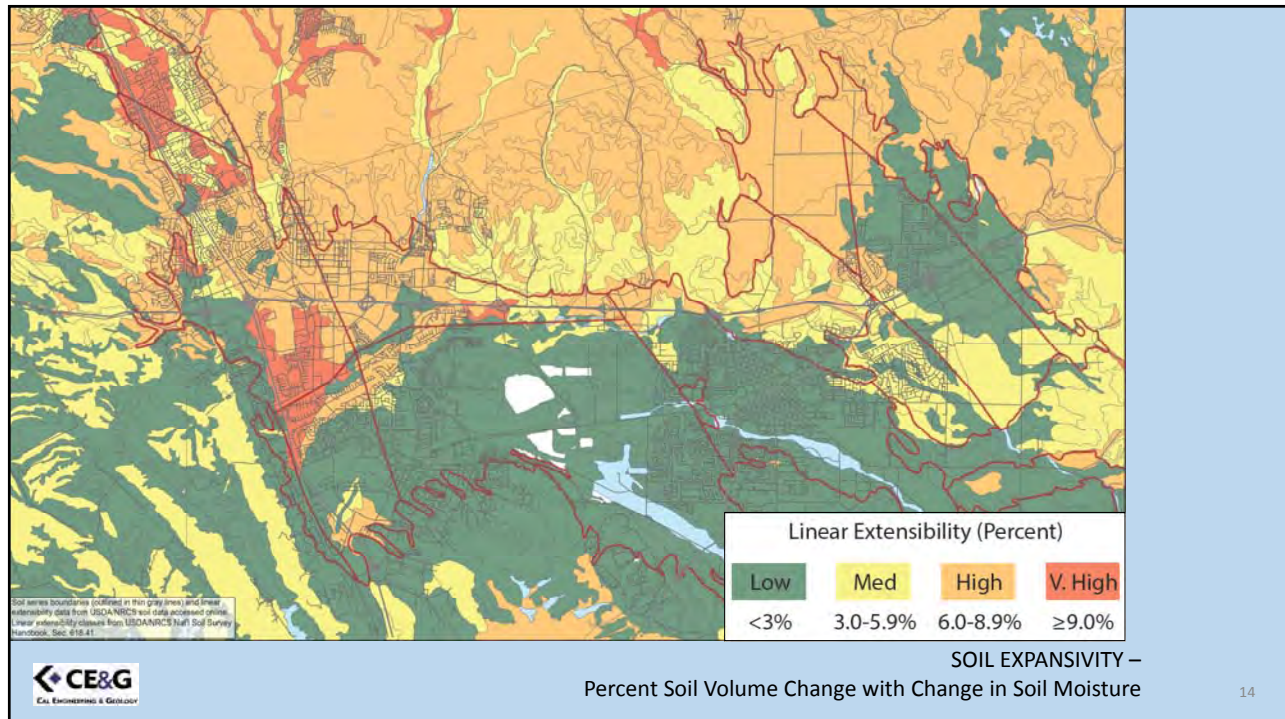
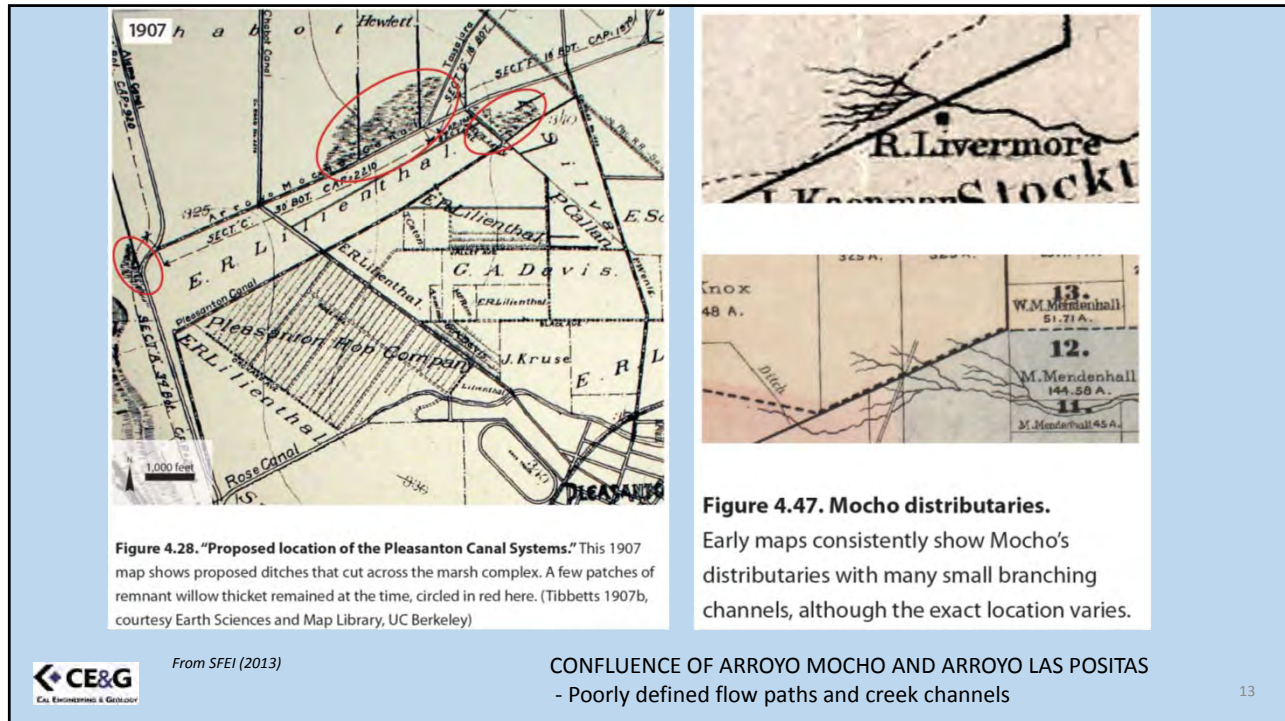


Same area and scale on all four maps



CONFLUENCE OF TASSAJARA CREEK AND ARROYO LAS POSITAS  
- Poorly defined flow paths and creek channels

12





## EXPANSIVE SOIL MOVEMENT - Processes and Associations



15



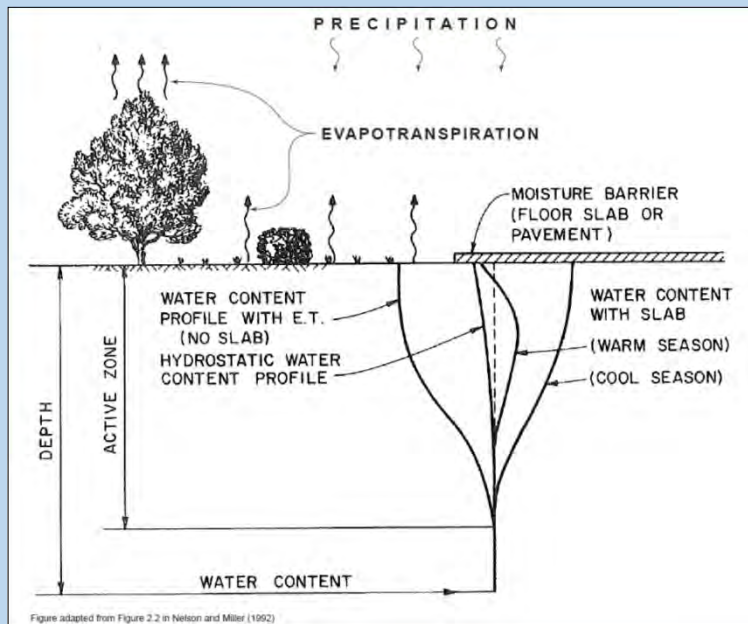
*Expansive Soil  
Desiccation Cracks*

### EXPANSIVE SOIL/BEDROCK

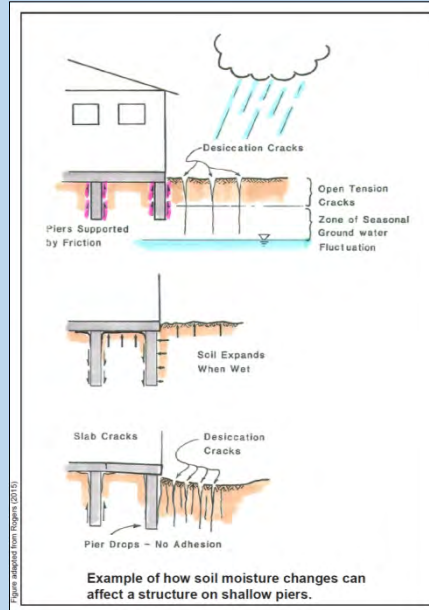
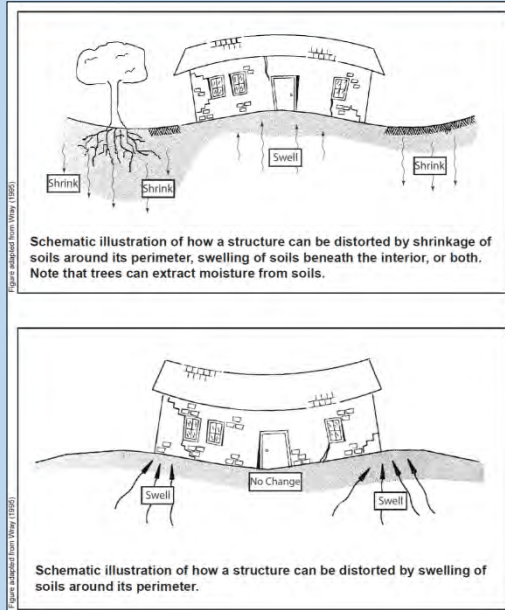
- annual US losses \$16B per year (AGI, 2009)
- one of, or *the*, most expensive natural hazard in the US



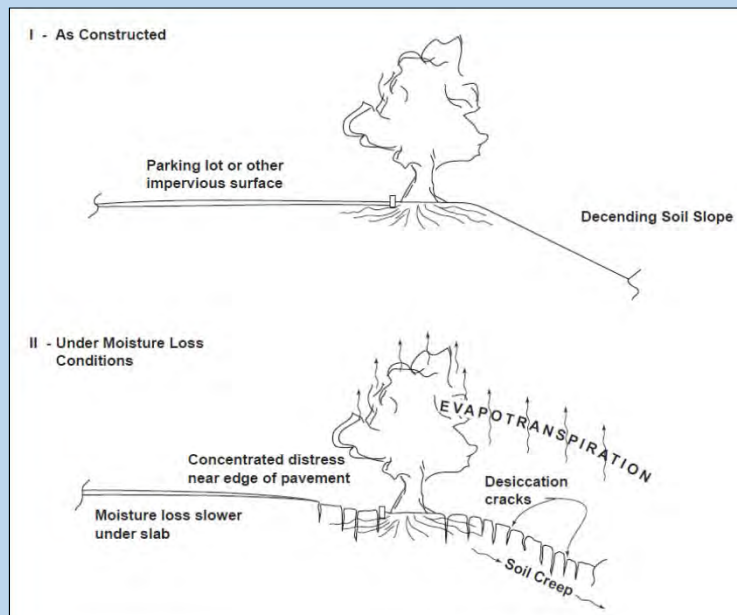
16



SOIL ACTIVE ZONE



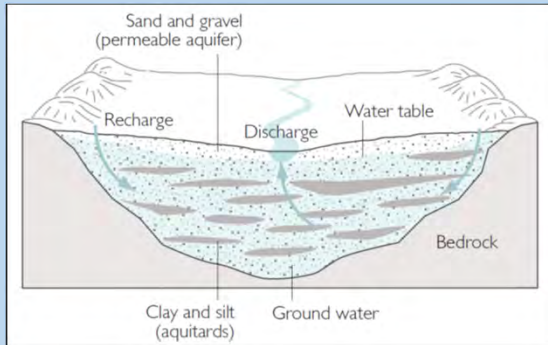
EFFECT ON STRUCTURES



SLOPES AND UNEVEN  
MOISTURE LOSS

## EXPANSIVE SOIL – TAKEAWAY POINTS

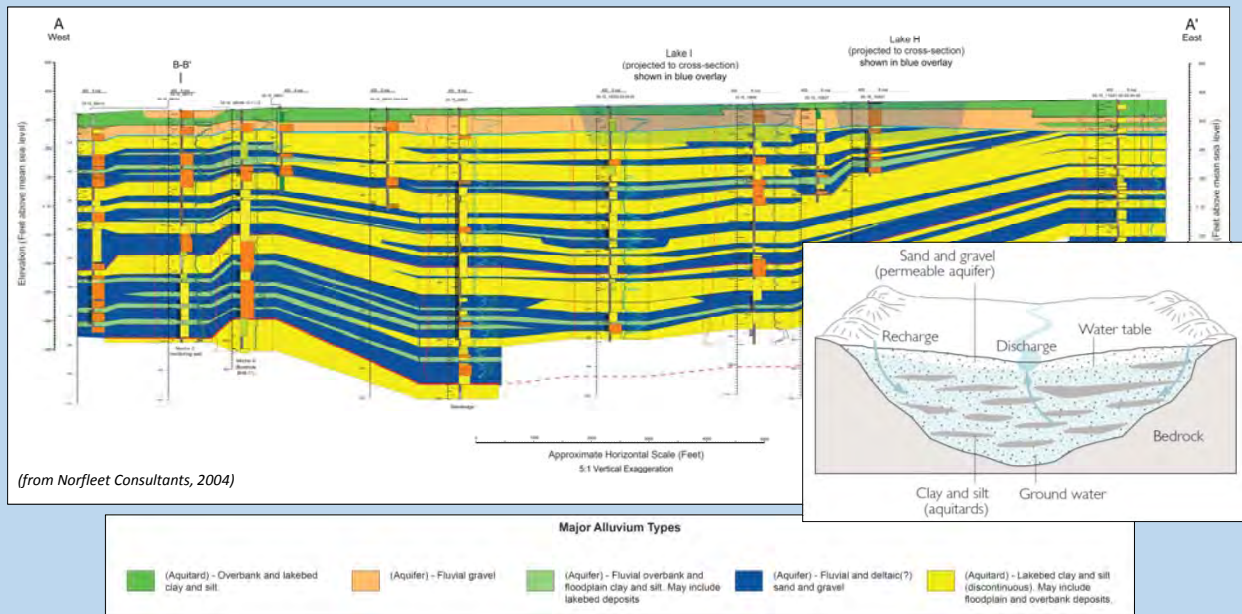
- Distribution of expansive soil is controlled by area geology and natural setting
- Areas experiencing distress are strongly associated with occurrence of expansive soil
- Nature of distress is a localized phenomenon, strongly influenced by local conditions (cover, drying, irrigation, vegetation, grading, aspect, etc.)
- The more extreme the swings in moisture content, the more the effect is observed



## GROUNDWATER FLUCTUATIONS AND EFFECTS

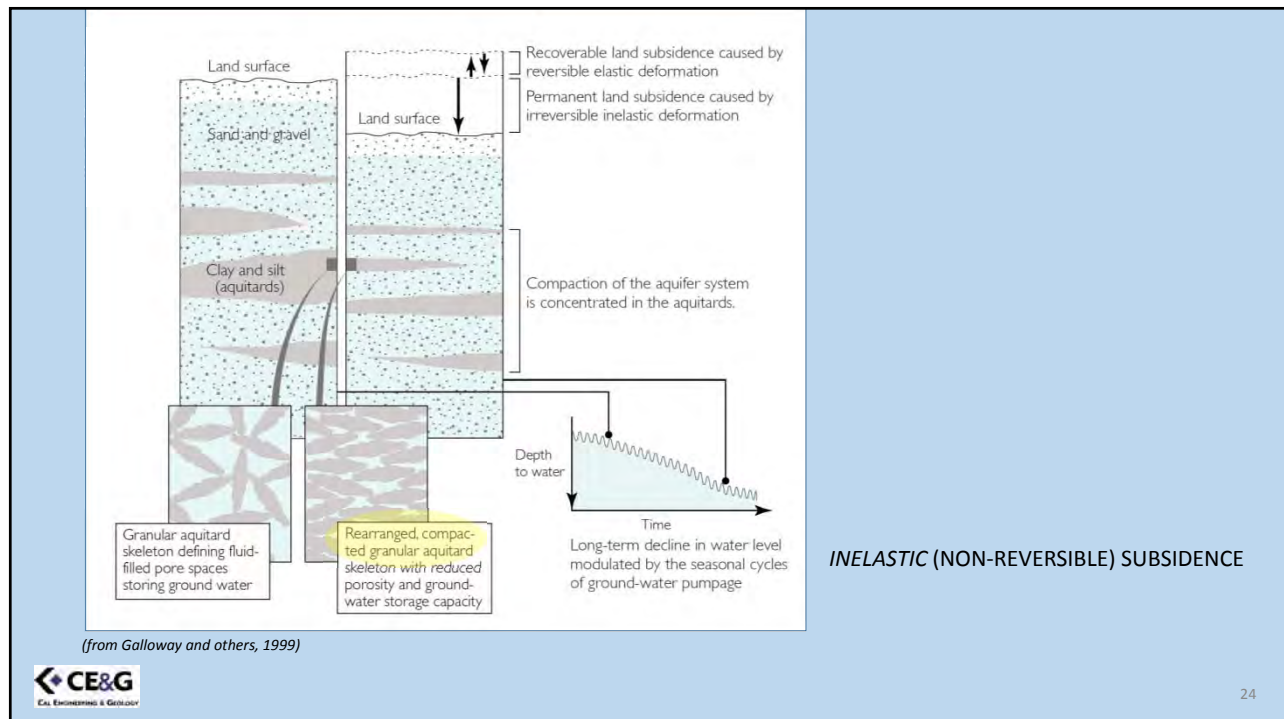
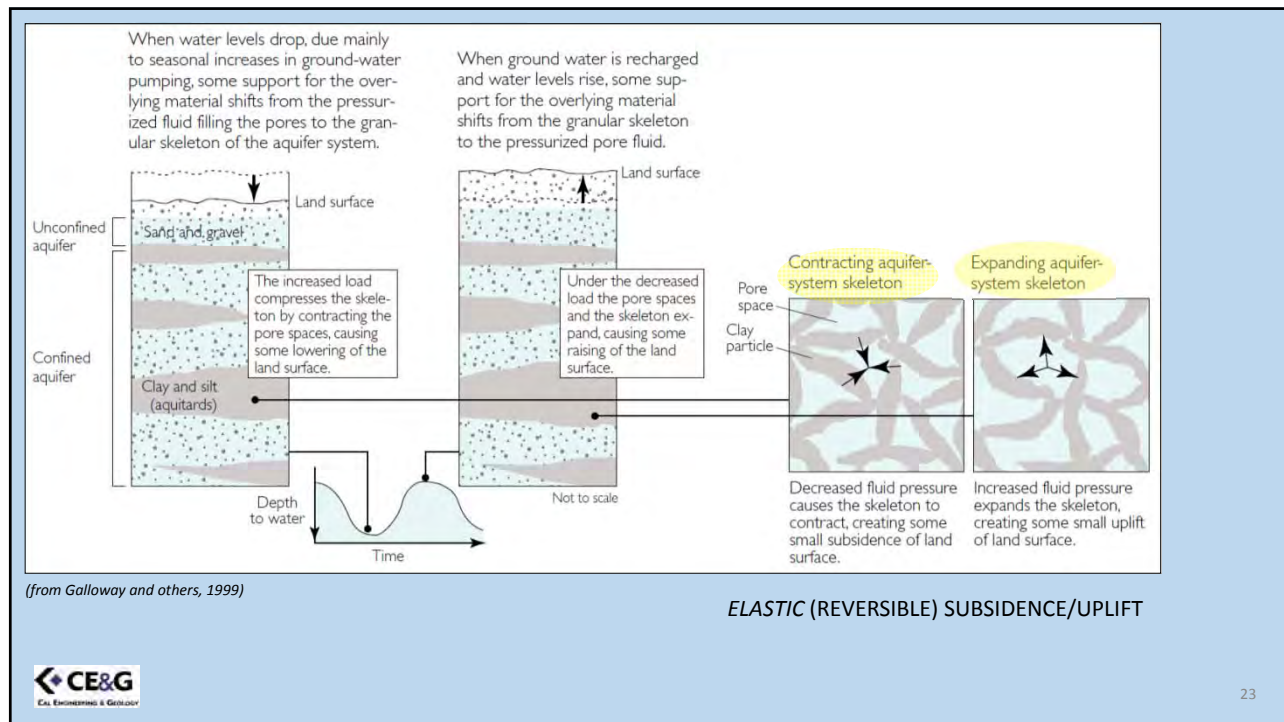


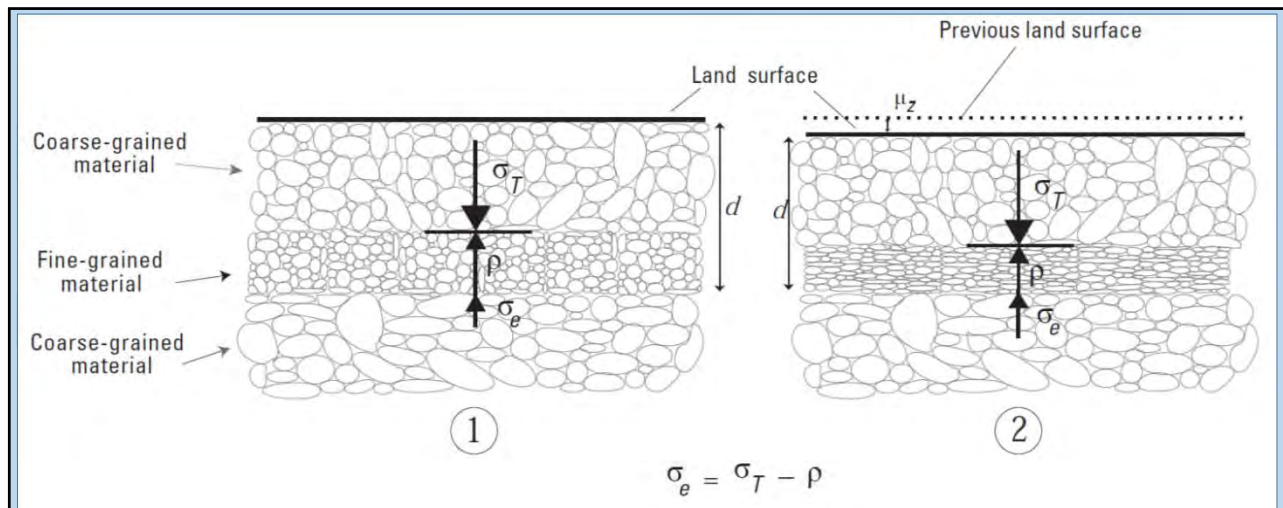
21



SCHEMATIC GEOLOGIC CROSS-SECTION of LIVERMORE VALLEY MAIN BASIN

22



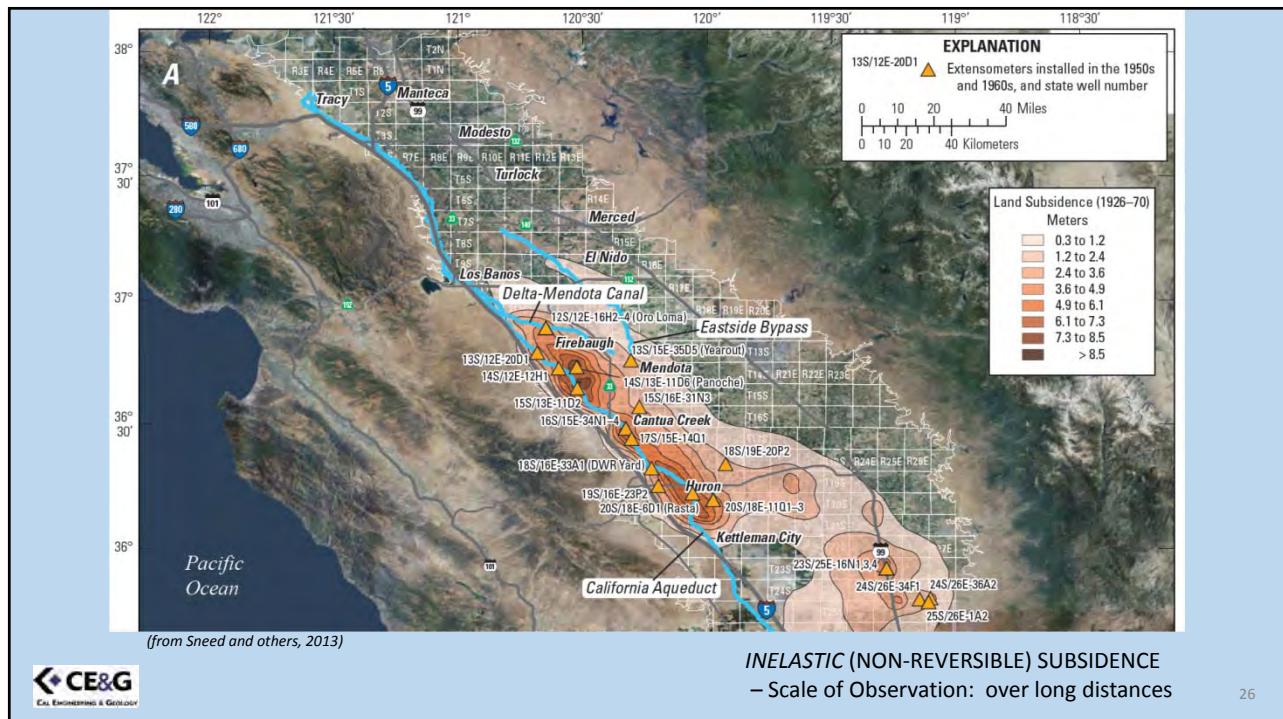


(from Sneed and others, 2013)



INELASTIC (NON-REVERSIBLE) SUBSIDENCE

25



INELASTIC (NON-REVERSIBLE) SUBSIDENCE  
– Scale of Observation: over long distances

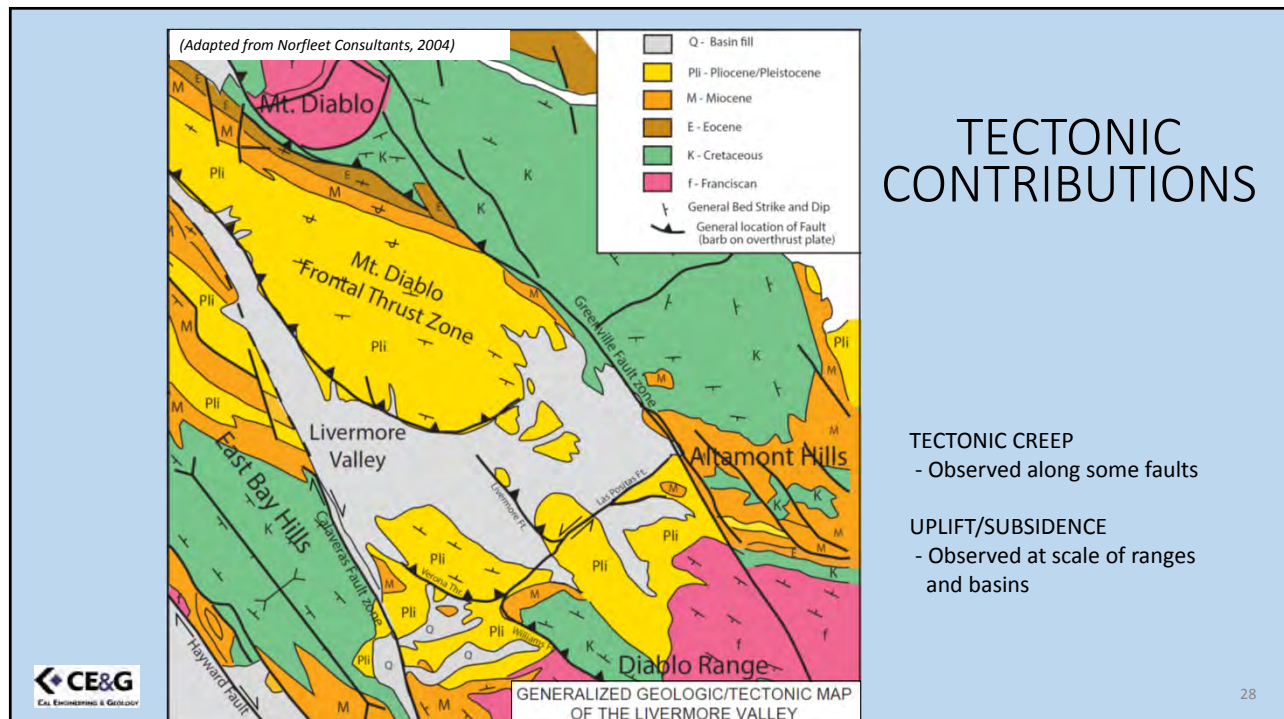
26

## GROUNDWATER FLUCTUATIONS – TAKEAWAY POINTS

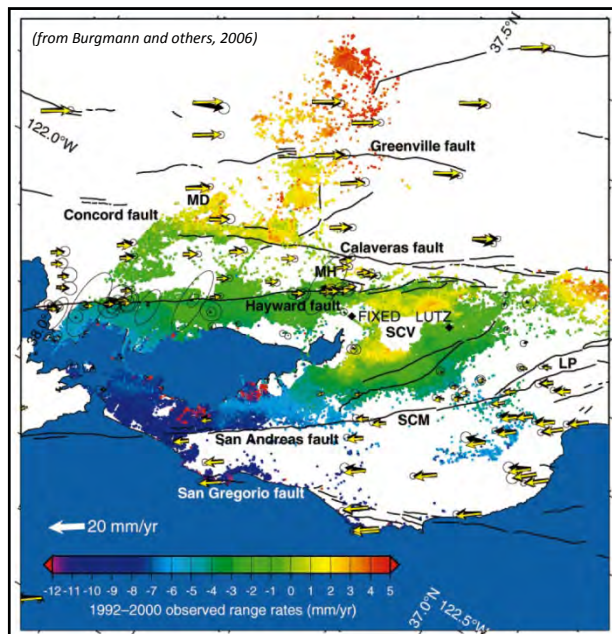
- Inelastic ground subsidence from pumping is a “long wavelength” phenomenon, typically detected over distances of miles, with very low angular distortion
- Distress typically seen as flexing (large radius of curvature), rather than cracking/breakage of surface improvements (e.g. curbs, foundations)
- Groundwater levels have to drop below historic lows for there to be potential for inelastic subsidence (not all sediments susceptible)
- Elastic response is also “long wavelength”, is characteristic of recharge/withdrawal cycles, is typically minor (e.g. on order of <0.1 ft/yr) and cyclic



27



28



*Horizontal* plate motions (black arrow = vector) in mm/yr

*Vertical* motion (uplift = red; subsidence = blue) in mm/yr

TECTONIC PLATE MOTIONS



29

## TECTONIC MOVEMENTS – TAKEAWAY POINTS

- Very long wavelength phenomena, typically detected over distances of tens to thousands of miles unless right at a fault
- Rates tend to be fairly stable
- Rates very low (on order of a few mm/yr)



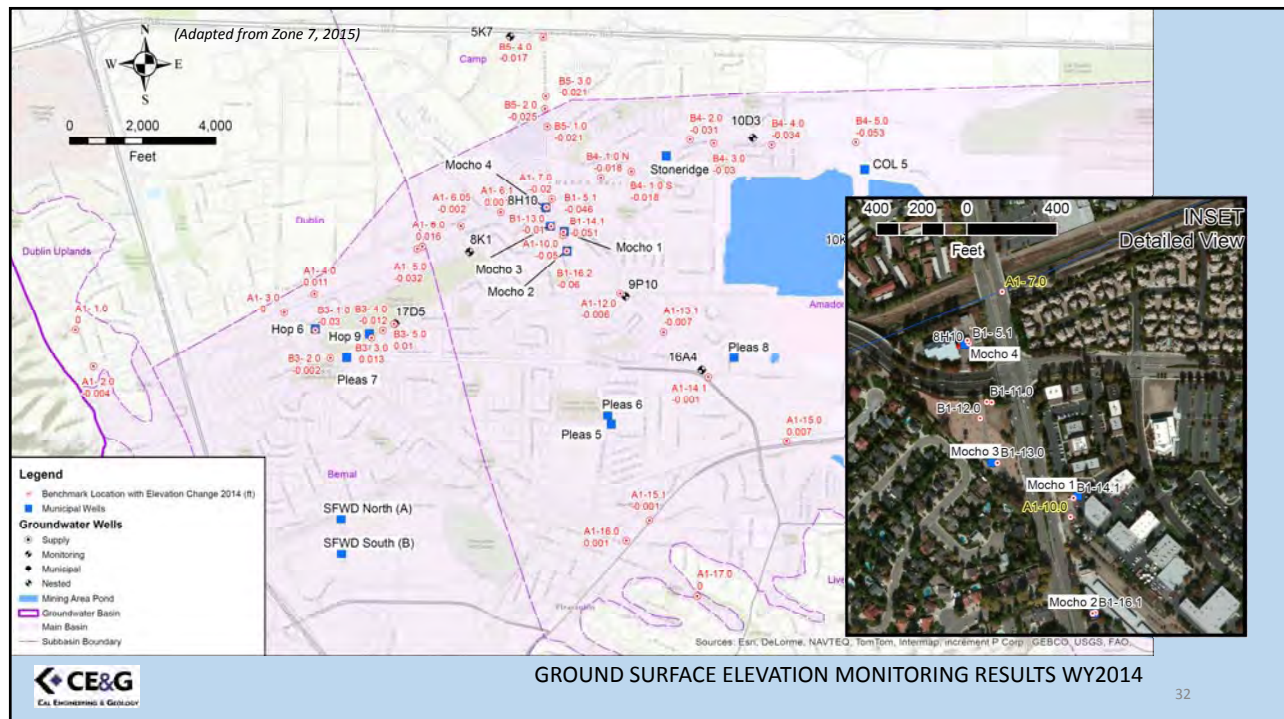
30

## ONGOING MONITORING Findings in Livermore Valley Area

- Ground surface elevation monitoring – Biannual, by Zone 7. (Ref. Zone 7 GWMP Annual Report for WY2014). Expanded 2002 by Zone 7; considered prudent groundwater management practice.
- Groundwater elevation monitoring – Various schedules (biannual/monthly/datalogger), by Zone 7. (Ref. Zone 7 GWMP Annual Report for WY2014). Monitoring by Zone 7 since at least 1957; considered required for sustainable groundwater management.
- GPS/InSAR ground surface monitoring – ongoing by USGS, UC Berkeley, others; ref. Burgmann et al.(2006), Argus and Gordon (2001)
- Precipitation, Water Consumption– ongoing by Zone 7, others.



31



32

## Ground Surface Elevation Observations

- Trends show annual cyclicity on order of up to about 0.05 ft
- Relatively minor long-term change in elevation even through current drought (e.g. maximum net change in elevation since 2002 is 0.1 ft)
- Seeing localized small variations; not seeing basin-wide drops in elevation
- Benchmarks differ in types of foundations used; those on shallower foundations appear to reflect expansive soil movement



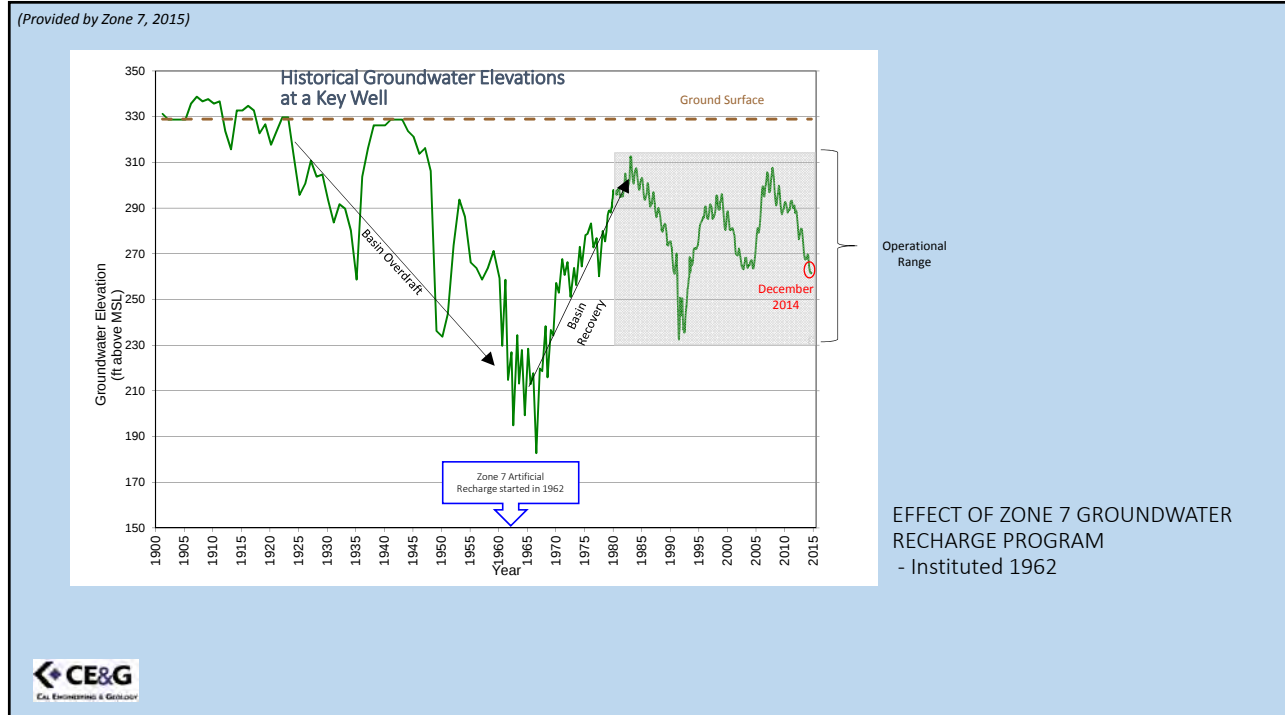
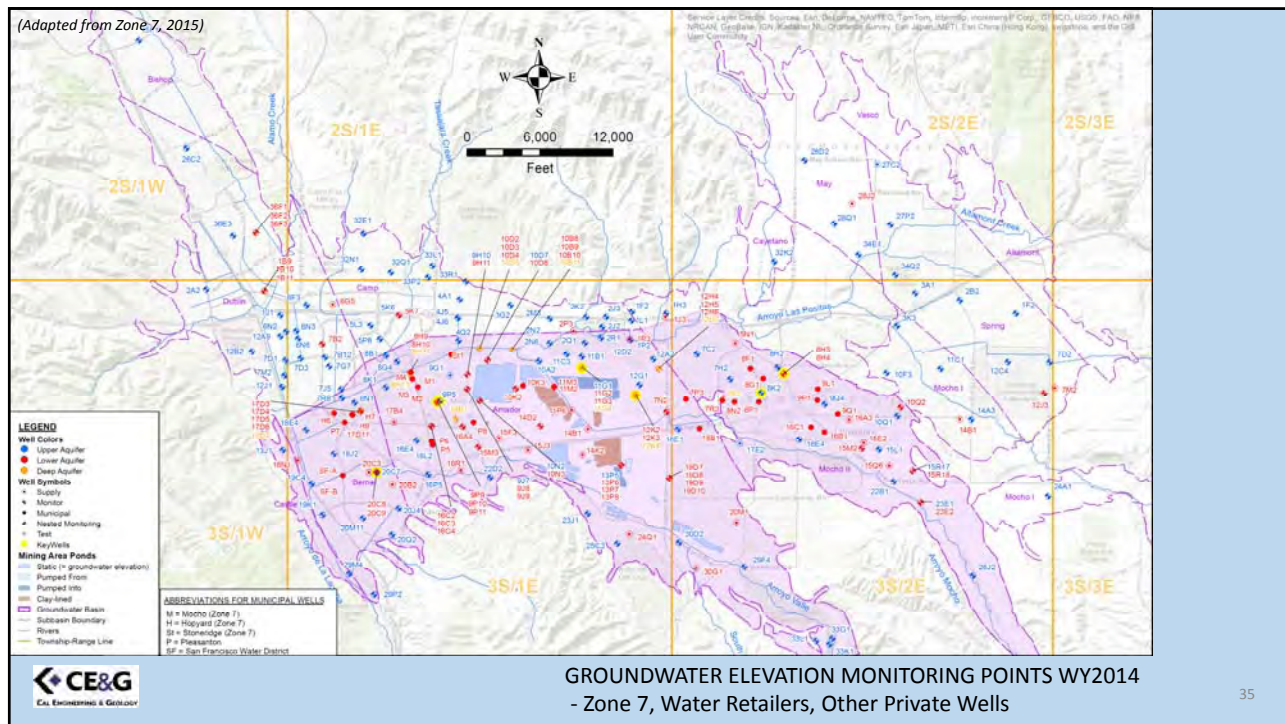
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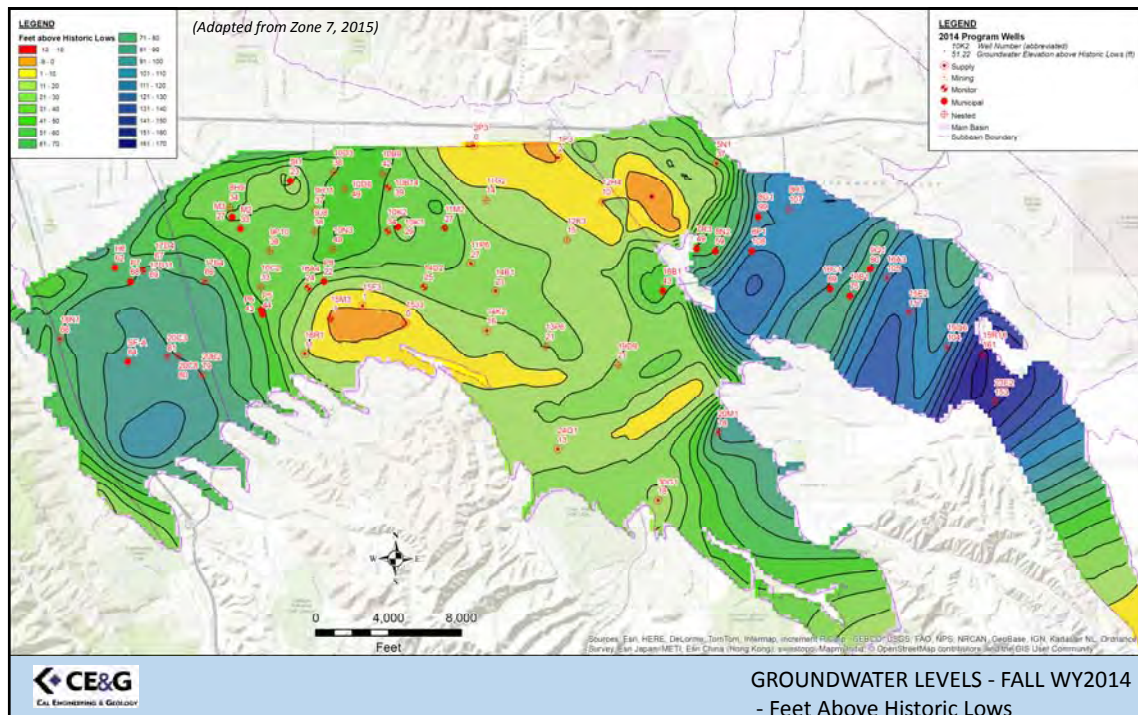
## Precipitation/Irrigation Trends

- Broadly, precipitation about 63% of average in WY2013, about 40% of average in WY2014, and about 85% of average in WY2015.
- Conservation has resulted in about 70% to 80% reduction in urban irrigation in 2014 and 2015 (for Zone 7 service area).
- Result is less water input to surficial soils from both these sources

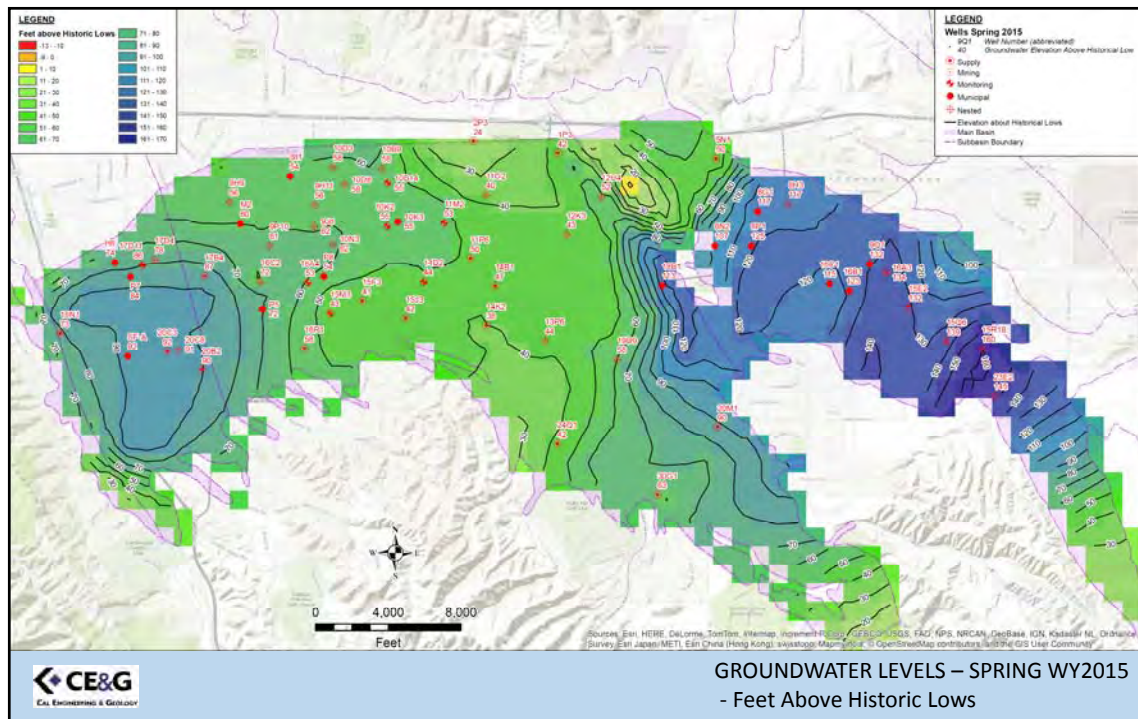


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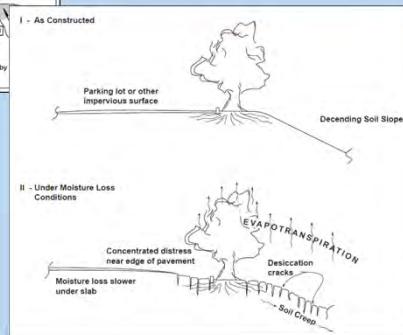
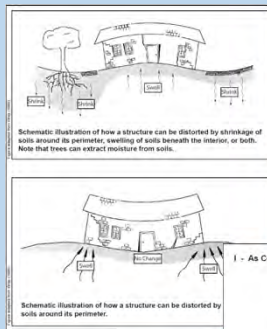




37



38



## OBSERVED DISTRESS – EXAMPLES AND ASSOCIATIONS



CRACKING AND DIFFERENTIAL VERTICAL OFFSET -  
Concentrations Near Large Exposed Unpaved Areas,  
Slopes (e.g. Canal Banks) In Areas With Expansive Soils,  
+/- Rows of Trees



CRACKING AND DIFFERENTIAL VERTICAL OFFSET -  
Concentrations Near Large Exposed Unpaved Areas, Slopes  
(e.g. Canal Banks) In Areas With Expansive Soils, +/- Tree Rows



41



DISTRESS EXAMPLES –  
Concentrations Near Large  
Exposed Unpaved Areas, Slopes  
(e.g. Canal Banks) In Areas With  
Expansive Soils, +/- Tree Rows



42



#### CULVERTS AND APPROACH RAMPS – (Example)

Culvert has deeper foundations, bottoming in likely saturated/wet soil

Approach founded in channel bank soils, fill tapering to zero at ground surface; fill and underlying soils have experienced drying



43



#### PAVEMENT DISTRESS

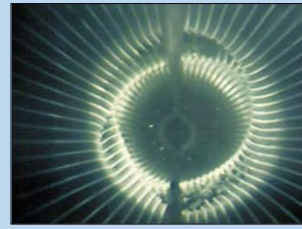
- Typically localized distress; commonly associated with poor subgrade drainage; transitions between graded areas or periods/techniques of construction; and with utilities where compaction uniformity is difficult to achieve.
- May be expansive soil component, but not necessarily due to it.



44

## Not Seeing:

- Damaged well casings (which would suggest changes in thickness of aquifers)
- Differential vertical offset between wellheads and adjacent ground surface (which would suggest changes in thickness of aquifers)
- Basin-scale changes in benchmark elevations, or changes in gradient/flow capacity along canals/flood control channels (which would suggest long-wavelength subsidence)
- Significant distress away from areas of historical marshland/channels and expansive soil



Galloway and others (2012)



Kretsinger and Borchers (2014)



45

## CONCLUSIONS

- Of the three potentially contributing processes to surface ground movements, expansive soil movement by far the greatest in magnitude.
- Geology, soils, and groundwater data, together with unprecedented drought, yield consistent picture with respect to observed movements.
- Types and localities of observed distress are strongly associated with areas of expansive soils, and historical creek/marsh settings.
- Impact of drought conditions (reduced precipitation) is compounded by reduced irrigation.
- Valley soils are drying more severely, and to greater depths, than ever before experienced since the area was settled.
- Groundwater system has been managed and monitored to stay above historic lows (observed in the 1960's, 1977, or 1987-1992 droughts). No patterns of observations suggest inelastic subsidence.
- Elastic movement is basin-wide in scale, quite small.



46

## Questions Regarding Study

